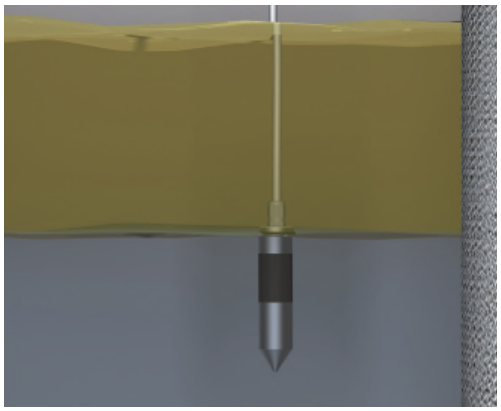
SEPARATOR ALARM SYSTEMS
PROTECTING WATER AND SEWAGE SYSTEMS

PEPPERL+FUCHS
PROTECTING YOUR PROCESS

SENSORS AND AREAS OF APPLICATION

To ensure adequate monitoring in any situation, the Pepperl+Fuchs alarm systems for oil separators can be combined with different types of sensors. All sensor feature ATEX-approval, meaning they are approved for installation in Zone 0.
Due to the compact and firm design, flexible parts are no longer necessary. Suspended from a pre-assembled cable of 5 m, the sensor can be optimally positioned in the separator.

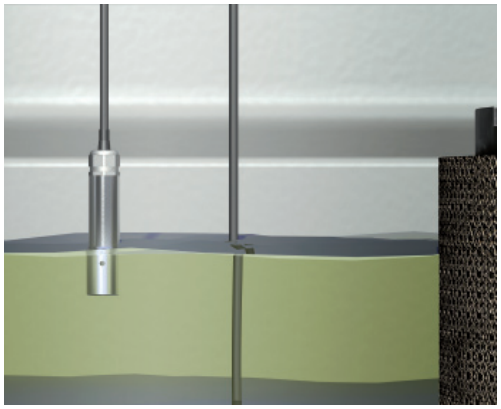
LAYER THICKNESS SENSOR



The layer thickness sensor KVF-104-PF provides reliable monitoring of the oil layer thickness. It is able to distinguish between water and oil/gasoline and between water and air.
If the layer thickness exceeds a specific maximum level, a signal is triggered which is evaluated by the LAL-SRW control unit and generates an alarm message.

The layer thickness sensor reliably prevents the separator from exceeding the permitted oil layer thickness. That way, a timely response is ensured so as to prevent environmental damages caused by the discharge of oil into the sewage system.

OVERFLOW SENSOR



The overflow sensor NVF-104/34-PF distinguishes reliably between air and liquid. If the liquid level exceeds a certain maximum limit, a signal is triggered that is processed by the LAL-SRW control unit and generates an alarm message.

The overflow sensor, by e.g. reliably detecting a contaminated coalescence filter, can prevent flooding and the resulting environmental damages.

SLUDGE LEVEL SENSOR

The sludge level sensor SLU-103-PF reliably distinguishes between sludge and liquid and can control the sludge level in the sludge trap or the oil separator.
When the maximum level is reached, a signal is triggered that is processed by the LAL-SRW control unit and generates an alarm message.

The sludge level sensor reliably detects when the oil separator is clogged with sludge. As a consequence, the release of hazardous material into the environment can be anticipated and prevented in due time.

LAL-SRW CONTROL UNIT

COMPACT INTELLIGENCE

The control unit has a very compact design that can either be installed in a standard wall box with a DIN mounting rail or in any control cabinet with a DIN mounting rail. Combined with the two sensors it constitutes a comprehensive alarm system for the reliable control of oil separators.

As soon as a connected sensor releases a signal indicating the critical operating condition of the separator, the control unit triggers an acoustic and visual alarm to highlight the problem.

BUILT-IN RELIABILITY

If an alarm has been neglected after the reset key was pressed, it will automatically be repeated after a period of 24 hours. This ensures that no alarm can go unnoticed.
All sensors and cables are constantly monitored. In case of a short circuit or a cable break an acoustic and visual alarm is triggered immediately.
It is even possible to implement a reliable remote control, as the lack of supply voltage is detected centrally, thus facilitating the adoption of the measures required to restore the situation.

