ORTOMAT-MTC

Noise level measurement with correlation

DUKTUS KEULA ALTECNO

ZERO WATERLOSS

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ORTOMAT-MTC

Process optimisation in permanent leak monitoring

ORTOMAT-MTC is an investment in making savings in two ways:

Detecting leaks can save on repair costs

Early detection and rapid localisation can prevent water damage, which can, at worst, cost as much as an entire system to repair.

Detecting leaks can save water

Small concealed leaks lead to astonishingly high water losses: At a water pressure of 3 bar, a leak with a diameter of 8 mm leads to an annual loss of 24'870 m^3 – at 10 bar, this loss is 52'580 m^3.

Permanent leak monitoring for buried drinking water pipes

Using the latest technology and various different measurement methods, the ORTOMAT-MTC leak monitoring system enables the locations of water leaks to be detected at any early stage. Water pipes operated under pressure can be checked or monitored for leaks quickly and efficiently – either permanently or temporarily. Using correlation technology, a leak site can be located with pinpoint accuracy between two loggers. As is the case with the earlier tried-and-tested Ortomat system, the user is provided with simple but meaningful information about leaks. Measurement data is transferred fully automatically and is made available online.

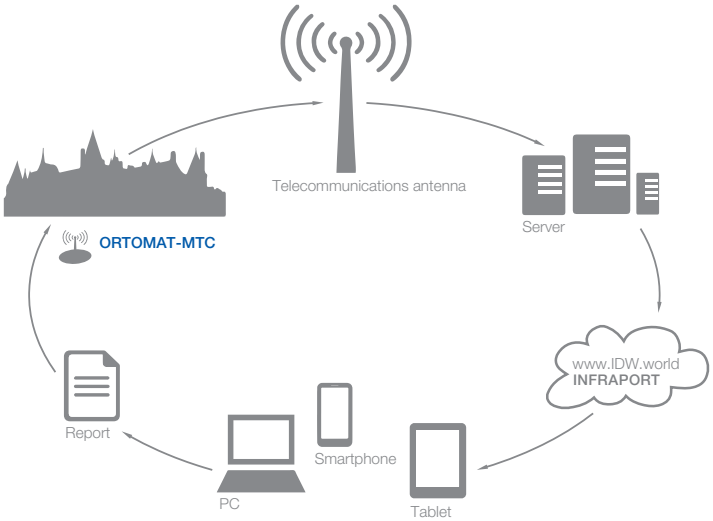
Installation methods

A magnetic adapter is used to fit the noise loggers in manholes, hydrants or directly to water pipes. vonRoll hydro's own hydrants offer particularly convenient installation. The devices have a robust housing with the IP68 protection rating and are therefore designed for the most adverse operating conditions.

Thanks to their small dimensions and two-part construction (remote sensor), the devices can be quickly and easily installed in the pipeline network. Every mechanical connection to the pipeline network can be used as a measuring point.

Measuring principle

The ORTOMAT-MTC permanently (24 hours) records the noise structure at the measuring point, whereby the daily times at which the least water is consumed (main measurement) are specially monitored. Using a highly sensitive vibration sensor, the device records the finest leakage noises in the pipeline network. In addition to noise levels, audio files which can be correlated to locate all types of leaks with pinpoint accuracy can also be recorded. As an advanced function, the device offers a HydroALERT monitoring system for the rapid detection of water abstraction from hydrants.



Data transfer

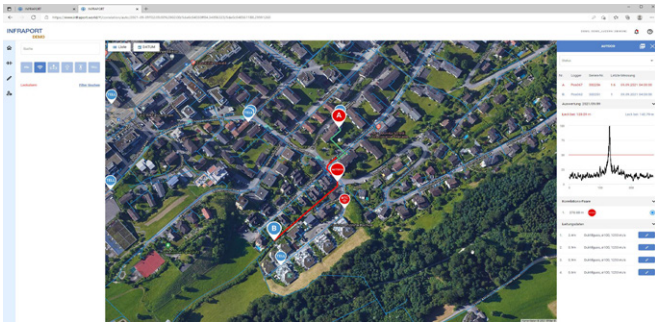
The data logger provides fully automated communication with the web server. Newly detected leak sites can be reported immediately. As an all-in-one solution, no radio repeaters or radio networks are needed to transfer the measurement data. No programming devices have to be installed on site for reprogramming the loggers. The ORTOMAT-MTC can work with the existing broadband and extremely well-developed mobile phone networks. Devices no longer need to be installed on site for reprogramming purposes. Settings and firmware updates can be issued centrally via the server, using over-the-air programming (OTA/FOTA). This process is fully automated, ensuring that system maintenance can be kept to a minimum.

Data analysis

No local software installation is needed to visualise and manage the measurement data. Information from the system is always available online via the INFRAPORT web application.
Users can log into INFRAPORT via a web browser and access their system independently from a mobile device. The locations and statuses of the devices installed in the field are documented in clearly laid out map and list views. Various report functions and interfaces (GIS) cover the requirements in daily use.

The benefits for you

- Permanent early leak detection with high-resolution correlation function
- Unique time synchronisation of the individual measurement points with the exact correlation
- Measurement points are independent of one another and communicate directly with the server
- Meaningful analysis with measurement results which are easy to interpret
- No structural or mechanical work during installation
- Operation is possible without an additional wireless network/ wireless repeater
- 4 × AA batteries
- 2 versions available: with integrated SIM Chip or SIM card
- Easy system expansion possible
- ORTOMAT leak monitoring is used world-wide and has been tested thousands of times



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