

Now with enhanced functions

**SeCorr<sup>®</sup> C 200** | Water leak detection by correlation  
professional – flexible – intelligent





## The principle of correlation

Location with a correlator involves simultaneously measuring the noises caused by a leak on the pipeline at two fittings (e.g. on slide gates or hydrants). Highly-sensitive microphones record the noises on the fittings, radio transmitters transmit the signals to a receiver – the correlator – which determines the run time difference, i.e. the time lag between the noises reaching the two measuring points. The correlator then calculates the exact leak position based on the entered pipe length and the pipe material and diameter.

## Comparison of correlative and acoustic location techniques

The correlation method is essentially different to the conventional method of acoustic water leak detection: instead of systematically checking the fittings (prelocating) and then pinpointing with ground microphones at one position, it involves taking two simultaneous measurements at two fittings. With acoustic location the user compares and evaluates the leak noises. This technique can be used in many network structures, however successful location is dependent upon human hearing and, to a large extent, the experience of the user. Leak detection by correlation, on the other hand, provides accurate measurement values – regardless of the hearing of the user and largely irrespective of external perturbations.

## Reliably and accurately pinpoint leaks

**Professional:** The **SeCorr® C 200** is a state-of-the-art, portable high-performance correlator, which enables leaks in underground pipelines to be located reliably, quickly and accurately to allow excavation to begin. Its user interface is clearly and logically laid out. There are many extra functions available for complex location scenarios.

**Flexible:** The **SeCorr® C 200** is recommended for all users undertaking professional leak detection because it can handle any everyday location scenario. It can easily measure different pipe sections, pipe materials, diameters and pipe lengths.

**Intelligent:** The sophisticated firmware of the **SeCorr® C 200** means that the measurement sequence is almost fully automatic. Once the pipeline data has been entered and the measurement started, all other steps are performed without the intervention of the operator. The measured noises are constantly analysed in the background and the optimal filter settings selected.

## Automatic filters, results-oriented measurement display

The **SeCorr® C 200** independently optimises the measuring results by automatically selecting appropriate filters – without the user having to intervene. However, filters can also be set manually.

One special feature of the correlator is its results-oriented, user-friendly on-screen display of the measuring results. Concrete information about the position of the leak is highlighted, instead of having to interpret complex curves. The quality of the calculations shown in the display provides the user with constant information about how reliable the measurement is.

Thanks to the results-oriented view, the user can immediately implement further steps, e.g. confirm the location by acoustic means.



## Strong protection for rugged working environments

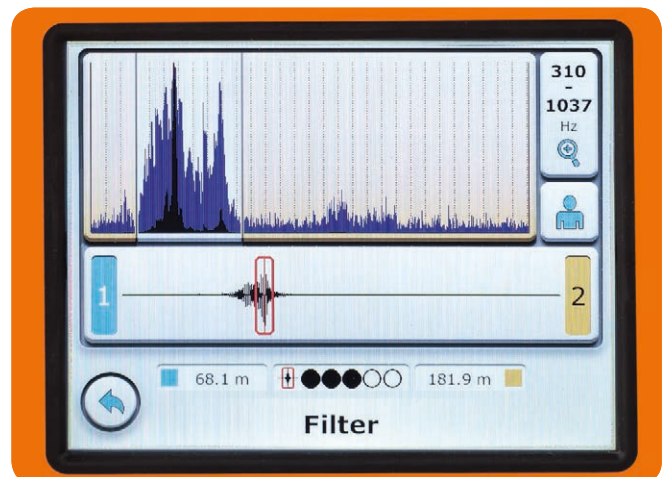
The sturdy **SeCorr® C 200** is certified to IP67 and therefore ideal for use in extreme ambient conditions. Dirt, dust and moisture will not affect its functionality. The powerful integrated lithium-ion rechargeable battery means the receiver can be used all day long without interruption.

