Equipment to acoustically locate water leaks

Hydrolux
HL 500/5000

Benefits:

- **See and hear leaks with DSA technology**
- **High audio quality**
- **Non-tiring work**
- **Line location mode**
- **Improved leak identification with frequency analysis**

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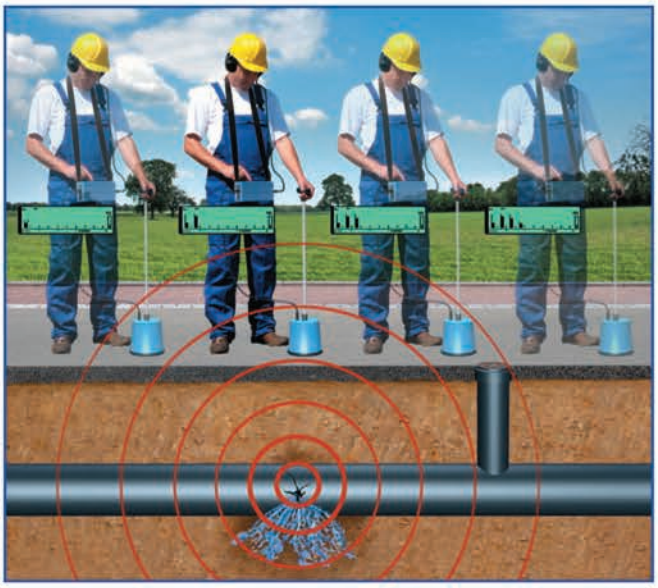

Procedure of leak locating

With the modern series of Hydrolux equipment HL5000 and HL500, you can find leaks particularly quickly, easily and reliably. The equipment uses modern digital signal processing technology (DSP) to clearly recognise the leak sound, even when there is a lot of noise in the environment. The sounds are not just perceived audibly, but are also displayed graphically using ultra-modern dual segment analysis (DSA) technology. For the user this means more reliability when locating water losses.

How does acoustic leak location work?

With a damaged pipe, water streams out of the leak producing two types of noise:
1. The water flowing out of the pipe causes it to vibrate. With the Hydrolux and an attached microphone, you can hear these leak vibrations even at remote locations where contact with the pipe is possible (valve, hydrant, connection to a building etc.)
2. The water issuing at the leak location creates sounds which are transmitted through the ground to the surface. With the help of a ground microphone, the Hydrolux picks up these sounds and graphically displays the volume and the frequency spectrum.

The Hydrolux series of equipment

The modern DSP technology used together with a 16 bit audio codec provides the user with high audio quality. Background noise is simultaneously minimised. This means that leaks which only produce a quiet sound can also be reliably identified.
The Hydrolux is easy to carry even for longer periods of work due to the small housing and low weight. The large back-lit display provides easy reading of the measurement results. Hydrolux is simple to use which makes it a fine companion in your daily search for leaks.

Modern DSA technology for optimised leak location

DSA technology stands for „dual segment analysis“. In a normal noise spectrum, background noise (cars, wind, passers-by, etc.) drowns out the actual sound of the leak. After calculation and evaluation the background noise is displayed as a narrow bar in the graph. The actual sound of the leak is identified by the minimum value, which is displayed as a wide bar in the graph. The nearer that you get to the leak, the higher this bar gets.

Line location mode

The HL5000 has a special mode to better locate plastic pipelines acoustically. With this function, the equipment reacts particularly sensitively to the impulse noises produced by a „pipe pecker“ or by an impulse generator. The filters are automatically adjusted for this application. The enlarged drag display is easier to read and thus eases the location of the pipeline.

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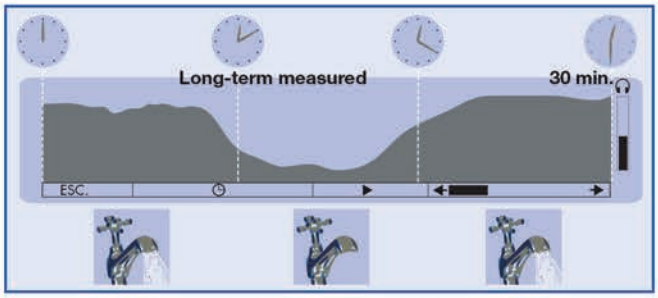
The integrated sound logger

