

# Labkotec Measurement Technology

Protecting the environment

Alarm devices for oil, grease and sand separators

Ice detection systems

LabkoNet® remote monitoring system

Petrol station and fuel terminal equipment

Level switches and leakage monitoring

Data communication units

Level measurement

Cesspool alarm



Measure your success

 **Labkotec**  
INDUTRADE GROUP



# Protecting the environment

## Peace of mind with Labkotec products

**Labkotec Oy is specialised in alarm devices for oil and grease separators, ice detection systems, electronic level gauges, automation, and detector technology. Our products are complimented with the LabkoNet® data monitoring and management solution.**

**Special attention to the design of our products enhances reliability and performance, which plays a vital role in protecting the environment.**

### **Proven technology**

Modern oil separator systems protect the environment from harmful oil spills and ground leaks, but system maintenance offers a challenge; separators are often situated underground or otherwise out of sight.

Effective alarm devices deliver peace of mind, by providing accurate and timely information on separator maintenance requirements. Every problem that is avoided protects the environment and saves money, and at the same time, ensures reliable operation.

Labkotec is world leader in the manufacturing of oil, sand and grease separator alarm systems and has a wide range of products on offer.

Oil separators fall within the scope of the Construction Products Directive (CE-marking). The harmonized EN standard (EN 858-1) specifies the construction, design, etc. of such a system. The storage and handling of mineral oil products always present a potential source of danger, as the products are explosive and there is always a considerable risk of contamination. It is a clear requirement to install an alarm system in an oil separator, from both the point of view of the 858 standard as well as the CE-marking.



**Labkotec alarm models are approved in accordance with the ATEX directive 2014/34/EU and IECEx.**

**Labkotec alarm devices can be connected to the LabkoNet® system. LabkoNet® is an easy and reliable way to transfer and control the alarm data. An Internet connection is all that is needed. For further information on LabkoNet® and its key benefits, please visit [www.labkonet.com](http://www.labkonet.com)**

**LabkoNet®  
system  
compatible**

### **LID – the market leader in ice detectors**

The Labkotec Ice Detection System is the market leader in ice detectors. It is tested and approved by DNV GL, TÜV Rheinland, and the Technical Research Centre of Finland (VTT). Thousands of units have been supplied to the largest wind turbine manufacturers in the world.

In addition to wind turbines, LID ice detectors have been installed at airports and weather stations, both domestically, and internationally. Finavia, the company that maintains Finnish airports and monitors air traffic, uses LID ice detectors to ensure safe flying, as well as other vital operations. LID-3300IP represents the latest technology in the field.

### **Key advantages of Labkotec alarm 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.



# Alarm devices for oil, grease and sand separators

Labkotec offers the widest range of alarm devices on the market for oil, grease and sand separators. Separator alarms are used to indicate when oil, grease and sand separators need to be emptied.

Separator alarms are required to fulfil most industrial and communal environmental licenses and environmental certificates, as they are vital to environmental safety.

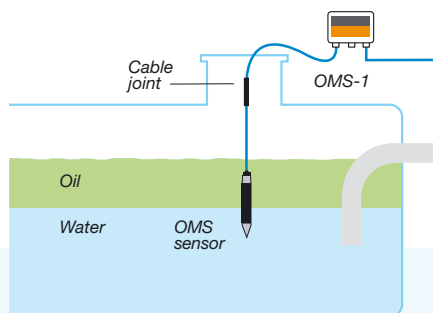
All Labkotec alarm systems for oil separators have ATEX approval and the sensors are suitable for installation in hazardous areas.



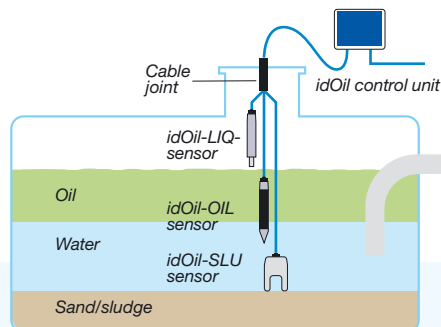
**The EN 858-1&2 standard stipulates that alarm devices must be used in oil separators, and simultaneously form the basis for the CE-mark on oil separators.**

