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Instructions for Installing an AQUAoil Oil and Grease Separator

Thank you for the confidence you gave us by selecting the AQUAoil oil and grease separator. Many years of production of oil and grease separators gave us a lot of experience about the correct installation and assembly of our products.

Failure to comply with installation instructions can endanger lives and cause serious material damage, as well as nullifies the validity of the warranty.

Installation instructions are regularly updated.
Use the latest version, available on the website www.aplast.si.

CONTENTS

1. GENERAL INSTRUCTIONS FOR SAFE WORK

2. OIL AND GREASE SEPARATORS AQUAoil

3. INSTALLATION OF OIL AND GREASE SEPARATOR

- 3.1. UNLOADING OF OIL AND GREASE SEPARATOR
- 3.2. PREPARATION OF OIL AND GREASE SEPARATOR
- 3.3. ASSEMBLY OF FITTINGS
- 3.4. EXCAVATION OF A CONSTRUCTION PIT
- 3.5. BACKFILLING AND PLACEMENT OF THE OIL AND GREASE SEPARATOR
- 3.6. BACKFILLING AND PLACEMENT OF THE OIL AND GREASE SEPARATOR IN
THE EVENT OF GROUNDWATER
- 3.7. INSTALLATION OF OIL AND GREASE SEPARATOR INTO POORLY PERMEABLE
GROUND
- 3.8. ASSEMBLING OF OIL AND GREASE SEPARATOR IN HILLY LANDSCAPE
- 3.9. INSTALLATION OF OIL AND GREASE SEPARATOR UNDER DRIVING SURFACES

4. FINISHING WORKS

1. GENERAL INSTRUCTIONS FOR SAFE WORK

- The contents of the INSTRUCTIONS for installation and assembly must be followed carefully, otherwise warranty claims cannot be asserted. The oil and grease separator must be inspected prior to installation and verified whether it has been manufactured in accordance with your requirements. The instructions, which are attached to the bottom of the lid, must be removed, together with the bag and clips.
- Installation shall be carried out by a professional company with qualified experts, who are familiar with the installation instructions.
- Follow the instructions for safe work when executing the works; another person must be present to protect you, especially when manipulating and installing the oil and grease separator.
- The lid of the oil and grease separator must be kept closed at all times to prevent the possibility of an accident.
- The oil and grease separator shall be installed only into previously prepared construction pits and backfilled according to the manufacturer's instructions.
- Placing the oil and grease separator out in the open is forbidden.
- The choice of lid type depends on the order and the buyer's wishes.
- Only those additional elements that have been specified and authorised by the manufacturer of the oil and grease separator can be fitted onto the oil and grease separator. In the event of the installation of unsuitable elements, the manufacturer cannot guarantee proper operation; hence, the buyer cannot assert the warranty rights.
- The images contained in the instructions for installation and maintenance are merely illustrative.

2. OIL AND GREASE SEPARATORS AQUAoil

Oil and grease separators are manufactured using rotational moulding.

Greases must be filtered out before meteoric water is released into the sewerage system to such an extent that waste water contains:

- up to 5 mg of matter/litre - coalescence separators - S1P,
- up to 100 mg of matter/litre - gravity separators - S2P.

We offer:

- gravity separators (light liquids rise to the surface, the filtered water is drained from the separator through the outflow),
- coalescence separators (two settler units, between them is placed coalescing filter, which filters small hydrocarbon molecules),
- coalescence separators with a bypass (the surplus of purified meteoric water flows out through the bypass, which prevents surface flooding),
- grease separators (they are retaining organic matter from the wastewater before it is drained into the sewerage system).

