



# Remote Pressure Monitoring System\*

Reduce water main breaks and customer complaints

\*Patent pending



# Remote Pressure Monitoring System

## Intelligent Water Technology™

### About The System

Several years ago, Mueller began a journey to develop a user friendly and cost-effective technology to continuously and remotely monitor pressure at any point within a potable water distribution system. The technology involves threading a sensor onto a corporation valve to transmit pressure readings. The pressure sensor, typically installed one per District Metering Area (DMA), reports at user-defined intervals via cellular service and a Mueller-hosted secure web server. Beginning with pressure monitoring, Mueller has created a communications backbone that utilities can integrate into its monitoring systems or use as a stand-alone monitoring platform.

### Why Monitor Pressure in the Distribution System?

Pressure management in pipe networks are fundamental to providing safe drinking water. The loss of pressure can allow ground water to contaminate the distribution system. Fluctuations in pressure can affect the physical integrity of pipes. Surges in pressure have been known to create additional leaks, main breaks and/or dramatically reduce infrastructure life. Pressure management can also save money. Accurate pressure data allows system operators to reduce leakage volumes, energy costs, system maintenance costs, customer complaints, and water quality problems.

- Reduce unaccounted for (non-revenue) water (NRW)
- Identify potential infrastructure failures related to pressure fluctuations which can lead to significant repair costs.
- Reduce pumping and energy costs
- Improve public safety

#### 1 Remote Telemetry Unit (RTU)

The American Association of State Highway Transportation Officials (AASHTO) H20-rated RTU houses the circuit board and antenna. This component features a replaceable battery. An optional lock is available.

#### 2 Adjustable Top

12" ductile iron top section inserted inside of the composite valve box section for field adjustability.

#### 3 Composite Valve Box

The Mueller valve box is light weight and manufactured from a durable composite polymeric material allowing for easy field adjustment with ordinary tools.

#### 4 Sensor Transducer

Captures and transmits data from the installation point to the RTU via the standard 11' cable, extension cables are available. Standard pressure transducer is rated at 250 psi with a 300 psi option available.

#### 5 Corporation Valve

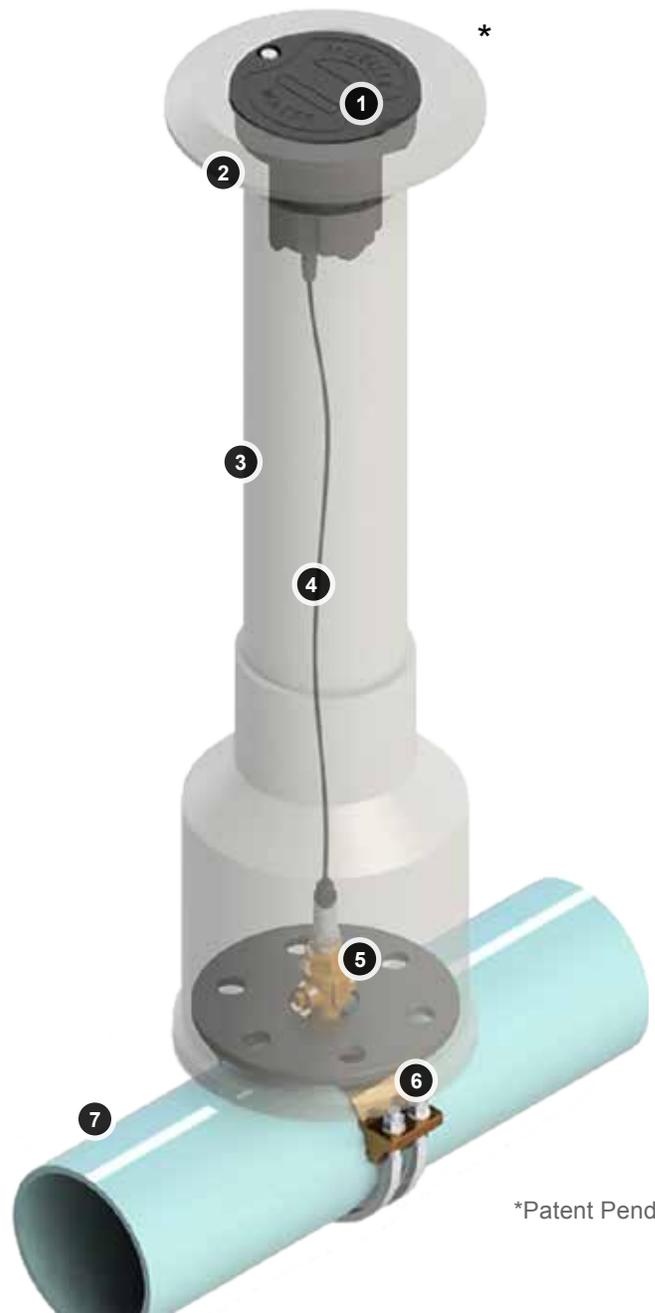
The Mueller 300 psi-rated low lead ball valve is manufactured in compliance with the AWWA C-800 and complies with the federal Safe Water Drinking Act.

