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# EuroREK Omega grease separators

## Instructions for Installation, Operation and Maintenance

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## 1. GENERAL

EuroREK Omega grease separators are delivered with the SET<sup>®</sup> 2000 control and alarm automatics as a standard. With the Labcom data transfer unit delivered as an accessory it is possible to transfer the alarm signal caused by the need for emptying to the person or company responsible for maintenance of the separator.

## 2. HANDLING AND INSTALLING

### **Important when handling and installing the grease separator**

- The EuroREK Omega grease separator must be handled with care and it must be fastened properly for the transport
- Immediately after transport, at the installation site, the grease separator must be inspected for any damage that might have occurred during the transport.
- The maximum installation depth of the EuroREK Omega, from ground level to the lower edge of the input sewer, is 2,5 metres. If installed deeper, the grease separator should be ordered in a reinforced construction. In this case, please contact Wavin-Labko / Tanks.
- Anchor the grease separator to prevent it from floating; this is the buoyancy-effect caused by the groundwater of the rainwater that pours into the excavation. See further information in "Instructions for Mounting in the Ground".
- In the area of heavy and medium weight traffic a traffic compensating slab must be laid on the grease separator to equalize the wheel loads. See further information in "Instructions for Mounting in the Ground".

## 3. TECHNICAL DATA

### **3.1. Function**

EuroREK Omega grease separators separate grease from the waste water. The operation of the EuroREK Omega grease separators is based on the fact that the grease being lighter than water rises on the surface of the liquid in the separator. Thus the grease can be removed when the storage space is full. When the grease storage space is full, the SET 2000 control and alarm automatics will alarm. The installation and operation of the SET 2000 is presented in a separate manual.

It is recommended that the EuroREK Omega systems are equipped with a sampling shaft to provide the possibility to take quality samples of the outgoing water. Additionally, the shaft contains a shut-off valve, which makes it possible to shut off the outlet sewer if necessary.

