

Labkotec SET[®]

Labkotec separator alarm system – protecting our environment



- Designed to comply EN 858-1&2 and PPG3 norms
- Warns of excessive levels of oil, sludge & liquids
- Prevents pollution incidents
- Fail-safe & fault monitoring systems in built
- Indicates when Separator needs emptying – reduces waste management cost
- Remote monitoring capability

Measure your success

 **Labkotec**
INDUTRADE GROUP

Labkotec SET[®] alarm devices for oil and grease separators

Why does a separator require an alarm device?

Today in all construction work, greater attention is paid to protecting the environment than ever before. Oil separator systems now have a vital part in preventing environmental damage.

Oil spills into sewers and ground leaks are controlled better than they used to be, thanks to the increasing use of separator systems.

Typical applications for the separator systems are petrol stations, airports, parking areas, highways and other places where the risk of an oil spill onto the ground is present.

Separator systems preventing environmental damage are just part of the solution. How can you ensure they are still working years later and guarantee the benefits of investments made? How do you keep a check on the maintenance cost?

The best safeguard against environmental damage is of course to use the separator system properly and service it periodically.

Total reliability in the operation of the separator system can only be achieved when alarm devices are installed. Therefore it is possible to guarantee correct functioning of the separator year after year.

Labkotec alarm models are approved in accordance with the ATEX directive 94/9/EC and IECEx



By using Labkotec alarm devices:

- The demands in terms of alarms in various standards and regulations are satisfied.
- There is an immediate alarm if, for example, a serious oil spill occurs, and thus serious environmental catastrophes may be prevented.
- The costs of routine servicing can be kept in check. The separator will be serviced only when the alarm indicates that the oil or sludge levels have been exceeded.
- Separator leakage to the environment can be detected, if the water level drops below the sensing probe the alarm will activate.

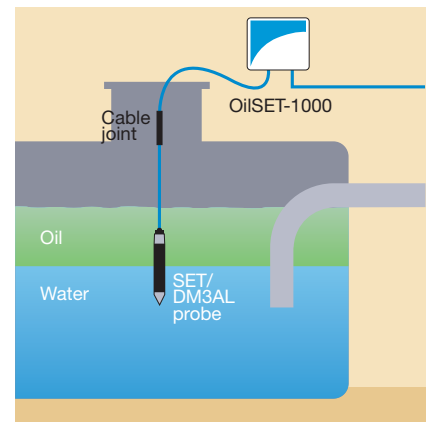
Labkotec offers the markets widest range of oil, sand and grease separator alarm systems. Special attention to the design of various models has improved reliability and performance, which benefits the world's environment.

Oil separator alarm models and applications

Oil separator alarm device OilSET-1000

The OilSET-1000 level alarm instrument is specially designed for oil separators and grease traps. It indicates when it is time to empty the oil separator and thus prevents harmful hydrocarbon emissions to the sewer system.

OilSET-1000 control unit and SET/DM3AL probe

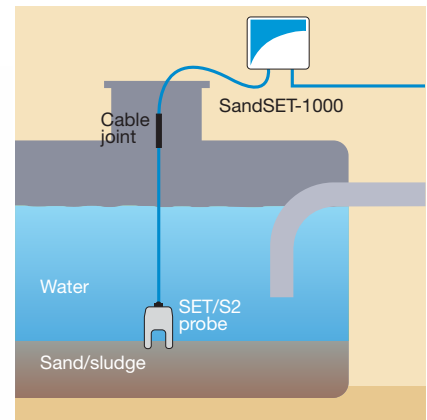


SandSET-1000 - Sludge alarm device for oil and sand separators

The SandSET-1000 is a complete package to detect sand or sludge in the tanks. The SET/S2 probe gives alarm signal when there is sand or sludge between the ultrasonic sensing elements.

The ultrasonic SET/S2 probe does not require any calibration, or any regular service. Just install the probe at the correct alarm level.

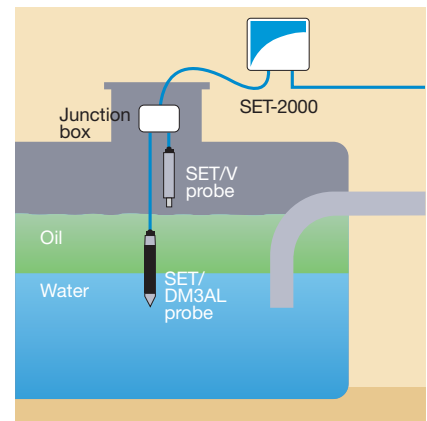
SandSET-1000 control unit and SET/S2 probe



SET-2000 Hi Level/Oil alarm device with two probes

The SET-2000 S Hi Level/Oil is equipped with two probes, one indicates the oil layer and the other indicates blockage detection. i.e. high level in case of sewer blockage or closure of the closing device.