#### 6 Bronze Service Saddle

The Mueller bronze double strap service saddle provides years of trouble-free service.

#### 7 Installation Flexibility

The Remote Pressure Monitoring System has the ability to be installed directly into the distribution main, or in vault-type applications.



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Your source for accurate, reliable data

## Features & Benefits

Process	Features	Benefits
Aquisition	Available through the largest waterworks distributor and field sales networks in US	Work with people and organizations that you trust and have depended on for decades
	Product, system and monthly cellular service provided by Mueller Co.	Single purchase order
Installation	Can be installed directly in water main autonomously (i.e. in a new valve box using an approved service saddle and corp valve) or into an existing valve box and 3/4" NPT port	Pressure can be monitored anywhere along the pipe distribution network
	Easy-to-follow user operation and installation manual	Simple installation and immediate activation
Operation	Customer configurable alerts for low and high pressure conditions	System adapts to the unique needs of each utility
	Multi-security level settings and use	Allows utility administrator to alert various personnel depending on pressure conditions and responsibilities
	Alerts are transmitted via SMS and/or email	Immediate messaging tailored to personnel preferences
	Data transmitted via most reliable machine-to-machine cellular service	No need to deploy personnel to read devices; data is transmitted up to 1/1,000 seconds per sample
	Encrypted website	Data is safe and secure and is only visible to one client
	ESRI map interface via any web browser	User-friendly and intuitive
	RTU withstands vibration and AASHTO H20 traffic loading	Components are durable and long-lasting
	Measures pressures from 0 to 200 psig and operating in temperatures of -30°F to 150°F	Can operate in a wide variety of climates and flow conditions
Up to 5 years of battery life	Battery pack can be field replaced	
Support	Toll-free number 844.263.5395	Immediate access to set up or troubleshoot system

## Ordering Information

Selection	Code	Description
<b>Pressure Monitoring Data Logger</b>	IWT01	Remote pressure monitoring and event logger with pressure sensor
<b>Mueller® Low-lead Corporation Stop</b>	B20045N	Mueller 300™ ball corp, 3/4"
<b>Mueller Service Saddle**</b>	Direct installations into water service lines will require a service saddle. Select a saddle option based on pipe OD size from options below	
Non-saddled	WOSADDLE	No saddle required for installation
<b>If saddle is required select ONE from list below</b>		<b>OD Range (in.)</b>
<b>BR2B (3/4" cc)</b> <i>For use on Ductile/Cast iron</i>	BR2B0474	4.74 - 5.32
	BR2B0684	6.84 - 7.45
	BR2B0899	8.99 - 9.67
	BR2B1104	11.04 - 12.12
	BR2B1314	13.14 - 14.58
	BR2B1522	15.22 - 16.88
	BR2B1732	17.32 - 19.19
<b>BR2S (3/4" cc)</b> <i>For use on A-C, Cast Iron, Ductile Iron, and C900 PVC***</i>	BR2S0474	4.74 - 5.32
	BR2S0684	6.84 - 7.45
	BR2S0899	8.99 - 9.67
	BR2S1104	11.04 - 12.12
	BR2S1314	13.14 - 14.58
	BR2S1522	15.22 - 16.88
	BR2S1732	17.32 - 19.19
<b>BR2W (3/4" cc)</b> <i>For use on A-C, Cast Iron, Ductile Iron, and C900 PVC***</i>	BR2W1800	18.00 - 19.50
	BR2W2000	20.00 - 24.60
	BR2W2400	24.00 - 25.00
<b>Mueller Valve Box</b>	WO-MVBC	No valve box required
<i>If valve box is required select ONE from the list</i>	MVB0030C	Composite 3' valve box (upper/lower)
	MVB0050C	Composite 5' valve box (upper/lower)
	MVB0070C	Composite 7' valve box (upper/lower)
	MVB0090C	Composite 9' valve box (upper/lower)
	MVB110C	Composite 11' valve box (upper/lower)