## 3.2. Structure

### 3.2.1. EuroREK Omega NS 2, 4, 7 and 10 grease separator parts

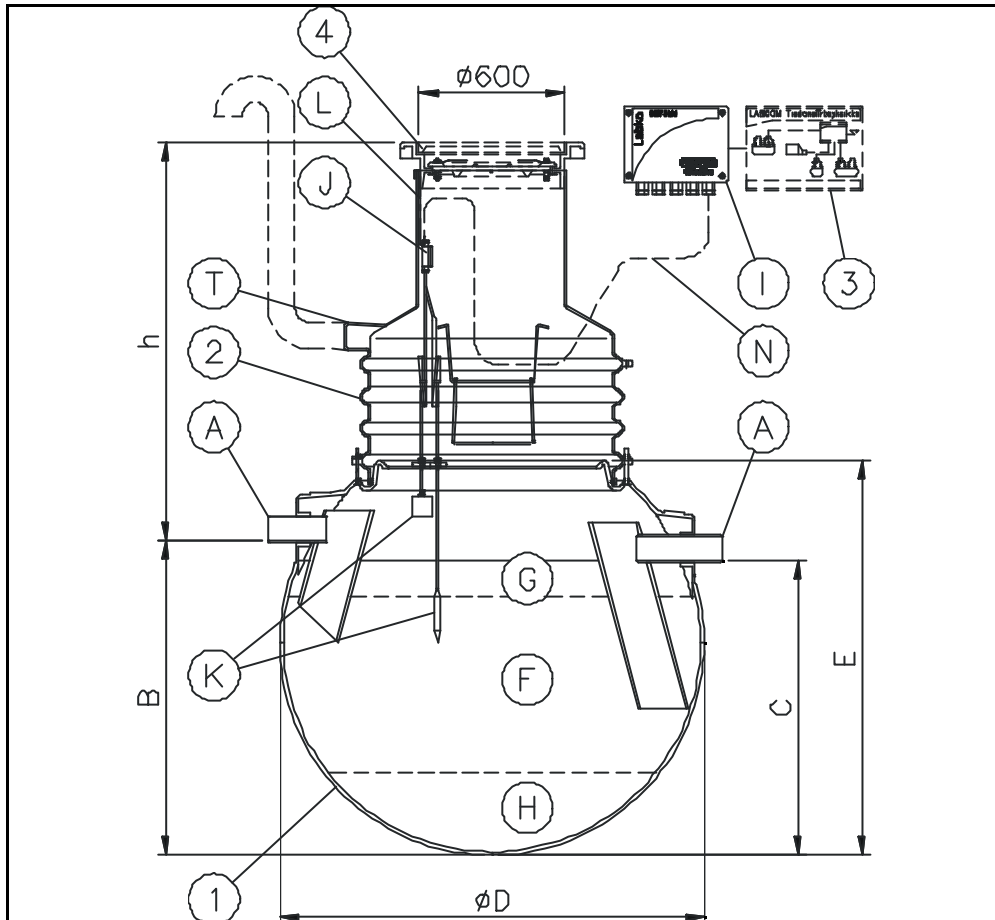


Figure 1. EuroREK Omega NS 2,4,7 and 10 grease separator parts.

1	EuroREK Omega NS 2,4,7 and 10 grease separator		NS2	NS4	NS7	NS10
	Maximum flow rate	l/s	2	4	7	10
A	Inlet and outlet	DN	110	110	160	160
B	Bottom/inlet	mm	1300	1300	1730	1730
C	Bottom/outlet	mm	1210	1210	1640	1640
D	Ball diameter	mm	1740	1740	2170	2170
E	Height	mm	1660	1660	2100	2100
F	Efficient volume	l	2040	2040	4180	4180
G	Grease storage volume	l	165	165	400	400
H	Sludge storage volume	l	400	400	1000	1000
I	SET 2000 alarm central unit*	qty	1	1		
J	Connection box*	qty	1	1	1	1
K	DM3 and SET/OS2 probes *	qty	2	2	2	2
L	Metal hook	qty	1	1	1	1
N	Cable (not included in delivery)*	qty	1	1	1	1
2	EuroHUK maintenance shaft (accessory)	qty	1	1	1	1
T	Ventilation	qty	1	1	1	1
3	Labcom data transfer unit (accessory)	qty	1	1	1	1
4	Cast iron cover+frame Ø600 5...40 t (accessory)	qty	1	1	1	1
h	Installation depth	mm	900-2500			

\*For further information, see SET 2000 manual.

## 4. INSTRUCTIONS FOR MOUNTING IN THE GROUND

These instructions for mounting in the ground apply to EuroREK Omega –grease separators.

### 4.1. Anchoring

The spherical separator should be anchored against the buoyancy force of the ground water. A reinforced concrete slab or concrete weights can be used for anchoring. The anchor should be tied with a non-stretching belt to the lugs of the tank. It is recommended to cast an anchoring slab if...

- The ground water level in the installation area exceeds the level of the separator's base
- The ground is not well water-permeable; The rain water may gather up in the mounting pit
- The bearing capacity of the ground is poor

The measures of the anchoring slab can be read in Figure 2. When necessary, the concrete volume of the anchor should be increased. NOTE! There should be a compacted sand layer of min. 200 mm between the tank and the concrete slab.

Alternatively the anchoring can be constructed by using 4 pcs of 100x100x2500-4000 mm impregnated wood logs according to the size of the tank. The logs are placed on both sides of the tank so that they are completely covered by the sand filling. Between the tank and the logs there should be at least a 500 mm sand layer. The non-stretching anchoring belts should be properly tied around the logs so that they do not loosen with the buoyancy force of the ground water. NOTE! Using both anchoring options, the belts should be fixed to each lug of the spherical tank.

When anchoring EuroREK Omega NS 2-10 grease separators, non-stretching polyester belts are used (width 25 mm, capacity 2000 kg). 4 Belts with a ca. 4 m length are tied up properly on the upper lugs on the separator, and on the lower lugs 4 belts with a 2 m length. Should you have delivered the belts from Wavin-Labko, there are 4 pcs of 6 m belts available. During the installation, they are measured and cut to the lengths mentioned above.

