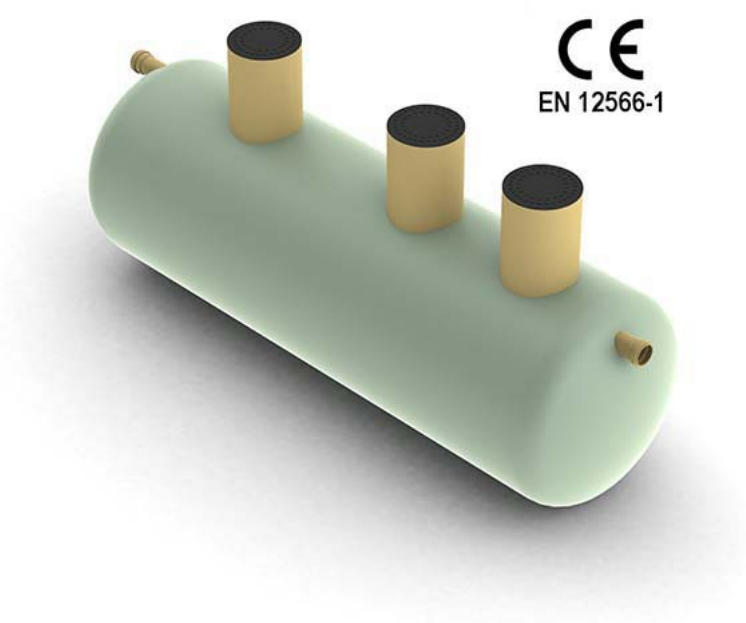
KLAASPLAST

FIBREGLASS SEPTIC TANK



EN 12566-1

TABLE OF CONTENT

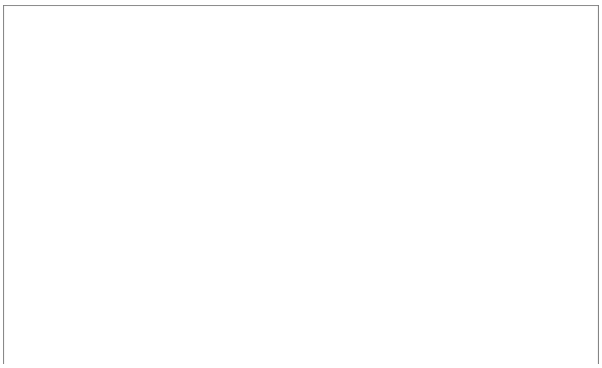
Klaasplast OÜ's Septic tanks are in conformity with the European Union small wastewater treatment systems standard EN 12566-1 and has CE marking.

The set consists of:

- Fibreglass septic tank (GRP)
- Covers for discharge pipes
- Drain field

It is possible to order also a control/distribution well.

During transport and installation be careful not to damage the cleaning system. The septic tank is usually placed at the depth of the sewage pipe coming out of the house. The slope of the sewage pipe between the building and the septic has to be 1-2 cm/m.



