ENG

Labkotec automatic warning devices for separators – protecting the environment

Labkotec SET warning devices

SolarSET S warning systems

OMS-1 warning device for light liquid separators

GA-1 and GA-2 warning devices for grease interceptors

Labcom data communication units

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Protecting the environment

Labkotec automatic warning devices for light liquid separators and grease interceptors

Why does a separator require a warning device?

Today in all construction work, greater attention is paid to protecting the environment than ever before. Light liquid 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.

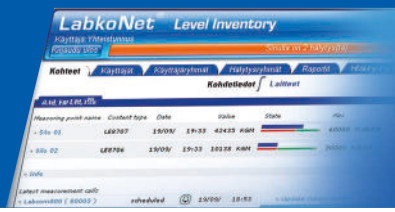
Total reliability in the operation of the separator system can only be achieved when automatic warning devices are installed.

Therefore it is possible to guarantee correct functioning of the separator year after year.

Labkotec automatic warning devices are designed to comply European Standard EN 858.

Labkotec automatic warning devices are approved in accordance with the ATEX directive 94/9/EC and IECEx.

Labkotec automatic warning devices can be connected to the LabkoNET system. LabkoNet is an easy and reliable way to transfer and control alarm data. An Internet connection is all that is needed. For further information on LabkoNet and its key benefits, please visit www.labkonet.com



LabkoNet® system compatible

Key advantages of Labkotec automatic warning devices:

- Meets the demands for various standards and regulations.
- There is an immediate alarm if, for example, a serious oil spill occurs, thus preventing severe environmental damage.
- The costs of routine servicing are kept to a minimum. The separator will be serviced only when the alarm indicates that the oil or sludge levels have been exceeded.
- Separator leakage into the environment can easily be detected. If the water level drops below the sensor, the alarm activates.

Labkotec offers the markets widest range of automatic warning devices for light liquid separators and grease interceptors. Special attention to the design of various models has improved realibility and performance, which benefits the world´s environment.

European standard 858 defines the criteria for automatic warning devices:
"Device to warn of excessive depth of light liquid or waste water or low level condition"

6.5.4 Automatic warning devices and auxiliary devices
"Separator systems shall be provided with automatic warning devices"

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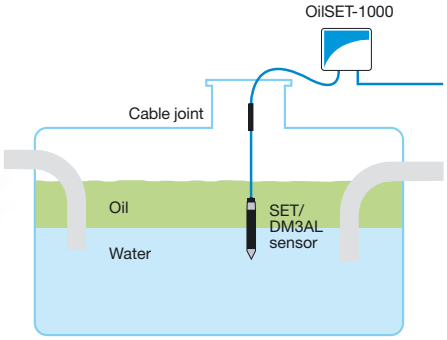
Automatic warning devices for light liquid separators

OilSET-1000 warning device for light liquid separators

The OilSET-1000 warning device is specially designed for light liquid separators. It indicates when it is time to empty the separator, which prevents harmful hydrocarbon emissions from being released into to the sewer system.

OilSET-1000 control unit and SET/DM3AL sensor

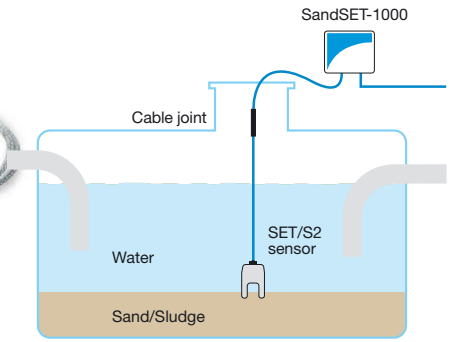


SandSET-1000 sludge warning device for light liquid separators

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

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

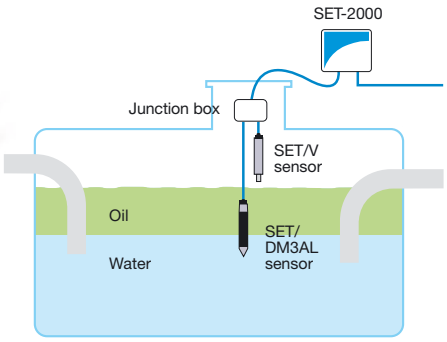
SandSET-1000 control unit and SET/S2 sensor