\*Patent pending

\*\*If the pressure may exceed 200 psi; a ductile iron saddle should be used.

\*\*\*Recommendation is to use a full encirclement saddle for PVC pipe; See the Mueller Catalog pages 4-4 and 4-5.

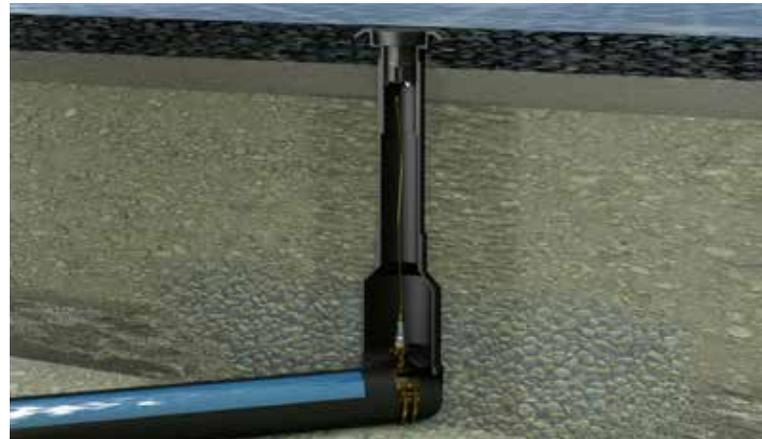
## How It Works

Mueller's Remote Pressure Monitoring System is engineered to be deployed anywhere in a distribution system. It can be installed by way of a direct tap into the distribution main or at the meter vault. The system includes a lithium 5-year battery and 1-year of cellular service with a renewable annual contract.



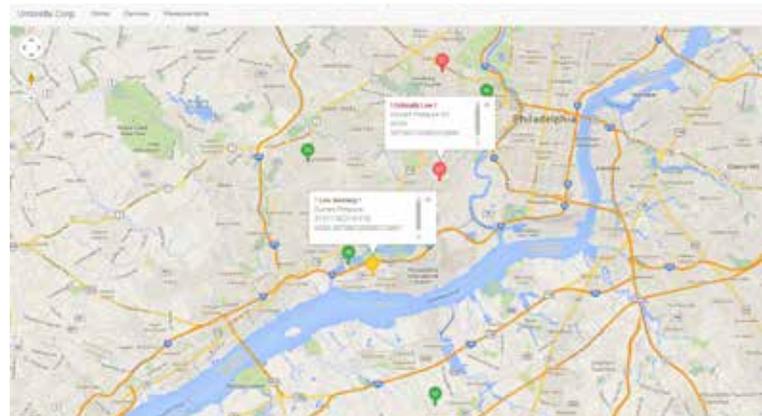
## Rapid Installation

Installing the Remote Pressure Monitoring System requires a minimal amount of advanced planning. Prior to the installation, strategic installation points should be identified. These installation points will determine if the device will require a valve box. Once the pressure sensor has been securely connected to the corporation valve and the sensor wire to the RTU, the device will automatically operate. The device will reveal system pressures with no additional inputs and is ready for operation and system monitoring.