## Application areas

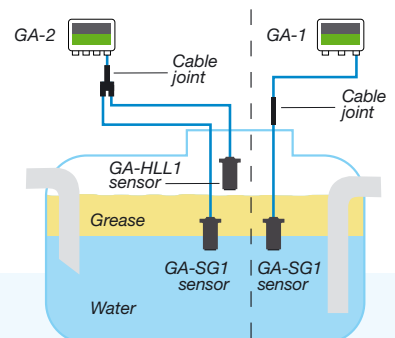
### Oil separators



### Oil and sand separators



### Grease separators





## idOil Solar oil separator alarm for applications where mains supply is not available

### Application areas

- Airports
- Highways
- Car parks

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

Alarm conditions can be transmitted to mobile phones or LabkoNet® system via the GSM modem, and locally with a flashing beacon. Sensor failures are also detected automatically.



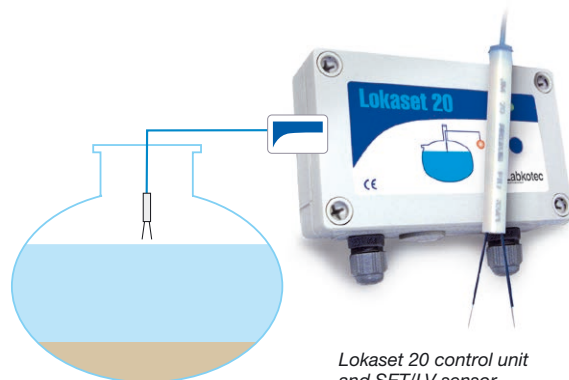
*idOil Solar with GSM modem and flashing beacon*

## Lokaset 20 Alarm Device for cesspools

The Lokaset 20 is an extremely reliable full alarm device for cesspools. This compact package saves time and alleviates concerns, through efficient cesspool level control.

Complete cesspool control is achieved through a conductive sensor. The system is reliable and proven. Harmful overflow can be eliminated. Costs related to unnecessary emptying of the tank is also avoided.

The Lokaset 20 control unit is equipped with both a visual and acoustic signal alarm. The alarm can easily be forwarded with the relay output. Lokaset 20 is very easy to install as a retrofit.



*Lokaset 20 control unit and SET/LV sensor*



## LID-3300IP Type 2 Ice Detector for cold climate wind turbines

Labkotec Ice Detectors are designed for detecting icing conditions on the rotor blades. Ice falling from rotor blades can cause damage to buildings and can injure people near the wind turbines. Ice reduces the productive capacity of wind turbines considerably, and also hinders their construction, which leads to increased maintenance needs.

- Compact, rugged design
- Quick and easy installation
- Ready to use after installation, no calibration required
- Suitable for old and new wind turbines
- Suitable for all manufacturer's wind turbines
- Easy to connect to wind turbine control systems via TCP/IP protocol
- Icing status, alarms and parameters can be monitored and adjusted through an inbuilt www user interface
- Event log for ice alarms, faults, parameter settings and other user actions

### Safe area of 500 meters

If the height of a wind turbine is 130 metres and the length of its rotor blades is 80 metres, the wind turbine should be surrounded by a safety area of at least 315 metres. This is not always possible in densely populated areas. Security risks, and physical strain caused by ice formation can be significantly reduced by equipping wind turbines with ice detectors.

**LID warning light system** warns people by detecting the icy conditions and providing ice alarms.

### Application areas

- Wind turbines
- Airports
- Weather stations
- Maritime

LID-3300IP  
Type 2  
control unit



LID/ISD  
sensor



LID warning  
light station



## Efficient ice detection brings reliability and safety

Labkotec's LID-3300IP Type 2 Ice Detector improves turbine production reliability and radically reduces risks associated with ice formation in cold climate conditions. LID, tested by the Technical Research Centre of Finland (VTT), is the leader in the market. Thousands of units have been supplied to the largest turbine manufacturers in the world. In Finland they are also used also at airports to ensure flying safety.



US+Canada  
NRTL-Certificate



Component Certificate  
DNV GL Renewables

For onshore and offshore applications





# POP-22 EXI Level Controller for monitoring levels, control pumps and valves

The POP-22 EXI is a versatile level controller for monitoring levels, control pumps and valves and for sending alarm warnings. Labkotec's capacitive 3W sensors – or other loop-powered 2-wire sensors – can easily be connected to the device.