SET-2000 Hi level / Oil warning device with two sensors

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

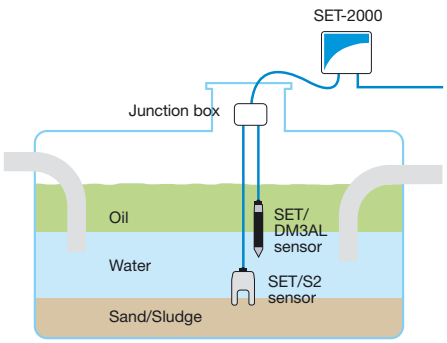
Control unit SET-2000, sensors SET/DM3AL and SET/V



SET-2000 Oil/Sludge warning device with two sensors

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

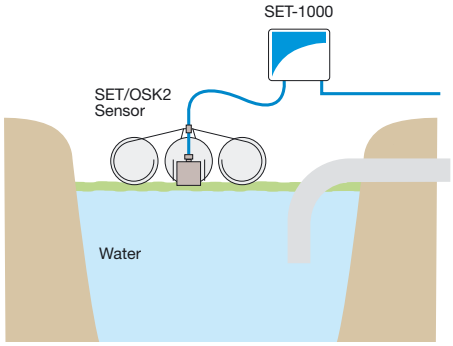
Control unit SET-2000, sensors SET/DM3AL and SET/S2



Warning device for inspection shaft with the floating SET/OSK2 sensor

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

SET-1000 control unit

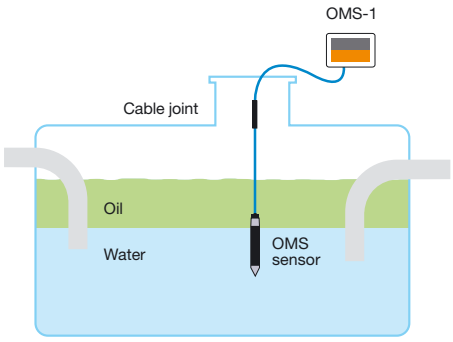


SET/OSK2
floating oil sensor

OMS-1 warning device for light liquid separator

OMS-1 warning device is specially designed for light liquid separators. It indicates when it is time to empty the oil separator, which prevents harmful hydrocarbon emissions from being released into to the sewer system.

OMS-1 control unit
and OMS sensor



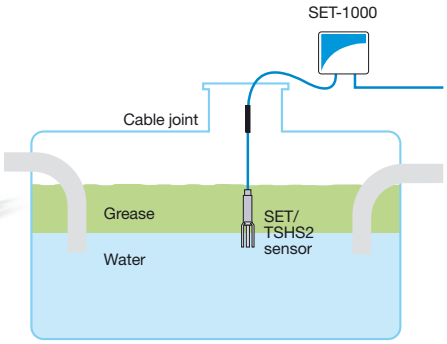
Automatic warning devices for grease interceptors

Warning device SET-1000 and SET/TSHS2 for grease interceptors

The SET/TSHS2 sensor'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 sensor



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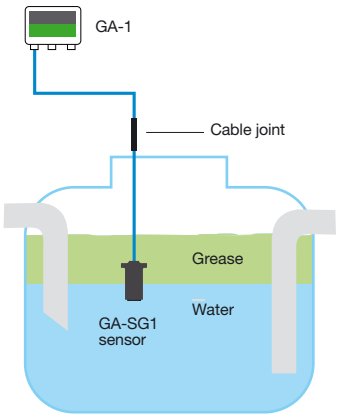
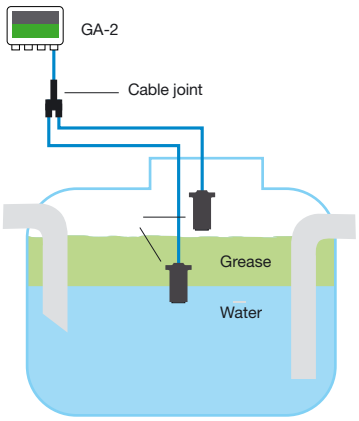
Automatic warning devices for grease interceptors

GA-1 and GA-2 warning devices

GA-1 and GA-2 warning devices are specially designed for grease interceptors. They indicate when it is time to empty the grease interceptor, which prevents harmful grease emissions from being released into to the sewer system.