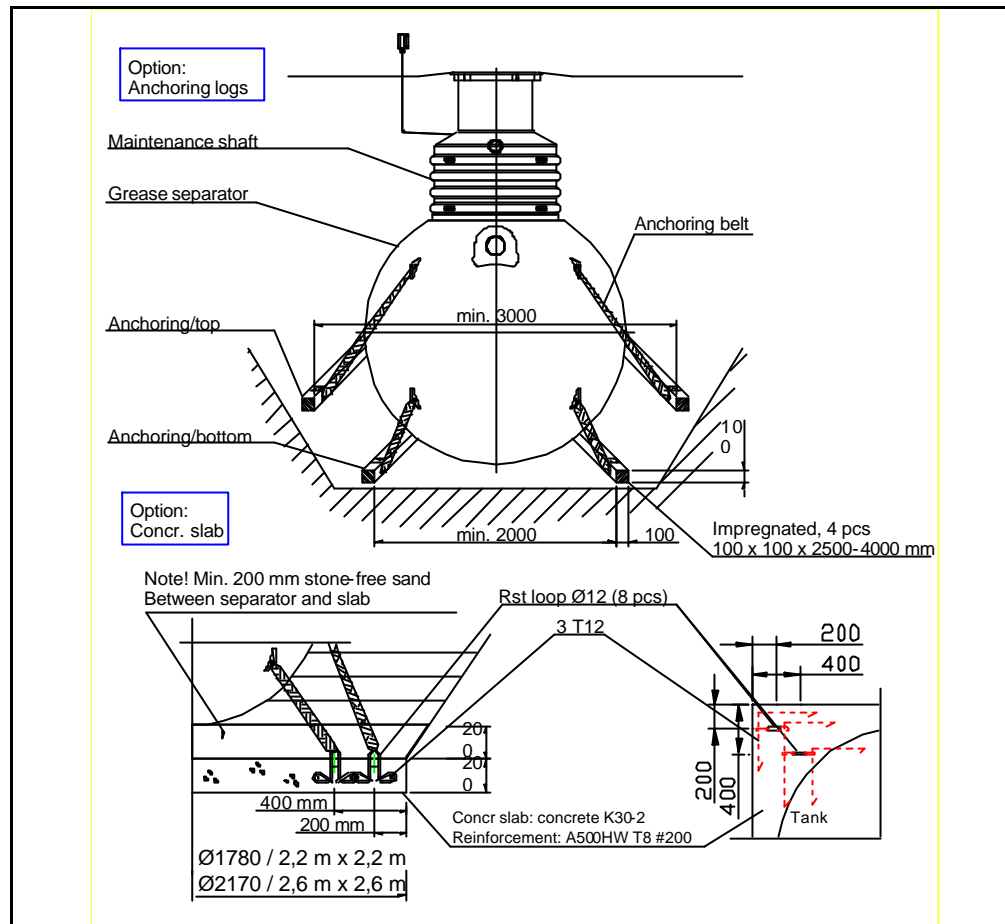


Figure 2. Anchoring the separator in an area with ground-water and on weak grounds.