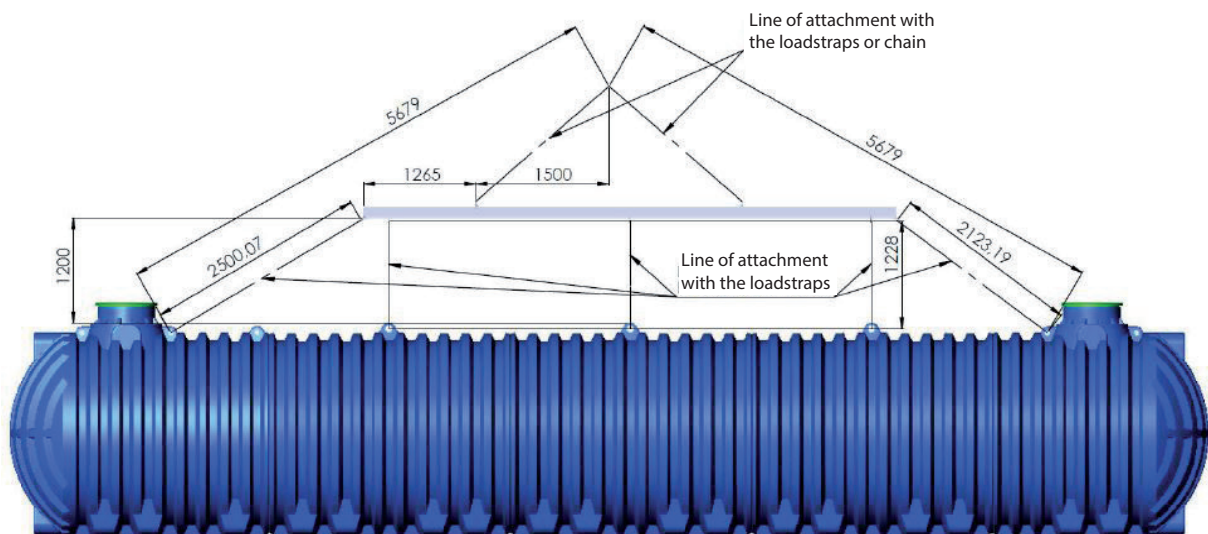
They can be ordered in three categories - small, medium and high.

Detailed specifications are listed in the catalog of oil and grease separators AQUAoil.

3. INSTALLATION OF OIL AND GREASE SEPARATOR

3.1. UNLOADING OF OIL AND GREASE SEPARATOR

When delivered and unloaded, the oil and grease separator is prepared for burial. Particular attention should be paid to careful unloading, because container can break when falling from the height. To avoid this, oil and grease separators with more than 3000l size, are equipped with ears at inspection opening. Oil and grease separators, which are larger than 20.000l, have to be unloaded with the help of the console. Unloading using a spoon or a fork of the machine in the middle of the oil and grease separator is strictly forbidden, as it can, due the length and bending of the oil and grease separator, cause damage. We recommend that you take photos of all the phases of installation.



3.2. PREPARATION OF OIL AND GREASE SEPARATOR

All the basic versions of oil and grease separators include a custom-made water outlet. Using a suitable double connector or reducing connector you can connect the outlets to the desired spot. Before lowering it into the construction pit, the oil and grease separator must be inspected to make sure it was not damaged during transport and whether it appears flawless on the outside.

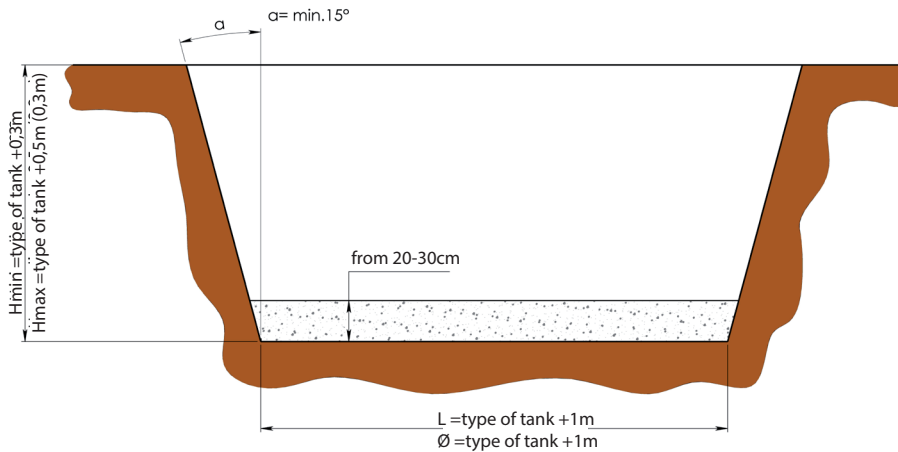
3.3. ASSEMBLY OF FITTINGS

The oil and grease separator's entry fittings differ and are adapted to your requirements. You must choose a suitable pipe and the appropriate entry seal.

The installation of the seal and the execution of a suitable opening must be carried out by a qualified individual with the tools suitable for such a task (a hole saw, a scraper, a food-grade lubricant etc.)

