Condensed Water Car





Take control

For centuries, people have sought ways to harness one of nature's greatest gifts: water. Dams have been built to utilize its power. Irrigation methods have been devised to channel it to vital crops. Plumbing and distribution systems have been designed to bring it into our homes.

As a business, your utility requires the control of water usage – and much more. You need a firm grasp on the things that determine your success, things such as revenue optimization, efficiency, customer care and the quality of service you provide.

With Neptune's help you can take control of your systems, your measurement, and ultimately your future.



Neptune Technology Group is a leading provider of data collection systems and water measurement products. Since 1892, Neptune has continually focused on the evolving needs of water utilities – revenue optimization, operational efficiencies and improved customer service. Our vision is to be viewed as the most valued partner in assisting utilities to more effectively serve their customers.

Neptune's approach provides water utilities with an end-to-end management system that is efficient, durable and reliable.

All Neptune water meters meet or exceed American

Water Works Association® standards and ANSI/NSF 61

certifications. Accurate meter readings are

guaranteed with Neptune's absolute encoder

technology. This solid foundation leads to a

seamless process from manual data collection

to handheld, mobile and fixed network radio

frequency systems. Neptune's systems are

designed so that you never outgrow

Neptune technology.



An undetected leak at 1/8 gpm can result in 65,700 gallons of lost water per year, reducing the utility's annual water revenue for that customer by as much as 65%.

Neptune's ARB® (Automatic Reading & Billing) Utility Management Systems provide leak detection and other advanced features that optimize revenues. Data accuracy, operational efficiency and enhanced measurement capabilities mean superior customer service for any size utility.

ARB®) Utility Management Systems™

Build an ARB Utility Management System to meet your needs. Start with the E-Coder)R900*i* *, Neptune's wireless automated meter reading solution. The E-Coder)R900*i* combines two field-proven technologies to bring you consistently reliable data that can easily be transferred to your customer information and management systems.

- True leak detection (leak status indication rolling 35 days)
- Tamper detection and meter diagnostics
- Measured durations of no-flow and reverse flow activity

The Neptune R900 RF MIU can read up to two encoder registers reducing your total cost of installation. The R900 works with walk-by, mobile, and fixed network data collection equipment – allowing the utility to create a customized meter reading system. Choose the right level of technology for the meter reading application. Walk-by or mobile systems are typically the most economical for billing on a monthly or quarterly basis. For high volume users that require more frequent data collections, deploy Neptune's EZNet targeted fixed network in parallel with a Neptune mobile data collection system to create a hybrid system.

Tying your entire customized data collection system together is Neptune's meter reading software. Equinox is an extremely flexible software application that provides significant scalability. It can be operated on a stand-alone PC or in a Client/Server environment where multiple workstations and remote offices can be efficiently networked across the utility's LAN or WAN architecture.

Equinox allows utilities to progress from their initial investment to other available technologies in a seamless fashion. Equinox follows this philosophy in a number of ways. The software is designed to support previous versions of DOS-based handhelds like the PC9300 and PC9800. The adaptability of Equinox helps safeguard investments in meters and data collection technologies.

Neptune's ARB Utility Management
Systems are designed for compatibility so
every utility can optimize the value of its
initial investment, today and in the future.

Mix and match various elements of the Neptune ARB Utility Management Systems to create a data collection system that best suits your needs.

If your information needs are strictly for a monthly or quarterly billing cycle, walk-by or mobile RF technology may be the most cost-effective solution. If you require more detailed usage information for your commercial or industrial users, a targeted fixed network may be appropriate. Neptune recognizes that no single approach can address the wide range of needs of your utility, so we've created a system that allows you to implement a hybrid approach to meet your data collection needs.

The foundation of Neptune's ARB Utility Management Systems is the absolute encoder and R900 RF MIU. The enhanced range and interval between transmissions of the R900 enable it to operate in either mobile or fixed network modes – without the need to replace or reprogram the MIU. Each R900 RF MIU is compatible with the leading brands of absolute encoders. Since Neptune's handheld, mobile and fixed network systems are completely compatible, utilities can add or upgrade a system without changing the trusted Neptune brand of technology.

Neptune's meter reading software suite manages the information from your hybrid system giving you the flexibility to use any combination of manual keyed entry, walk-by probed, walk-by RF, mobile RF and targeted fixed network RF technology. Utilities using the E-Coder)R900*i* can utilize Neptune's meter reading software to define management reports that identify leaks (either continuous or intermittent), flag potential fraud or tamper conditions, locate stopped meters, reduce water loss and maximize revenue generation.

Neptune offers innovative management tools to take your utility beyond the basic meter reading process, connecting your customer service department directly to your customers.

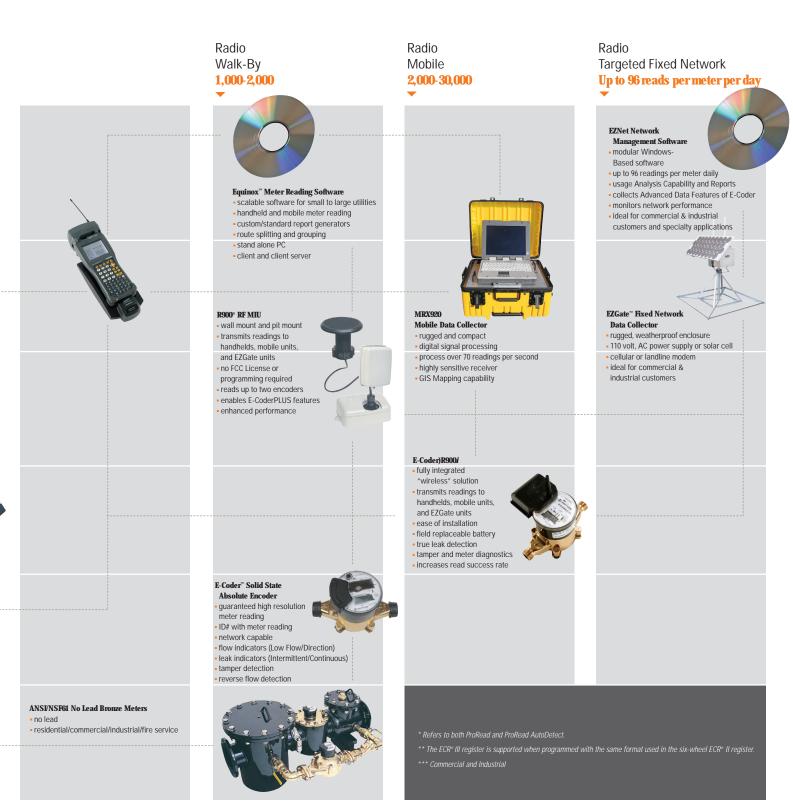
The long-term value of the original investment is the ability to adapt to your changing needs.