KLAASPLAST OÜ
Kuke talu, Kolu küla, Kose vald
Harjumaa 75121
Eesti
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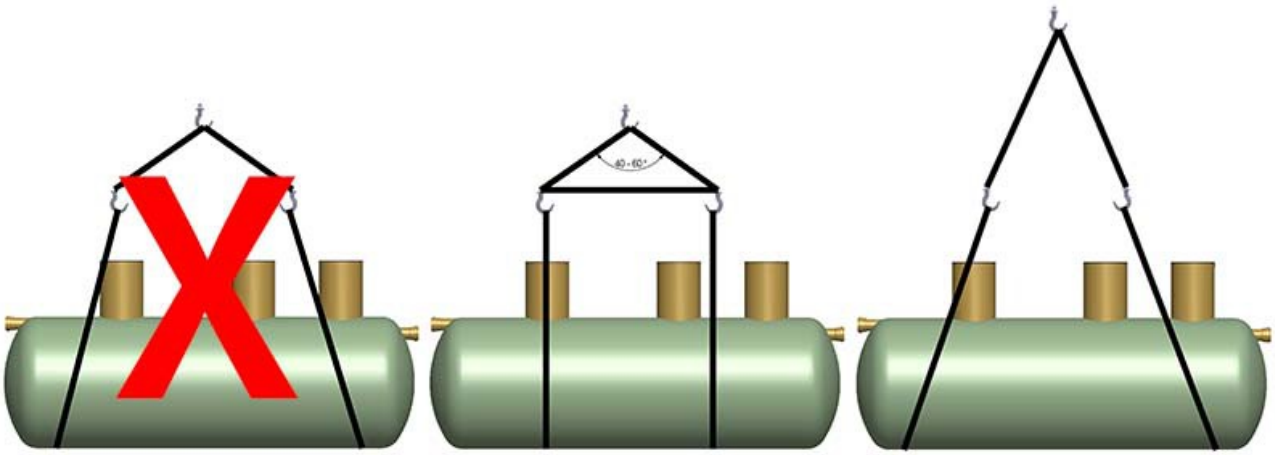
EN 12556-1 Small wastewater treatment systems: pre-assembled septic tanks

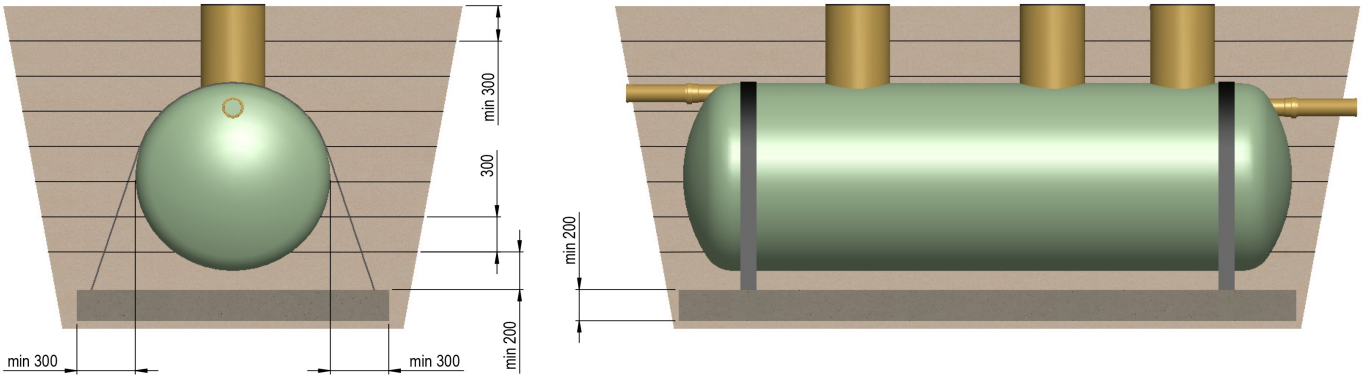
Fibreglass septic tank
S3

Nominal size:	$3m^3$
Water resistance:	Passed
Surface pressure test:	Läbitud
Hydraulic efficiency:	46.65g beads

