

**Sewage treatment, composting and biological toilets.
Holiday homes - Cottages - Holidayhomes for rent**



Read more about the benefits of our systems

- Water supply with respect for the sensitive nature of the archipelago
- Recreational homes are increasingly used for year-round living
- The cabin's drainage and toilet issues are easily solved
- Choose the right technology for increased comfort
- The holiday homes of the future are equipped with amenities - without impact on the environment
- Accommodation with environmentally friendly amenities
- It pays to treat the sludge - Case Parainen



1) Small but effective device.
The filter elements in the Box correspond to a ground infiltration of 12 m² and with good air circulation the biological purification is effective. BioBox has been developed for the gray water treatment of holiday homes.

2) Long service life of both BioBox and filter.
The lifetime of the BioBox is between 50-100 years, while the filters are changed after 10-15 years

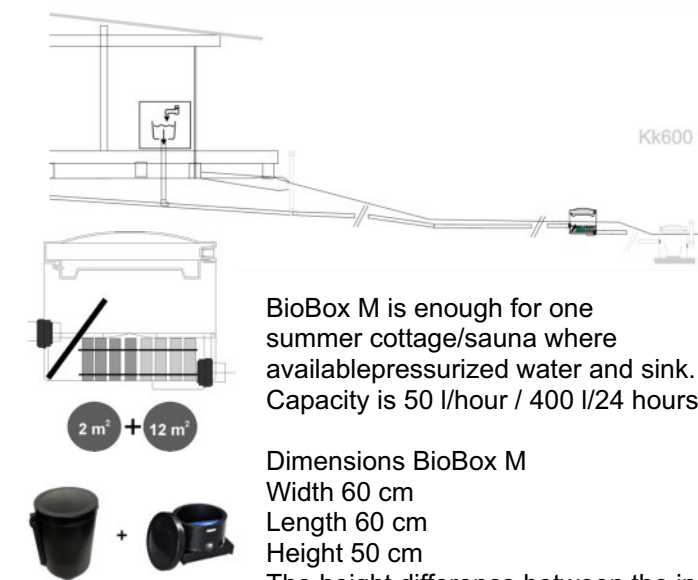
3) Easy to handle!
BioBox has plastic filter elements which are easy to clean.

4) A flexible product at a reasonable cost.
The BioBox's capacity can be easily expanded, e.g. with help of Biomodules for post-polishing the greywater.

BioBox M / SLIM

Gray water filter

BioBox M for cottage/sauna

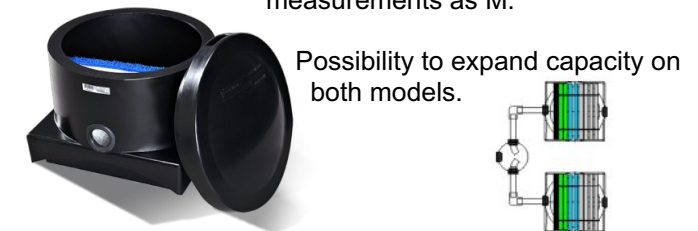


A 100 liter sludge separator before BioBox M makes fat separation more efficient.

BioBox M is enough for one summer cottage/sauna where available pressurized water and sink. Capacity is 50 l/hour / 400 l/24 hours

Dimensions BioBox M
Width 60 cm
Length 60 cm
Height 50 cm
The height difference between the in-
and the output pipe (75 mm) is 10 cm.

BioBox SLIM is lower in height compared with M, only 40 cm high. Otherwise SLIM have the same measurements as M.



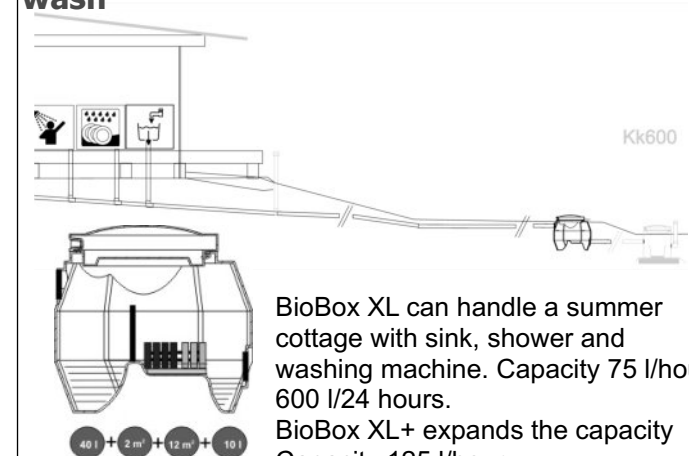
5) 100 or 250 liter's sludge (fat) separator before the BioBox XL makes fat separation more efficient.

6) Minimal operating costs.
With BioBox, you don't have to change either filter masses or adding chemicals continuously. It will be a proper savings on an annual basis, perhaps several hundred Euros.