How Chart







Neptune water meters and absolute encoders are the foundation of accurate ARB® Utility Management Systems™. Since 1964 when Neptune introduced the first absolute encoder, Neptune has held firm to the philosophy that both the local visual reading and remote electronic reading should come from the same source, unlike pulse-based systems that are susceptible to synchronization problems. Neptune guarantees the data integrity of all of our absolute encoder registers.

The E-Coder)R900*i* combines the field-proven R900® radio frequency meter interface unit (MIU) with our solid state absolute E-Coder™ into one integrated package to offer utilities the advantages of the cost savings associated with the ease and speed of installation. The E-Coder)R900*i* does not have any external wires to be installed or require any special programming for operation. The E-Coder)R900*i* operates within the 902-928 unlicensed RF band width.

The R900 MIU portion of the integrated unit collects meter-usage data and transmits the data for collection by the meter reader. Data transmitted by the R900 MIU is received by the Neptune walk-by, mobile, or targeted fixed-network data collection systems and stored for downloading at the utility office. The R900 MIU is a one-way communication device that transmits data every 14 seconds using frequency hopping spread spectrum technology to ensure data security and improved meter reading accuracy and reliability. The E-Coder portion of the integrated unit features a custom integrated circuit design that digitally encodes the rotation of the measuring chamber providing "absolute" registration with no internal battery requirement.

The E-Coder)R900*i* provides high resolution, 8-digit remote meter reading and value-added features including leak detection, tamper detection, and reverse flow detection. In addition to this data, E-Coder provides a visual read out on rate of flow every six seconds when the LCD is activated. True point-of-use leak detection is provided by monitoring a 24-hour period in fifteen-minute intervals. Tamper detection is provided by reverse flow detection and the number of days of zero consumption over the previous 35 days.

The E-Coder)R900/PLUS features are communicated through the E-Coder protocol allowing host software platforms to interpret the data and pass the information directly to billing packages, CIS screens, and operations and maintenance reports. The E-Coder)R900/features enhance customer service and improve operational efficiencies for water utilities.



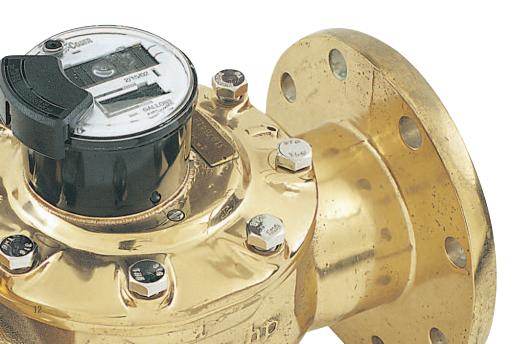
Today, utilities are faced with aging infrastructure and reduced operating budgets while challenged to meet rising customer demands. At the heart of Neptune's solution is the history-making T-10 water meter. Every Neptune T-10 water meets or exceeds the latest AWWA C700 Standard and is ANSI/NSF 61 certified. Neptune guarantees flow rates as low as 1/8 gpm @ 95% accuracy, while other manufacturers only guarantee this level of accuracy to 1/4 gpm. The T-10 has the widest effective flow range to capture maximum revenues. Over 20 million T-10 meters have been installed since 1981, generating more than \$97 billion in utility revenues.

Although large meters constitute less than 10% of the typical utility's meter population, they generate more than 50% of the water revenue.

To maintain your meters' optimum revenue generating performance, all of Neptune's commercial and industrial meters utilize a Unitized Measuring Element (UME). This industry-leading feature allows quick in-line replacement with a factory-calibrated UME. Neptune's UME replacement program provides an economical way to ensure that your high volume meters are operating at peak performance.

All Nepturencters are Automatic Miter Reading (AM) capable

The bayonet mount on each Neptune meter allows the installation of an absolute encoder register – the foundation of an AMR system.



Neptune Products

Build your ARB® Utility Management Systems® on a solid foundation. Neptune pioneered the concept of the absolute encoder for water meters. Simply stated, an absolute encoder is a register that encodes the reading from the same source that generates the visual reading—ensuring that there will never be a discrepancy between the remote and visual readings. No secondary counters are used.





E-Coder)R900i

The E-Coder)R900*i* combines the field-proven technologies of the E-Coder Solid State Absolute Encoder and the R900 Radio Frequency Meter Interface Unit into one wireless, automated meter reading solution. The unit provides accurate readings along with leak and reverse flow detection and is available in easy-to-install inside and pit versions.

The inside version of the E-Coder)R900*i* features a durable polycarbonate plastic enclosure with an integral antenna. The pit version features a roll-sealed copper shell and glass lens housing for superior protection. Standard configuration for the pit version calls for a short whip antenna, but the unit is easily upgradeable to a through-the-pit-lid antenna if required. Both the inside and pit versions feature a field-replaceable battery pack.

Features

- Fully integrated "wireless" solution
- Ease of installation
- High output power
- Field replaceable battery
- Optional upgradeable antenna to a thru-the-pit-lid antenna
- True leak detection
- Tamper and meter diagnostics

Benefits

- Eliminate cut wires and tamper
- Lowers deployment costs
- Increases read success rate
- Reduces maintenance costs
- Addresses hard-to-read
- Enhances customer service
- Proactive maintenance



E-Coder™ Solid State Absolute Encoder

True to this concept, the E-Coder™ generates its remote and visual reading from the same source.

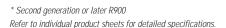
The E-Coder functions with no internal battery and performs the odometer function using an advanced self-powered integrated circuit. It duplicates all the features of a basic encoder register. Plus, when the E-Coder is connected to the R900®* RF MIU, it provides value-added features.

Host software platforms can use E-CoderPLUS information in billing packages, CIS screens, and operational reports. Utilities can enjoy the enhanced customer service benefits with ARB® Utility Management Systems™ based on an E-Coder.

The E-Coder is available in two different configurations for specific applications — inside set and pit set. For inside set applications the E-Coder will be housed in our field-proven plastic enclosure less the mineral oil. For pit set applications the E-Coder pit will be housed in a roll-sealed copper can and glass lens enclosure similar to our field-proven direct read register housing.

- True leak detection (15-minute intervals w/ leak state indication over the previous 35 days) ††
- Proactive leak notification on customer bills ††
- CIS screens and O&M reports identifying type of leak and duration of the leak state ††
- Flow detection and direction display on an LCD readout
- No-flow and reverse-flow flag indicators by account ††
- Tamper detection & meter diagnostics ††
- Proactive response to potential fraud scenarios ††
- Proactive meter maintenance ††
- Reduced water loss and maximum revenue generation ††
- Backward compatibility with probe receptacles, R900* RF MIUs, handheld, and mobile system ††

(NOTE: †† = E-CoderPLUS features available when E-Coder is connected to Neptune's R900* RF MIU)





ProRead™ Encoder

The ProRead[™] encoder interrogates the actual position of the odometer wheels so you can be sure that the reading you receive matches the actual reading on the register.