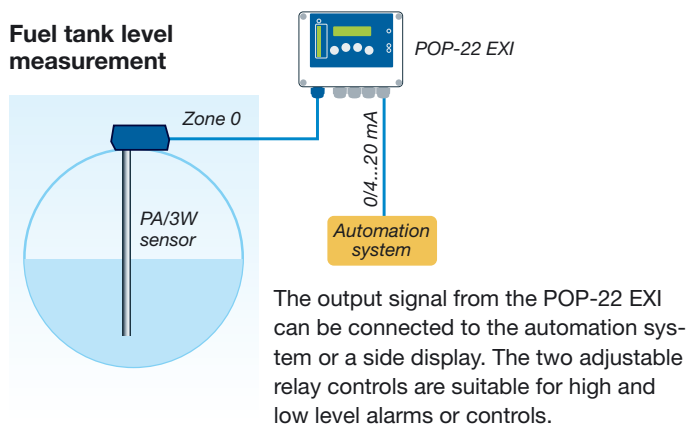
The POP-22 EXI is equipped with an in-built Ex-barrier, which means that no separate barrier is needed, if the sensor is located in an explosive atmosphere.



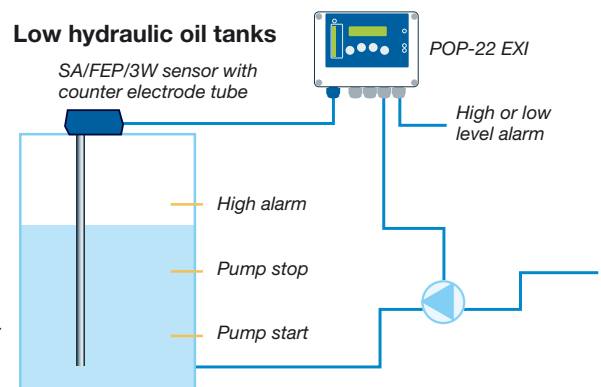
POP-22 EXI control unit

## Application areas

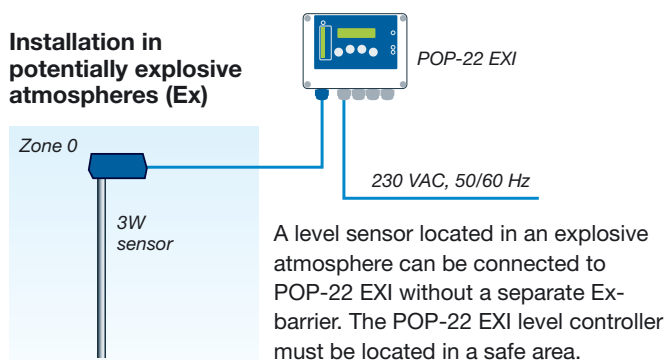
### Fuel tank level measurement



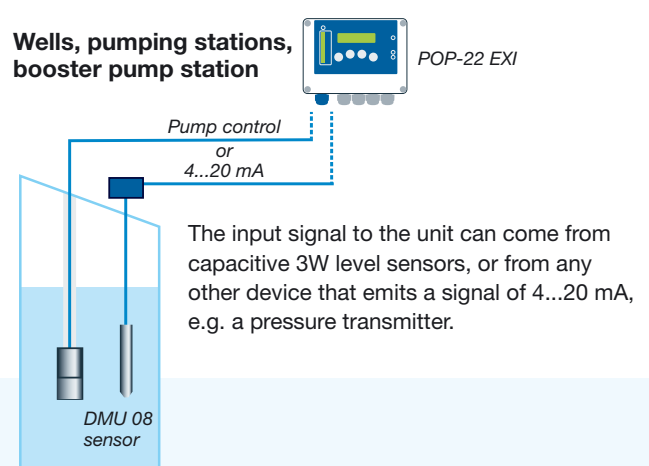
### Low hydraulic oil tanks



### Installation in potentially explosive atmospheres (Ex)



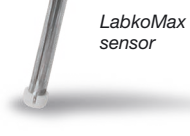
### Wells, pumping stations, booster pump station







# Petrol station and fuel terminal equipment



## Fuel tank monitoring system for inventory level management

The Trident monitoring system is a perfect solution for the petrol stations where basic, reliable information is required. The Trident system can monitor product level, temperature and condensed water level.

Labkotec provides two magnetostrictive sensors, LabkoMax and LabkoFlex, which can be monitored by the Trident. Both sensors are ideal for applications demanding high accuracy and good repeatability.