GA-1 control unit and GA-SG1 sensor





GA-2 control unit and two GA-SG1 sensors

Labcom
Data communication units

The communication units send alarms and measurement data as GSM short messages either to user's own mobile phone or LabkoNet® server for storing and further distribution via Internet, SMS or email.

LabkoNet® – where measurement and information meet

LabkoNet is a SaaS (Software as a Service) solution where no software is installed on customers' equipment. Instead the system operates from a server via a data network and the software is accessed via a web browser.

The benefits of SaaS include minimal investment costs and extremely fast implementation. No purchase of software licences is required and you don't need to worry about updates. In addition, data security and antivirus solutions are always up to date.

Diverse data transfer methods

Labcom communication units often handle data transfer from measuring points. Data transfer can be carried out by a variety of data protocols including GSM, GPRS, FTP transfer or LAN. Labkotec Oy usually includes data transfer costs within the service fee.

Real alarms, right time

One of LabkoNet's key features is reliable alarm transfer. The system has a diary function so that you can set specific times for alarms to be transferred to different people whenever you need. Non-critical alarms can be delivered during working hours and alerts sent to mobile phone at the time of your choosing. This way you control when to receive different types of alarms.

SolarSET S
for applications where mains supply is not available

The SolarSET S warning system is a solar powered unit for monitoring the level of liquid hydrocarbon, sludge or overflow in light liquid 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. Sensor failures are also detected automatically.

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

More information **www.labkonet.com**

Application areas for SolarSET S:

- Air ports
- Motorways
- Car parks

Various options as requirements demand:

- SET/DM3DL oil sensor
- SET/S2 sand sensor
- SET/DM3DL oil sensor and SET/V overflow sensor
- SET/DM3DL oil sensor and SET/S2 sand sensor
- SET/DM3DL oil sensor, SET/V overflow sensor and SET/S2 sand sensor

SolarSET S with GSM modem

SolarSET S with flashing beacon

SolarSET S with GSM modem and flashing beacon

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

In case of an oil, sludge, oveflow alarm or sensor failure, SolarSET S Beacon signals an alarm with a Xenon-beacon. The beacon will flash once every 5 seconds until the alarm cases.

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LevelSET S automatic warning device for light liquid separators
Oil, sludge and overflow alarms – all in the same control unit

Versatile functions

Three digital sensors warning device with integrated GSM modem

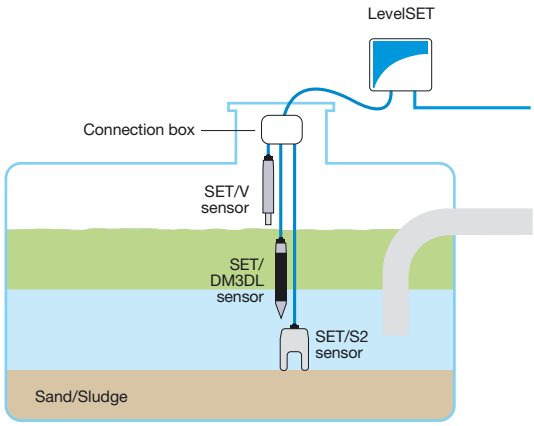
The LevelSET S control unit was developed to meet strict regulations and demands of EN 858 and various environmental agencies throughout Europe. LevelSET S is equipped with Fail-Safe alarm facility, giving total system monitoring of all sensor inputs. LevelSET S recognises when an oil or sludge space is full, or if there is an overflow 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 warning devices for environmental monitoring of separators assures a long service life for many years.