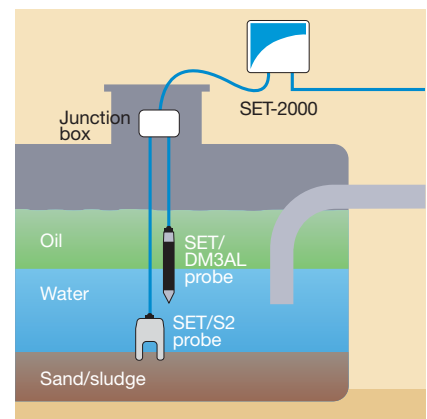
SET-2000 control unit, SET/DM3AL and SET/V probes



SET-2000 Oil/Sludge alarm device with two probes

The SET-2000 Oil/Sludge is equipped with two probes, one indicates the oil layer and the other indicates when there is sand or sludge between the sensing elements of the SET/S2 ultrasonic probe.

SET-2000 control unit, SET/DM3AL and SET/S2 probes



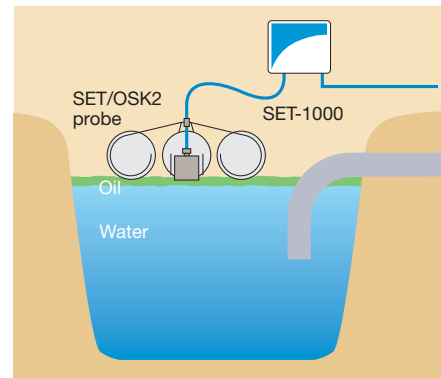
Inspection shaft oil alarm with the floating SET/OSK2 probe

The SET/OSK2 probe indicates an oil layer in an inspection shaft, pump shaft or on a water basin.

The SET/OSK2 floating oil probe



SET-1000 control unit



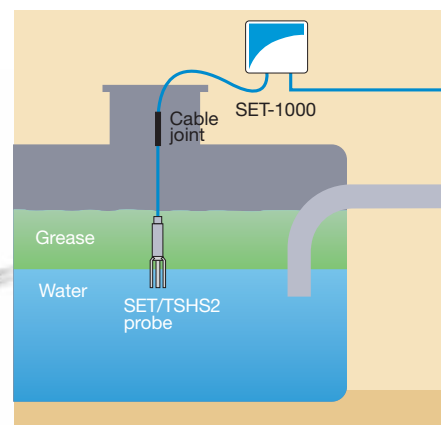
SET-1000 and SET/TSHS2 grease separator alarm

The SET/TSHS2 probe's operating principle is capacitive and therefore it is an ideal choice for applications with greater amounts of solid grease than normal.

In alarm condition the SET-1000 will energize the internal buzzer and LED. For remote indication of the alarm condition the relay output facility can be utilized.



SET-1000 control unit and SET/TSHS2 probe



www.labkonet.com

An intelligent Tank Sends out Emptying Requests

The LabkoNet system can convey alarm information direct to the property's tank emptying service provider, enabling the separators to be emptied professionally, correctly and at the right time. The system also helps generate cost savings by eliminating unnecessary emptying events.

Alarms

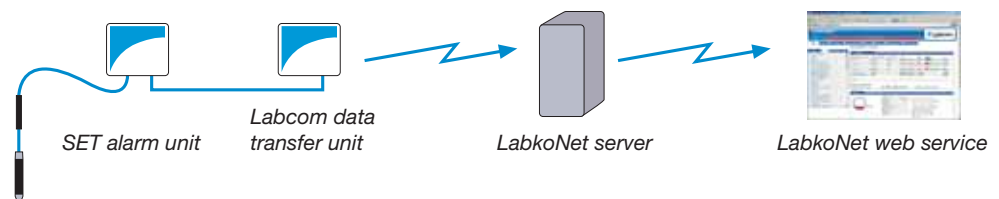
The system's communication unit transmits the alarm from the tank to the servers either by GSM or another selected network. From the server the information is uploaded online and sent to

the previously configured GSM subscriptions and e-mail addresses. Data is saved in a database, where it is accessible for later review for reporting purposes. The system enables easy proactive forecasting of the next emptying need.