## LabkoFlex sensor

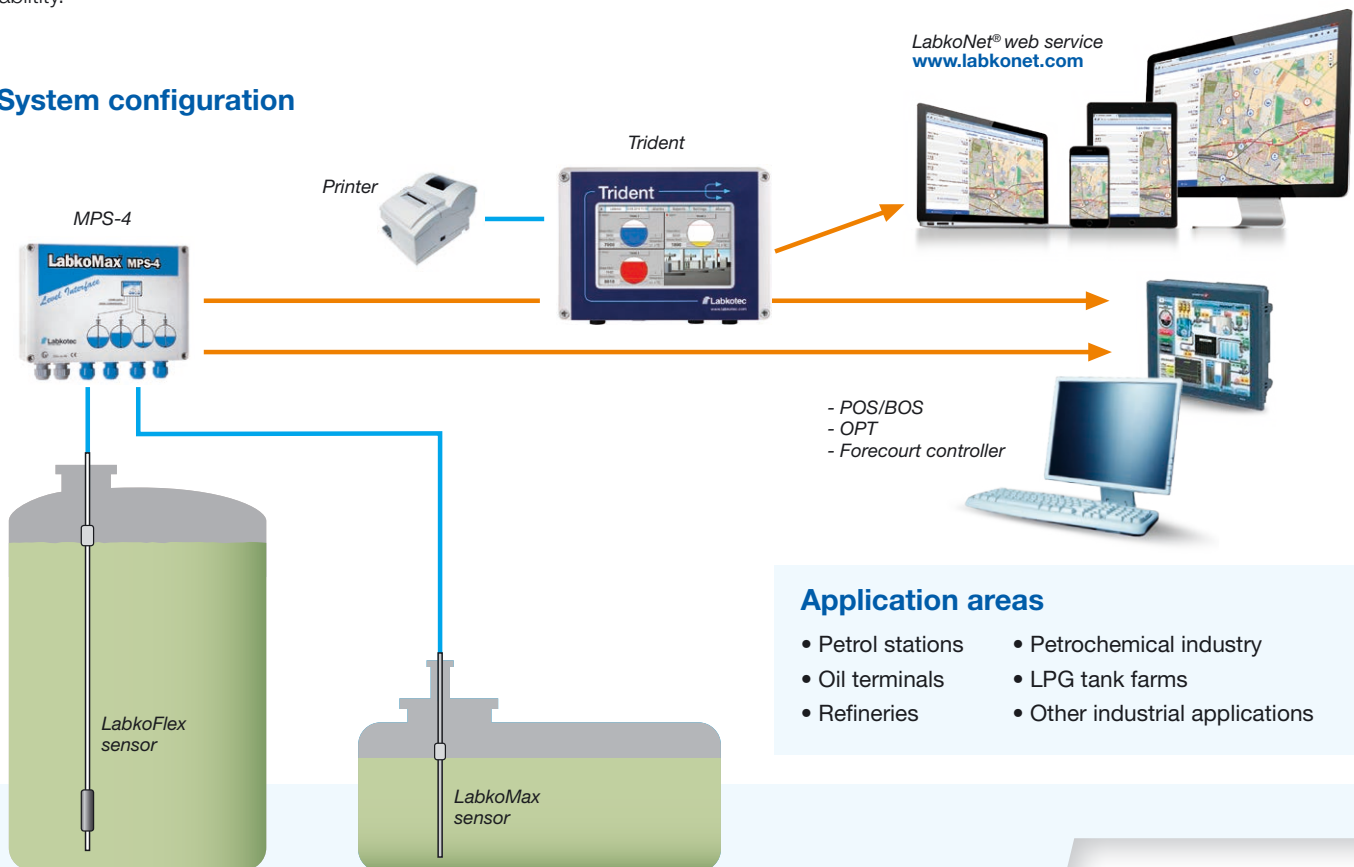
The LabkoFlex system is designed for terminals, refineries and other fuel storage facilities.

The 7100V/B series level measurement sensor provides the same output as the 7100MR series sensor, but is best suited for tanks that are 5-21 m high. Thanks to its flexible construction and PVDF material, installation of the sensor is quick and easy.

## LabkoMax sensor

The LabkoMax fuel storage monitoring system is designed for use in service stations, terminals, refineries and other fuel distribution sites. Typically, the 7100MR sensors are used in tanks that are less than 5 m high.