## Ergonomic, effortless work

The **SeCorr® C 200** receiver is lightweight and ergonomic. Its strong triangular belt enables it to be carried effortlessly. The compact, symmetrical housing means that it can be comfortably operated by right and left handers alike. Wireless communication between the receiver and headphones means that the user can work without annoying cables.

## User-friendly thanks to large touchscreen

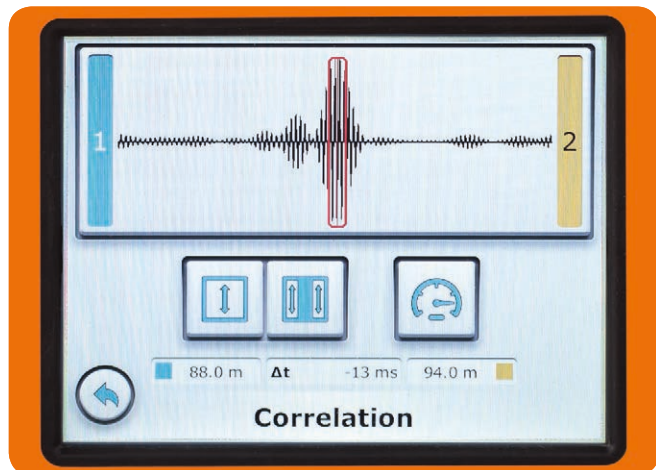
The **SeCorr® C 200** has a large 5.7 inch, high-resolution VGA display. All of the information is clearly laid out and displayed in a results-oriented way. The display is easy to read, even in the brightest of sunshine. If necessary, the touchscreen can be conveniently and reliably operated with gloves.



## Suppression of interfering peaks

**NEW**

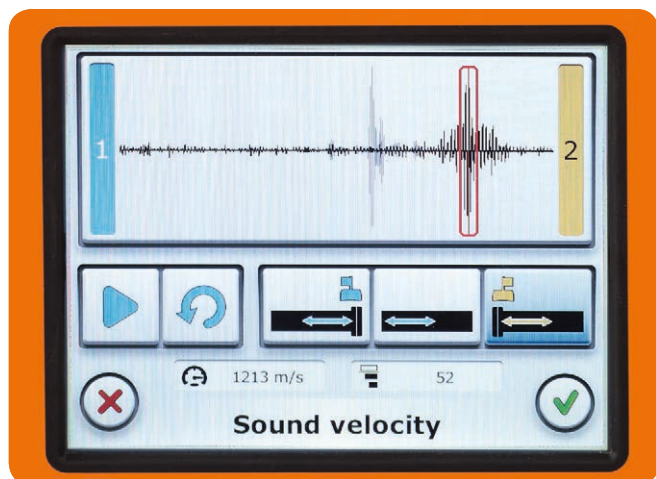
The feature of peak suppression helps with optimisation in situations where one area of the correlation function is selected and then suppressed. The graph is then normalised in accordance with the next smallest peak, making it much easier to identify. If more than one leak is detected within the correlation line, peak suppression can be used to separate the visible peaks from each other.



## Measuring sound velocity

**NEW**

When measuring sound velocity, a second source of noise in addition to the real leak. Two measurements are then taken (one with the second source of noise and one without), and they are used to calculate the sound velocity on the measuring section. The measurements displayed on the receiver focus clearly on the second measurement, paying special attention to the position of the additional sound source. The result is rapid measurement of the sound velocity in just a few steps.