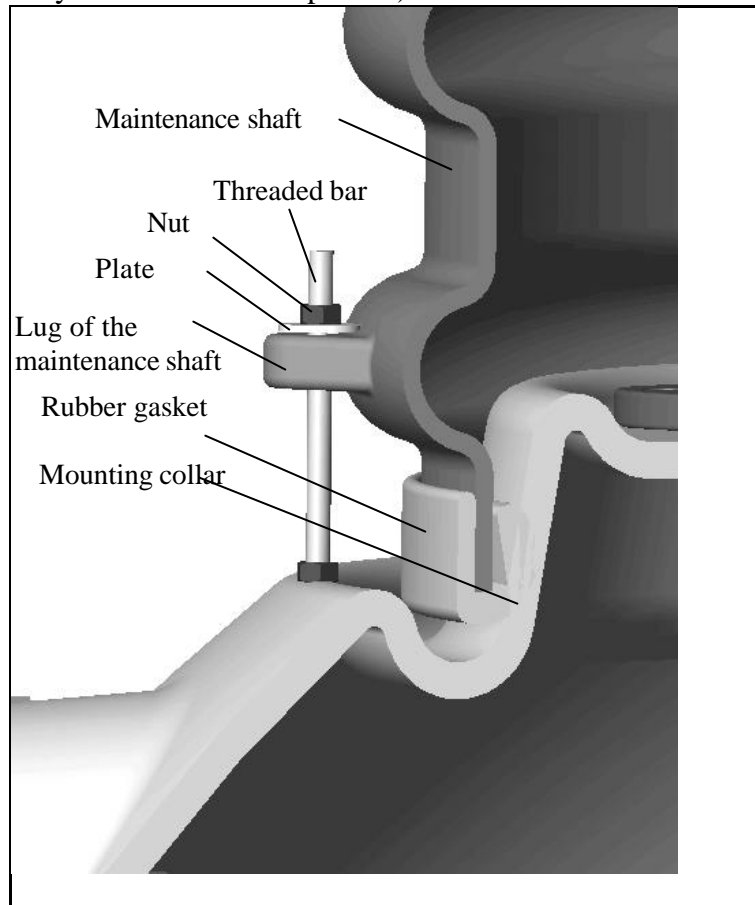
Also the sampling shaft EuroNOK sampling shaft is to be anchored against possible ground water buoyancy and weak supporting of the soil. Non-stretching polyester belts are used for the anchoring, (width 25 mm, capacity 2000 kg). Two belts are used to anchor the sampling shaft.

#### 4.2. Installation

A box is delivered with the separator containing the alarm unit, a metal hook for the connection box, and the equipment for installing the maintenance shaft.

1. The anchoring slab is laid on the compacted, horizontally levelled 30 cm stone-free sand layer on the bottom of the mounting pit. Instead of stone-free sand, also filtered gravel (granular size 2-8 mm) can be used. Compact a layer of min. 20 cm of stone-free sand between the separator and the concrete slab.
2. Remove the base used during transportation underneath the separator. Set the separator horizontally on the layer of sand. Flow ca. 20 cm of water inside the tank to stabilize it. Fix the non-stretching anchoring belts to the lugs (8 pcs) of the anchor slab.
3. Compact the sand layer around the separator carefully on each side. Compacting can be carried out using light manual vibration. Continue compacting the sand by 15 cm layers until you reach the level where the sampling shaft EuroNOK is installed. Mount the sampling shaft directly on the concrete slab and attach the anchoring belts (See Figure 2). Then continue compacting the sand up to the inlet and outlet connections. Install pipes to the inlet and outlet connections of the sampling shaft and separator. Avoid using strong vibration on the pipelines. Add water to the tanks as the thickness of sand layer increases.

