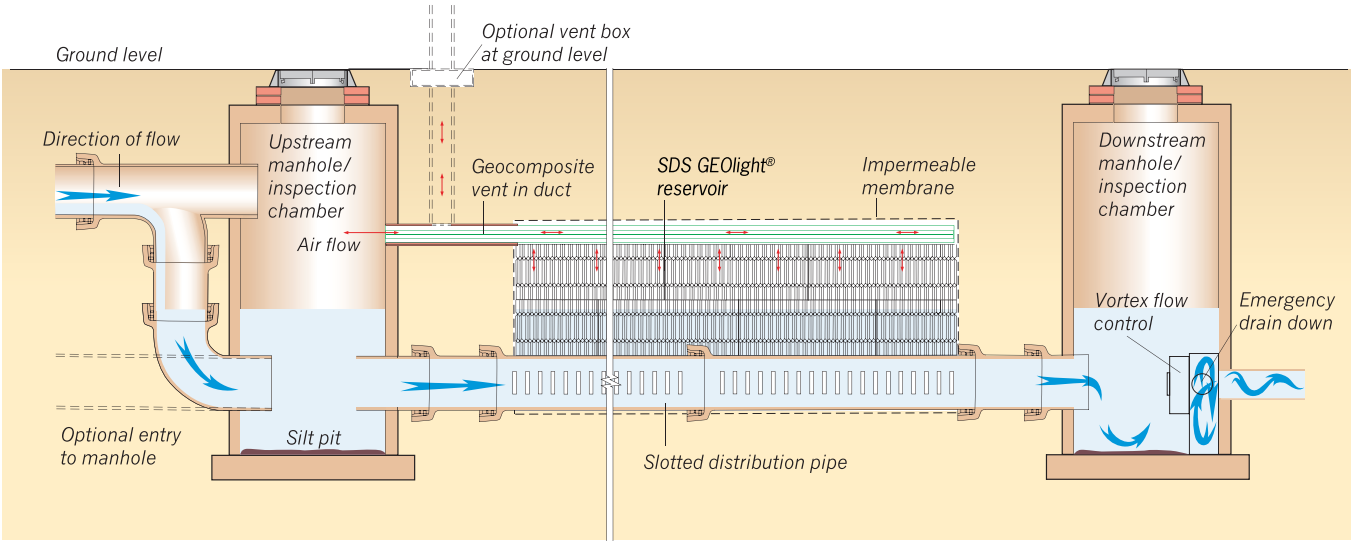
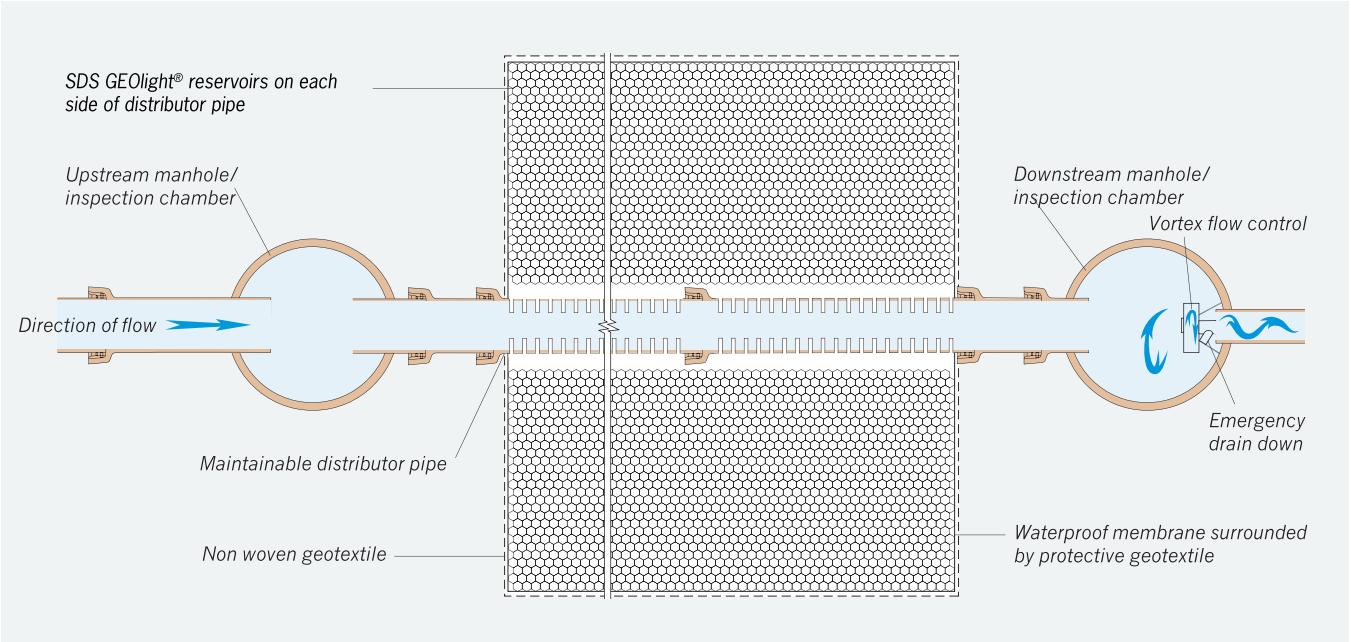
Stormwater Attenuation System