3.4. EXCAVATION OF A CONSTRUCTION PIT

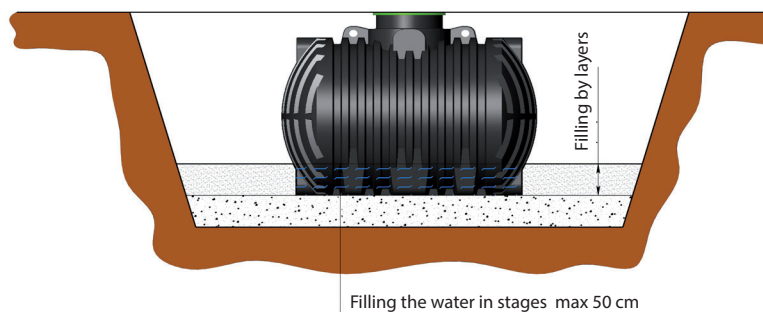
Excavation of the construction pit should be the same as shown in figure below. The maximum depth of the pit should be sufficient for thickness of the bed and height of the oil and grease separator. In the case of additional upgrades, we could deepen the excavation by 0,5m. Construction pit has to be bigger for approximately one meter around the container and excavated at an angle of 15 degrees. Oil and grease separator should be placed on the suitable bed, which has to be solid and compact. You have to use suitable filling material. When using round material, it may have a grain size of 0 to 32 mm or between 0 and 16 mm, when using the crushed material. Do not use frozen material. Suitable thickness of bed is between 20 and 30 cm, and must be compressed to a densification of 97% Proctor. In the presence of ground water it is necessary to carry out the bed from lean concrete MB15 in height of 15 cm.



Picture: Excavation of a Construction Pit

3.5. BACKFILLING AND PLACEMENT OF THE OIL AND GREASE SEPARATOR

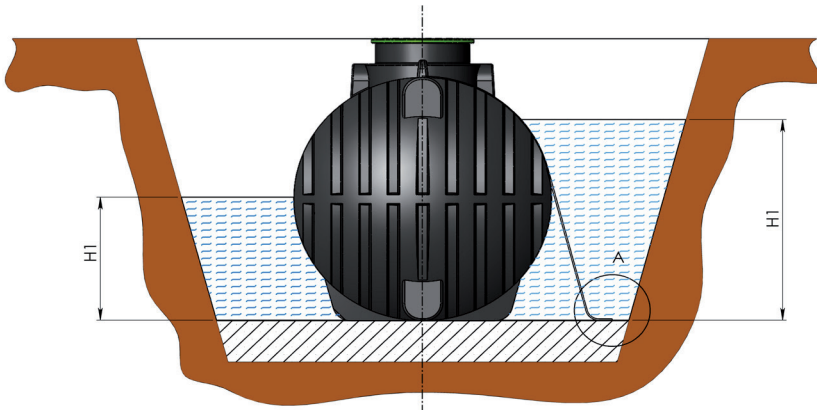
Backfilling the body of the oil and grease separator requires the use of appropriate backfill material (the same as was used for making the bedding) and the proper execution of backfilling. The backfill material has to be consolidated and compressed carefully and in layers (up to 50 cm in height) to 97% Proctor compaction over a minimum width of 50 cm from the wall of the oil and grease separator. Simultaneously with backfilling the body of the separator, water must be poured into the oil and grease separator itself, so that the level of the backfill material equals the water level in the separator. When backfilling, pay special attention to the space on the bottom. Using manual aids, fill in and consolidate the entire empty space, thus preventing potential subsequent deformation of the bottom. When backfilling the PE container, make sure that heavy construction machinery does not drive over the body or in the area of backfilling.



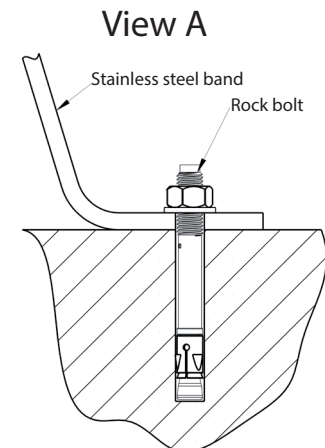
Picture: Backfilling and Placement of Oil and Grease Separator

3.6 BACKFILLING AND PLACEMENT OF THE OIL AND GREASE SEPARATOR IN THE EVENT OF GROUNDWATER

In case of groundwater it is necessary to consider the level of groundwater. In case of low ground water $H_1 = 30$ cm and up to half of the separator, it is required to place a separator on a bed of concrete with minimum 15 cm of thickness and filled up by a previously described procedure. In case that groundwater exceeds half of the height of the separator, the separator needs to be anchored. For this purpose, you can use stainless steel band. You can fix it at the bottom of the mortar bed with the help of rock bolt M10 or M12 or with threaded rods with a concrete adhesive. Fixing band may hug the body of the separator and can't be saddled with a tensile force, which could deform the shape of the body of the oil and grease separator.



