CLEAN WATER

Clean Water
Product Brochure

2024

About **HWM**

We are experienced and respected manufacturers of monitoring and telemetry equipment for water, wastewater and gas networks, together with telemetry AMR and facilities optimisation products.

Having serviced the clean water industry for nearly 40 years, we have combined advanced cellular communications technology with rugged, purpose-designed hardware to deliver a wide variety of robust and efficient network monitoring solutions.

We are dedicated to achieving our aim of **helping customers to save natural resources and reduce CO_2 emissions**.

Why monitor **Clean Water Networks?**

Demand for clean drinking water is rapidly increasing, while water networks are being challenged by environmental factors such as climate change and population growth.

Leak detection is a proven method of safeguarding water. If leaks are not detected quickly then immense quantities of water may be wasted. Significantly, it is estimated that 90% of leaks never show at ground level, making them much harder to identify.

Network monitoring can also be used for the prevention of leaks. Efficient **pressure management** can reduce the strain on a network, reducing pressure spikes and preventing bursts.

How do we monitor **Clean Water Networks?**

We have developed an innovative range of clean water network monitoring products that fall under the following categories:

Leak Detection

Wide-ranging leak detection solutions, including award-winning acoustic noise loggers, correlators and electronic ground microphones

Pressure Monitoring

Two-way communicating devices that support remote management of pressure reducing valves

Data Logging

Market-leading loggers that use advanced cellular telemetry to securely deliver customer data

Water Quality Monitoring

Smart digital sensors to continually measure residual chlorine, turbidity, pH, conductivity, dissolved oxygen temperature and more

Applications and **Software**

To deliver effective results, HWM products are supported by a variety of applications and software solutions.

Each of the bespoke apps and software solutions that supports our products is designed and programmed in-house by our dedicated team.
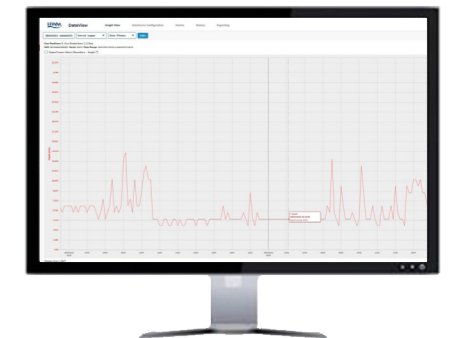
We have developed various applications and software solutions to support our range of loggers and sensors, including:

DataGate

DataGate is our online data server that provides fast, convenient and secure remote data management.

Through a variety of methods (FTP, VMN, modem etc.), DataGate has the capability to receive data from all mobile networks and processes over 1.7 million messages a day.

DataView

DataView is the customer-facing digital platform for viewing and analysing the data that has been collected in the field by HWM devices.

Accessible online, users can connect to DataView on any internet-enabled device.

Fixed Telemetry **Products**

PermaNET SU: the innovative new leak detection system that combines a leak noise sensor with versatile telemetry technology in one robust single unit

Retaining the industry leading features of the PermaNET+ system, PermaNET SU combines a **leak noise sensor** and **telemetry technology** into a compact single unit.

PermaNET SU is robust and durable, having been designed specifically for smaller and more challenging installation areas. Housing a long-life battery with a **typical five-year life**, PermaNET SU also features a **sensor detection indicator** that alarms if device movement is detected. With these features, leakage teams can be confident that PermaNET SU is effectively monitoring their network.

Designed specifically for smaller and more challenging installation areas, PermaNET SU is fully compatible with PermaNET Web, the online data viewing and analysis platform, to provide map-based display, GIS interface and full audio and correlation facilities.

Key Features and Benefits

- fixed network monitoring continually scans for leaks, even in challenging installation areas
- full underground installation with remote cellular communication
- auto-correlation functionality automatically locates leak position
- works with HWM Deployment app for fast and accurate installation
- compatible with PermaNET Web online viewing platform, supporting correlation, Google Map view and more
- compatible with NBIoT, LTE-M cellular networks with 2G fallback for future-proofing

PermaNET+

PermaNET+ combines a leak noise sensor with our versatile telemetry technology to create a fixed network to monitor leakage.