Design Details

Long Section



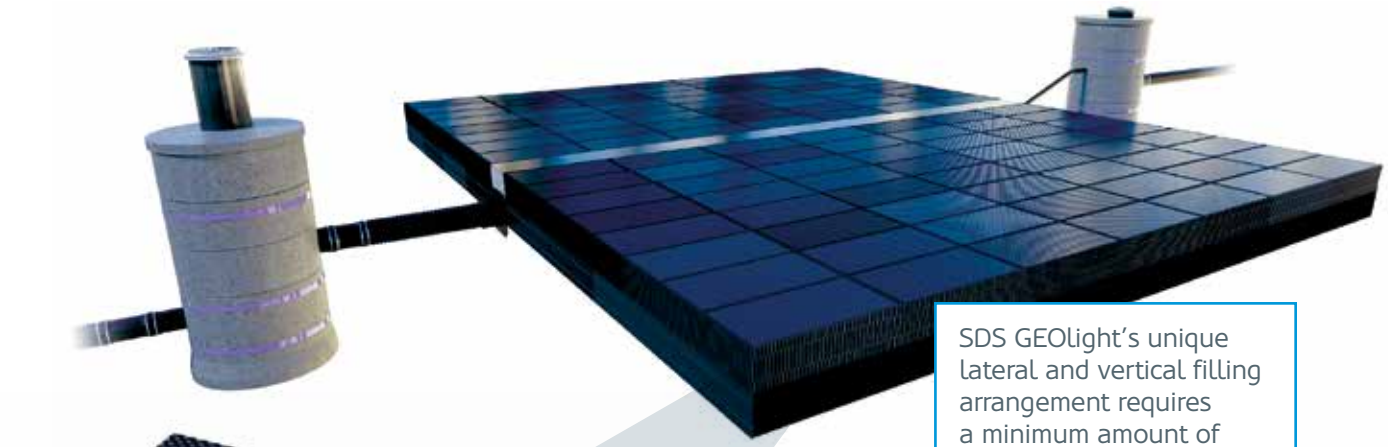
Plan



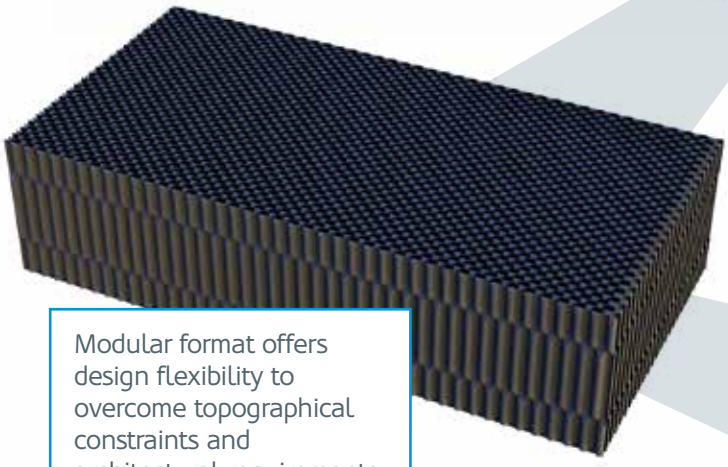
Benefits

- High compressive strength – can be located under all roads, car parks and amenity area surfaces.
- Reduced excavation costs – the very high void rate (95%) minimises the required volume of earthworks.
- Speed of installation – 1000m^3 reservoir, completed in one week.
- Light and easy to handle.
- Depth of tank invert reduced by using patented lateral supply.
- Simplified distribution pipe network, easy maintenance – dispensing with costly and complicated pipework configurations.
- Greatly reduces the risk of flooding when used as stormwater storage.
- Can also be used for water recycling and combining with irrigation systems.
- Can virtually eliminate pollution when used in combination with specialist petrol / oil separators.
- Design service available, including calculations.

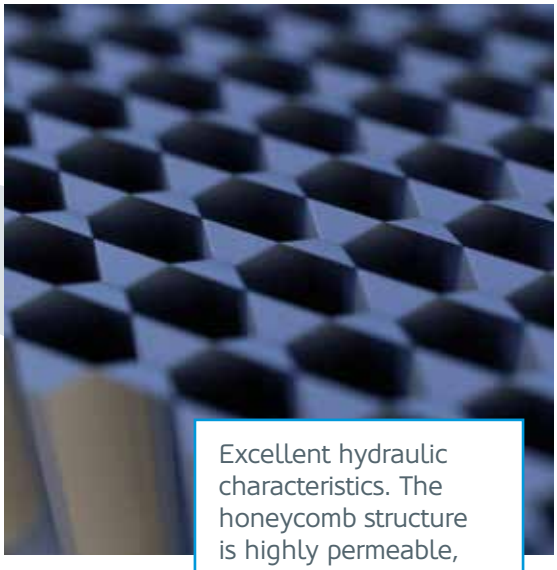
GEOlight® block



SDS GEOlight's unique lateral and vertical filling arrangement requires a minimum amount of pipework and stone.



Modular format offers design flexibility to overcome topographical constraints and architectural requirements.



Excellent hydraulic characteristics. The honeycomb structure is highly permeable, offering low resistance to water flow.

COSHH and Handling Information

1. COMPOSITION/INFORMATION ON INGREDIENTS:

Hazardous ingredients:
None as finished goods or products.

