

Phocus[®]2

Intelligent acoustic leak detection system

Phocus2 is an acoustic data logger system designed for widespread use in detecting and localising leakage on water distribution systems. Large areas may be rapidly assessed.

Phocus2 gives visual, on-site indication of leakage or can be used with sophisticated software to produce graphical and tabular results.

Phocus2 advantages:

- **Rapid, overnight, identification of leaks - without the need for staff night working**
- **Use for survey or permanent operation**
- **Large areas can be covered quickly**
- **Intelligence built into logger for instant, on-site, indication of leakage**
- **Advanced analysis PC software**

Operation

Leak pre-location is carried out by installation of a number of *Phocus2* loggers at available fittings such as hydrants or valves. The loggers record leak noise during the night, when background noise is likely to be lower. Noise amplitude will vary due to random effects, but there will always be a consistent minimum (the critical noise level) due to any constant noise - for example, leakage.

Loggers which are situated closer to a leak will record a higher critical noise level. The leak can then be pinpointed (usually by using the leak noise correlation technique).

The System

The *Phocus2* system consists of a number of acoustic noise loggers. A communications case is required to program and readback loggers. The case has the contact-less communications facility built into the lid. Loggers may be placed in any position and the PC software automatically identifies each logger. The case provides for communication for up to 15 loggers at the same time and the cases may be connected to build a system with any number of loggers.



Phocus2 achieves full statistical analysis overnight - move it everyday for maximum network coverage



AQUA TECHNOLOGY SOLUTIONS

Primayer

Visual indication provides instant on-site awareness of the leakage situation.

Amber LED Noise Strength	
Number of Flashes	Critical Noise Level
4	>50dB
3	41 - 50dB
2	31 - 40dB
1	20 - 30dB
0	<20dB

Contact-less Communications Port

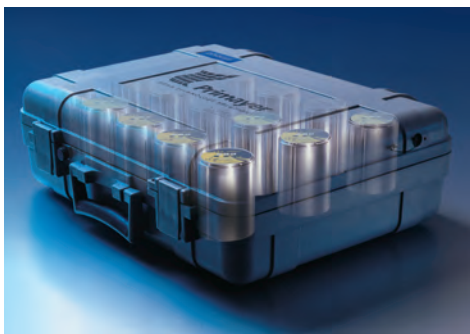
Green LED Leakage Confidence Factor	
Number of Flashes	Meaning
4	Leak noise - very confident
3	Leak noise - confident
2	Possibly leak noise + other noise
1	No leak noise (also indicates logger functioning)

Logger Features

- Specially optimised accelerometer with high sensitivity
- Large memory - stores up to one year of noise data
- Powered for life (5 - 10 years)
- Small size - only 90mm high
- Submersible (to IP68)
- Rapid, contact-less communications to multiple loggers

Data Analysis

The sophisticated PC software automatically identifies each logger and enables the simple programming and read-back of multiple loggers. The results are displayed as two or three dimensional graphs of the characteristic noise and provide easy to interpret analysis. Additionally, a table ranks logger position relative to the leak position.



Part Numbers

Phocus2 Field kit (set of 8 loggers + stroboscopic torch)	AXG 006
Phocus2 Field kit (set of 15 loggers + stroboscopic torch)	AXG 005
Phocus2 Analytical kit (15 loggers in comms case + stroboscopic torch)	AXG 002