Once a leak is detected, PermaNET+ generates an audio sound recording which can be used for remote correlation.
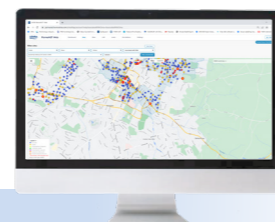
PermaNET TM GPS

By combining the proven sensitivity of our new Hydrophone 2 with our advanced-telemetry data logger and GPS Time Synchronisation, Permanent TM GPS delivers accurate leak noise detection and correlation over greater distance on plastic and large diameter pipes.

Hydrophone 2

Hydrophone 2 is our new hydrophone sensor that delivers unrivalled leak detection performance.

Designed for our correlators and leak noise loggers, Hydrophone 2 is particularly effective on plastic pipes.

PermaNET Web

PermaNET Web is a digital platform created to gather, collate and easily display the leak noise data collected by PermaNET devices.

PermaNET Web is secure, easy to use and available on any internet-enabled device.

Ground Microphone **Products**

DXmic Pro: the latest generation digital ground microphone that includes automatic filtering and frequency display features for precise leak localisation

Delivering the highest quality sound, DXmic Pro incorporates a wide variety of features to help pinpoint a leak position, including **auto filtering** and **frequency display**.

Additionally, DXmic Pro goes further, supporting the recording of leak noise, including the ability to **replay recordings**, and is also compatible with the **DXmic App**.

For operator safety, DXmic includes a **Safety Noise Level** cut-off feature

Key Features and Benefits

- best in class audio with high quality digital sound
- improved automatic filtering supported by frequency analysis display
- download results to DXmic Pro App and replay leak noise recordings
- rechargeable long-life Li-ion batteries with 25 hour battery life
- Minimum noise level display: for effective pinpointing of leak noise
- easy to use colour touch screen with clear multifunctional graphics that can be used with gloves

DXmic Pro App

The DXmic Pro app is a mobile application developed to simplify the process of data retrieval from DXmic Pro devices.

Through the app, DXmic users can immediately share downloaded audio files and site reports via e-mail or through DataGate.

Bmic

Bmic is an easy to use, electronic leak monitoring tool ideal for general water leak detection operations.

Bmic is a cost-effective, simple tool designed to minimise disruption and reduce repair times for any leakage technicians.

Tmic

Tmic is a pocket-sized water leak detection device developed for effective, on the spot network monitoring.

Lightweight and portable, Tmic discovers and amplifies leak noise that is otherwise inaudible to the human ear.

Lmic

Lmic is an easy to use combined electronic listening stick and ground microphone.

Ideal for general sounding operations, Lmic can be fitted with either a tripod foot or probe rods to deliver excellent leak detection performance.

Pressure Monitoring **Products**

Data Logging **Products**

Pegasus 2: our advanced, two-way pressure control system for remote pressure modulation, delivering a sophisticated level of targeted, demand-based control

Multilog LX2: the highly versatile, battery powered telemetry data logger that supports compatibility with a wide variety of sensors and meters, including Modbus

With the capability to set target pressure by **time**, **flow** or a **combination of both** (with different table settings per day), Pegasus 2 delivers a intricate level of targeted control, even on a time basis.

Pegasus 2 features a secondary channel for **fast logging** down to **25Hz**. This is invaluable for investigating system transient events.

Featuring our **advanced modem**, Pegasus 2 transmits data though **NBIoT** and **LTE-M**, with a **2G fallback**, ensuring reliable and consistent communication. Additionally, Pegasus 2 is supported by our **PressView app**, delivering **easy set-up** and programming functionalities.

Designed to fit inside very shallow Atplas box installations, Multilog LX2 is ideal for many applications, including **monitoring flow** and/or **pressure** in a district or zone to assess demand, **leakage** and **pressure conformance**.

Multilog LX2 contains our innovative modem that is capable of connecting by **NBIoT** and **LTE-M**. The modem includes a **2G fallback** which automatically engages should an NBIoT signal not be available, ensuring consistently reliable connectivity.

The logger is **battery powered**, with a **five-year** life as standard. Additional battery packs can be added to support more frequent dial-in rates.