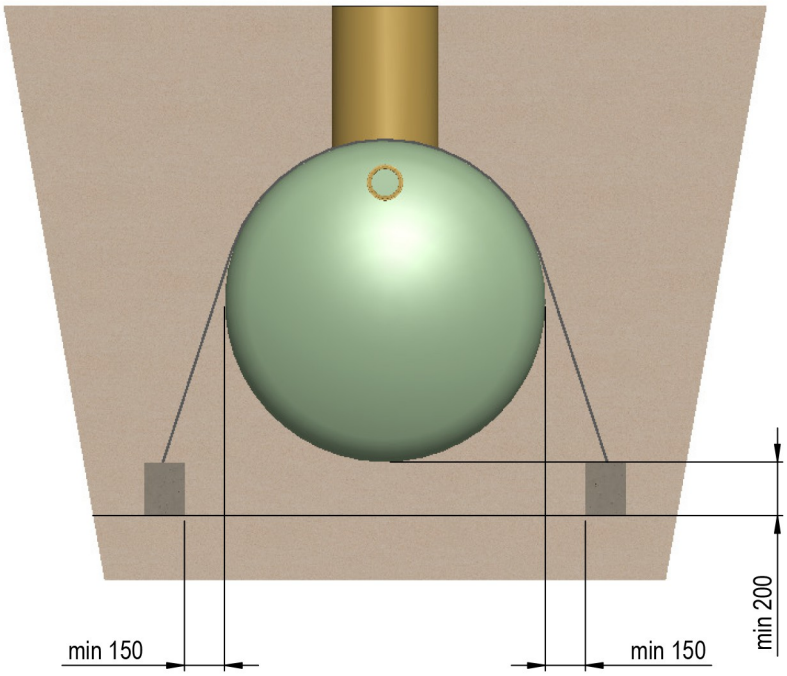
INSTALLATION OF THE SEPTIC TANK



- ✔ The canalisation pipe must have SN8 strength factor.
- ✔ The bottom of the trench, where the septic tank will be placed, must be covered with a 30cm-thick sand layer
- ✔ The septic tank is placed on a sand pillow in the trench. If anchoring method (very wet surface) is applied, a 20cm-thick sand pillow must remain between the concrete board and the installed cleaning system. The septic must not be placed directly on the concrete and the sand must not contain bigger stones.
- ✔ The septic tank is self-anchoring. If installed in dry ground no anchoring is necessary. The septic is permanently filled with water. The weight of the water keeps the cleaning system under the ground. The installation in the ground with high ground water may cause a hazard that the cleaning system will rise to the surface. To avoid rising to the surface, the septic tank is fixed onto a concrete board or blocks with lashing. The straps must be placed so that they would not fall off of the ends of the housing. The danger of rising to the ground is especially big while the septic tank is being emptied.
- ✔ When the septic tank has been placed in the trench, it has to be filled with a 30cm-thick sand layer up to the pipe connections, at the same time the cleaning system is filled with water. Filling it with water keeps the septic tank in place and avoids sinking.
- ✔ When the surrounding of the septic tank is tightened up to the pipe connections, the piping system has to be connected. The surroundings of the piping system have to be tightened with sand.
- ✔ When the piping system is connected, the trench is filled layer by layer the ends of the discharge pipes are cut level with the surface of the ground.

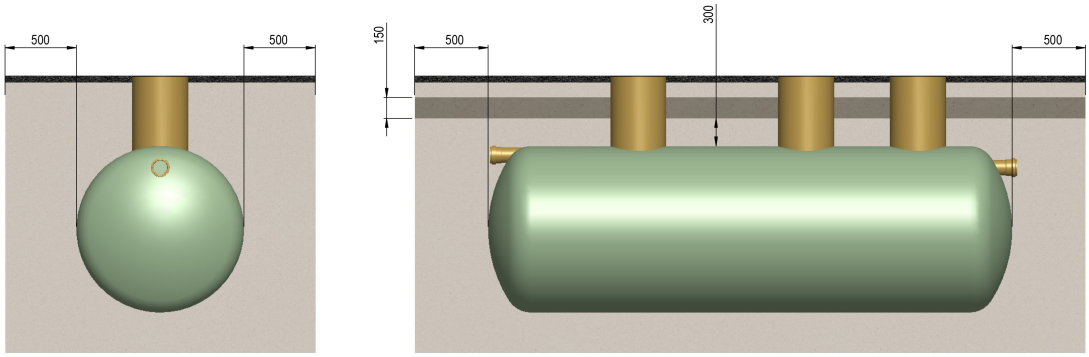


Installation on concrete plate



Installation with concrete blocks

✔ When the septic tank is installed in an area driven over by vehicles, the refilled layer on the cleaning system must be at least 300 mm thick. A 150 mm-thick concrete levelling board has to be cast or installed on it, which is armoured according to the gravity affecting the board. The load levelling board must be 1000 mm bigger than the diameter and the length of the cleaning system. When it is installed under a road, the septic tank must always have cast iron floating hatches. It is important to see that cast iron hatches are not supported on the edges of the service well and the service rack.