Types of materials:
Polyvinyl chloride (PVC)
MEK

2. HAZARDS IDENTIFICATION

Nature of hazard:
There are no health risks from the products during normal use. The products may contain various pigment colours and stabilisers that may be toxic. The chemicals are, however, bound within the product material and not easily extracted.

3. FIRST-AID MEASURES

Eye contact:
Plastic materials may cause physical irritation in the eyes. Wash out with large amounts of water. If irritation persists, seek medical advice.

Skin contact:
Not applicable.

Inhalation:
Not applicable.

Ingestion:
Not expected to have any toxic effects.

4. FIRE-FIGHTING MEASURES

Extinguishing media:
On small fires use any hand-held extinguisher type.
On large fires use water.

Fire and explosion hazards:
Melting plastics may flow and spread in a large fire.
Products of fire will be thick black toxic smoke.

Material characteristics:
PVC products will burn in the presence of a flame but are classed as self- extinguishing.

Protective equipment:
Wear self-contained breathing apparatus and protective clothing.

5. HANDLING AND STORAGE

Handling:
There are no hazards associated with the finished products. However, when cutting SDS GEOlight®, we recommend that the correct tools are used e.g. Handsaw or Alligator saw. When cutting, dust may be created; avoid inhaling these dusts. Take care of heat build-up within materials during cutting etc. The pallets of SDS GEOlight® units should be placed on level ground and should not be stacked on site. The maximum weight of the pallet of SDS GEOlight® units as delivered to site is 650kg (700kg on one copy), including packaging. Machines used to lift the pallet should be able to lift this weight safely. Loose individual units should not be stored more than three units high. SDS GEOlight® units are lightweight ranging from 23kg to 55kg and can be easily handled – one or two person lift.

Storage:
SDS GEOlight® units will resist the effects of UV light for up to six months; however, prolonged storage in direct sunlight should be avoided. SDS GEOlight® units should not be stored near to any fuel storage areas or any other solvents. SDS GEOlight® units are very robust and resistant to damage during normal handling; however, they should be secured in areas where impacts from vehicles or construction plant will be avoided.

Material characteristics:
PVC products will burn in the presence of a flame but are classed as self-extinguishing.

Protective equipment:
Wear self-contained breathing apparatus and protective clothing.

6. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection:
Not required under normal conditions of use. Where cutting etc. creates dust, wear a disposable half-mask to the standard FFP2S.

Hand protection:
Wear impervious strong gloves to prevent cuts to the hands while handling, cutting etc.

Eye protection:
Wear safety glasses when cutting etc.

Skin protection:
Wear overalls.

7. SITE HAZARDS

Other hazards for consideration:
Working in excavations and trenches – SDS GEOlight® may be designed with a shallow invert for infiltration (soakaway) or attenuation (storage) system. This negates the need for deep excavations or trenches, excavation near services e.g. gas, electricity or contaminated soil areas. N.B. All risk assessments should be undertaken by the main contractor for forklift, access to and working in excavations and trench support.

8. STABILITY AND REACTIVITY

Decomposition products:
Major thermal decomposition products are oxides of carbon.
Relevant differences are (in addition): PVC may produce amounts of Hydrogen Chloride.

Stability:
These materials are stable at temperatures up to normal operating limits (moulding parameters).

9. ECOLOGICAL INFORMATION

Biodegradability:
Plastic products are not readily biodegradable but are not detrimental to terrestrial wildlife.

Aquatic toxicity:
Non-toxic to marine life.

10. DISPOSAL CONSIDERATIONS

Method:
The preferred method of disposal is collection and recycling. Plastics can safely be placed with regular industrial or household wastes where recycling is not available.

11. OTHER INFORMATION

As the handling, storage, use and disposal of the product are beyond our control SDS disclaims all liability for loss, damage, injury or expense in any way connected with such activities and further makes no warranties, expressed or implied, as to the suitability of the product for any particular use.

The preferred method of disposal is collection and recycling. Plastics can safely be placed with regular industrial or household wastes where recycling is not available.

SDS
Water Infrastructure Systems

INNOVATORS IN WATER TECHNOLOGY



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SDS
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Appendix C:

Grease Trap Manufactures Guidelines

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Internet: www.labkotec.com

19.9.2014
D15622Be

GA-1

Grease Separator Alarm Device

Installation and Operating Instructions



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2 INSTALLATION 4
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2.3 Installation Accessories 5
3 OPERATION 6
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7 TECHNICAL DATA 10

SYMBOLS


Warning / Attention


Device is protected by double or reinforced insulation

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1 GENERAL

GA-1 is an alarm device for monitoring the thickness of the grease layer accumulating in a grease separator.

The system consists of GA-1 control unit, GA-SG1 sensor and a cable joint.

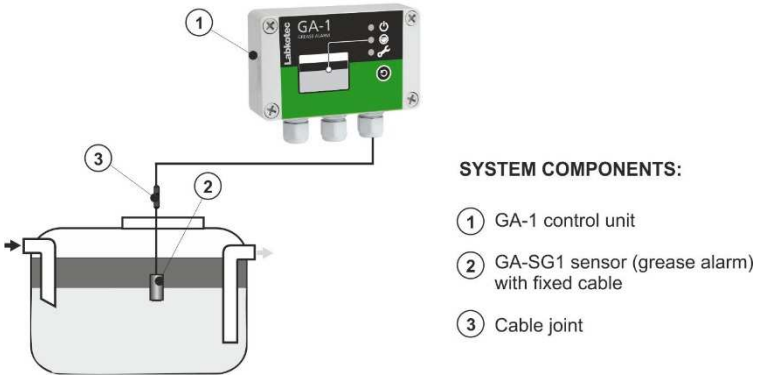


Figure 1. Grease separator supervision with GA-1 alarm device

GA-SG1 sensor is installed into the grease separator and it supervises thickness of grease layer.