The ProRead is available in two different configurations for specific applications – inside set and pit set. For inside set applications the ProRead will be housed in our field-proven plastic enclosure. For pit set applications the ProRead pit will be housed in a roll-sealed copper can and glass lens enclosure similar to our field-proven direct read register housing.

- Field reprogrammable 1-to10-digit ID, 3-to-6-digit meter reading
- Registers can be networked to a single receptacle or R900* reducing product and installation costs
- Magnetic drive, low torque registration ensures accuracy
- Impact-resistant register
- High resolution, low flow leak detection on register face
- Bayonet style register mount allows in-line serviceability
- Tamperproof seal pin deters theft
- Date of manufacture, size, and model stamped on dial face
- Fliminates lockouts and callbacks
- Full sweep hand for testing
- Pit receptacles are prewired and potted to either
 6' or 25' wire lengths



R900® Wall RF MIU

R900® Radio Frequency Meter Interface Unit

We've taken the field-proven R900® and enhanced it. By optimizing the power consumption and antenna design, Neptune has improved the output power and range of the R900. Now you have an economical RF migration path from handheld to mobile to fixed network. The high performance R900* RF MIU, in wall or pit mount, is compatible with Neptune® ARB® III, IV, V, ProRead***, E-Coder, and Invensys® ECR® II & ICE® (ECR® III)*** registers.

- Increased output power for maximum range****
- Supports migration from walk-by to mobile to targeted fixed network systems
- Enables the PLUS features of the E-Coder Solid State Absolute Encoder
- Available in both wall and pit models
- Reads two networked encoder registers on one compound meter or two separate meters
- Compatible with Equinox[™] meter reading software
- No FCC license required
- Long-life Lithium battery
- No MIU programming required
- Exact encoder reading hourly





Equinox™

Meter Reading Software

Neptune's meter reading software is tailored to address the needs of both small and large users. Equinox will support a data collection system with any or all of the following components: manual entry, Advantage II and Pocket ProReader probing, walk-by, and mobile reading of R900 RF MIUs. Equinox also interfaces with the EZNet software for commercial and industrial fixed network meter reading and specialty applications. Equinox is poised to take full advantage of the E-Coder reporting capabilities.

All Neptune software programs are easy to install and use. Support is provided through Neptune's Customer Support Center, and is easily accessible through a toll-free 800 number.

Software Capabilities

- Operates with CE5320X (CE-based), PC9800, and PC9300 (DOS-based) handhelds
- Interfaces with MRX920, and MTX950 mobile data collectors
- Accepts probed encoder readings
- Supports walk-by and mobile meter reading from R900 RF MIUs
- All important meter reading functions including:
 - Importing and exporting route information with the utility CIS or billing system
 - Routes can be split or grouped prior to assignment
 - Unread accounts and routes can be grouped and reloaded
 - Standard and customizable management reports
 - Specific E-Coder information reports

Additional Features in Equinox™

- Graphical user interface
- Intuitive menu driven, point & click design
- Supports Client and Client/Server system configuration
- Compatible with Industry file formats
- Supports hybrid meter reading system approach
- Supported by a qualified Customer Support center

^{**} Refers to both ProRead and ProRead AutoDetect.

^{***} The ECR® III register is supported when programmed with the same format used in the six-wheel ECR® II register.

^{****} Range will vary based on terrain, building materials, installation settings, and other factors.
Refer to individual product sheets for detailed specifications.



MRX920/MTX950 Mobile Data Collector

The MRX920 mobile data collector is a portable yet rugged data collection device that can be used in any vehicle to read R900 RF MIUs. The MTX950 is a new mobile collection system designed to efficiently collect meter readings from R900, Itron R300 and Electric ERT RF transmitters for both bubble-up and wake-up applications. Both systems feature a rugged laptop PC with touch screen interaction and audible tones to alert the driver of successful readings. At the touch of the screen, the software can instantly display the read accounts and those meters that are waiting to be read. Route information is transferred between Equinox, the host software, and the mobile unit via a USB Flash Drive which has capacity for approximately 15,000 accounts.

- GoBook III laptop with 12.1" transmissive touch screen display
- USB Flash Drive for quicker, more compact data communications
- MX900 mobile data collection software, including a GIS mapping option that graphically depicts meter reading progress

The MRX920 and the MTX950 are the most powerful mobile data collectors on the market, capable of processing meter readings in extremely dense populations from greater distances and at a higher success rate than any other device currently available.



CE5320X Handheld Data Collector

Rugged CE5320X handheld collects and stores meter readings via:

- Keyed manual entry
- Wirelessly via the Advantage II Probe or Pocket ProReader RF for probed encoders
- Walk-by RF of R900* RF MIUs

The CE5320X will store up to 5,000 accounts with meter readings as well as additional information concerning the meter location, potential hazards, instructions, etc. The CE5320X will work seamlessly with Equinox.



Pocket ProReader RF Probe

The Pocket ProReader RF obtains readings from Neptune ProRead** and E-Coder registers, and optionally for Invensys" ECR* II and ICE* (ECR* III)*** registers. Carried in a pocket or clipped to a belt, it can be held easily in either hand to touch the meter pad receptacle for a visual reading. Data can also be transmitted via RF radio frequency directly to a handheld data collection device.

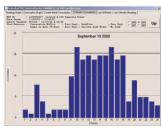


Advantage II Probe

The Advantage II Probe reads Neptune ARB III, IV and V, ProRead** and E-Coder registers, and Invensys ECR II and ICE® (ECR® III)*** encoders. The Neptune Advantage II automatically detects the register type and captures the reading. The Advantage II can be used as a visual reader, or the data can be transmitted via radio frequency directly to a handheld data collection device.

^{**} Refers to both ProRead and ProRead AutoDetect.

^{***} The ECR® III register is supported when programmed with the same format used in the six-wheel ECR® II register. Refer to individual product sheets for detailed specifications.



EZNet Software



EZNet Fixed Network System

EZNet is a targeted fixed network data collection system that automatically collects, stores and communicates meter reading data to a host software application located in the utility office. The system is designed to strategically collect data from "high value" Commercial/Industrial (C&I) accounts or specialty applications. It can be deployed as a stand-alone system or operated in parallel with Neptune's handheld and/or mobile data collection systems as a hybrid automated data collection solution.

EZNet Fixed Network Host Software

The EZNet host software is Windows-based and easy to use. It is designed to interface with Equinox, facilitating hybrid system architectures and system migration.