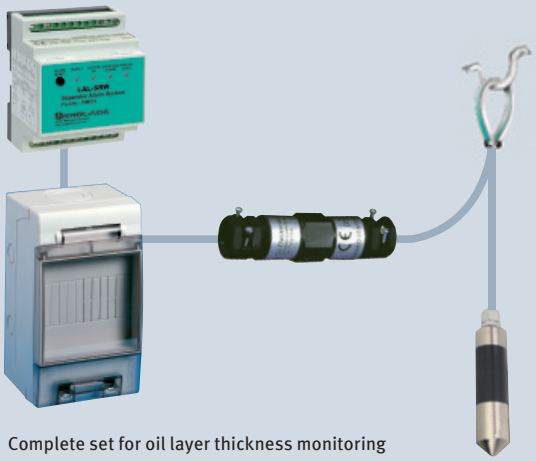
The LAL-SRW is equipped with an integrated visual and acoustic alarm that is triggered in the event of fault. Additionally, remote control can be implemented by using a remote external acoustic alarm oder remote acoustic alarm

SAFETY ACCORDING TO STANDARDS

The requirements for separation systems for light liquids such as oil and gasoline are specified in the European standard EN 858-1. Compliance with the above standard is the precondition for CE-marking while the standard itself also specifies the requirements for “installations” that release alarms when the light liquid level or the sewage level is too high or when the sewage level is too low.
LAL-SRW is an alarm system featuring an intrinsically safe current circuit with sensors approved for the installation in Zone 0.

COMPLETE CONFIGURATIONS

Each of the set solutions listed below constitutes a completely functional alarm system for the control of oil separators. They consist of a number of optimally fitted components and cover a wide range of different application profiles.

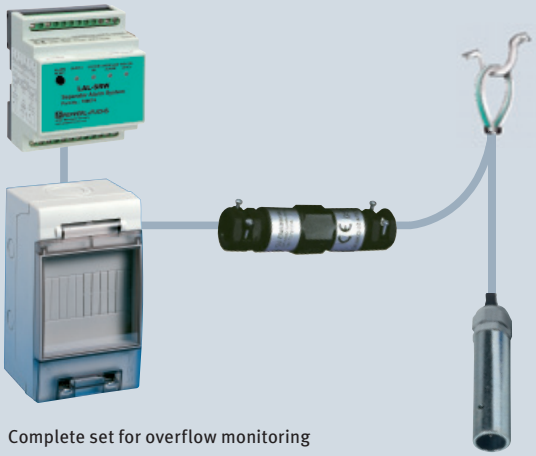


Complete set for oil layer thickness monitoring

LAL-SRW-01

Complete set for oil layer thickness monitoring including:

- LAL-SRW control unit
- Wall box NVO5-KV
- Layer thickness sensor KVF-104-PF
- Cable connector NVO5-SK3-PF
- Suspension fitting NVO5-B



Complete set for overflow monitoring

LAL-SRW-08

Complete set for overflow monitoring including:

- LAL-SRW control unit
- Wall box NVO5-KV
- Overflow sensor NVF-104/34-PF
- Cable connector NVO5-SK3-PF
- Suspension fitting NVO5-B

Complete set for overflow and layer thickness monitoring

LAL-SRW-18

Complete set for combined overflow and thick layer monitoring including:

- LAL-SRW control unit
- Wall box NVO5-KV
- Overflow sensor NVF-104/34-PF
- Layer thickness sensor KVF-104-PF
- Cable connector NVO5-SK3-PF (2x)
- Suspension fitting NVO5-B (2x)

Accessories such as suspension fittings, cable connectors and installation housings for the control unit may also be ordered individually.

