

Application report

Oil trace measurement in water

The drinking water quality is exposed to a wide variety of external influences. Some of today's drinking water supplies are located in densely populated regions next to industrial areas, motorways or bodies of water with shipping traffic. There is a permanent risk of oil contamination due to fuel spills or the loss of heating oil. For this reason, the quality control in drinking water supply has an increasingly important function today. However, not only the water, but also the water treatment plants themselves must be protected from oil contamination.

Today, random laboratory tests are carried out on water, but such samples only provide a snapshot of quality parameter and are anything but fast. SIGRIST offers a proven on-line system for continuous monitoring of water for traces of oil and thus gives the water supplier security 365 days a year – around the clock.

Benefits

The SIGRIST OilGuard 2 W A is a continuously operating measurement system that reacts reliably and quickly to the smallest traces of oil. The device measures the fluorescence properties of hydrocarbons in fuels and oils. Due to this measuring principle and the fact that the



Container ship on the Rhine in Mainz – Rhineland-Palatinate, Germany

OilGuard 2 W A measures without contact, the measurement is not negatively affected by turbidity or equipment contamination. The integrated automatic calibration function checks the unit fully automatically at adjustable intervals during measurement operation. If the unit detects a measurement error, it automatically issues an error message. This offers the user maximum safety and highest device availability.

Our standard

The device is calibrated at the factory according to the US EPA standard and thus covers a large number of substances classified as water pollutants. Calibration is therefore based on an internationally recognised standard, which in particular increases acceptance by supervisory authorities. SIGRIST thus achieves a very low detection limit of $< 0.1 \mu\text{g/l}$ (ppb) @ 16 EPA-PAH standard¹.

Typical application

Where water is taken directly from surface waters or close to the surface the risk of oil spills is particularly high. For example in rivers or lakes, trenches or springs. Also in the vicinity of



Contactless measurement of the free-falling water jet – guaranteed pollution-free.

¹The EPA standard contains 16 polyaromatic hydrocarbons compounds..

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infrastructure such as roads, railway lines, construction sites or airports. There, oil spills are possible at any time.

Practical measuring tasks (examples)

Waterworks at waterway

A waterworks removes water from the river Main, which is a federal waterway with corresponding shipping traffic, and also has federal



OilGuard 2 W A

Advantages of SIGRIST OilGuard 2 W A

Customer benefits

- Continuously measuring oil trace measuring device
- Measurement without contact in free-falling water jet
- Almost maintenance-free thanks to contactless measurement and LED technology
- No falsification of the measuring values due to turbidity or window contamination
- Integrated calibration unit, hence continuous monitoring of the device and maximum precision
- Integrated sample feeding and ready assembled on mounting plate
- All standard data transfer formats available
- Can be modularly expanded with further sensors (pH, LF, etc. ...)

main roads and train lines on both sides. Here, alerting in real time is essential in order to protect the system technology at the waterworks where the river water is treated.

Waterworks at motorway

Waterworks close to a motorway. In the event of an oil spill, alerting of the water supplier by the police and fire brigade forces may be too slow or does not occur at all.

Construction site in water protection area

Temporary construction sites close to a water protection area. There is a permanent risk of oil spills on construction sites.

Water quality measuring stations

[Link to a station in Sachsen, Germany.](#)

[Link to a station in Rheinfelden, Switzerland.](#)