- Modular Windows-based software
- Increased frequency of data collection and software features improves Customer Service capability
- Ability to obtain frequent readings to perform detailed usage analysis (i.e. flow profiling)
- Reduced C&I meter reading costs
- Improves cash flow by reducing read-to-bill cycle
- Provides information to optimize distribution network
- Collects Advanced Data features available from E-Coder™ to facilitate tamper, leak and reverse flow detection as well as stopped meters



EZGate Unit

EZGate Fixed Network Data Collector

The EZNet System collects meter readings from Neptune R900 MIUs via EZGate data collectors. The EZGate unit utilizes public communication networks to transmit data back to the EZNet host software. EZGate units utilize cellular telephone or landline telephone WANs and are powered by a 110V power supply or solar panels.

- Rugged, weather-proof enclosure
- 110-volt AC power supply or Solar Cell
- Cellular or landline telephone WAN
- Provides the capability to "migrate" to new data collection technologies
- Allows utility to strategically and cost effectively deploy a targeted fixed network data collection capability within one integrated system



T-10 5/8" Meter

T-10 5/8" - 1"

The Neptune T-10 water meter is time proven for accuracy and dependability even at low flow rates. Since its introduction in 1981, the 5/8" T-10 has generated approximately \$97 billion in utility revenue.*

- Meets or exceeds the latest AWWA C700 Standard
- No lead bronze maincase -ANSI/NSF 61 certified
- Lifetime guarantee on the meter body
- Positive displacement
- Nutating disc measuring chamber
- Widest effective flow range
- Proprietary polymer measuring chamber materials maximize long-term accuracy
- Floating chamber design is unaffected by meter position or in-line piping stresses



T-10 1-1/2" and 2"

The Neptune T-10 intermediate water meter has the widest effective flow range for maximum revenue. Its proprietary polymer measuring chamber materials maximize long-term accuracy. The unique floating chamber design is unaffected by meter position or inline piping stresses, and the register can be mounted in one of four positions on the meter.

- Meets or exceeds the latest AWWA C700 Standard
- No lead bronze maincase -ANSI/NSF 61 certified
- Lifetime guarantee on the meter body
- Positive displacement
- Nutating disc measuring chamber
- Proprietary polymer measuring chamber materials maximize long-term accuracy
- Floating chamber design is unaffected by meter position or in-line piping stresses

Refer to individual product sheets for detailed specifications.

			OPERATING C	HARACTERIST	ICS			CONFIGU	RATION	
Meter/Size	Low Flow Accuracy (95%) gpm (m3/h)	AWWA Standard (95%) gpm (m3/h)	Normal Operating Range (100% ± 1.5%) gpm (m3/h)	AWWA Standard (100% ± 1.5%) gpm (m3/h)	AWWA Recommended Maximum Continuous gpm (m3/h)	Maximum Intermittent Flow gpm (m3/h)	Laylength in (mm)	Base to Top in (mm)	Top to Centerline in (mm)	Weight Ibs (kg)
T-10 METERS	;									
5/8" & 5/8" x 3/4"	1/8 (0.03)	1/4 (0.06)	1/2 - 20 (0.11 - 4.5)	1 - 20 (0.25 - 4.5)	10 (2.3)		7-1/2 (191)	4-7/8 (124)	3-1/4 (83)	3-3/4 (1.7)
3/4"	1/4 (0.06)	1/2 (0.11)	3/4 - 30 (0.17 - 6.8)	2 - 30 (0.45 - 6.8)	15 (3.4)		9 (229)	5-1/2 (140)	3-5/8 (92)	6 (2.7)
3/4" SL	1/4 (0.06)	1/2 (0.11)	3/4 - 30 (0.17 - 6.8)	2 - 30 (0.45 - 6.8)	15 (3.4)		7-1/2 (191)	5-1/2 (140)	3-5/8 (92)	5-1/2 (2.5)
1"	3/8 (0.09)	3/4 (0.17)	1 - 50 (0.23 - 11.4)	3 - 50 (0.7 - 11.4)	25 (5.7)		10-3/4 (273)	6-3/8 (162)	4-1/4 (100)	9-3/4 (4.4)
1-1/2" FLANGED	3/4 (0.17)	1-1/2 (0.34)	2 - 100 (0.45 - 22.7)	5 - 100 (1.1 - 22.7)	50 (11.4)		13 (330)	8-1/8 (206)	5-9/16 (141)	31 (14.1)
2" FLANGED	1 (0.23)	2 (0.45)	2-1/2 - 160 (0.57 - 36.3)	8 - 160 (1.8 - 36.3)	80 (18.2)		17 (432)	9-5/16 (237)	6-3/16 (157)	38 (17.2)

^{*}An average water and sewer rate was used to calculate this value.



High Performance (HP) Turbine Meters 1-1/2", 2", 3", 4", 6", 8", 10", 12", 16", 20"

High Performance Neptune Turbine meters provide accuracy at flows from 4 gpm to 22,000 gpm. HP Turbine water meters offer some of the widest flow ranges of any turbine meters on the market. All HP Turbine water meters meet or exceed the latest performance and accuracy requirements of AWWA C701 for Class II turbines. Maximum continuous flow rates may be exceeded by as much as 25% for intermittent periods. The ANSI/NSF 61 certified 1 1/2" through 10" maincases are manufactured with no lead bronze. The UME allows for quick, easy, in-line interchangeability. A calibration vane allows field calibration of the UME to lengthen service life and to ensure accurate registration.



TRU/FLO® Compound Meters 2", 3", 4", 6", and 6" x 8"

The TRU/FLO is specially designed for extremely wide flow rate applications such as apartment buildings, hotels and hospitals – places where wide-flow ranges and varying flow rates are typical. TRU/FLO meters combine the low-flow sensitivity of a T-10 disc-type meter with the high-flow capacity of a turbine-type meter. The patented hydraulic valve transfers flow smoothly between the disc section and turbine section of the meter, minimizing the loss of accuracy in the crossover range.

All TRU/FLO compound water meters meet or exceed the latest performance and accuracy requirements of the AWWA C702 Standard for Class II compounds. The ANSI/NSF 61 certified compact bronze maincase is manufactured with no lead bronze alloy. Maximum continuous flow rates may be exceeded by as much as 25% for intermittent periods. The Unitized Measuring Element (UME) makes maintenance easier and faster with less downtime. A calibration vane allows field calibration of the UME to lengthen service life and to ensure accurate registration.

Refer to individual product sheets for detailed specifications.