## System configuration

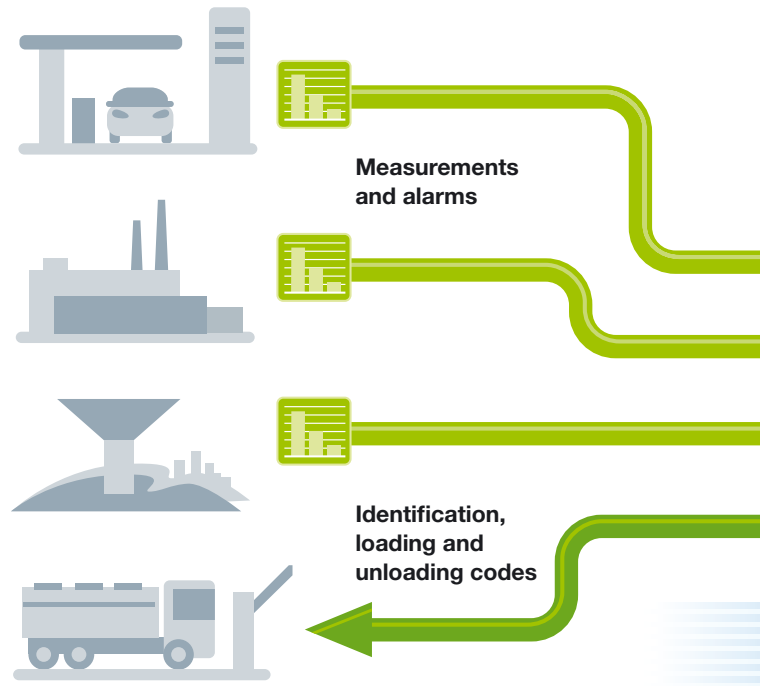


## Application areas

- Petrol stations
- Oil terminals
- Refineries
- Petrochemical industry
- LPG tank farms
- Other industrial applications

# LabkoNet<sup>®</sup>

LabkoNet<sup>®</sup> System collects measurement data and processes it for specific requirements



## Application areas

- Logistics centres
- Transport companies
- Finance departments
- Supervisors
- Authorities

With the LabkoNet system, you can smoothly monitor a vast array of various measurement devices and targets. The system collects and transfers measurement data, and automatically signals an alert, presenting options to you on a clear and graphic website, or your mobile phone.

LabkoNet streamlines your routines and frees up time for other tasks. The measurement data is rapidly made available to all parties in the process.

LabkoNet is a SaaS (Software as a Service) solution, with no need to install software on the customer's equipment. The system's components operate from a server via a data network, and the software is used via a web browser.

The benefits of SaaS include minimal investment costs and extremely fast implementation. The customer does not need to purchase software licences or worry about updates. In addition, the data security and antivirus solutions are always up-to-date.

## Sites overview

The screenshot displays the LabkoNet web interface. At the top, there are navigation tabs for 'Frontpage', 'Sites', 'Alarms', and 'Reports'. The main area is divided into two sections. On the left, a 'Petrol station 1' overview shows a photo of the station and key metrics: Tank 1 95E10 with a volume of 16550 I and a consumption of 10116 liters / 24h. On the right, a map shows the location of the station and other sites across Europe. Below the map, a 'Site view' for 'Tank 1' is shown, featuring a line graph of consumption over time and a table of calculated consumption data.

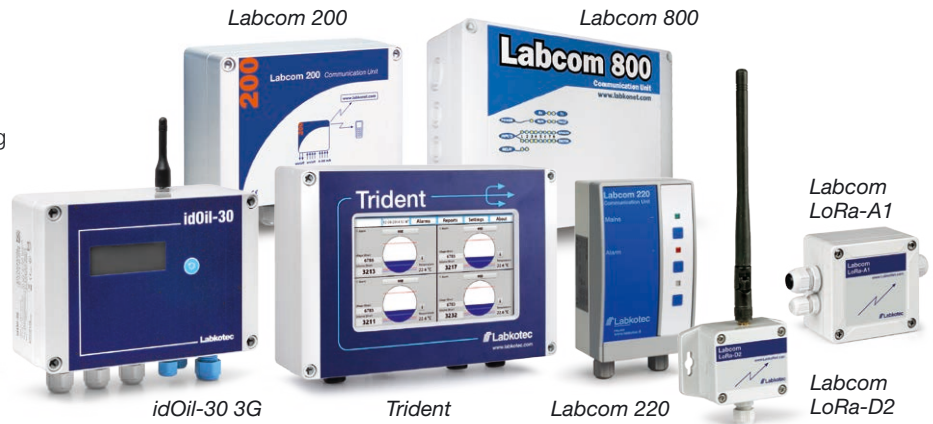
Tank	Volume	Calculated consumption
Tank 1 95E10	16550 I	10116 liters / 24h
Tank 1 95E10		2.12 I CALCULATED CONSUMPTION