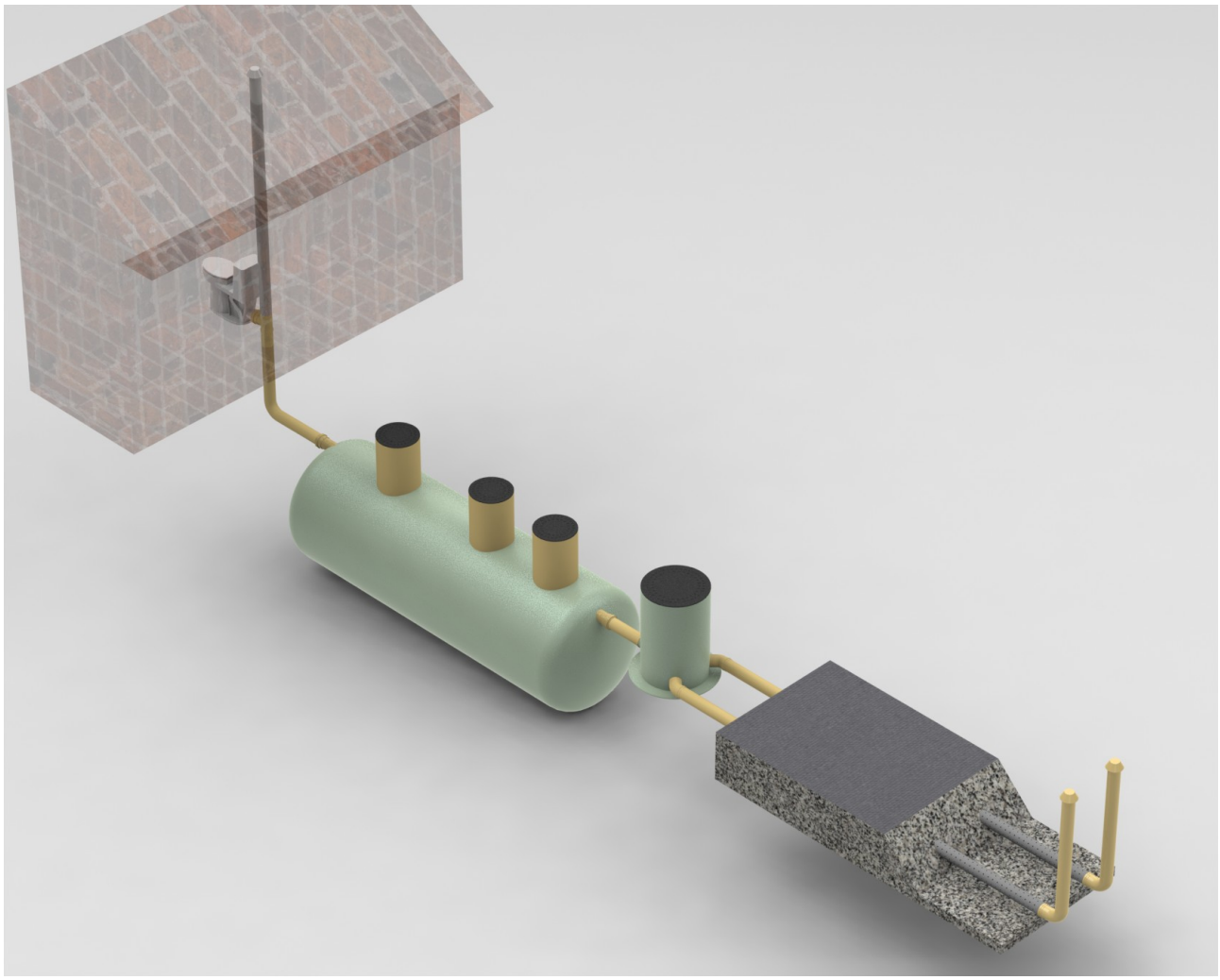
Warning!