			OPERATING CH	ARACTERISTIC	S			CONFIGU	JRATION	
Meter/Size	Low Flow Accuracy (95%) gpm (m3/h)	AWWA Standard (95%) gpm (m3/h)	Normal Operating Range (100% ± 1.5%) gpm (m3/h)	AWWA Standard (100% ± 1.5%) gpm (m3/h)	AWWA Recommended Maximum Continuous gpm (m3/h)	Maximum Intermittent Flow gpm (m3/h)	Laylength in (mm)	Base to Top in (mm)	Top to Centerline in (mm)	Weight Ibs (kg)
HP TURBINE	METERS									
1-1/2"			4 - 160 (0.91 - 36.3)	4 - 120 (0.91 - 27.3)		200 (45.4)	10 (254)	7-1/8 (181)	5-3/8 (137)	19 (8.6)
2"			4 - 200 (0.91 - 45.4)	4 - 160 (0.91 - 36.3)		250 (56.8)	10 (254)	7-5/8 (194)	5-1/2 (140)	20 99.1)
3"			5 - 450 (1.14 - 102.2)	8 - 350 (1.8 - 79.5)		560 (127.2)	12 (305)	10 (254)	6-1/4 (159)	40 (18.1)
4"			10 - 1200 (2.27 - 272.5)	15 - 630 (3.4 - 143)		1500 (340.7)	14 (355)	10-7/8 (276)	6-3/8 (162)	52 (23.6)
6"			20 - 2500 (4.54 - 567.8)	30 - 1400 (6.8 - 317.9)		3100 (704.1)	18 (457)	13 (330)	7-1/2 (191)	115 (52.2)
8"			35 - 4000 (8 - 908.4)	50 - 2400 (11.4 - 545)		5000 (1135.6)	20 (508)	15-1/2 (394)	7-1/2 (191)	195 (88.5)
10'			50 - 6500 (11.4 - 1476.2)	75 - 3800 (17 - 863)		8000 (1817)	26 (660)	15-1/2 (394)	7-1/2 (191)	275 (124.7)
12"			120 - 8000 (27.3 - 1816.8)	120 - 5000 (27.3 - 1136)		10000 (2272.7)	19-11/16 (500)	26-5/32 (664)	17-3/32 (434)	385 (174.6)
16'			200 - 13500 (45.4 - 3065.9)	200 - 10000 (45 - 2271)		16500 (3750)	23-5/8 (600)	28-1/2 (724)	17-3/32 (434)	561 (254.5)
20"			300 - 22000 (68.1 - 5000)	300 - 15000 (68.1 - 3407)		27500 (6250)	31-1/2 (800)	31-5/32 (791)	17-3/32 (434)	858 (389.2)
TRU/FLO® CO	MPOUND MEI	ERS								
2"	1/8 (0.03)		1/2 - 200 (0.11 - 45.5)	2 -160 (0.454 - 36.3)		250 (56.8)	15-1/4 (387)	8-5/8 (219)	6-1/8 (156)	32 (14.5)
3"	1/8 (0.03)		1/2 - 450 (0.11 - 102.2)	4 - 320 (0.91 - 72.7)		450 (102.3)	17 (432)	10-1/2 (267)	6-34 (172)	72 (32.7)
4"	1/2 (0.11)		1 - 1000 (0.23 - 227.1)	6 - 500 (1.4 - 113.5)		1000 (227.3)	20 (508)	12-1/2 (318)	8 (203)	100 (45.4)
6"	3/4 (0.17)		1-1/2 - 2000 (0.34 - 454.6)	10 - 1000 (2.3 - 227.1)		2000 (454.6)	24 (610)	15-3/4 (400)	10-1/4 (260)	208 (94.3)
6" x 8"	3/4 (0.17)		1-1/2 - 2000 (0.34 - 454.6)	16 - 1600 (3.6 - 363.4)		2000 (454.6)	55-3/8 (1407)	15-3/4 (400)	10-1/4 (260)	460 (208.7)



HP PROTECTUS® III Fire Service Meter

HP PROTECTUS® III Fire Service Meters 4", 6", 8", and 10"

The HP PROTECTUS III Fire Service Meter has become the industry standard and is designed for applications where fire service and drinking water supplies are fed by a single line. The HP PROTECTUS III measures extremely wide flow ranges at 98.5%—101.5% accuracy, registering leaks or unauthorized use of water from fire service lines. The design of the HP PROTECTUS III combines low-flow sensitivity of disc meters with high-flow capacity of turbine meters for an extremely wide flow range. All HP PROTECTUS III Fire Service Meters meet or exceed AWWA C703 Standards and are Underwriters Laboratory (UL) Listed and Factory Mutual (FM) Approved for fire service use.

The HP PROTECTUS III Fire Service Meter is designed to measure both domestic and fire service water usage through a single water line. A typical application would be in a warehouse, hotel, or hospital where one water line may supply any number of faucets or bathrooms as well as an automatic sprinkler system.



HP Fire Service Turbine Meter

HP Fire Service Turbine Meters 3", 4", 6", 8", and 10"

The HP Fire Service Turbine offers some of the widest flow ranges of any fire service turbine meter on the market. All HP Fire Service Turbine Meters meet or exceed AWWA C703 Standard and are Underwriters Laboratory (UL) Listed and Factory Mutual (FM) Approved for fire service use. Maximum continuous flow rates may be exceeded by as much as 25% for intermittent periods.

The HP Fire Service Turbine Meter is designed to measure both domestic and fire service usage where flow rates are moderate or high.

CONFIGURATION

Refer to individual product sheets for detailed specifications.

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Meter/Size	Normal Operating Range (100% ± 1.5%) gpm (m3/h)	AWWA Standard (100% ± 1.5%) gpm (m3/h)	Maximum Intermittent Flow gpm (m3/h)	Laylength in (mm)	Base to Top in (mm)	Top to Centerline in (mm)	Weight Ibs (kg)	
HP PROTECTUS® M	ETERS							
4"	3/4 - 1200 (0.17 - 272.6)	2 - 700 (0.45 - 159)	1500 (340.7)	33 (838)	20-3/4 (527)	10-3/4 (273)	215 (97.5)	
6"	1-1/2 - 2500 (0.34 - 567.8)	4 - 1600 (0.91 - 363)	3100 (704)	45 (1143)	22-7/16 (570)	11-3/8 (289)	570 (258.6)	
8'	2 - 4000 (0.45 - 908.5)	7 - 2800 (1.6 - 636)	5000 (1135.5)	53 (1346)	25-17/64 (642)	13-29/64 (342)	765 (347)	
10'	2 - 6500 (0.45 - 1476.2)	12 - 4400 (2.7 - 999)	8000 (1816.8)	68 (1727)	29-13/16 (757)	15 (381)	900 (408.2)	
HP FIRE SERVICE TO	URBINE METERS							
3"	5 - 450 (1.1 - 102.2)	8 - 350 (1.8 - 79.5)	560 (127.2)	26-1/4 (667)	21-3/8 (543)	10-3/4 (273)	150 (68)	
4"	10 - 1200 (2.3 - 272.5)	15 - 630 (3.4 - 143)	1500 (340.7)	35-1/8 (892)	21-3/8 (543)	10-3/4 (273)	170 (77.1)	
6"	20 - 2500 (4.6 - 567.8)	30 - 1400 (6.8 - 317.9)	3100 (704)	44-3/4 (1137)	22-7/16 (570)	11-3/8 (289)	393 (178.3)	
8'	35 - 4000 (8 - 908.5)	50 - 2400 (11.4 - 545)	5000 (1135.5)	51-7/16 (1307)	25-17/64 (642)	13-29/64 (342)	600 (272.2)	
10'	50 - 6500 (11.4 - 1476.2)	75 - 3800 (17 - 863)	8000 (1816.8)	56-1/8 (1426)	29-13/16 (757)	15 (381)	725 (328.9)	