## Remote Monitoring Operation

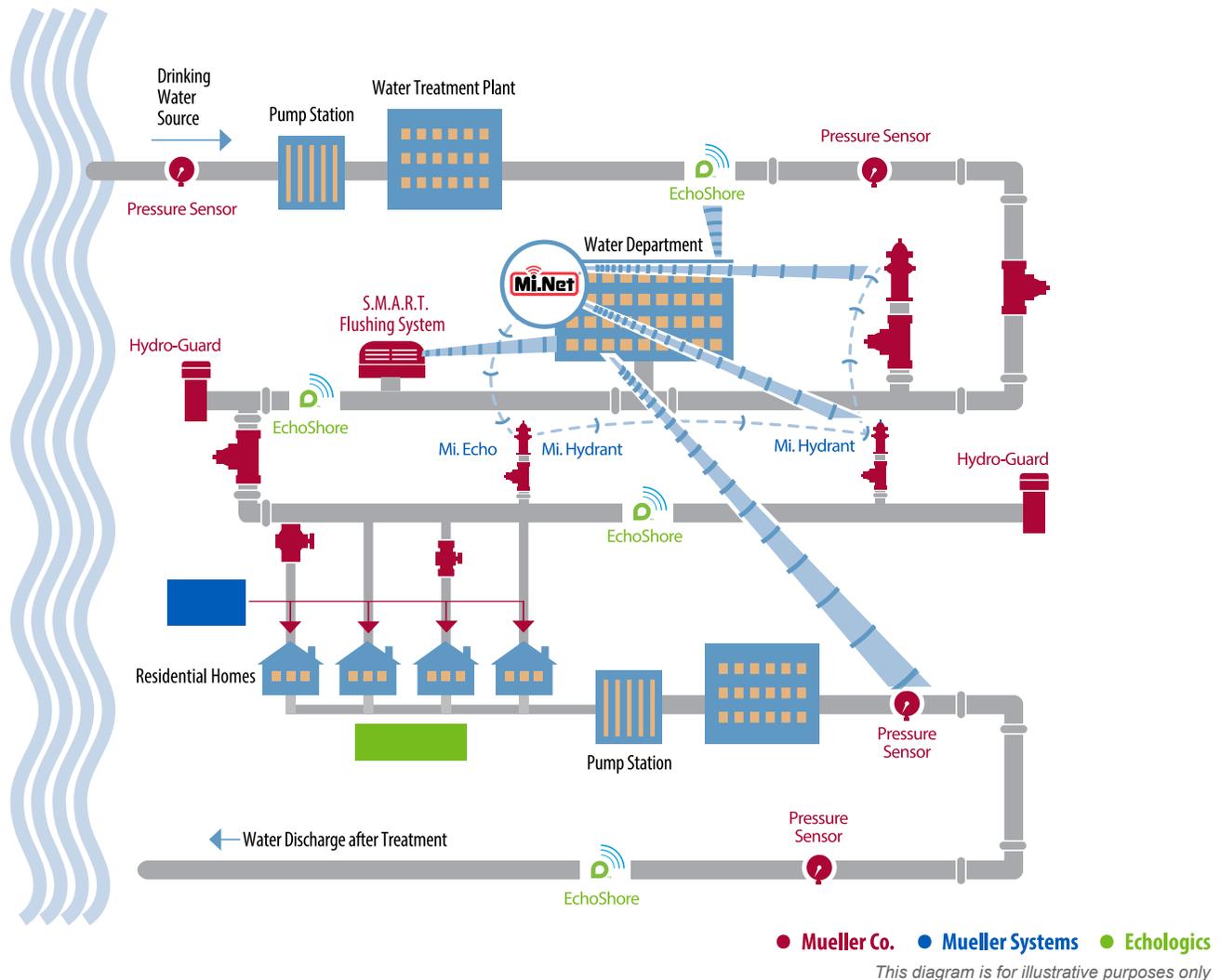
During deployment, a Mueller representative will send an invitation email to the designated customer administrator with sign-in instructions. Once logged into the secure web page, the customer can immediately begin viewing data from all pressure sensor devices that have been deployed. To view details for a specific pressure sensor location, click on the map icon to display the data associated with that sensor. The "Device" screen contains device specific data including location, alarm settings, and login intervals. The "Measurements" screen allows the user the option to browse data over various time frames. Selecting "6 Month" displays data collected in the past 6 months, giving an operational curve of pressure over time.