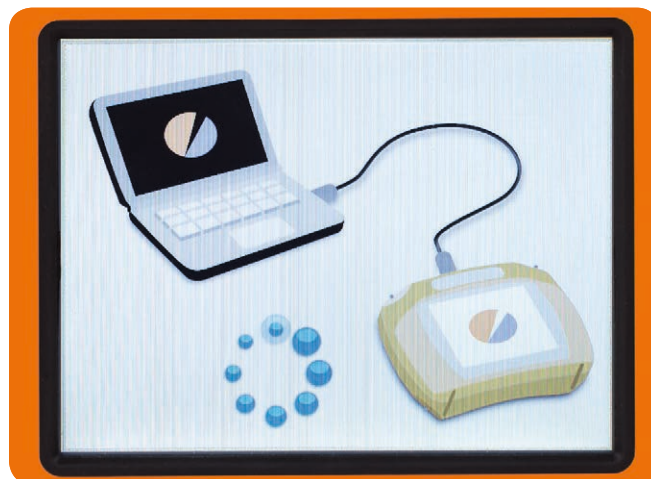


## Documentation with WaterCom Software

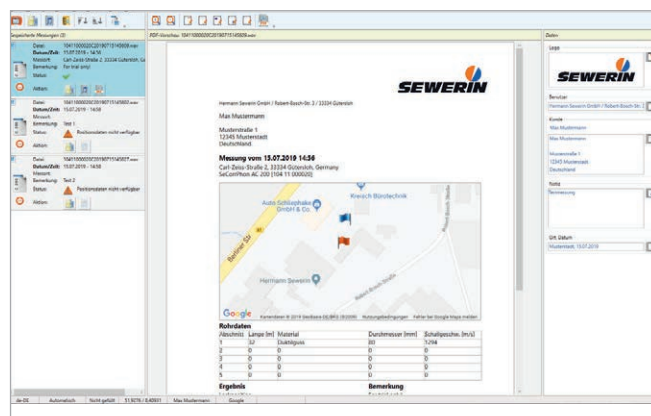
**NEW**

Measurements saved in an **A 200**, **C 200** or **AC 200** receiver can be transferred quickly and easily to a computer via USB. Just connect the receiver to the computer via cable and the measuring data will be transferred automatically.

It is possible to set up different user and customer data sets in the software. The position of the location for each measurement is shown on an online map (e.g. Google Maps). The locations on the map can be edited, meaning the exact position of the radio transmitter or damage detected by the ground microphone can be pinpointed exactly. It is also possible to add notes to any measurement or point of damage. The software can generate PDFs to produce paper documentation of any measurements.



Noises which have been recorded can be played back using the player integrated into **WaterCom**. If the software is used regularly to save measurements, it will start to build up a useful noise database. This can then be used, for example, to train new starters in leak detection in what to listen out for.



## SeCorr® system – system components and accessories



The **RT 200** radio transmitters feature 500 mW high-performance transmission paths. They allow noiseless data transmission, even on measuring sections covering hundreds of metres. The **RT 200** radio transmitters come on as soon as you plug in the microphone cable. Three different bandpasses mean that the noises can be fully processed before radio transmission. This means that the **RT 200** radio transmitters can be adjusted to a wide range of pipe materials and pipe sections. The microphone's torch function can also be activated via the membrane keypad.



The **UM 200** microphone for picking up structure-borne noise features a very wide frequency response and is extremely sensitive in the low frequency range. This makes the **UM 200** perfect for recording even the quietest of noises, particularly on plastic pipes. The cable is extremely sturdy and can withstand heavy mechanical loads. This guarantees a long service life in daily use, even under the harshest of conditions. A high-quality plug and an extremely strong contact adapter make the **UM 200** microphone a professional all-rounder.



The **HY 200** hydrophones make the **SeCorr®** an excellent measuring system for use along large transmission pipelines and long distances between the individual attachment points. Because they are installed directly in the water column, hydrophones do not use the structure-borne noise that travels along the pipe, but rather the noise transmitted by the water in the pipe. The **HY 200**s are extremely sensitive in the very low frequency range, far below audible sounds. In this way they perfectly complement the **SeCorr®** system when used in plastic pipe networks. The set comes in a dedicated plastic case, keeping all the components such as hydrophones, adapters for installing in underground hydrants and connecting cables, close to hand.



The sturdy system case has space to safely hold all the system components. The **C 200** receiver, two **RT 200** radio transmitters and two **UM 200** microphones as well as optional accessories can all be stored in the case with optimal protection for transit. The system components can be charged in the closed case in the workshop or the measuring vehicle.

Please contact us for a comprehensive quotation, including additional technical specifications and information on accessories.