Double Check Meter

Double Check T-10 Meter 5/8" and 5/8" x 3/4"

The innovative design of the Double Check T-10 meter combines the metering accuracy of the T-10 meter with the water quality protection of a double check valve. Integrated into a single device, the Double Check T-10 reduces plumbing costs and simplifies installation.

- No lead bronze maincase -ANSI/NSF 61 certified
- Adaptable to Neptune ARB V, ProRead[™], E-Coder[™], TRICON[®]/S, TRICON/E3[®], and Neptune data collection systems without removing the meter from service.



TRICON/E3® Metering System

The TRICON/E3 with the 4–20mA option provides an analog signal that is proportional to the flow rate. Together, the digital pulse signal and the 4–20mA output provide information on total consumption and flow rate for close monitoring of water usage. The TRICON/E3 transmitter mounts between the meter maincase and the register. The bayonet-type mount allows the TRICON/E3 to be easily retrofitted to any current Neptune meter without interruption of service.



FLOSEARCH® II Metering System

The FLOSEARCH II system is a PC-based system designed for customer usage profiling and demand pattern analysis. It provides a means for utilities to analyze customer flow vs. time, resolve billing complaints and determine appropriate meter sizing. The FLOSEARCH II system is comprised of the recorder, transmitter and PC software. The bayonet-type mount allows the FLOSEARCH transmitter to be easily retrofitted to any current Neptune meter without interruption of flow.



TRICON®/S

TRICON®/S Metering System

The TRICON/S is designed for applications requiring a switch closure output that is proportional to the consumption. Several switch configurations are available to suit the application. The bayonet type mount allows the TRICON/S to be easily retrofitted to any current Neptune meter without interruption.



SMARTROL

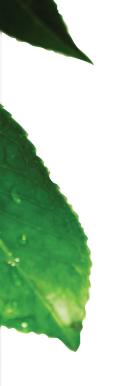
SMARTROL Metering System

SMARTROL is a versatile microprocessor-based controller for use with TRICON/E3 electronic registers. The main function of the unit is to display rate and totalization values and control relays for batching or alarming. The SMARTROL allows two metered flows to be measured, separately scaled for both rate and total, then combined into one overall Rate and one Total. This dual input capability permits the SMARTROL to be used with TRU/FLO® and PROTECTUS III meters having two separate measuring elements to monitor flow.