The LED indicators, push button and interfaces of the GA-1 control unit are described in figure 2.

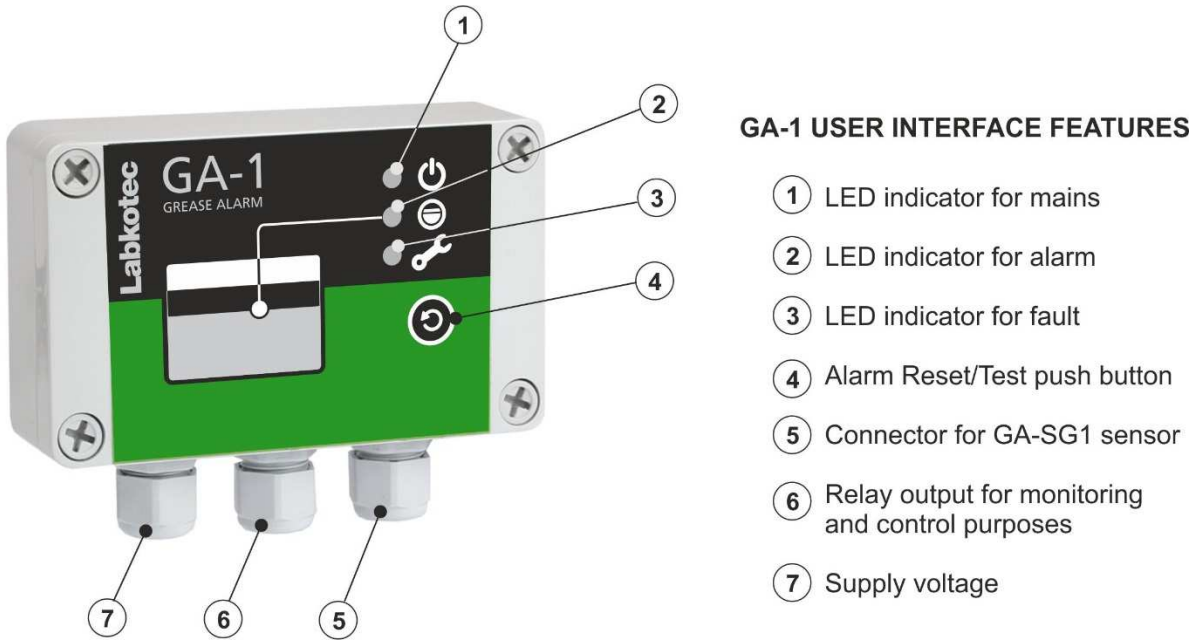


Figure 2. GA-1 control unit – features

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2 INSTALLATION

2.1 GA-1 control unit

GA-1 control unit can be wall-mounted. The mounting holes are located in the base plate of the enclosure, beneath the mounting holes of the front cover.

The cover of the enclosure must be tightened so, that the edges touch the base frame. Only then does the push button function properly and the enclosure is tight.

Before installation, please read the safety instructions in chapter 6!