## System Integration and Support

This system transmits the captured data via cellular communication to a smart phone, desktop, or SCADA System. High and low pressure alerts are able to be sent to these devices. Technical support is available after system installation by calling 844.263.5395 during business hours.





For more information visit [www.intelligentwatertechnology.com](http://www.intelligentwatertechnology.com)

## What is Intelligent Water Technology™?

Intelligent Water Technology is much more than remote pressure monitoring. Intelligent Water Technology is our full line of innovative solutions, products and services that actively diagnose, monitor and control the delivery of safe, clean drinking water to consumers and businesses while ensuring water utilities optimize their investments. It's about delivering information for smart decisions concerning your water infrastructure now and into the next century. It's providing data that helps operators reduce non-revenue water and optimize infrastructure investments from main to meter.

Intelligent Water Technology is automated flushing systems and water quality sample stations. The Hydro-Guard® system monitors water quality in distribution piping and automatically initiates flushing as necessary to maintain disinfectant residuals as required by the U.S. Environmental Protection Agency. This system conserves water, reduces chlorine consumption, and improves customer satisfaction by helping avoid taste and odor, while requiring minimal supervision by utility personnel.

**Mueller SYSTEMS** Intelligent Water Technology is residential, fire line and commercial meters, AMR / AMI systems, remote disconnect metering (RDM), and related products from Mueller Systems®. It's Mi.Echo™, Mi.Hydrant™, and Mi.Net®. It's our ability to provide utilities with the infrastructure technology needed to optimize operations and ensure the sustainability of our water resources. By building on our expertise in water management, we help water, electric, and gas utilities better manage their operations and energy resources.

**echologics** Intelligent Water Technology is our ability to accurately detect leaks and assess the structural condition of water pipes without breaking ground or disrupting service. It's EchoShore™ and ePulse™. It's the Echologics® team who measure how quickly acoustic signals are transmitted along a section of pipe to help water utilities decide where and when to repair and/or replace their aging water infrastructure.



## Our Products

Mueller has built its reputation on producing innovative water distribution products of superior quality – a reputation that is literally “on the line” every day throughout the world. Mueller products and those of its affiliates are used throughout the water system...from the source to the consumer. And we are committed to continuing research and development of new products and services to meet the growing needs of the water infrastructure industry. Mueller is the largest and only full-line supplier of potable water distribution products in North America and its markets continue to expand globally.

## Our People

The capacity to deliver the widest array of products and stand behind those products to assure your satisfaction is our strength. The success of Mueller is dependent upon the success of those who are involved, both inside and outside our company. Therefore, we feel our future is wholly dependent on long-term relationships with our employees, customers and suppliers. This is why we strive to be proactive and responsive to their needs, always looking for a “better way”. It’s an approach that has set us apart since 1857 and will ensure our mutual achievement and prosperity in the future.

*For more information about Mueller or to view Mueller’s full line of water products, please visit [www.muellercompany.com](http://www.muellercompany.com) or call Mueller Customer Service at 1.800.423.1323.*

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# Other Innovative Mueller Products

## Hydro-Guard® S.M.A.R.T.™ Flushing System

The Hydro-Guard S.M.A.R.T. Flushing System is the ultimate automated flush management system. S.M.A.R.T. enabled flushing can be set to occur either on a time-based schedule or in response to water quality thresholds. What’s more, it allows two-way communication and unit management via secure web portal or interface with the end-user’s existing SCADA system. By way of this two-way communication, the utility can receive real-time updates from each Hydro-Guard unit installed in the distribution system equipped with the S.M.A.R.T. controller. Now the end-user can have maximum control over the utility’s flushing program whether on-site or at a remote monitoring location.



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