Technical Data

Control units

With Ex-certificate

	SET-1000	SET-2000	LevelSET S	OMS
Dimensions	175 x 125 x 75 mm	175 x 125 x 75 mm	175 x 125 x 75 mm	125 x 75 x 35 mm
Enclosure	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Ambient temperature	-25°C…+50°C	-25°C…+50°C	-30°C…+50°C	-30°C…+50°C
Supply voltage	230 VAC ± 10 %, 50/60 Hz 110 VAC ± 10 %, 50/60 Hz 12 VDC	230 VAC ± 10 %, 50/60 Hz 110 VAC ± 10 %, 50/60 Hz 12 VDC	230 VAC ± 10 %, 50/60 Hz 12 VDC	230 VAC ± 10 %, 50/60 Hz
Power consumption	2 VA	4 VA	4,5 VA	1 VA
Sensors	S2, DM3AL, SET/V, OS2, TSHS2, OSK2		S2, SET/V, DM3DL	OMS
Relay outputs	250 V, 5 A, 100 VA potential free relay outputs 2 pcs	250 V, 5 A, 100 VA potential free relay outputs 2 pcs	250 V, 5 A, 100 VA potential free relay outputs 3 pcs	250 V, 5 A, 100 VA potential free relay output 1 pc
EMC	IEC/EN 61000-6-3 Emission IEC/EN 61000-6-2 Immunity	IEC/EN 61000-6-3 Emission IEC/EN 61000-6-2 Immunity	IEC/EN 61000-6-3 Emission IEC/EN 61000-6-1 Immunity	IEC/EN 61000-6-3 Emission EC/EN 61000-6-1 Immunity
Electrical safety	IEC/EN 61010-1, Class II, CAT II / III	IEC/EN 61010-1, Class II, CAT II / III	IEC/EN 61010-1, Class II, CAT II	IEC/EN 61010-1, Class II, CAT II
ATEX	VTT 04 ATEX 031X	VTT 04 ATEX 031X	VTT 09 ATEX 027X	VTT 12 ATEX 003X
IECEx	IECEx VTT 10.0003X	IECEx VTT 10.0003X	IECEx VTT 10.0011X	IECEx VTT 12.0001X
Ex-classification	II (1) G [Ex ia] IIC	II (1) G [Ex ia] IIC	II (1) G [Ex ia] IIB	II (1) G [Ex ia] IIB

Without Ex-certificate

	GA-1	GA-2	Labcom 200	Labcom 220
Dimensions	125 x 75 x 35 mm	125 x 75 x 35 mm	175 x 125 x 75 mm	100 x 188 x 65 mm
Enclosure	Polycarbonate	Polycarbonate	Polycarbonate	ABS
Ambient temperature	-30°C…+50°C	-30°C…+50°C	-20°C…+50°C	-20°C…+50°C
Supply voltage	230 VAC ± 10 %, 50/60 Hz	230 VAC ± 10 %, 50/60 Hz	230 VAC ± 10 %, 50/60 Hz	230 VAC ± 10 %, 50/60 Hz
Power consumption	5 VA	5 VA	max. 18 VA	4 VA
Sensors	GA-SG1	GA-SG1		
Relay outputs	250 V, 5 A, 100 VA potential free relay output 1 pc	250 V, 5 A, 100 VA potential free relay output 2 pcs	SPDT, 250VAC/5A/500VA or 24VDC/5A/100VA, 2 pcs	
EMC	IEC/EN 61000-6-3 Emission IEC/EN 61000-6-1 Immunity	IEC/EN 61000-6-3 Emission IEC/EN 61000-6-1 Immunity	EN 61000-6-3 (Emission) EN 61000-6-2 (Immunity)	EN 61000-6-3 (Emission) EN 61000-6-2 (Immunity)
Electrical safety	IEC/EN 61010-1, Class II, CAT II	IEC/EN 61010-1, Class II, CAT II	EN 61010-1, Class II, CAT II/III	EN 61010-1, Class II, CAT II/III
Digital inputs			4 inputs, DC 24 V	2 inputs, DC 24 V
Analog inputs			4 inputs, 4-20 mA active or passive, 14-bit resolution. Input 4, 10-bit. DC 24 V, max. 25 mA per input	2 inputs, 10-bit resolution. 4-20 mA active or passive, DC 24 V, max. 25 mA