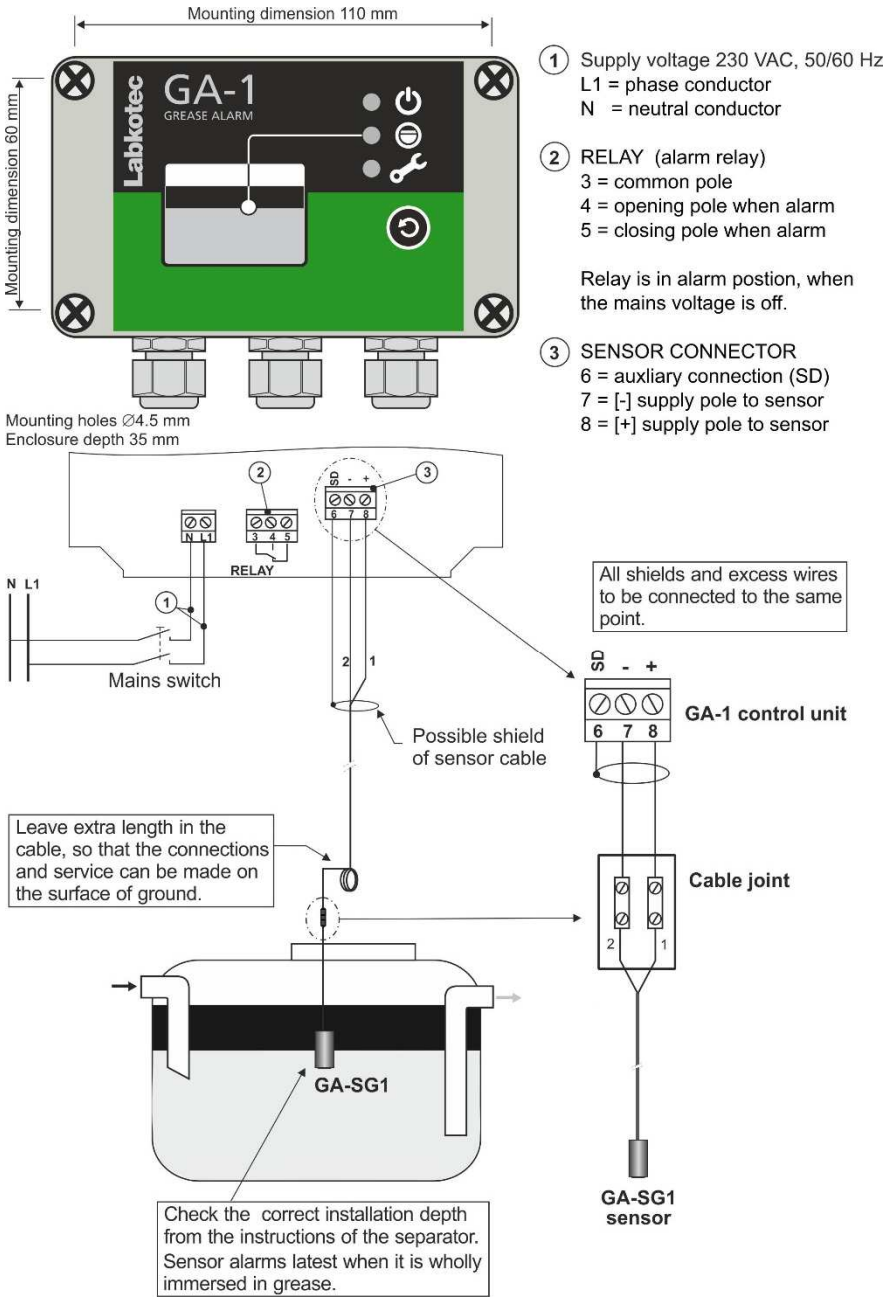


Figure 3. GA-1 alarm device installation.

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2.2 GA-SG1 sensor

GA-SG1 sensor should be installed as described in figure 3.

The sensor gives an alarm latest when it is wholly immersed in grease.

Please check the correct installation depth also from the instructions of the grease separator.

2.3 Installation Accessories

The delivery includes a cable joint (figure 4), fixing accessories (figure 5) for installation of the control unit and the sensor. In figure 6 is an installation example of cable with suspension hook.

Connections of the sensor cable inside the cable joint are explained in figure 3. If shielded cable is used cable shields and possible excess wires need to be connected to the same point in galvanic contact.

IP rating of the cable joint is IP68. Make sure, that the cable joint is closed properly.



Figure 4 Cable joint

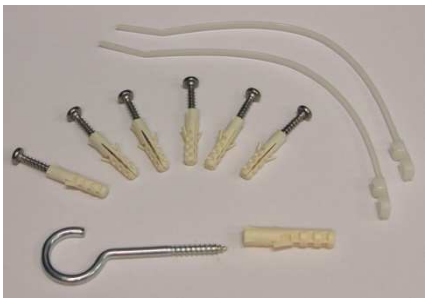


Figure 5. Fixing accessories



Figure 6. Cable installation example

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3 OPERATION

The operation of the alarm device should be checked always after the installation. Also check the operation always when emptying the separator or at least once every six months.

Functionality test

1. Immerse the sensor into water. The device should be in normal mode.
2. Lift the sensor up in air or grease. A grease alarm should be generated (see chapter 3.1 for more detailed description).
3. Clean up the sensor.
4. Immerse the sensor back into water. The alarm should go off after a delay of 10 sec.

A more detailed description of the operation is provided in chapter 3.1.
If the operation is not as described here, check connections and cabling. If necessary contact a representative of the manufacturer.

3.1 Modes of operation

Normal mode – no alarms

Sensor is totally immersed in water.

Mains LED indicator is on.
Other LED indicators are off.
Relay is energized.

Grease alarm

Sensor is immersed in grease. (the sensor gives an alarm latest when it is wholly immersed in grease).

Mains LED indicator is on.
Grease Alarm LED indicator is on.
Buzzer on after 10 sec delay.
Relay de-energize after 10 sec delay.
(Note. The same alarm takes place when GA-SG1 sensor is in the air.)

After removal of an alarm, the Grease Alarm LED indicator and buzzer will be off, and relay will be energized after 10 sec delay.

Fault alarm

Sensor cable break, short circuit or a broken sensor.

Mains LED indicator is on.
Sensor circuit Fault LED indicator is on after 10 sec delay.
Buzzer is on after 10 sec delay.
The relay de-energize after 10 sec delay.

Reset of an alarm

When pressing the Reset/Test push button.

Buzzer will go off.
Relay and LED indicator will not change their position until the alarm or fault situation is removed.
If the buzzer is not reset, it goes off automatically after three days.

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TEST FUNCTION

Test function provides an artificial alarm, which can be used to test the function of the GA-1 alarm device and the function of other equipment, which are connected to GA-1 via its relay.



Attention! Before pressing the Reset/Test button, make sure that the change of relay status does not cause hazards elsewhere!