ANTICIPATING DANGERS, PROTECTING THE ENVIRONMENT

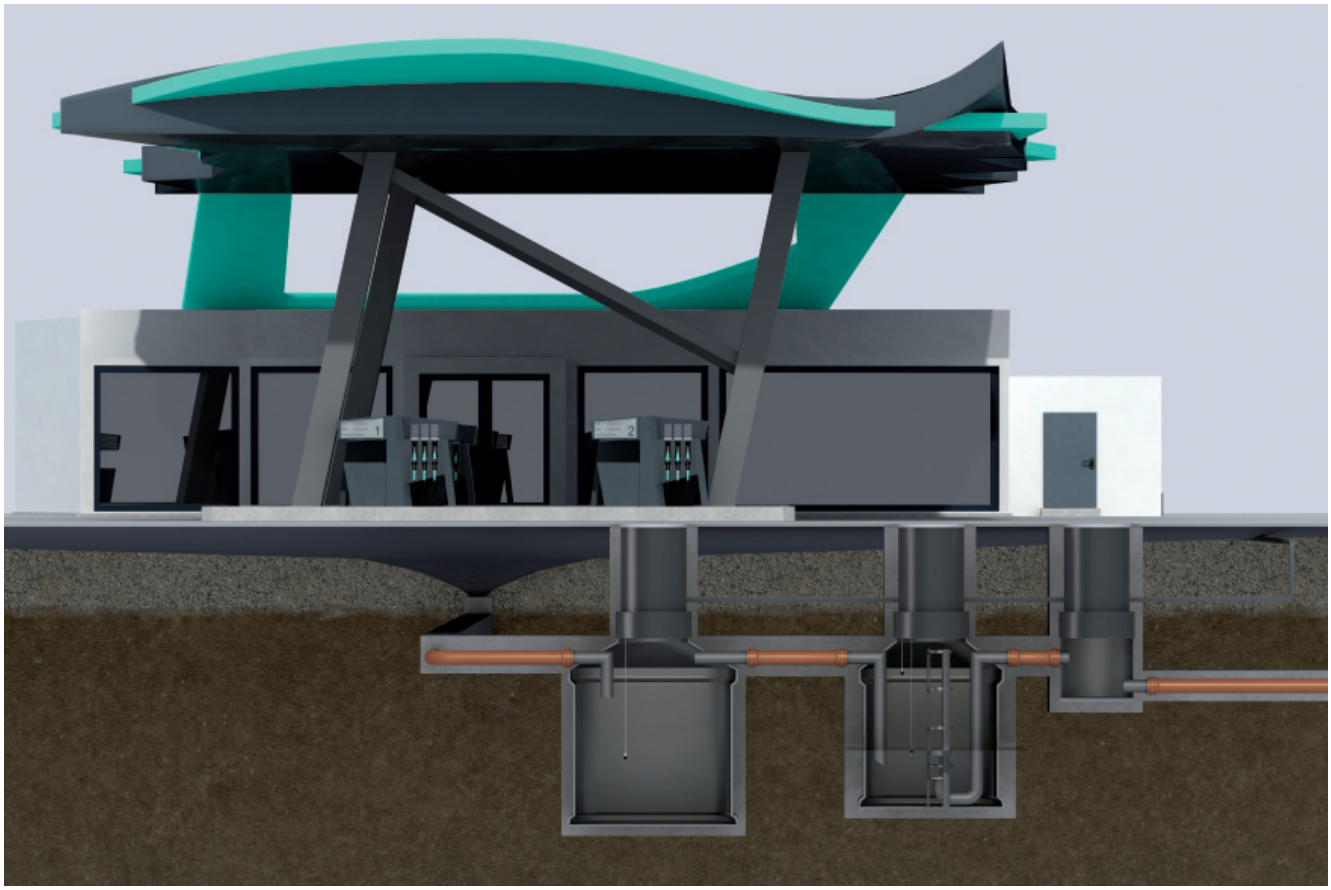
Water is the very basis of life and a valuable resource that must be protected from pollution. Therefore, the protection of the ground water and the sewage system from mineral oil pollution is crucial.

In car repair shops and in industrial applications gasoline separators prevent the discharge of hazardous substances into the environment and consequently the pollution of the water cycle.
These systems must comply with the requirements specified by the European Standard EN 858-1:2002.

Yet, the installation of a oil separator alone, will not solve the problem entirely. In order to ensure the reliable functioning of the system the installation has to be checked regularly and should be subject to ongoing monitoring and verification. Unless this is done, environmental damage and the resulting risk of liability cannot be prevented effectively.

Close monitoring can only be provided with an electronic alarm system, featuring an early-warning mechanism that is able to recognize critical operating conditions of the separator early enough to prevent any discharge of pollutants into the environment.
In areas where no persons are present and where supply voltages are available, an alarm release system, operated via the GSM mobile network, can offer 24/7 protection.

The requirements for electronic alarm systems for oil separators are also specified in the aforementioned European standard. It includes specific requirements involving an “installation that releases an alarm when excessively high light liquid or excessivly high/low sewage levels” are detected.



PROCESS AUTOMATION – PROTECTING YOUR PROCESS

For over a half century, Pepperl+Fuchs has been continually providing new concepts for the world of process automation. Our company sets standards in quality and innovative technology. We develop, produce and distribute electronic interface modules, Human-Machine Interfaces and hazardous location protection equipment on a global scale, meeting the most demanding needs of industry. Resulting from our world-wide presence and our high flexibility in production and customer service, we are able to individually offer complete solutions – wherever and whenever you need us. We are the recognized experts in our technologies – Pepperl+Fuchs has earned a strong reputation by supplying the world's largest process industry companies with the broadest line of proven components for a diverse range of applications.

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