Picture: Setting up the tank in case of groundwater



Picture: Detail of the connection with stainless steel band

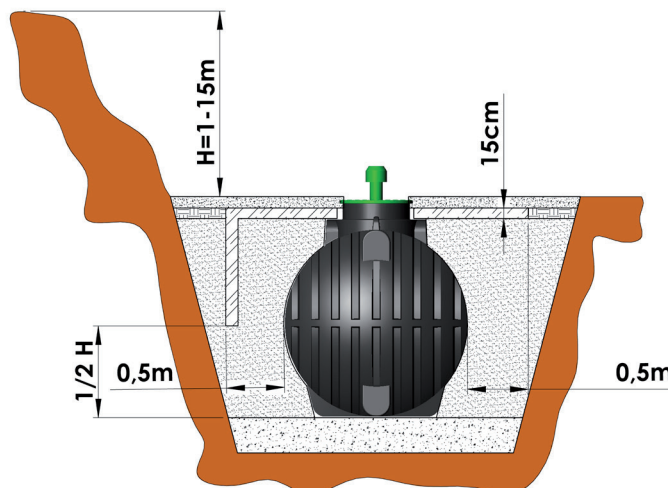
3.7 INSTALLATION OF OIL AND GREASE SEPARATOR INTO POORLY PERMEABLE GROUND

In case of installation of oil and grease separator in an area where soil is poorly permeable and standing water in the construction pit could occur, it is required to drain the water from the pit with a drainage system. The drainage system must remove water so that it does not permanently stay along the full volume of the construction pit, as deformations of the oil and grease separator casing may occur.

In case that a drainage system cannot be set up, instruction for installation of a purification device in groundwater need to be followed (see chapter 3.6.).

3.8 ASSEMBLING OF OIL AND GREASE SEPARATOR IN HILLY LANDSCAPE

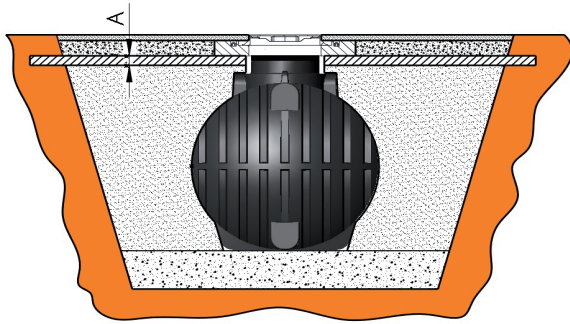
In case you choose area at the foot of the hill, where is the possibility of landslides, it is necessary to protect the oil and grease separator properly, because it can't tolerate force, which can be retained by a concrete wall. It is necessary to determine the appropriate protection of reinforced concrete with the help of static.



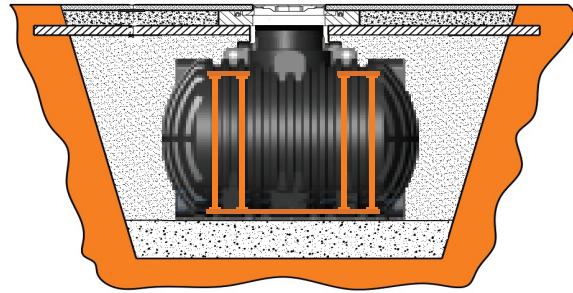
Picture: Assembling of oil and grease separator in hilly landscape

3.9. INSTALLATION OF TANK UNDER DRIVING SURFACES

Along with following the instructions of point 3.5, when installing the oil and grease separator under driving surfaces, it has to be suitably protected, as it cannot take on the dynamic load of the driving surface. Statics need to be used to define appropriate reinforced concrete plate, as shown on the figure. Dimension A, as well as concrete mark, are defined by the planner. A special attention is required when pouring the reinforced concrete plate, to support the separator with panneling and support pillars, to prevent deformation and sinking of the separator due to the weight of wet concrete and reinforcement. The panneling support may only be removed after achieved capacity of the concrete plate.



Picture: Installation of Oil and Grease Separator Under Driving Surfaces



Picture: Support of Oil and Grease Separator With Panneling and Pillars

4. FINISHING WORKS

After the backfilling of the tank is finished, the height of the manhole has to be adjusted to the surrounding terrain by cutting the ring of the tank. Factory-made tags, which allow horizontal cutting, have been made for this purpose. In case of insufficient mounting of the oil and grease separator, depending on surrounding terrain, it is possible to raise the separator with standard rings up to maximum of 50 cm.



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