Normal situation	*When pressing the Reset/Test push button:* *Grease Alarm and Fault LED indicators are immediately on.* *Buzzer is immediately on.* *Relay de-energize after 2 sec of continuous pressing.* *When the Reset/Test push button is released:* *LED indicators and buzzer go immediately off.* *Relay energize immediately.*
Alarm on	*When pressing the Reset/Test push button for the first time:* *Buzzer will go off.* *When pressing the Reset/Test push button after that:* *Fault LED indicator is immediately on.* *Grease Alarm LED indicator remains on.* *Buzzer remains on. If it has been reset earlier, it will return to be on.* *When the Reset/Test push button is released:* *The device returns right away to the preceding status.*
Fault alarm on	*When pressing the Reset/Test push button:* *The device does not react to the test at all.*

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4 TROUBLE-SHOOTING

Problem:	***No alarm when sensor in grease or air, or the alarm will not go off***
Possible reason:	*Sensor is dirty.*
To do:	*1. Clean-up the sensor and check the operation again.*

The following operations must be performed only by a qualified electrician!

Problem:	***MAINS LED indicator is off***
Possible reason:	*Device doesn't get supply voltage.*
To do:	*1. Check that power separation switch is not switched off.* *2. Measure the voltage between poles N and L1. It should be 230 VAC + 10 %.*

Problem:	***FAULT LED indicator is on***
Possible reason:	*Current in sensor circuit too low (cable break or out of connector) or too high (cable in short circuit). The sensor might also be broken.*
To do:	*1. Make sure, that the sensor cable has been connected correctly to the GA-1 control unit.* *2. Measure the voltage separately between the poles 7 and 8. The voltages should be between 7,0 - 8,5 V. Note! The voltage alternates between the sensor connectors in 1 second intervals.* *3. Measure sensor current when the sensor is in the air or in grease. The measured current should be 7,0 – 8,5 mA.* *4. Measure current when the sensor is in the water. Measured current should be 2,5 – 3,5 mA*

If the problem can not be solved with the above instructions, please contact Labkotec Oy's service.

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5 REPAIR AND SERVICE

The sensor should be cleaned and the operation should also be tested when emptying or maintaining the grease separator or at least once every six months. The easiest way to check the operation is to lift the sensor up in the air and to put it back to the separator. The operation is described in chapter 3.

For cleaning, a mild detergent (e.g. washing-up liquid) and a scrubbing brush can be used.

In case of queries, please contact Labkotec Oy's service:

service@labkotec.fi.

6 SAFETY INSTRUCTIONS



The device does not include a mains switch. A two pole mains switch (250 VAC 1 A), which isolates both lines (L1, N) must be installed in the main power supply lines in the vicinity of the unit. This switch facilitates maintenance and service operations and it has to be marked to identify the unit.



If opening of housing's cover is needed, only a qualified electrician is allowed to install or to maintain the device.



If the device is used against the manufacturer's instructions, the protection provided by the device may be damaged.



The device is not allowed to install in hazardous areas.

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7 TECHNICAL DATA

GA-1 control unit	
Dimensions	125 mm x 75 mm x 35 mm (L x H x D)
Weight	250 g Package 0,8 kg (control unit + sensor + cable joint)
Enclosure	IP 65, material polycarbonate Cable glands adjustment range is 6 – 10mm
Operation temperature	-30 ºC…+50 ºC
Supply voltage	230 VAC ± 10 %, 50/60 Hz The device is not equipped with a mains switch
Power consumption	5 VA
Sensors	GA-SG1 sensor
Relay output	Potential-free relay output 250 V, 5 A Operational delay 10 sec. Relay de-energize at trigger point.
Electrical safety	IEC/EN 61010-1, Class II ⧈, CAT II
EMC Emission Immunity	 IEC/EN 61000-6-3 IEC/EN 61000-6-1
Manufacturing year: Please see the serial number on the type plate	xxx x xxxxx xx **YY** x where YY = manufacturing year (e.g. 14 = 2014)

GA-SG1 sensor	
Principle of operation	Capacitive
Material	POM, PUR, AISI 316
Weight	350 g (sensor + fixed cable)
IP-classification	IP68
Operation temperature	0 ºC…+90 ºC
Cable	Fixed cable 2 x 0.75 mm^2. Standard length 5 m, other lengths optional. The max. length of the fixed cable is 15 m, can be extended. Maximum cable loop resistance is 75 Ω.
EMC Emission Immunity	 IEC/EN 61000-6-3 IEC/EN 61000-6-1
Manufacturing year: Please see the serial number from the bottom of sensor	GAxxxxx**YY** where YY = manufacturing year (e.g. 14 = 2014)