Alarms as text messages, e-mails or indications in the LabkoNet view

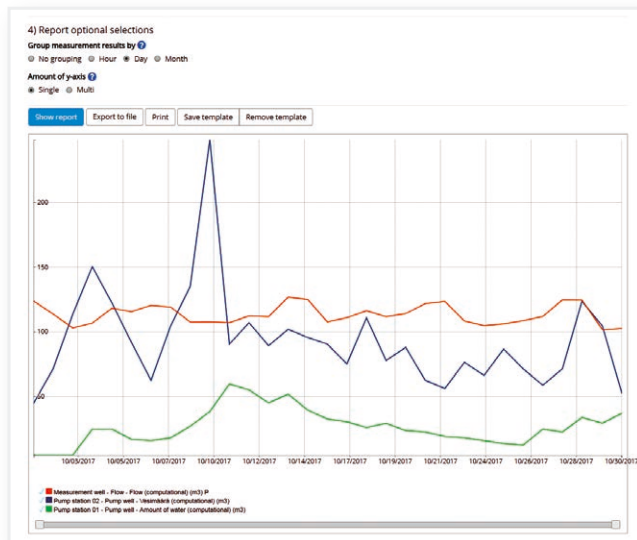


## LabkoNet® data transfer equipment

Data transfer unit for the remote monitoring of measurements in industry, households, as well as environmental management. The applications include oil separator alarms, tank level measurements and the monitoring of pumping stations and properties.



## Trend view



## List of alarms

LabkoNet Frontpage Sites Alarms Reports Feedback English Labko

Site: All sites Start date: End date:

Type:  Measurement alarms  System alarms Status:  Active  Deactivated Acknowledgement:  All  Only acknowledged  Only unacknowledged

Show alarms

Status	Site	Measuring point/Device	Description	Started	Ended	Acknowledged user
▲	Orivesi	Storagetank 3 EP750	Volume Order limit	11/04/2017 9:37 AM	ACTIVE	<a href="#">Acknowledge</a>
▲	Petrol station 2	Labcom 800	Line disconnected	11/04/2017 6:30 AM	ACTIVE	<a href="#">Acknowledge</a>
▲	Inko	Tank 1 TE210	Amount Order limit	11/09/2017 8:58 AM	ACTIVE	<a href="#">Acknowledge</a>
▲	LID-3300IP	LID-3300IP+	Line disconnected	10/22/2017 5:20 PM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Alarms	Battery voltage	08/24/2017 10:53 AM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Pump well	Level Alarajahalytys	08/24/2017 10:53 AM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Alarms	Power supply Power cut	08/24/2017 10:51 AM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Alarms	Protection alarm Alarm	08/24/2017 10:51 AM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Pump 1	Starts Ei pumppausta vuorokauten	08/23/2017 5:20 PM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Pump station 03	Pump 2	Starts Ei pumppausta vuorokauten	08/08/2017 6:00 AM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Inko	Tank 3 EP750	Amount Alarajahalytys	12/21/2016 2:46 PM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Inko	Tank 3 EP750	Amount Order limit	12/21/2016 1:34 PM	ACTIVE	User, Demo 11/01/2017 12:00 PM
▲	Petrol station 2	Tank 2 95E10	Volume alarm on 0	10/30/2016 3:23 PM	ACTIVE	User, Demo 12/01/2016 10:43 AM
▲	Inko	Tank 2 PPI25	Amount Low level alarm	01/22/2016 1:33 AM	ACTIVE	User, Demo 03/02/2016 10:52 AM



## 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 measurement solutions which enhance our customers business and help them to protect the environment and people.

Labkotec's comprehensive export product range comprises alarm 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<sup>®</sup>, 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 and ISO 14001 quality certified, while our environmental systems are certified by Lloyd's Register 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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