		******		NG CHARACTE				CONFIGU	RATION	
Meter/Size	Low Flow Accuracy (95%) gpm (m3/h)	AWWA Standard (95%) gpm (m3/h)	Normal Operating Range (100% ± 1.5%) gpm (m3/h)	AWWA Standard (100% ± 1.5%) gpm (m3/h)	AWWA Recommended Maximum Continuous gpm (m3/h)	Maximum Intermittent Flow gpm (m3/h)	Laylength in (mm)	Base to Top in (mm)	Top to Centerline in (mm)	Weight Ibs (kg)
-10 METERS					_					
5/8" & 5/8" x 3/4"	1/8 (0.03)	1/4 (0.06)	1/2 - 20 (0.11 - 4.5)	1 - 20 (0.25 - 4.5)	10 (2.3)		7-1/2 (191)	4-7/8 (124)	3-1/4 (83)	3-3/4 (1.7)
3/4"	1/4 (0.06)	1/2 (0.11)	3/4 - 30 (0.17 - 6.8)	2 - 30 (0.45 - 6.8)	15 (3.4)		9 (229)	5-1/2 (140)	3-5/8 (92)	6 (2.7)
3/4" SL	1/4 (0.06)	1/2 (0.11)	3/4 - 30 (0.17 - 6.8)	2 - 30 (0.45 - 6.8)	15 (3.4)		7-1/2 (191)	5-1/2 (140)	3-5/8 (92)	5-1/2 (2.5)
1"	3/8 (0.09)	3/4 (0.17)	1 - 50 (0.23 - 11.4)	3 - 50 (0.7 - 11.4)	25 (5.7)		10-3/4 (273)	6-3/8 (162)	4-1/4 (100)	9-3/4 (4.4)
1-1/2" FIANGED	3/4 (0.17)	1-1/2 (0.34)	2 - 100 (0.45 - 22.7)	5 - 100 (1.1 - 22.7)	50 (11.4)		13 (330)	8-1/8 (206)	5-9/16 (141)	31 (14.1)
2" FIANGED	1	2	2-1/2 - 160	8 - 160	80		17	9-5/16	6-3/16	38
P TURBINE I	(0.23) METERS	(0.45)	(0.57 - 36.3)	(1.8 - 36.3)	(18.2)		(432)	(237)	(157)	(17.2)
1-1/2"			4 - 160 (0.91 - 36.3)	4 - 120 (0.91 - 27.3)		200 (45.4)	10 (254)	7-1/8 (181)	5-3/8 (137)	19 (8.6)
2"			4 - 200	4 - 160		250	10	7-5/8	5-1/2	20
3"			(0.91 - 45.4)	(0.91 - 36.3) 8 - 350		(56.8)	(254)	(194) 10	(140) 6-1/4	99.1) 40
4"			(1.14 - 102.2) 10 - 1200	(1.8 - 79.5) 15 - 630		(127.2) 1500	(305)	(254) 10-7/8	(159) 6-3/8	(18.1) 52
			(2.27 - 272.5) 20 - 2500	(3.4 - 143) 30 - 1400		(340.7) 3100	(355) 18	(276) 13	(162) 7-1/2	(23.6) 115
6"			(4.54 - 567.8) 35 - 4000	(6.8 - 317.9) 50 - 2400		(704.1) 5000	(457) 20	(330) 15-1/2	(191) 7-1/2	(52.2) 195
8'			(8 - 908.4) 50 - 6500	(11.4 - 545)		(1135.6) 8000	(508)	(394) 15-1/2	(191) 7-1/2	(88.5) 275
10'			(11.4 - 1476.2)	75 - 3800 (17 - 863)		(1817)	26 (660)	(394)	(191)	(124.7)
12"			120 - 8000 (27.3 - 1816.8)	120 - 5000 (27.3 - 1136)		10000 (2272.7)	19-11/16 (500)	26-5/32 (664)	17-3/32 (434)	385 (174.6)
16"			200 - 13500 (45.4 - 3065.9)	200 - 10000 (45 - 2271)		16500 (3750)	23-5/8 (600)	28-1/2 (724)	17-3/32 (434)	561 (254.5)
20"			300 - 22000 (68.1 - 5000)	300 - 15000 (68.1 - 3407)		27500 (6250)	31-1/2 (800)	31-5/32 (791)	17-3/32 (434)	858 (389.2)
RU/FLO® CO	MPOUND MET	ERS			_					
2"	1/8 (0.03)		1/2 - 200 (0.11 - 45.5)	2 -160 (0.454 - 36.3)		250 (56.8)	15-1/4 (387)	8-5/8 (219)	6-1/8 (156)	32 (14.5)
3"	1/8 (0.03)		1/2 - 450 (0.11 - 102.2)	4 - 320 (0.91 - 72.7)		450 (102.3)	17 (432)	10-1/2 (267)	6-34 (172)	72 (32.7)
4"	1/2		1 - 1000	6 - 500		1000	20	12-1/2	8	100 (45.4)
	(0.11)		(0.23 - 227.1)	(1.4 - 113.5)		(227.3)	: (508)	(318)	(203)	
6''	(0.11) 3/4 (0.17)		(0.23 - 227.1) 1-1/2 - 2000 (0.34 - 454.6)	(1.4 - 113.5) 10 - 1000 (2.3 - 227.1)		(227.3) 2000 (454.6)	(508) 24 (610)	(318) 15-3/4 (400)	(203) 10-1/4 (260)	208
	3/4 (0.17) 3/4		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000	10 - 1000 (2.3 - 227.1) 16 - 1600		2000 (454.6) 2000	24 (610) 55-3/8	15-3/4 (400) 15-3/4	10-1/4 (260) 10-1/4	208 (94.3) 460
6" x 8"	3/4 (0.17) 3/4 (0.17)		1-1/2 - 2000 (0.34 - 454.6)	10 - 1000 (2.3 - 227.1)		2000 (454.6)	24 (610)	15-3/4 (400)	10-1/4 (260)	208 (94.3)
6' x 8'	3/4 (0.17) 3/4 (0.17)		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000	10 - 1000 (2.3 - 227.1) 16 - 1600		2000 (454.6) 2000	24 (610) 55-3/8	15-3/4 (400) 15-3/4	10-1/4 (260) 10-1/4	208 (94.3) 460
6' 6' x 8' RE HYDRAN 3"	3/4 (0.17) 3/4 (0.17)		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2)	10 - 1000 (2.3 - 227.1) 16 - 1600 (3.6 - 363.4)		2000 (454.6) 2000 (454.6) 560 (127.2)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92)	10-1/4 (260) 10-1/4 (260) 8-5/8 (219)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2)
6' 6' x 8' RE HYDRAN 3"	3/4 (0.17) 3/4 (0.17) TT METERS		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6)	10 - 1000 (2.3 - 227.1) 16 - 1600 (3.6 - 363.4) 2 - 700 (0.45 - 159)		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527)	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5
6" 6" x 8" RE HYDRAN 3" P PROTECTI	3/4 (0.17) 3/4 (0.17) TT METERS		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2)	10 - 1000 (2.3 - 227.1) 16 - 1600 (3.6 - 363.4) 2 - 700		2000 (454.6) 2000 (454.6) 560 (127.2)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4	10-1/4 (260) 10-1/4 (260) 8-5/8 (219)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2)
6" 6' x 8' RE HYDRAN 3" P PROTECTO	3/4 (0.17) 3/4 (0.17) TT METERS		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500	10 - 1000 (2.3 - 227.1) 16 - 1600 (3.6 - 363.4) 2 - 700 (0.45 - 159) 4 - 1600		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570
6" 6" x 8" RE HYDRAN 3" P PROTECTO 4" 6"	3/4 (0.17) 3/4 (0.17) TT METERS		1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000	10 - 1000 (2.3 - 227.1) 16 - 1600 (3.6 - 363.4) 2 - 700 (0.45 - 159) 4 - 1600 (0.91 - 363) 7 - 2800		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765
6" x 8" RE HYDRAN 3" P PROTECTO 4" 6" 8" 10"	3/4 (0.17) 3/4 (0.17) TT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500 (0.45 - 1476.2)	2 - 700 (0.45 - 159) 4 - 1600 (0.91 - 363) 7 - 2800 (1.6 - 636) 12 - 4400 (2.7 - 999)		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1135.5) 8000 (1816.8)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68 (1727)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757)	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765 (347) 900 (408.2)
6" x 8" IRE HYDRAN 3" P PROTECTO 4" 6" 8" 10"	3/4 (0.17) 3/4 (0.17) IT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500	2 - 700 (0.45 - 159) 4 - 1600 (0.66 - 363) 7 - 2800 (1.66 - 636) 12 - 4400		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1135.5) 8000	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5) 570 (258.6) 765 (347) 900
6" x 8" RE HYDRAN 3" P PROTECTO 4" 6" 8" 10" P FIRE SERV	3/4 (0.17) 3/4 (0.17) IT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500 (0.45 - 1476.2)	2 - 700 (0.45 - 1600 (0.45 - 1600 (0.45 - 159) 4 - 1600 (0.91 - 363) 7 - 2800 (1.6 - 636) 12 - 4400 (2.7 - 999) 8 - 350		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1135.5) 8000 (1816.8)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68 (1727)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757)	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765 (347) 900 (408.2)
6" x 8" ire hydran 3" p protectit 4" 6" 8" ire 10" p fire Serv 3"	3/4 (0.17) 3/4 (0.17) IT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500 (0.45 - 1476.2) 5 - 450 (1.1 - 102.2) 10 - 1200	2 - 700 (0.45 - 159) 4 - 1600 (0.91 - 363) 7 - 2800 (1.6 - 636) 12 - 4400 (2.7 - 999) 8 - 350 (1.8 - 79.5) 15 - 630		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1135.5) 8000 (1816.8)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68 (1727) 26-1/4 (667) 35-1/8 (892) 44-3/4	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757) 21-3/8 (543) 21-3/8 (543) 22-7/16	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381) 10-3/4 (273) 10-3/4 (273) 11-3/8	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765 (347) 900 (408.2) 150 (68) 170 (77.1) 393
6" x 8" ire hydran 3" p protecte 4" 6" 8" 10" p fire Serv 3" 4" 4"	3/4 (0.17) 3/4 (0.17) IT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500 (0.45 - 1476.2) 5 - 450 (1.1 - 102.2) 10 - 1200 (2.3 - 272.5) 20 - 2500 (4.6 - 567.8) 35 - 4400	2 - 700 (0.45 - 159) 4 - 1600 (1.6 - 636) 12 - 4400 (2.7 - 999) 8 - 350 (1.8 - 79.5) 15 - 630 (3.4 - 143) 30 - 1400 (6.8 - 317.9) 50 - 2400		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1135.5) 8000 (1816.8) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (340.7)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68 (1727) 26-1/4 (667) 35-1/8 (892) 44-3/4 (1137) 51-7/16	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757) 21-3/8 (543) 21-3/8 (543) 22-7/16 (570) 25-17/64	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381) 10-3/4 (273) 11-3/8 (273) 11-3/4 (273) 11-3/8 (289) 13-29/64	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765 (347) 900 (408.2) 150 (68) 170 (77.1) 393 (178.3) 6000
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6' x 8' RE HYDRAN 3" P PROTECTU 4" 6" 8" 10" P FIRE SERV 3" 4" 6" 8" 10" ITAINERS	3/4 (0.17) 3/4 (0.17) IT METERS	METERS	1-1/2 - 2000 (0.34 - 454.6) 1-1/2 - 2000 (0.34 - 454.6) 5 - 450 (1.1 - 102.2) 3/4 - 1200 (0.17 - 272.6) 1-1/2 - 2500 (0.34 - 567.8) 2 - 4000 (0.45 - 908.5) 2 - 6500 (0.45 - 1476.2) 5 - 450 (1.1 - 102.2) 10 - 1200 (2.3 - 272.5) 20 - 2500 (4.6 - 567.8) 35 - 4000 (8 - 908.5) 50 - 6500	2 - 700 (0.45 - 159) 4 - 1600 (1.6 - 636) 12 - 4400 (2.7 - 999) 8 - 350 (1.8 - 79.5) 15 - 630 (3.4 - 143) 30 - 1400 (6.8 - 317.9) 50 - 2400 (11.4 - 545) 75 - 3800		2000 (454.6) 2000 (454.6) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (1816.8) 560 (127.2) 1500 (340.7) 3100 (704) 5000 (135.5) 8000 (704) 5000 (1135.5) 8000 (704) 8000 (704)	24 (610) 55-3/8 (1407) 15-1/2 or 19-1/4 (394 or 489) 33 (838) 45 (1143) 53 (1346) 68 (1727) 26-1/4 (667) 35-1/8 (892) 44-3/4 (1137) 51-7/16 (1307) 56-1/8 (1426)	15-3/4 (400) 15-3/4 (400) 11-1/2 (2.92) 20-3/4 (527) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757) 21-3/8 (543) 21-3/8 (543) 21-3/8 (543) 22-7/16 (570) 25-17/64 (642) 29-13/16 (757)	10-1/4 (260) 10-1/4 (260) 8-5/8 (219) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381) 10-3/4 (273) 11-3/8 (289) 13-29/64 (342) 15 (381)	208 (94.3) 460 (208.7) 23 or 29 (10.4 or 13.2) 215 (97.5 570 (258.6) 765 (347) 900 (408.2) 150 (68) 170 (77.1) 393 (178.3) 600 (272.2) 725 (328.9)
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1892 Neptune founded First meter for fire service lines (TRIDENT PROTECTUS) First remote water meter reading system First absolute encoder First high performance residential meter T-10 First fully reprogrammable take control of your future. digital encoder Entered RF market R900 MIUs and DAP handhelds Neptune acquired a majority interest in DAP Technologies, Inc. First to convert full meter line to no lead bronze Introduced FieldNet by DB Microware, the industry's first meter reading, rerouting and service order system to use CE handheld technology Industry's first solid-state absolute encoder "hybrid system" hybrid AMR system



