SEWERIN
Technologies for leak detection.

SePem® 01

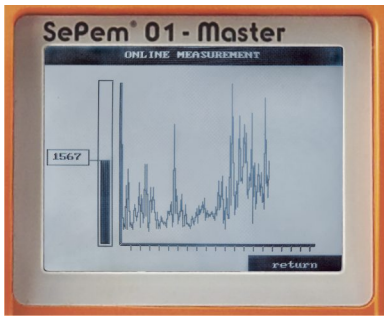
Stationary noise loggers for early recognition of leaks in water supply networks

The principle

The amount of water lost through leakages in the water supply network largely depends on how long it has been leaking from the damaged spot. Reducing the quantities of water lost thus means minimising the duration of the leak. Besides conventional methods of systematic leak detection in evolved network structures, the ***SePem® 01*** stationary noise logger offers a practical alternative for permanently monitoring areas which have already been declared leak-free.
The ***SePem® 01*** loggers are positioned into valves inside the measuring area. They can, of course, also be fitted to fire hydrants. The instruments record sounds in a defined measurement cycle and emit signals at a certain radio time. These are then transmitted out of the valve box by radio. The signals are received by the ***SePem® 01 - Master***, which collects the data when driving past.

The loggers do not have to be removed from their measuring positions, nor do the covers have to be opened.
These data packets contain the main information from the previous measurement cycle. The minimum noise level plays a crucial role here. If the ***SePem® 01***s at the measuring points are systematically patrolled in rotation, the minimum noise level readings for the respective measurement location can be compared. Provided there are no leaks, these values will not change. However, if a leak does occur, the minimum noise level will rise and remain at this increased level. Depending on the patrol schedule (e.g. weekly), the duration of the leak will be limited to this short period and the leak will be detected well before the next systematic network inspection, which may only take place in several years' time.

This table lists the data from each ***SePem® 01*** in succession as the vehicle passes the measuring points.



Online measurement, as illustrated here, allows you to determine prior to installation if a "zero measurement" might even be possible during the day.

Installation options

SePem® 01 noise loggers can be fitted vertically, for example, for use in pits. A magnet is used to attach the loggers to the fitting.

Alternatively, the loggers can be installed horizontally. In this case the magnet is fitted to the long side of the ***SePem® 01***. This option reduces the installation height, which means that the loggers can even be fitted to valves where there is minimal clearance between the valve and the cover. Thanks to the option of fitting the magnet eccentrically, even off-centre fittings can be used as measurement locations.

Programming options

The ***SePem® 01 - Master*** communication device allows even less experienced users to access results quickly and reliably thanks to its simple and intuitive menu structure and jog dial.

The ***SePem® 01 - Master*** can be used to take readings from and program the ***SePem® 01*** loggers. There are three different measurement options, each of which can be performed with or without a graph. The default is a permanent measurement, whereby individual measurements are taken at user-defined intervals.
In this mode a minimum noise level is calculated in between transmissions to the ***SePem® 01 - Master***.

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