Do not enter the trench without any need! The collapse of the trench walls may cause serious injuries to you.

There are two options for guiding excess water into the ground. A drain system and a drain tunnel.

DRAIN SYSTEM

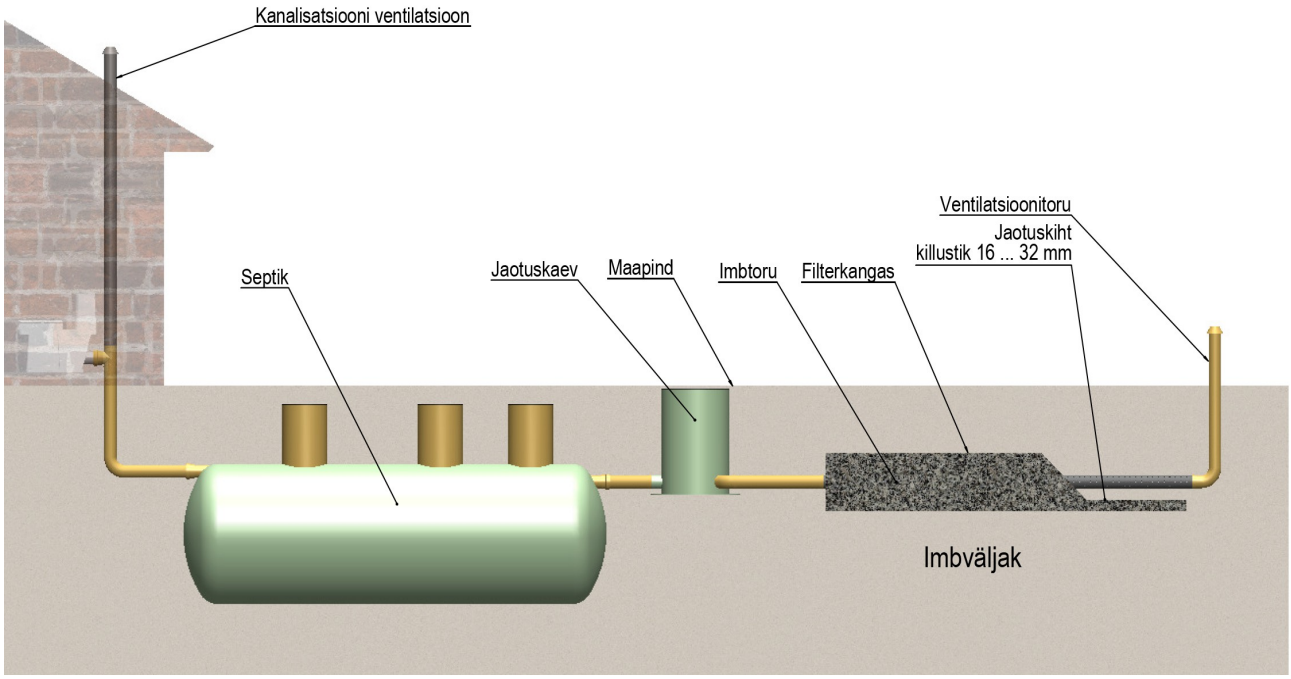
A drain field is a system of perforated pipes buried in the gravel by which cleaned water from the septic tank is guided in the ground.



Set of a septic tank and a drain system

- ✔ The average depth of the trench in the drain field is 0.3-1.25 m and the bottom width of the trench is 0.9 m. If parallel trenches are dug, the distance between the drain pipes must be 1.5-2m. When the drain pipes are placed into one trench, the distance between pipes may be 1m.
- ✔ If the trenches are levelled out, the bottom of the trench is filled with a 25cm-thick gravel layer (fraction 16-32 mm).
- ✔ The gravel, which remains below and on the sides of the drain field, must be flushed with water before refilling the trench in order to remove limestone dust from the gravel. If the limestone dust is not removed, it later forms a concrete layer under the drain field, which significantly decreases the efficiency of the system to direct water in the ground.
- ✔ The drain field is connected with the pipe coming out of the septic tank by a T-piece or a well, knee bends or angles.

