

# Hydroguard<sup>®</sup>

TRUNK MAIN MONITORING SYSTEM



## Standard Features

- › Tri-parameter: flow, pressure and noise
- › Multiple alarm modes
- › Battery powered – long life
- › SMS and GPRS transmission
- › GPS
- › Flexible logging and transmission schedule

## Optional Features

- › Mains Power
- › External Battery Pack

## Benefits

- › Cost effective
- › Easy to install and set up
- › Technology designed to allow for future remote upgrades
- › Proven track record



**Intelligent Mains Burst System**  
Protection and Monitoring of water pipeline networks

# Hydroguard<sup>®</sup>



Hydroguard<sup>®</sup> is a well-established and proven 24 hour monitoring and protection system for water trunk mains. The cost effective, battery operated system continuously measures and transmits flow, pressure and noise data by SMS or GPRS, providing fast notification of any unusual activity or suspected bursts.

On installation, Hydroguard<sup>®</sup> is set to learn the "normal" pipeline activity and produce a "Learnt Profile". The Learnt Profile comprises high noise and low and high flow and pressure parameters. Alarms can be set for each of the 3 channels, triggering alerts to SmartChart<sup>®</sup> Web graphical viewing platform or the master station, as well as by text message.

## Single Alarms

A variety of user selectable alarm options are integral to the system:

- › Multiple high, low or combination alarms
  - Absolute values or as a percentage deviation from "learnt" profile
- › Fastline: on alarm, data logging speeds up to every 30 seconds for approximately 15 minutes, this data along with the last hours data is transmitted to provide event data, time, location and history of event.

## Possible Burst Alarms

Ashridge's unique algorithms are used to analyse the incoming data and alarms and indicate the possibility and location of a major leak or burst.

## Data Logging and transmission

- › GPRS or SMS options
- › 1 minute flow readings. Pressure and noise readings may be set from 1 minute up to 24 hours.
- › Transmission options from 30 minutes to 24 hours

## Intelligent, smart protection of the asset

- › Continuous trunk main monitoring
- › Move from reactive to proactive customer service
  - Increased customer satisfaction and safeguarding of reputation
  - Resource and cost savings
- › Increased efficiency of water networks
  - 24 hour monitoring enables fast repair times
  - Data for tactical and longer term strategy and management
- › Helps meet industry regulations and targets
- › Easy system installation and system integration
  - Remotely upgradable – allowing for future technology and innovation
- › Cost effective

## Features and benefits:

- › Tri-parameter; flow, pressure and noise
- › Multiple alarm modes
- › Battery powered – long life
- › SMS and GPRS transmission – no broadband or mains connection required
- › GPS
- › Reverse flow capability to monitor bi-directional transfers
- › Proven track record
- › Remote configuration and upgrades
- › Technology designed to allow for future remote upgrades
- › Rugged, waterproof IP68
- › External battery option
- › Mains power option



# Hydroguard<sup>®</sup>



## Innovative Engineering

The Hydroguard<sup>®</sup> system utilises a variety of sensors to accurately measure and transmit flow, noise and pressure data from the water main pipeline. Each installation consists of a minimum group of 2 Hydroguards<sup>®</sup> with internal pressure transmitters, an external flow meter and external accelerometers for noise capture.

Data is transmitted through to the master system or SmartChart Web; Ashridge's graphical viewing platform. Using a combination of Ashridge's algorithms, alarm parameter settings and the Hydroguard<sup>®</sup> learnt profile, the system alerts the water company to any unexpected patterns and possible bursts.

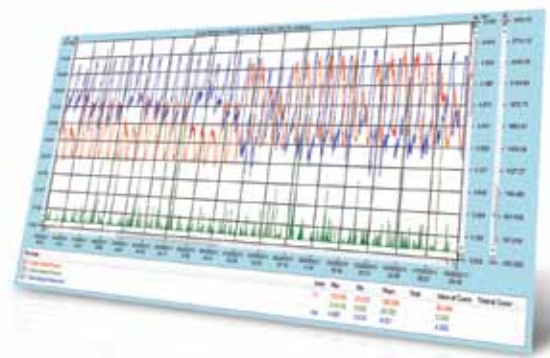
## Future Proofing

Internal and external battery packs offer a wide range of usable life-span options. A mains power option can provide an alternative power source where data streams are anticipated to be high.

Using the remote configuration platform, we are able to remotely upgrade Hydroguard<sup>®</sup> in line with customer requirements and technology developments quickly and simply.

## SmartChart<sup>®</sup> PC Software

SmartChart<sup>®</sup> is Ashridge Engineering's intuitive and simple to use graphical software solution. SmartChart<sup>®</sup> is provided as standard with all loggers, allowing data viewing and printing of up to 3 data series. An upgrade to "SmartChart<sup>®</sup> Pro is available, providing increased capabilities such as report generation, trend lines, merging of graphs to allow easy analysis of multiple loggers/sites on a common axis.



## SmartChart<sup>®</sup> Web Graphical Viewing Platform

SmartChart<sup>®</sup> Web is Ashridge Engineering's hosted data service, providing a secure platform for viewing and analysing data for Ashridge Engineering's data logging products. SmartChart<sup>®</sup> Web features a comprehensive suite of options, and enables fast and reliable data to numerous users without geographical and other complex infrastructure restrictions.



# Hydroguard®

## SPECIFICATION

Primary Functions	Tri-parameter; flow, pressure and noise burst detection and location system with fast notification. Hydroguard® provides continuous trunk main monitoring and captured data may be used to determine leaks and bursts
Supported pipe materials	All types of cast iron Steel MDPE and PVC Concrete
External Sensors	Accelerometer ABB or HydrINS flow meter
Optimum distance between units	Typically 500 – 700, metres, dependent on pipe material, size and environmental characteristics
Sample rates	User selectable from 30 seconds (with fastline) up to 15 minutes
Data transmission	From 5 minutes up to 24 hours
Communication	Quad band GSM modem allows SMS or GPRS transmission Remotely configurable Set up using IRDA USB
Internal Power source	Internal battery
External Power Source	External battery pack, if required Mains Power
Enclosure material	GF PBT (Hydroguard® unit)
Fitting	1" BSP gate valve + various electrical and mechanical fittings
Dimensions	195 high x 170 diameter (Hydroguard® unit)
Weight	1.6kg (Hydroguard® unit)
Environmental Rating	IP68
Other	Reverse flow capability to monitor bi-directional transfers High speed 24 bit noise monitoring circuit with large dedicated circular memory, providing high resolution noise handling and noise cancelling abilities Multiple alarm modes
In-house pre compliance capabilities	Electrical Fast Transients (IEC 61000-4-4), Radiated RF Immunity (IEC 61000-4-3) Surge Immunity (IEC 61000-4-5), Conducted Radio Frequency (IEC 61000-4-6) Insulation Resistance (IEC 255-5), Dry Heat (IEC 68-2-2), Damp Heat (IEC 68-2-30) Vibration (IEC 68-2-6), Shock (IEC 68-2-27), Bump (IEC 68-2-29)
In-House calibration capabilities	(referenced to UKAS or National Standards) Absolute Pressure Dead Weight Tester AC Volts to 1kV, DC Volts to 1kV, AC Amps to 50 Amps, DC Amps to 50 Amps, DC Insulation to 30kV
Approvals	Hydroguard® is included on the Enhanced Capital Allowance (ECA) Scheme's Water Technology List.

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