Aquarius Spectrum

iQuarius™

Smartphone App. Leak Detection System

Technical Specifications

Modes of Operation

- **Mode 1:** Correlation between 2 smartphone-based sensors
- **Mode 2:** Non-correlated sampling with a single device
- Advanced digital signal processing leak survey by noise logging and GPS-assisted noise mapping
  - Tripod adaptor for hard surfaces
  - Listening stick extension with rounded tip for soft surfaces (soil, grass) or magnet

Sensor Technical Specifications

Acoustic Sensor:

- Piezo type, sensitivity 1 micro-G
- IP 67
- Temperature range: -10°:+50° C (14°:122° F)
- Magnetic base for connecting to pipes or other infrastructure items
- Cable length to adaptor 1.6m (5.25 feet)
- Li-Ion rechargeable battery provides over 10 hours of continuous usage

Supported Smartphones:

- Android V.4 and higher
- IOS - under development

Sensor Adaptor:

- Standard 3.5mm audio jack interface to smartphone
- Micro-USB charger connector
- LED indicator confirming connection to phone

Signal Processing:

- Digital 16 bit signal sampling
- Sampling rate: 8-44khz
- Sensor frequency response: 10-4000Hz
- Correlation synchronization accuracy of <0.5ms

Acoustic Leak Survey

- Leak detection by acoustic measurements
- GPS positioning on map
- Adaptive filtering of interference and external noises
- Graphic equalizer
- Preset filtering for different sensors /extensions

Correlation

- Automatic correlation leak detection with 2 sensors and 2 smartphones
- Automatic pipe length measurement via GPS
- Sensor positioning on a map
- Detection range in metal pipes of up to 300 meters (1,000 feet) between sensors
- Location accuracy within 20 cm (8")
- Adaptive filtering of signals

Web and Smartphone Display

- Map presentation of all measurements taken per task in the iQuarius™ web platform
- Pipe layer presentation on a map
- Extensive online reporting capabilities

Operations and Auditing

- Task-based project management
- Built-in leak detection report
- Expert online support

Certifications

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