- ✔ Drain pipes are connected with couplings and the pipes are given an even slope within the length of the drain system, which must be 5-10 mm/m. The drain system field is covered with gravel on top and sides. At the end of the drain trench at least a 10cm-thick gravel layer must remain under the drain pipe.
- ✔ At the end of the drain system the pipes are connected with ventilation pipes by knee bends
- ✔ The drain field covered with gravel is entirely covered with geotextile to avoid ground refill mix with gravel.
- ✔ Trenches are filled with earth.



Description of the Drain field

Drain system set

The drain system set consists of:

- ✔ Drain pipes
- ✔ Geotextile
- ✔ Separator pipe
- ✔ SN8 110mm knee bends
- ✔ 110mm ventilation caps
- ✔ SN8 110mm rising pipes

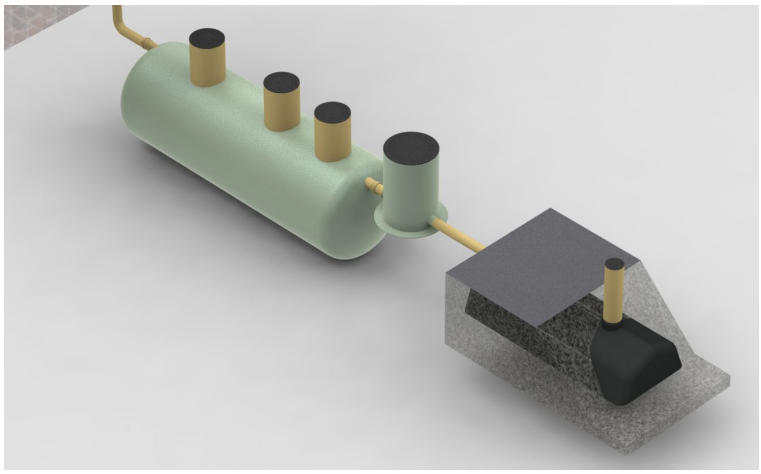
Sizes of the drain system

The sizes of the drain systems for different septic tanks:

- ✔ 2m3 septic – 2x6m
- ✔ 3m3 septic – 2x9m
- ✔ 4m3 septic – 2x12m

DRAIN TUNNEL

When choosing the location be aware of the distance of the drain tunnel from the basement, the level of ground water and the existing and planned trees.
The distance from the basement must be at least six metres and the height from the ground water at least 30 cm. The distance of trees from the drain tunnel has to be as far as the crown of the diameter of the tree.



Set of a septic tank and a drain tunnel

When installing the drain tunnel follow the requirements as follows:

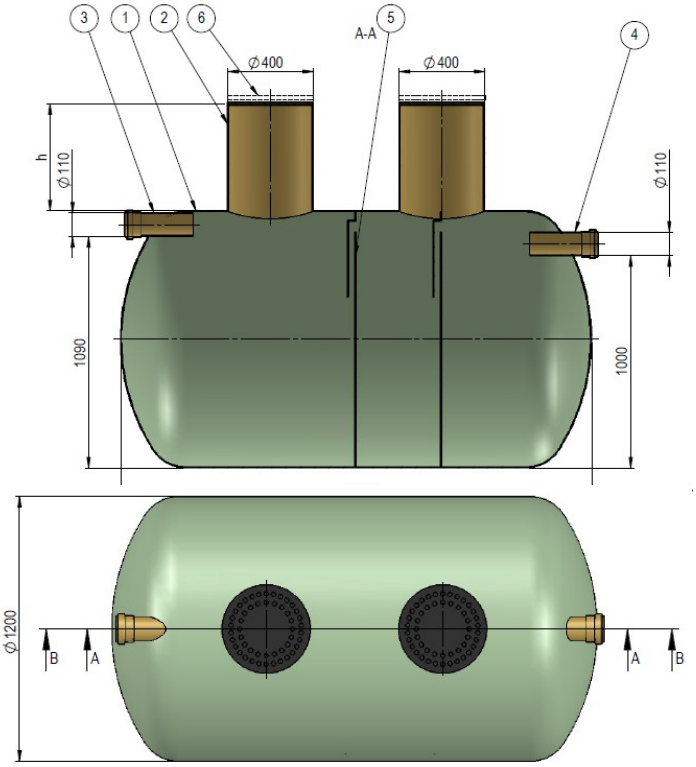
- ✔ The load bearing capacity short-term max 7.5 t/m2. Max 3.5 t/m2 long-term
- ✔ Min top layer under a road without traffic 25 cm
- ✔ Min top layer under a road with traffic 50 cm
- ✔ Max installation depth 2m
- ✔ Installation of pipes for incoming water and inspection/ventilation pipes
- ✔ The water pipe coming into the drain tunnel is fixes on the end board. For that cut a corresponding opening into the end wall. The incoming water pipe must extend about 20 cm out of the end wall.
- ✔ The ventilation pipe is fixed through the openings on the tunnel.
- ✔ The bottom of the trench has to be levelled out with a 10 cm-thick sand layer. Thereafter the trench is filled with gravel (fraction 16/32 mm) on which the drain tunnel is installed.
- ✔ The gravel that remains under and on sides of the tunnel has to be washed with water before refilling the trench in order to remove limestone dust from the gravel. If the limestone dust is not washed off, it later forms a cement layer under the drain tunnel, which significantly decreases the efficiency of the drain tunnel to absorb water in the ground.
- ✔ In order to avoid dirt and earth flow into the drain tunnel, geotextile is placed around the tunnel so that the ends of the textile and the drain tunnel are covered within a range of 30 cm at least. After that the trench is refilled layer by layer.
- ✔ If lawn is sown on the drain tunnel, a water-proof textile or a 10cm-thick clay layer has to be placed on it to prevent the grass above the tunnel dry faster than the rest of the lawn.
- ✔ The ventilation pipes of the drain tunnel have to be installed above the ground so high that in winter they remain above the snow level.

MAINTENANCE OF THE SEPTIC TANK

- ✔ **Emptying** – The septic tank is emptied of the settled mud once a year. After cleaning the septic tanks has to be filled with clean water. The chambers of the septic tank are emptied by starting from the biggest one closest to the house and is ended by emptying the chamber on the side of the drain field. It is recommended to empty the septic tank in spring so that by the next winter a proper amount of fermenting mud is developed to protects the cleaning system from freezing.
- ✔ **Who empties?** – For cleaning the septic tank you have to book a wastewater tank truck, which would empty the septic tank. To find a service provider you should apply to the local government, who can definitely direct you to the right service provider.
- ✔ **Water absorbed in the ground** – the absorption can be checked through ventilation pipes and an inspection well if installed. If water is seen through the ventilation pipe, the drain pipe is fully-grown or the absorption capacity is significantly decreased. The drain pipes have to be cleaned once in ten years. Avoid planting plants with big roots on the drain field. In winter follow that ventilation pipes are not buried under snow. Snow removal from the drain field is not recommended.
- ✔ **Do not throw in the septic tank** – For the effective operation of the septic tank pieces of cloth, hygiene items, paper towels, food waste and other waste must not be thrown in the sewage system. Also do not discharge oil, fertilisers, paints, solutions and other substances that may have an impact on the biological process of the waste water cleaning system in the sewage system.
- ✔ To guarantee faultless operation of the system better not remove snow from above the cleaning system. Trees and plants with big roots must not be planted on the drain system or its vicinity. Driving of motor vehicles above the drain system and the tanks is allowed In addition, the flow of ground water to the drain field has to be prevented.
- ✔ **Distribution well** – When a distribution well is installed, it has to be emptied of the collected sediments at the same time with emptying the septic tank. It is reasonable to check whether the water collected in the distribution well is divided equally between the drain pipes.