Neptune's history includes many industry firsts with a proven track record of technological innovation, taking the industry far beyond the basic water meter. When Neptune invented the first absolute encoder in 1964, it became the first supplier of both water measurement products and data collection systems to the waterworks industry. Throughout the 70s, 80s, and 90s, Neptune redefined the meter reading process. From the magnetic tape meter reading system to the first complete Central Meter Reading (CMR*) system, Neptune continued to build on the foundation of the absolute encoder.

Today Neptune continues to offer a fully integrated system for its utility customers.

Our leadership extends beyond product innovation to manufacturing excellence and customer support.

Product development and manufacturing processes meet the highest standards for quality from foundry to meter assembly and testing. The state-of-the-art facilities are ISO 9001 Certified and audited annually. Our Customer Support group is easily accessible through our toll-free number (1-800-647-4832). Neptune provides immediate access to a qualified support staff that provides prompt, courteous, and conscientious assistance when customers need it most.

In response to the industry's adoption of ANSI/NSF 61 standards for lead content,

Neptune converted its meter maincase manufacturing to a no lead bronze alloy.

Utilities specifying ANSI/NSF 61 approved no lead bronze alloy can be confident they are providing health-friendly products to their customers and employees that meet AWWA standards and the ANSI/NSF 61 certification requirements adopted in more than 40 states.

Neturehas set the standard for quality reliability and accuracy since the first Nepture noter was produced in 1892

Investing in a measurement system from Neptune guarantees efficiency, long term value, and peace of mind; and that's good for customer confidence.



After more than 110 years, millions of installed meters, and thousands of implemented data collection systems, Neptune has developed a unique knowledge of the water works industry.

The question Neptune asks is, "How can we assist you with revenue optimization, operational efficiency, and customer service?"

Neptune's ARB® Utility Management Systems™ are backed by award-winning customer support. Our Customer Support Center is one of the most advanced in the industry. Customer support quality metrics are established and measured on an ongoing basis. Our Customer Support Center staff are trained, knowledgeable professionals dedicated to ensure the highest level of support and customer satisfaction.

Neptune's sales personnel strive to assist you in a consultative approach to analyze your data collection and measurement practices. Neptune can also assist in developing proforma business models using our proprietary financial tools such as the Drive-By Advisor, the Economic Analysis, and SEER®.

- Drive-By Advisor The Drive-By Advisor considers all costs associated with a utility's metering and data collection practices to develop a proforma business model for AMR.
- Economic Analysis Neptune's Economic Analysis focuses on water revenue optimization as it pertains to metering practices. This tool is primarily used for the cost/benefit analysis associated with meter changeout programs.
- SEER (now available on-line at www.neptunetg.com) Neptune's patented analysis tool, SEER, can predict large
 commercial/industrial meter accuracy within a 95%
 confidence interval without the need to perform costly site
 tests. The SEER model makes it easy for a utility to
 prioritize meter replacement based on simple
 payback calculations. Typically the resulting
 increase in revenue can pay for the cost of
 installing a new meter.

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