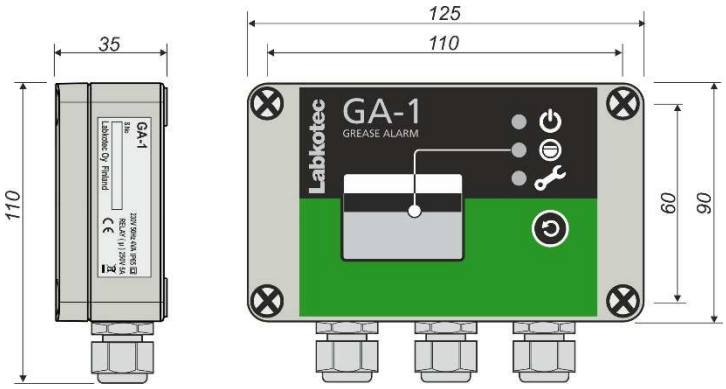


Figure 7. GA-1 control unit

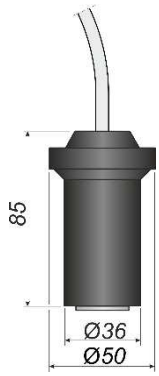
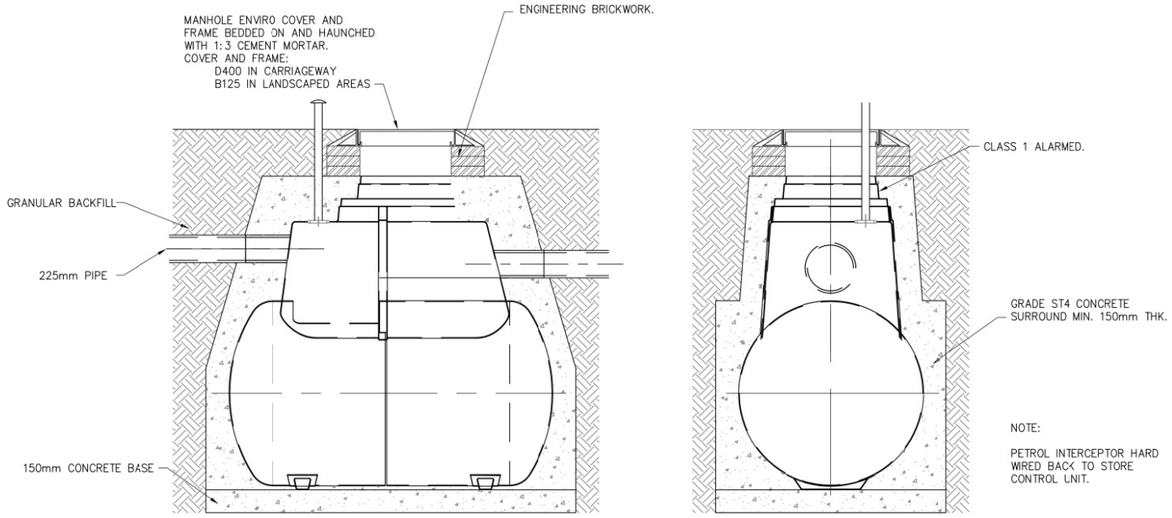


Figure 8. GA-SG1 sensor

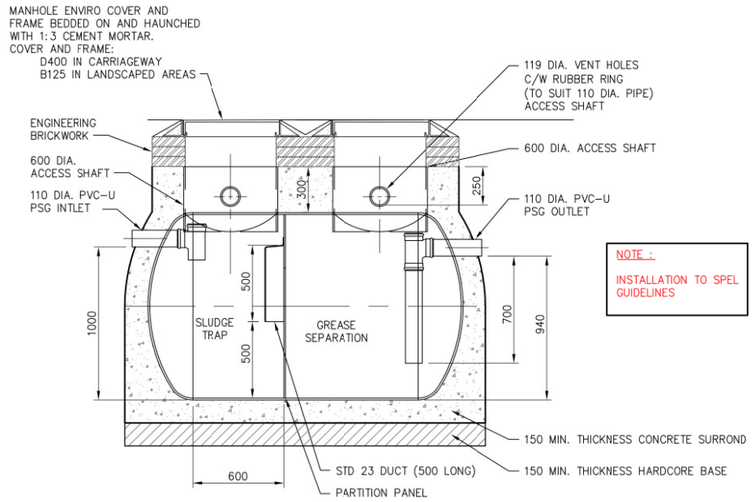
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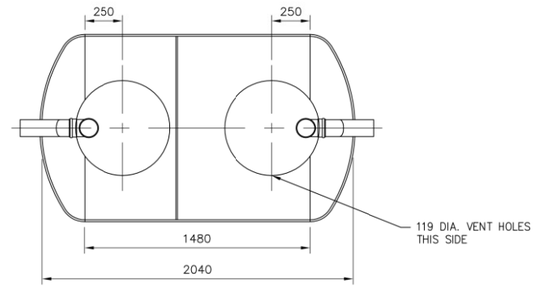


SPEL 206 C1 PETROL INTERCEPTOR (OR SIMILAR APPROVED). CONCRETE SURROUND

Scale 1:20



SECTION



PLAN

2000L SPEL GREASE INTERCEPTOR WITH TELEMETRY ALARM

SCALE 1:20

0mm 40mm 80mm

ORIGINAL
SHEET SIZE A1

This drawing should not be scaled. For construction purposes, work to figured dimensions only

McDonald's ™

FOR INFORMATION ONLY

Rev.	Description	Date	Chkd

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Tel: (01442) 835999 Fax: (01442) 258924
postbox@glanvillegroup.com www.glanvillegroup.com

Client : McDonald's RESTAURANT

Project : McDONALD'S RESTAURANT

Title : PROPOSED GREASE TRAP & PETROL INTERCEPTOR

Project Engineer :	J.H.	Scale :	AS SHOWN
Project Director :	J.B.	Date :	APR' 2014
Status :	INFORMATION		

Drawing No G' TRAP & P'INTERCEPT Rev P1

Labkotec
INDUTRADE GROUP

L15624_e
F15625_e

Declaration of Conformity

This declaration certifies that the below mentioned apparatus conforms to the essential requirements of the EMC directive 2004/108/EY and Low-Voltage directive (LVD) 2006/95/EC.