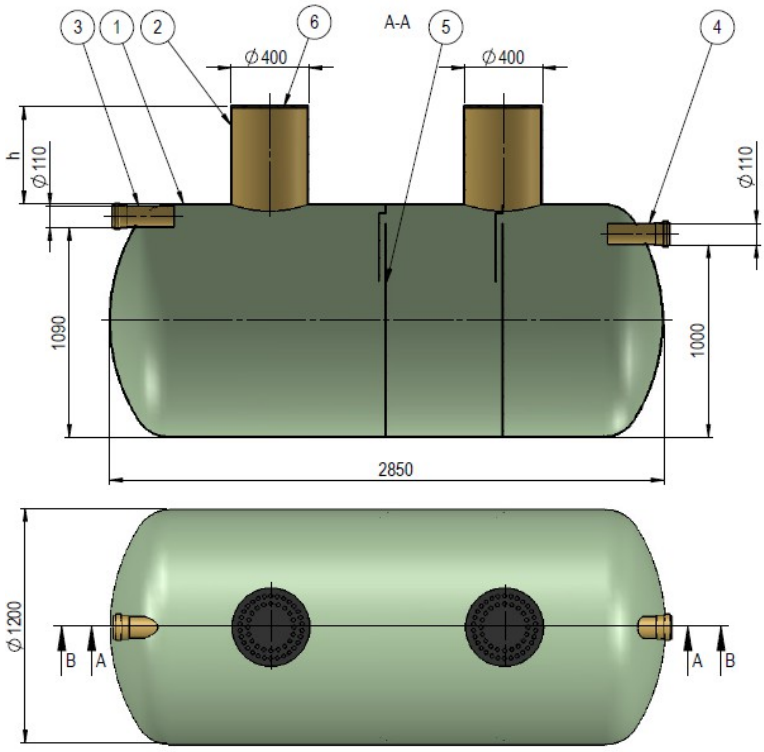
DRAWINGS

2m³ fibreglass plastic septic tank



1. Shell of the septic tank
2. Discharge pipe
3. Input pipe
4. Outcome pipe
5. Partition
6. Cover

3m³ fibreglass plastic septic tank



1. Shell of the septic tank
2. Discharge pipe
3. Input pipe
4. Outcome pipe
5. Partition
6. Cover

WARRANTY TERMS AND CONDITIONS

The parts of the fibreglass septic tank are subject to a warranty term of 10 years.

The warranty covers faults caused during the production and because of the material due to which the cleaning system is broken or become useless.

The warranty does not cover:

- ✔ Damages caused to the septic tank during transportation, storage, incorrect installation and because of misuse.
- ✔ In case of damage caused due to natural disasters (earthquake, landslides, etc.) or other exterior factors (damage cause by the means of transport, vandalism, etc.).
- ✔ The use of fixing devices not recommended by the manufacturer and faults during the assembly process.
- ✔ Exploitation disturbances caused by: assembly, maintenance or repairs carried out by a person not authorised by Klaasplast OÜ.
- ✔ In case details and ancillary devices are used on the septic tank not foreseen by the manufacture.
- ✔ When the septic tank is installed deeper than 1m from the brush of the cleaning system.
- ✔ The septic tank is not installed into densified sand.
- ✔ The septic tank has been covered while using a tractor.
- ✔ The sides of the septic tank are not properly densified.
- ✔ The manufacturer is not immediately informed in case of problems.
- ✔ The septic tank has been emptied by a vibration pump.
- ✔ Pressure water is let into the septic tank. The pressure water and a hose moving due to pressure may cause damage to the partitions inside the septic tank.

The warranty does not cover:

- ✔ The damages to people and/or items or sites caused by a damaged septic tank.
- ✔ Cost of repair work not subject to the warranty.
- ✔ Possible transport costs for the transportation of goods to the seller’s sale point.

ATTENTION!

In case of problems immediately inform the local manufacturer.