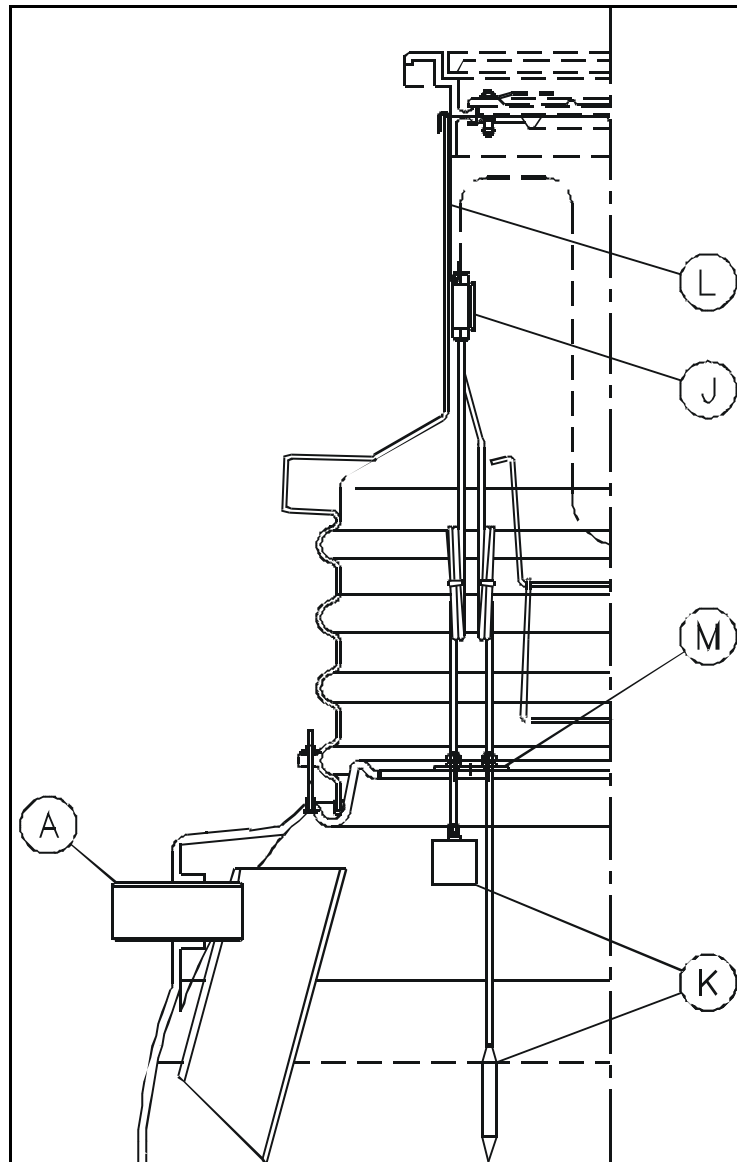
4. Remove the storage shield from the maintenance shaft of the separator and the sampling shaft.
5. Set rubber gaskets on the lower edges of the maintenance shafts. The rubber gaskets are delivered with the maintenance shaft. In the model h=9-13 the gasket is around the straight part of the maintenance shaft. In taller models the gasket is placed during storage and transportation on the corrugated part of the maintenance shaft.
6. Screw the 12 cm threaded bars meant for mounting the maintenance shaft into the inserts on the mounting collar (See *Figure 3*). Mount the maintenance shaft EuroHUK vertically to the mounting collar of the separator and of the sampling shaft. Fix the maintenance shaft in its place with the threaded bars (ready attached on the separator) and nuts.



*Figure 3 Connecting the EuroHUK maintenance shaft.*

7. Lower the alarm probes, fixed to the flange, down into the separator in their place. The collar is profiled in the maintenance hole. The flange is placed here (*Figure 4*). There are two holes in the separator's collar. Set the flange on the smaller hole. The probe will be automatically set at the correct height as the flange is supported to the profiled collar of the maintenance manhole. The flange does not need to be fixed to the collar of the separator. In this case the probes are easily pulled out from the separator for cleaning. The probes are already connected to the connection box. Hang the connection box from the upper edge of the maintenance shaft by the metal hook. The hook should be placed between the maintenance shaft and the cast iron frame (*Figure 4*). The probes have adjustable cables, which are set to the right length in the factory. When installing the alarm device, see the separate manual for SET<sup>®</sup> 2000.
8. Continue compacting the sand in layers of 40 cm. When needed, mount the ventilation pipes to the connections of the maintenance shafts. Avoid the use of heavy vibration when compacting the sand above the inlet and outlet connections and pipes. Fill the pit with sand up to the ground level. After filling the pit, cut the maintenance shafts to their right height. Note that the frame will give an extra 100-150 mm height.

9. When the maintenance shafts of the separator are cut to the right height, place the frame for the lids on them. The frame should not press the maintenance shaft, but should rest on the surrounding compacted sand layers or the load compensation plate and asphalt laid on the surface of the ground.
10. On the area of medium and heavy transport a reinforced concrete plate and an asphalt layer should be laid to compensate the wheel loads (*Figure 5*). Check also the mounting instructions fixed on the body of the sampling shaft.
11. Finally, fill the separator completely with water to ensure its effective operation from the very beginning.