Description of the apparatus:	Measuring and control unit with sensor
Type:	GA-1 Grease Alarm control unit with GA-SG1 sensor GA-2 Grease Alarm control unit with two GA-SG1 sensors
Manufacturer:	Labkotec Oy Myllyhaantie 6 FI-33960 Pirkkala FINLAND

The construction of the appliance is in accordance with the following standards:

EMC:	
EN 61000-6-1 (2007)	Electromagnetic compatibility, Generic standards – Immunity for residential, commercial and light-industrial environments.
EN 61000-6-3 (2007) +A1 (2011)	Electromagnetic compatibility, Generic standards – Emission standard for residential, commercial and light-industrial environments.
EN 61000-3-2 (2006) +A1+A2 (2009)	Electromagnetic compatibility, Product family standard: Harmonic current emissions.
EN 61000-3-3 (2008)	Electromagnetic compatibility, Product family standard: Voltage changes, fluctuations and flicker sensation.
LVD:	
EN 61010-1 (2010)	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.

This product is CE-marked since 2013.

Signature

The authorized signatory to this declaration, on behalf of the manufacturer, and the Responsible Person based within the EU, is identified below.

Pirkkala 20.5.2013

Ari Tolonen
CEO
Labkotec Oy

SPEL Grease/Fat Separators

Introduction

Grease separators are used to remove fat and grease from waste water. This is often essential to eliminate incidents of drain blockages caused by the waste from catering establishments. The operation of septic tanks, pumps, and sewage treatment systems will also be improved by removing the fat and grease from the effluent.

Siting and Installing the Tank

The tank should not be installed near a road or driveway, where it could be subjected to high external loads, unless the installation is designed to withstand such loadings so they are not transferred to the tank shell.

Where the tank is to emptied using a tanker, it should be sited within 30m of a vehicle access provided that the invert level of the septic tank is no more than 3m below the level of the vehicle access. This distance may need to be reduced where the depth to the invert of the tank is more than 3m. There should also be a clear route for the hose such that the tank can be emptied and cleaned without the contents being taken through a dwelling or place of work.

Adequate ventilation of the tank and the inlet pipework must be provided to prevent the accumulation of fermentation gases.

For full installation instructions concerning tank specification handling and burial please consider our supplied installation guidelines, Sec4.

Operation

Please refer to a supplied drawing. Contaminated water flows into the tank through the inlet pipe. Heavy deposits will settle on the bottom of the chamber and light contaminants will mostly float on top of the water. Cleaner water flows through to the second chamber where water is allowed to pass out of the tank taken from the cleanest part of the chamber.

Maintenance

Grease, sludge and other fatty effluents remain in the tank until removed by a specialist cleansing or waste disposal contractor. The tank must be emptied periodically of retained grease, sludge and other fatty effluents. Other than this action SPEL Grease separators are essentially maintenance free, however, it is not possible to predict site specific maintenance requirements. SPEL tank shells usually carry a 25-year warranty.

© SPEL Products, Lancaster Road, Shrewsbury, Shropshire. SY1 3NQ. Tel: +44 (0)1743 445200

Alarm Options
SPEL can provide a range of alarms to suit your needs.

Access
SPEL Grease separators have good access to both chambers for period emptying of retained grease, sludge and similar fatty effluents. Access is made in each case through a circular access shaft of 600mm diameter at the crown of the chamber.

Emptying Period
Periods between emptying will have to be determined depending on site conditions but normally at least twice a year.

Emptying Procedure
Typically the contents of the chambers will be sucked out by a specialist cleansing or waste disposal contractor. Both light and heavy deposits should be removed at this time. A Large hose is usually lowered down into the chamber through the access shaft. As the contents are sucked out care should be taken to ensure that both chambers contents are reduced equally. If one chamber is allowed to contain too great a quantity of fluid in comparison with the other chamber damage to the dividing baffle wall may result. Following removal the tank should be re-charged with clean water. The removed contents should be disposed of by the specialist contractor.

The contents of this document are supplied for general guidance only. SPEL Products can accept no liability for harmful incidents that arise as a result of the contents of this document. It is not possible for SPEL Products to predict site specific operational or maintenance requirements.

Appendix D:

Maintenance Schedule

Inspection Log - Year …….. sheet 1 of 2

Inspection Date	A - Surface Water Catchpit Manholes	B - Foul Water Manholes	C - Gulley	D - Channel Outlets	E – Petrol Interceptor With Treatment Coalescer Filter	F – Attenuation	G – Grease Trap	H- Filter Drain	J- Detention Basin	K- Permeable Block Driving	Comments
January											
February											
March											
April											
May											
June											

How to complete this Log:

1.0 Write date in first.

2.0 Tick which items have been inspected for that date.

3.0 Add to notes the maintenance completed e.g. gullies / catchpits emptied.

Inspection Log - Year …….. sheet 2 of 2

Inspection Date	A - Surface Water Catchpit Manholes	B - Foul Water Manholes	C - Gulley	D - Channel Outlets	E – Petrol Interceptor With Treatment Coalescer Filter	F – Attenuation	G – Grease Trap	H- Filter Drain	J- Detention Basin	K- Permeable Block Driving	Comments
July											
August											
September											
October											
November											
December											

How to complete this Log:

1.0 Write date in first.

2.0 Tick which items have been inspected for that date.

3.0 Add to notes the maintenance completed e.g. gullies / catchpits emptied.

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Glanville
Survey > Plan > Engineer

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