Labkotec INDUTRADE GROUP

Technical Data

Sensors

	SET/DM3AL	SET/DM3DL	SET/S2	SET/V
Principle of operation	conductivity	conductivity	ultrasonic	vibration
IP classification	IP68	IP68	IP68	IP68
Material	PVC, AISI 316, NBR, PA	PVC, AISI 316, NBR, PA	PP, PVC, AISI 316	PA, PVC, aluminium, NBR
Weight	500 g incl. 5 m cable	500 g incl. 5 m cable	900 g incl. 5 m cable	350 g incl. 5 m cable
Ambient temperature	0°C…+60°C	0°C…+60°C	0°C…+60°C	0°C…+60°C
Supply voltage	~12 V DC	~12 V DC	~12 V DC	~12 V DC
Cable	2 x 0,75 mm²	2 x 0,75 mm²	3 x 0,5 mm²	2 x 0,75 mm²
ATEX	VTT 09 ATEX 026X	VTT 09 ATEX 026X	VTT 07 ATEX 051X	VTT 09 ATEX 025X
IECEx	IECEx VTT 10.0001X	IECEx VTT 10.0001X	IECEx VTT 10.0002X	IECEx VTT 10.0006X
Ex-classification	II 1 G Ex ia IIA T5 Ga	II 1 G Ex ia IIA T5 Ga	II 1 G Ex ia IIB T5 Ga	II 1 G Ex ia IIB T5 Ga

	SET/OSK2	SET/TSHS2-O	OMS	GA-SG1
Principle of operation	capacitive	capacitive	conductive	capacitive
IP classification	IP68	IP68	IP68	IP68
Material	AISI 316, PVC	AISI 316, Teflon, NBR	PVC, AISI 316	POM, PUR, AISI 316
Weight	1150 g incl. 5 m cable	1300 g incl. 5 m cable	450 g incl. 5 m cable	350 g incl. 5 m cable
Ambient temperature	0°C…+60°C	0°C…+60°C	0°C…+60°C	0°C…+90°C
Supply voltage	~12 V DC	~12 V DC	-	~8 V DC
Cable	3 x 0,5 mm²	3 x 0,75 mm²	2 x 0,75 mm², PVC	2 x 0,75 mm², PUR
ATEX	VTT 03 ATEX 009X	VTT 03 ATEX 024X	IEC/EN 60079-11 simple apparatus	
IECEx				
Ex-classification	II 1 G Ex ia IIA T5 Ga	II 1 G Ex ia IIB T5 Ga	II 1 G Ex ia IIA T6 G	–