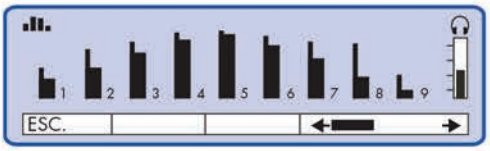


Final certainty is provided by the unique long-term measurement from the HL5000. Put the microphone over the suspected leak location. The long-term measurement records the sound for 30 minutes (as an example). If the valve for that section of the pipeline is closed, that should result in the sound of the leak diminishing. If that is not the case, it's not a leak. An expensive pointless dig has thus been avoided.

The advantages at a glance:

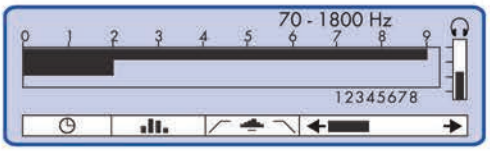
- DSA technology: simultaneous display of the current and minimum values
- Hear and see leaks: Histogram measurement with 9 simultaneously displayed DSA measurements
- Low weight - non-tiring to use
- High audio quality - Completely digital 16 bit audio codec
- Large display to easily read the measurement results
- Frequency analysis of the recorded sounds (HL5000)
- Flexible filter settings with 9 freely configurable filter curves (HL500)
- Sound logger function: 3-15-30 minutes (HL5000)

The histogram measurement - See and hear leaks



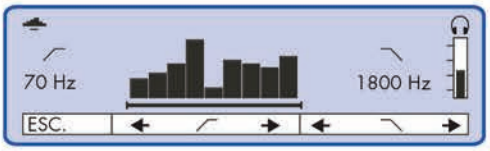
Forget about reading numbers. With histogram measurements, in future, you can both hear and see the leak. Up to nine measurements are saved and displayed as a DSA sequence with this function. The narrow segment shows the level of background noise, the wide segment shows the sound of the leak. The leak is there where the wide segment is highest. You can't get clearer than that!

The classical listening function



The classical display of the listening function has also been optimally adapted the user's requirements in the Hydrolux series. Maximum and minimum sound levels are clearly displayed as a DSA graph. The drag display function eases the job of acoustically locating plastic pipelines, using the pipe pecker RSP3.

Frequency analysis and filter selection



The HL5000 analyses a frequency spectrum from 0 – 4000 Hz. Every leak has a particular frequency pattern. Select the right filter settings yourself, to pinpoint the leak exactly. In this way you can simply fade out interfering background noise. As an alternative, the HL500 offers ten preset filter settings from which you can select the ideal one.

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Scope of Delivery (HL 5000 Pro)

- Leak location equipment / amplifier 1
- Ground microphone (PAM W-2) 2
- Ground microphone (PAM B-2) 8 including tripod adapter (PAM U-D) 7
- Headphones 4
- Magnet adapter PAM B-2
- Tripod adapter (PAM W-2-D) 9
- Carrying Rod PAM W-1 / PAM W-2 10
- Extension Rod VST T-1 with probe tip 11
- Connection lead VK 65 3
- Carrying belt 6
- Equipment case 5

Features of the Hydrolux® equipment

Function	HL 500	HL 5000
LCD display	x	x
DSA technology	x	x
DSP technology, 16 bit audio codec	x	x
Histogram	x	x
Drag display	x	x
Frequency analysis		x
Fixed filter sets	x (Qty. 9)	
Sound logger function		x
Free filter setting		x
Line location mode		x
Back-light	x	x
Software updates	x	x
Sound insulation to VBG121 (< 85 dB)	x	x
Weight	1200 g	
Dimensions	(L x B x H) 215 x 95 x 110 mm	
Operating time	≥ 35 h	
Power supply	8 x Mignon 1.5 (opt. rechargeable)	
Microphones (connection options): PAM W-1, PAM B-1, PAM U	x	x

Special accessories

- Slide valve adapter 20 mm
- Slide valve adapter 42 mm
- Plug-In Pin EBD 75
- Plug-In Pin AD 12 / 8

Our range of products: Equipment and systems to locate faults in power and communications networks, as well as for leak location on pipe networks · line location equipment · seminars · service · contracting

Technical data subject to change without notice.

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