

**SePem® 02**



**The universal noise and pressure logger for the systematic monitoring of water pipe networks**

## Principle and applications

Water produces typical leak noise when leaking out of faulty pipes. This noise is frequently drowned out by interfering ambient noise.

That is why it is often more effective to detect leaks at night when it is quiet.

The alternative to working through the night is SEWERIN's modular **SePem**<sup>®</sup> system.

This system automates leak detection:

It independently records the noise during the night and saves it for subsequent evaluation.

The start and end time of the noise level measurement is user-definable.

Experience has shown that the most common time to measure is between 2 am and 3 am. If it is not known when there is minimal interference noise, the noise level is measured on an ongoing basis.

Uninterrupted recording over several weeks is possible thanks to the large data memory.

The dedicated PC software is then used to conveniently

determine the sound level when there is least interference noise.

Pressure spikes in the pipe network are "invisible" without measuring technology and thus remain, by and large, undetected.

They, however, place the pipes under considerable stress, often cause damage and cause the pipe network to age prematurely.

This also applies to decreases in pressure due to high consumption rates. The **SePem**<sup>®</sup> system with pressure sensor records both the pressure history, documenting the start and end time (time measurement), and individual pressure spikes (event measurement).

With event measurement measuring only begins when the previously defined pressure changes occur.

Even brief pressure spikes are reliably logged thanks to the high sampling rate.



The loggers can be used anywhere in the pipe network, for example, on valves or hydrants using a magnet or an adapter ring.

Aboveground fire hydrants can also serve as attachment points with the use of an adapter.



The **SePem**<sup>®</sup> 02 can be fitted, for example, to DIN underground fire hydrants to measure pressure. The sensor's external thread can be connected to other contact points.

## The components

The modular system, with sensors that can be easily interchanged by the user, means that the same logger can be used for various applications and can be enhanced in the future.

The device can be powered by either disposable or rechargeable batteries.

Various communication adapters are available for transferring data between the **SePem® 02** and a PC.

Boxes are always useful when sets of six loggers are used. This adapter type can be integrated in measuring vehicles, but lends itself equally well to stacking in the office.

Cases, on the other hand, can hold any accessories required in addition to the loggers themselves. This ensures that everything is close at hand wherever needed.

If rechargeable batteries are used, one of these adapters will be required to charge the devices.

Carrying cases hold up to 12 loggers plus accessories.



**SePem® GSM** for stationary use for permanently monitoring the pipe network. Measurement data is transferred to the PC via the Internet by email. Pipe fractures are reported as soon as they happen.

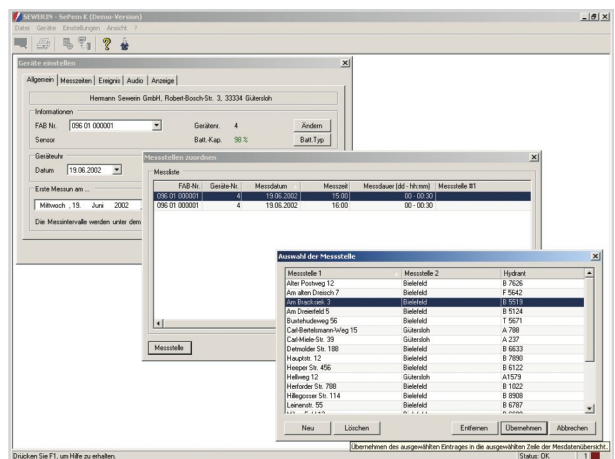


## The software

### Database functions

The communication and evaluation software offers the user extensive functions to:

- Manage and control individual measurements
- Manage the measurement locations
- Create lists for assigning the loggers to the respective measuring points
- Display individual measurements in graph form
- Customise views and system settings

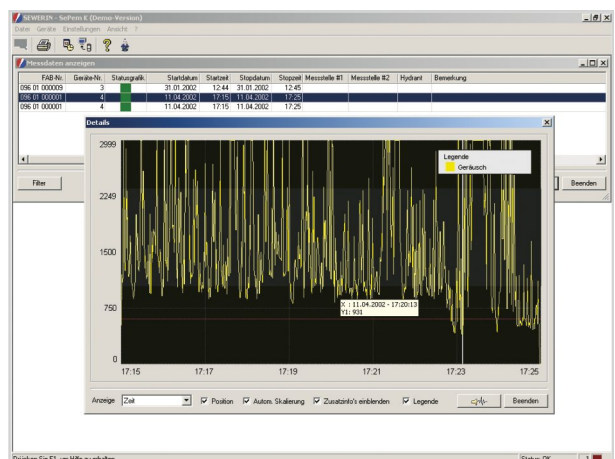


### Evaluation

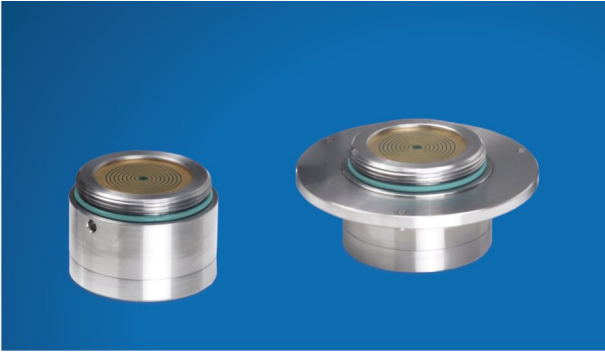
Saved noise samples of the minimum sound level can be played back using the soundcard

Various diagrams to analyse the sound level:

- Histogram
- Frequency spectrum (FFT)
- Level, progression over time
- Level, intensity progression



## Sensors and accessories



Noise sensors can either be magnetically fixed to attachment points or placed into DIN underground fire hydrants using an adapter ring.



Various types of hydrophone are available for a wide range of applications. Type PP is specially for plastic pipes and type LD is for large diameters.



Pressure sensors are available either with an adapter for connection to a hydrant or with a screw thread for direct installation.

A reduction with ventilation means that the sensors can be used to analyse pressure spikes.



A selection of Storz fittings enables aboveground fire hydrants to be used as measuring points for the **SePem® 02**. A protective pipe and bow lock serve as anti-theft protection in this case.