Accessories

Junction box for LevelSET S

Installation accessories

Cable joint

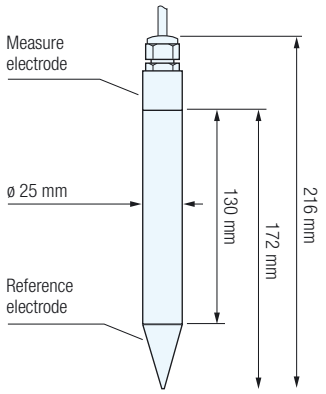
Cable joint for GA-2

Junction box LJB3-78-83 for two sensors

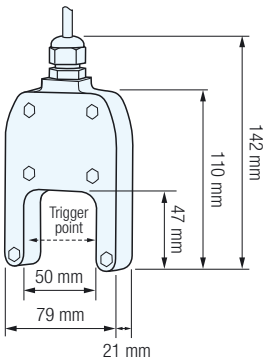
Dimensions

Sensors

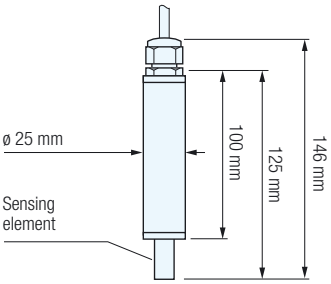
SET/DM3DL



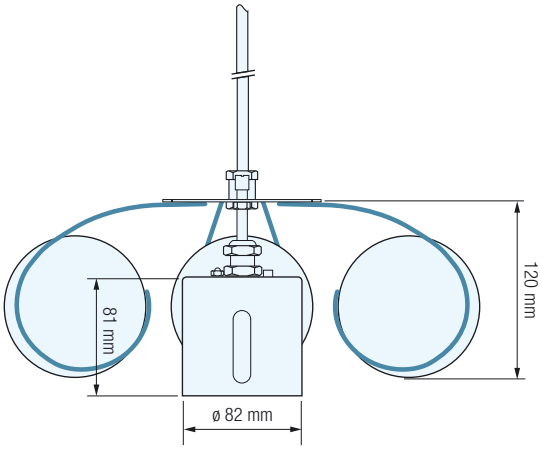
SET/S2



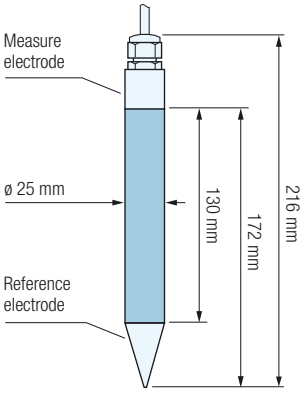
SET/V



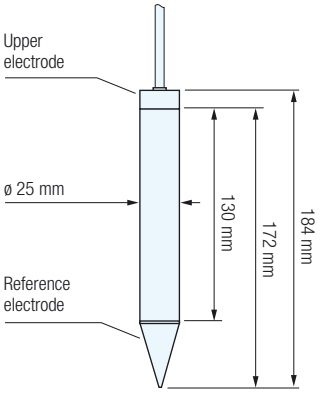
SET/OSK2

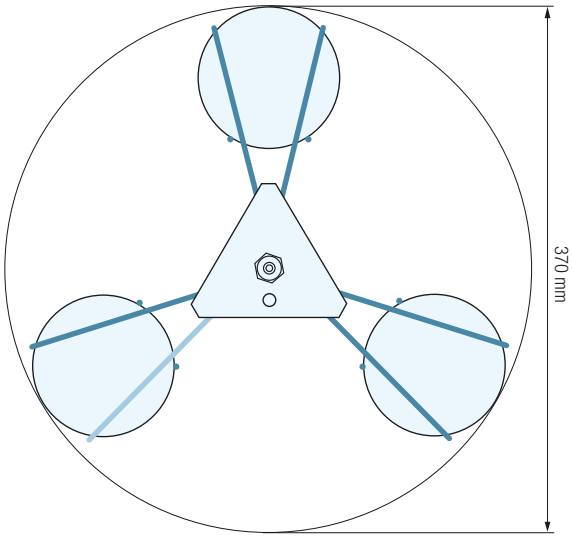


SET/DM3AL

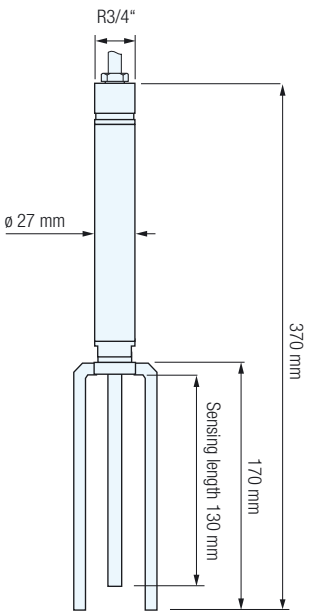


OMS

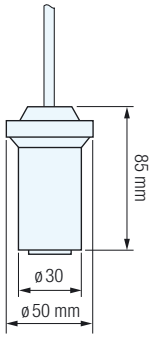




SET/TSHS2-O



GA-SG1



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Measure your success with Labkotec

Labkotec is a leading measurement equipment manufacturer, and related services provider for various industrial applications. Founded in 1964, Labkotec has decades of experience in providing innovative measurement solutions for a myriad of applications. Our mission is to provide solutions that augment our customers' business and to help them ensure that they protect people, and the environment.

Labkotec's comprehensive export product range comprises warning devices for oil and grease separators, ice detection systems, level measurement equipment for petrol storage and distribution, as well as a wide range of level measurement and detection instruments. We also provide our own unique cloud based measurement data monitoring system LabkoNet®, which offers our customers remote onsite monitoring of measurement and alarm information.

Since most of our products are intended for use in hazardous areas, they are designed and certified in strict accordance with EX-norms.

In addition to our export range Labkotec's domestic market includes a wide range of imported level measurement devices, flow measurement equipment, detection technology and analyzers as well as related services. We also provide complete control systems for municipal water supply and sewerage.

Labkotec is ISO 9001:2008 and ISO 14001:2004 quality certified, while our environmental systems are certified by Lloyd's Reqister Quality Assurance.

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.

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