

# HYDRO-GUARD™ REMOTE PRESSURE MONITORING SYSTEM



## 1. GENERAL DESCRIPTION

- 1.1 The Hydro-Guard Remote Pressure Monitoring System § (hereby known as "Device") shall have the ability to be installed in a vault application, pump station, or directly into the distribution main.

## 2. CAPABILITIES & FEATURES

- 2.1 Real Time Alerts of pressure conditions via email or cellular telephone via SMS (Warning & Critical Condition Notification).
- 2.2 Transient Pressure Monitoring
- 2.3 Cellular base GSM (i.e., AT&T) and CDMA (i.e., Verizon).
- 2.4 SCADA compatible.
- 2.5 Downloadable data log for spreadsheets in Microsoft® Excel® or CSV format.
- 2.6 Secure Web application for pressure reporting with expandability to monitor and manage other products (i.e., Hydro-Guard flushing and monitoring products).
- 2.7 Customer Configurable low and high pressure warning condition and low and high pressure critical condition alerts for each pressure monitoring device. Alerts allow end user and authorized designees to choose to receive emails or SMS alert messages when pre-set critical high or low conditions have been exceeded.
- 2.8 Secure login web application that is only accessible by authorized personnel identified by the end user's administrator.
- 2.9 Multiple security levels for each customer: site administrator, technician and user.
- 2.10 Authorized personnel have direct access to change monitoring criteria and review data.
- 2.11 Interactive map overview of each pressure monitoring system installation point.
- 2.12 Pressure value readout and color coded identification on the map, where red means critical, yellow means warning, green means normal.
- 2.13 Weatherproof enclosure and over-molded connectors for in-ground application.

## 3. DEVICE INSTALLATION

- 3.1 Standard length of shielded sensor cable provided to be 9.8 feet (3 meters). The Device's lid mounted antenna shall be installed a maximum of 6-inches below-grade to ensure cellular communication is not impeded. *(Note: Composite lids must be utilized on vaults or meter boxes to ensure cellular communication).*
- 3.2 When installed onto the distribution main and used in conjunction with a Mueller® Composite Valve Box with a 12" ductile iron top, the Device shall utilize a Mueller® Low Lead Ball Corporation Valve in compliance with the Federal Safe Drinking Water Act and the AWWA C-800 latest revision as well as a Mueller® Service Saddle. If the pressure exceeds 200 psi, a ductile iron saddle should be used.
- 3.3 When installed directly into the distribution main and used in conjunction with a Mueller Composite Valve Box with a 12" ductile iron top, the Device shall utilize a Mueller Low Lead Ball Corporation Valve in compliance with the Federal Safe Drinking Water Act and the AWWA C-800 latest revision.

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- 3.4 The device shall also be available for installation into a meter box. When installed in a meter box, the device shall be installed into a meter jumper connection, blow-off, or pressure regulating valve.
- 3.5 The device shall also be available for installation into an existing air release valve.
- 3.6 A lockable lid shall be standard.

## 4. MATERIAL SPECIFICATIONS

- 4.1 **Field Replaceable Battery Life** – 5 Year minimum using recommended settings. (Frequency of transient monitoring can impact battery life.)
- 4.2 **Standard Pressure Range** – 0 to 250 psi.
- 4.3 **Standard Over Pressure** – In the event that the system pressure were to exceed 250 psi, according to manufacturer's specification, the sensor can endure overpressures up to 700 psi; however, the RTU and Standard pressure sensor will only record pressures up to 250 psi.
- 4.4 **Optional High Pressure Range** – If desired to monitor pressures exceeding 250 psi, please contact Mueller technical service for the correct high pressure sensor and device configuration at (844) 263- 5395 or [technicalservice@muellercompany.com](mailto:technicalservice@muellercompany.com).
- 4.5 **Operating Temperature Range** –150°F to -30°F.
- 4.6 **Pipe Diameter Range** – ½" or larger.
- 4.7 **Sampling Range** – Steady-state pressure is sampled at a rate of 1 reading every 15 seconds. Scheduled transient state pressure monitoring is sampled at a rate of 256 readings per second.
- 4.8 **Valve Box Lid** (Containing RTU) – Waterproof design and rated to AASHTO H-20 standard.
- 4.9 **Antenna** – Antenna is specifically tuned to maximize cellular transmission of data from the RTU module.
- 4.10 **Data Transmission Security** – Data is secured via the use of AES (Advanced Encryption Standard). AES level security is authorized by the NSA for the protection of classified to top secret intelligence.

## 5. ADDITIONAL SPECIFICATIONS

- 5.1 The device shall be provided to the customer with one (1) year of cellular service from the manufacturer. Optional years of machine to machine cellular service will be offered on an annual renewal basis.
- 5.2 The pressure sensor monitor shall be provided by a manufacturer with over 150 years of experience in the waterworks industry.
- 5.3 The pressure sensor monitor shall be the Hydro-Guard Remote Pressure Monitoring System or approved equal.



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