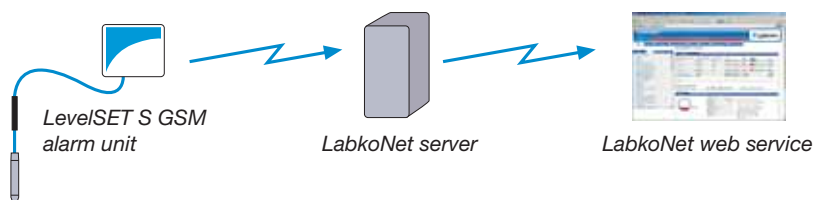
- Saving in emptying events
- 24/7 monitoring
- Alarm data online, to mobile phones and e-mail

The system is constantly monitored and a break in communications will cause an immediate alarm to be sent to the system supervisor.

Alarm unit connected to LabkoNet server via data transfer unit



LevelSET S GSM version connects the LabkoNet server directly



LevelSET S oil separator alarm

Oil, sludge and Hi Level alarms – all in the same control unit

New features

Three digital probes alarm system with integrated GSM modem

The LevelSET S oil separator alarm control unit was developed to meet strict regulations and demands of various environmental agencies throughout Europe. LevelSET S is equipped with Fail-Safe alarm facility, giving total system monitoring of all sensor inputs.

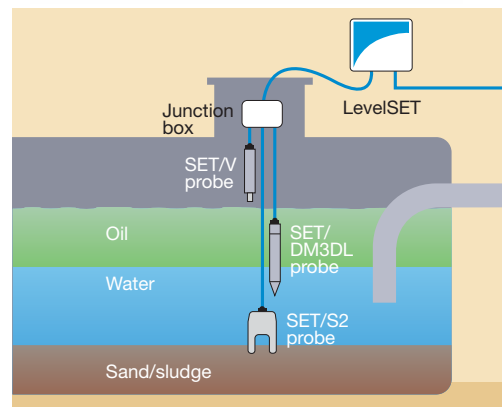
LevelSET S recognises when an oil or sludge space is full, or if there is a high level condition within the separator due to a blockage.

Alarm conditions can be transmitted to mobile phones or computer systems via the integrated GSM modem or internal relays can be connected to remote beacons and audible alarms. An inbuilt LED and buzzer indicate the respective alarm condition locally.

The GSM version of the LevelSET S can be programmed to alarm when the service inspection is due.

The new digital technology within the sensors and the control unit significantly reduces the cabling cost. The three sensors were previously connected with six wires but now only two wires are required.

Labkotec's commitment to the design of high quality alarm systems for environmental monitoring of separators assures a long service life for many years.



LevelSET S
GSM version

New digital probes

The new generation of digital probes are compatible with all existing control units. Contact Labkotec Sales if you require additional information regarding the selection of digital probes.

SET/DM3DL – digital conductivity probe



SET/DM3DL oil interface probe is installed in the light liquid storage chamber at a specified level (refer to separator's manufacturers technical drawings). The probe alarms when the top section of the probe is in contact with oil. The probe is normally immersed in water.

SET/S2 – digital ultrasonic probe



SET/S2 sludge alarm probe is installed in the lower section of the separator. The probe alarms when the sludge layer reaches the probe. The probe is normally immersed in water.

SET/V – digital vibration probe



SET/V high level probe is installed above the outlet's upper level. The probe alarms when in contact with liquid, oil or water. The probe is normally in air.



SolarSET

for applications where mains supply is not available

Various options as requirements demand:

- OilSET-1000
- SandSET-1000
- SET-2000 Oil/Sludge
- SET-2000 Hi Level/Oil

SolarSET applications:

- airports
- motorways
- car parks

Separator alarm system

The SolarSet alarm unit is a solar powered unit for monitoring the level of liquid hydrocarbon, sludge or high level in oil separators situated in locations where mains power is unavailable.

Alarm conditions can be transmitted to mobile phones or computer systems via the GSM modem and locally with flashing beacon. Probe failures are also detected automatically.

SolarSET contains alarm unit, battery, charge controller, solar panel and GSM communication unit or/and flashing beacon.

SolarSET with GSM modem (with flashing beacon option)



In case of an oil, sludge, hi level alarm or probe failure, SolarSET sends an alarm message as a text message (SMS) to the user's mobile phone or LabkoNet system.

SolarSET with flashing beacon



In case of an oil, sludge, hi level alarm or probe failure, SolarSET Beacon signals an alarm with a Xenon-beacon. The beacon will flash once every 5 seconds until the alarm ceases.