Key Features and Benefits

- built-in pressure failsafe, set at installation, including on-site manual safe override
- intelligent pressure control proven to minimise leakage and reduce the frequency of pipe bursts
- NBIoT LTE-based cellular communication standard with fallback 2G capability
- optional latching solenoids to fully vent the PRV top chamber in tight headloss conditions
- true max and min flow and investigation of pressure spikes through Pseudo logging
- optional 4th logging channel to record top chamber PRV pressure

Key Features and Benefits

- pulse interval timing smooths reading set times of infrequent pulses e.g. minimum night flow
- up to 2x digital flow inputs and 1x analogue input (internal or external pressure, 4-20mA)
- NBIoT LTE-based cellular communication standard with fallback 2G capability
- fully waterproof with an IP68 rating that has been tested at 10m over a 24 hour period
- true max and min flow and investigation of pressure spikes through Pseudo logging
- serial input for connection to digital meters, SonicSens 3, Permalog+ leak noise logger and Modbus sensors

Sentinel 2

Sentinel 2 is an effective solution for switching between high/low pressure, by time or flow, to provide pressure optimisation when demand changes.

Sentinel 2 is ideal for reducing pressure at night, minimising leakage and reducing pipe bursts.

Pressure Transient

Featuring an innovative 'Event Window Selection' and our advanced modem, Pressure Transient is designed for effective network transient logging.

Logging at up to 100 times a second, Pressure Transient is ideal for monitoring transient changes.

PressView

PressView is a web-based dedicated platform for managing Pegasus+ and Sentinel 2 pressure controllers.

PressView delivers zonal pressure management operations and self-learning closed loop control through a 'fleet' mapping view.

Multilog 2

Multilog 2 is the highly advanced and versatile multi-channel data logger designed to monitor any combination of digital and analogue signals.

Multilog 2 is ideal for a variety of specialised applications, including monitoring PRV flow and pressure.

COMlog 2

COMlog 2 is the highly versatile data logger designed to be a cost-effective, multi-application data logging solution.

Perfect for AMR monitoring, COMlog 2 is compatible with any sensor or meter that has a volt-free, pulsed output.

LoLog 450

LoLog 450 is a flexible logger.

Waterproof, battery powered and submersible, it is designed for portable use and can be supplied in single or dual channel variants. The analogue channel can be used for internal pressure and external pressure.

LoLog Vista

LoLog Vista is a simple, highly flexible data logger. Featuring a convenient display screen and designed for portable use, it can be applied to most data logging applications in minutes.

LoLog Vista operates unattended until a user collects the data.

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CLEAN WATER   **WASTE WATER**   **GAS NETWORKS**   **AUTOMATED METER READING**   **FACILITIES MANAGEMENT**

Clean Water Network Monitoring

With over 30 years in the water industry, HWM is skilled at addressing the challenges of water network monitoring. With increased pressure on water globally, we can solve the problems of effective water network management, providing data on performance and enabling effective network management.

Waste Water Network Monitoring

Control of waste water networks is a key public health challenge. Effective monitoring of waste water networks reduces both frequency and impact of pollution events. Permanent installation of remote monitoring equipment helps to alert network operators to immediate problem sites.

Gas Network Monitoring

Effective monitoring of gas networks has traditionally been a challenge, due to a lack of on-site power and deployment difficulty. Our gas products address these concerns, using our expertise in ATEX and low power design capabilities. This enables users to collect data about this critical infrastructure.

Automated Meter Reading

Accurate and consistent data is the foundation for effectively controlling energy usage and reducing waste. AMR delivers precise and timely consumption data for investigation and analysis of energy usage as well as exact billing.

Facilities Management

HWM has pioneered the development of wireless monitoring solutions for fixed network deployment. These can be combined with a variety of sensors, providing our partners with 'near real-time' data that they need to help their customers to eliminate waste, cut costs and reduce carbon emissions.

ISO 9001 QUALITY MANAGEMENT   ISO 14001 ENVIRONMENTAL MANAGEMENT   ISO 27001 INFORMATION SECURITY MANAGEMENT   ISO 45001 HEALTH & SAFETY MANAGEMENT

CYBER ESSENTIALS

MONITORING ASSETS, DELIVERING DATA, BRINGING CONTROL

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