*Figure 4 Installing the connection box and probes inside the maintenance shaft*

A	Inlet
J	Connection box
K	Probes
L	Metal hook
M	Flange

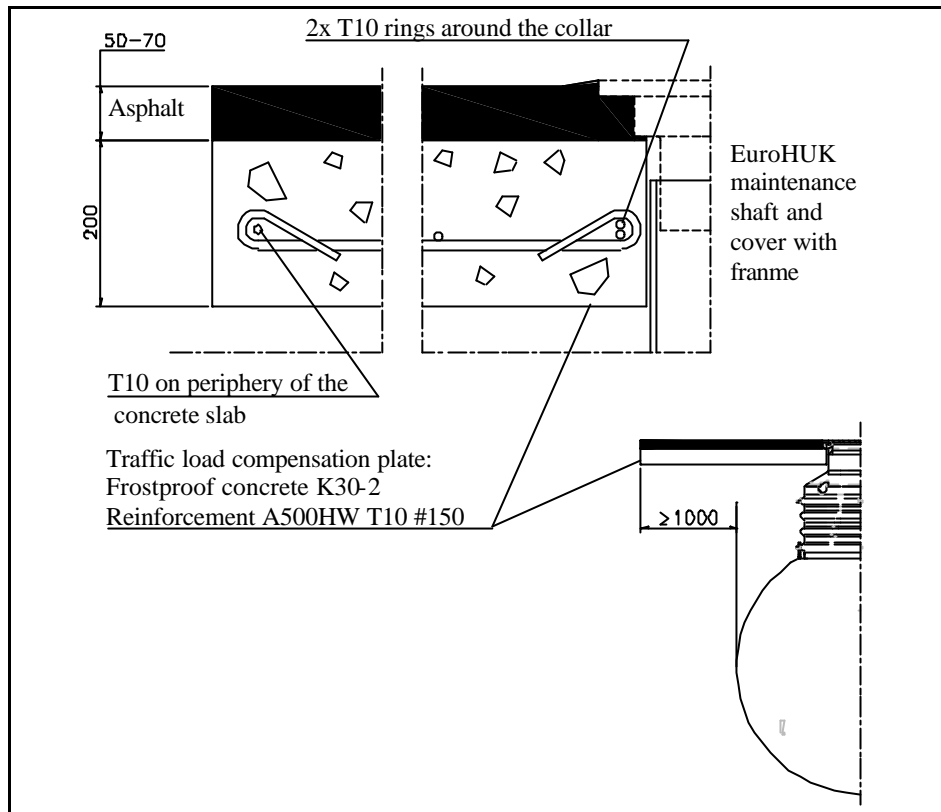


Figure 5. Construction of the load compensation plate.

## 5. MAINTENANCE

### 5.1. EuroREK Omega NS 2 - 10 grease separators

#### 5.1.1. Emptying the grease storage

- 1 As the grease storage volume is filled, the SET<sup>®</sup> 2000 will switch a signal light on.
- 2 Drain the grease layer when the storage volume is filled, or at least once every six months. Draining is carried out through the maintenance shaft by lowering the suction pipe of the emptying vehicle underneath the grease level. To ensure a successful emptying it is recommended to use pressure water to flush off the solid matter on the separator's walls and base.
- 3 The alarm probe should always be cleaned when emptying the tank. The probe can be lifted by its cable from the shaft for cleaning. Carefully lift the probe so not to damage the cable or the probe. If necessary, use mild washing agent for cleaning the probe (e.g. dishwashing detergent) and set the probe back into its place. Check the operation of the alarm unit and the probe.
- 4 Fill the separator after maintenance procedures with clean water up to the level of the inlet and outlet.

#### 5.1.2. Maintenance of the separator

- 1 The separator should be completely emptied and checked at least once in every five years. Check the tightness and shape of the system, inner surfaces of the tank, condition of inner structures and also the probe, cables, fittings and alarm unit.
- 2 Before checking empty the separator tank completely and clean the inner surfaces with tap water and pressure washer. Then completely drain the washing water with a suction hose of the emptying vehicle.
- 3 **NOTE! After the check, fill the separator immediately with water to ensure its proper functioning.** Also, if the ground water level is high in the area filling of the

separator will minimize the buoyancy force of the ground water. The alarm probe should always be cleaned when emptying the separator and skimming the grease. The probe can be lifted from the shaft by its cable for cleaning. If necessary, use mild washing agent for cleaning the probe (e.g. dishwashing detergent). Filling of the separator with clean water after the cleaning will reset correct operation of the probe and prevent false alarms.