Technical Data



Control units

	SET-100	SET-1000	SET-2000	LevelSET S
Dimensions	55 x 70 x 112 mm (L x H x D)		175 x 125 x 75 mm (L x H x D)	
Enclosure	Plastic housing IP 20, mounting on a 35 mm DIN rail		IP 65, material polycarbonate, wall-mounted	
Ambient temperature	-20 °C...+50 °C	-25 °C...+50 °C	-25 °C...+50 °C	-30 °C...+50 °C
Supply voltage	230 V AC ± 10 %, 50/60 Hz	230 V AC ± 10 %, 50/60 Hz, 110 V AC ± 10 %, 50/60 Hz, 12 VDC		
Power consumption	2 VA		4 VA	4,5 VA
Probes	SET/...2 probes	One Labkotec SET probe	Max two SET probe	Max. three SET probes
Relay outputs	One potential-free relay output, 250 V, 5 A, 100 VA	Two potential-free relay outputs, 250 V, 5 A, 100 VA	Two potential-free relay outputs, 250 V, 5 A, 100 VA	Three potential-free relay outputs, 250 V, 5 A, 100 VA
Electrical safety	EN 61010-1, CAT II, Class II		EN 61010-1, CAT II, Class II/III	
Certificates:				
ATEX	VTT 02 ATEX 018X	VTT 04 ATEX 031X	VTT 04 ATEX 031X	VTT 09 ATEX 027X
IECEX	N/A	IECEX VTT 10.0003X	IECEX VTT 10.0003X	IECEX VTT 10.0011X
Ex-classification	Ex II (1) G [Ex ia] IIC	Ex II (1) G [Ex ia] IIC	Ex II (1) G [Ex ia] IIC	Ex II (1) G [Ex ia] IIB



Probes

	SET/DM3AL	SET/DM3DL	SET/S2	SET/V	SET/OS2 SET/OSK2	SET/TSHS2
Principle of operation	Conductivity	Conductivity	Ultrasonic	Vibration	Capacitive	Capacitive
IP classification	IP 68					
Enclosure	PVC, AISI 316, NBR, PA	PVC, AISI 316, NBR, PA	PA, PVC, aluminium, NBR	PA, PVC, aluminium, NBR	PVC, AISI 316	PVC, AISI 316
Ambient temperature	-30 °C...+60 °C	-30 °C...+60 °C	-30 °C...+60 °C	-30 °C...+60 °C	-25 °C...+60 °C	-25 °C...+60 °C
Supply voltage	Approx. 12 VDC from SET control unit					
Cable	Fixed oil resistant PVC cable 3 x 0,5 mm, standard length 5 m					
Certificates:						
ATEX	VTT 09 ATEX 026X	VTT 09 ATEX 026X	VTT 09 ATEX 051X	VTT 09 ATEX 025X	VTT 03 ATEX 009X	VTT 03 ATEX 024X
IECEX	IECEX VTT 10.0001X	IECEX VTT 10.0001X	IECEX VTT 10.0002X	IECEX VTT 10.0006X	N/A	N/A
Ex-classification	Ex II 1 G Ex ia IIA T5 Ga	Ex II 1 G Ex ia IIA T5 Ga	Ex II 1 G Ex ia IIB T5 Ga		Ex II 1 G Ex ia IIA T5 Ga	Ex II 1 G Ex ia IIB T5 Ga

Accessories



Junction box



Installation accessories



Cable joint



Measure your success with Labkotec

Labkotec Oy is a leading Finnish manufacturer and supplier of electronic level gauges, flow detection devices and alarms, automation and detector technology, and web-based data transmission solutions.

We have more than 40 years of experience of the industry, and have pioneered several new solutions. Our diverse and comprehensive expertise enables us to supply solutions tailored to each customer's needs.

Our ISO 9001:2000 and ISO 14001 compliant quality and environmental systems are certified by Lloyd's Register Quality Assurance. As regards to safety, we comply with the ATEX and ISPS standards.

Labkotec Oy is a member of the international Indutrade Group.

Our electronic level gauges and leak detection and flow measurement technologies cover a comprehensive range of applications. Our communication units and data transmission systems relay readings in real time, independently of permanent electrical or cable networks.

Our automation and detector technology is widely used in access control systems in industrial installations, in storage silos and ports, as well as at snow dumping and landfill sites. Our TransControl system is based on RFID identification technology and fulfils the requirements of the International Ship and Port Security Facility (ISPS) code.

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INDUTRADE GROUP

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Labkotec Oy reserves the rights to alterations without prior notice. Due to policy of continuous improvement in R&D, technical specifications may change. Installation shall always be made as documented in manufacturer's instructions.