BioBox XL (+)

Gray water filter

BioBox XL(+) - also shower and machine wash



BioBox XL can handle a summer cottage with sink, shower and washing machine. Capacity 75 l/hour 600 l/24 hours.

BioBox XL+ expands the capacity
Capacity 125 l/hour
750 l/h
Dimensions of BioBox XL and XL+
Width 60 cm
Length 80 cm
Height 70 cm
The height difference between the in-
and the output pipe (75mm) is 30 cm.



A 100 or 250 liter
sludge separator
before BioBox M
makes fat separation
more efficient..

raitabiobox.com

BioBox – Nature thanks you!
No environmental impact with
BioBox efficient BDT filters



Raita Environment is a specialist in environmental technology

Our passion is to develop and manufacture environmentally friendly and sustainable products for waste management. With our systems, we want to leave as little environmental impact (footprint) as possible on our earth.

In addition to the environmental benefits, our systems are reliable and affordable. Waste and wastewater are cleaned and used locally, and in this way acquisition and operating costs are affordable.

Our activities in water and sewage technology began already in the 1950s in Finland. Over the decades, our operations and expertise in areas have been refined to be the leading sewage and environmental technology development experts that we are today.

Raita Environment is known as a reliable and respected partner and operator. Our systems and products are used in hundreds of thousands of different locations in Finland and abroad.

Our areas of expertise include biotoilets, gray and rainwater treatment, wastewater treatment and composting. Contact us for more information.

Water supply with respect for the sensitive the archipelago nature

Ecological cleaning and composting were important when a new cabin was to be built at Helsinginranta in Tövsala.

- The site is rocky and barren and stands in the middle of a picturesque archipelago landscape. When we started building a new sauna cabin, we did not want to destroy the beautiful terrain, but wanted to keep the environment as untouched as possible. But there was really little space on the site for a gray water filter and it would have been technically challenging to lower the filter, says Pekka Nokelainen

It was about millimeters when the system was put in place

On the plot there was a sauna cabin built in the early 1980s and an old outhouse.

- We found the Raita system which is easy to use and fits well in a small space without requiring large containers or needing to be sunk underground. In the rock, under the foundation of the house, there is a small recess where we installed the system. We managed to fit the gray water filter under the balcony, even though in the end it was only a matter of a few centimeters. The sewage treatment modules are also included. We compost all toilet waste and bio-waste and the end result is clean soil. At the edge of the balcony are large planter boxes into which the soil goes, Nokelainen describes. Raita's compost became part of the whole when a separate winter-warm toilet and storage room was built behind the balcony. The system for cleaning drinking water was also integrated in the same space. The gray water filter under the balcony is so well insulated that the optional thermal insulation was not needed.

Easy and simple to use

- We wanted to have as maintenance-free a system as possible. In addition, Raita was easy to buy, it is a clear and functional system that is vertical and thus fits in a small space. I called Ilkka, who immediately took care of this. The company has developed the products itself and they are well thought out and functional. Then it is easy to trust them, says Nokelainen.

The capacity is good enough for a family of three and guests coming over for the weekend. The summer kitchen's dishwasher is led to the same gray water filter. The current system is large enough even for the needs of the future main building, only a grease filter will be added to the kitchen.

- Now we have all the comforts at the cottage. The first year we used the old dach, but we got tired of running in and out. In autumn and when it rains, it's easy when the toilet is right next to the terrace, praises Nokelainen.

information.

BioBox XL (+) capacity can be increased

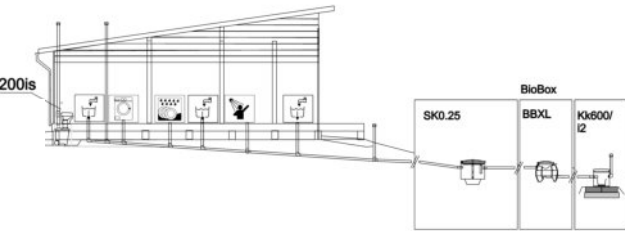
If BioBox XL (+)'s capacity needs to be increased when e.g. theused for permanent residence or when the number of users exceeds 5 people, there are two options:

1) For a BioBox in combination with a biological toilet we recommend using a post-filter with biomodules. Then both systems can be serviced by yourself.



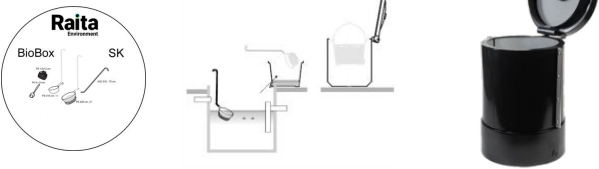
Use of biomodules improves capacity/hour;
- XL and two modules have 120 l/hour
- XL+ and two modules have 200 l/hour

In the Biomodules, the purification process continues before the water finally infiltrates into the soil or is led out to a ditch.



The biomodules are used also when the soil conditions are bad (muddy, stony) for infiltration. Also if the BioBox is located in a sensitive natural area (such as a lake or water features).

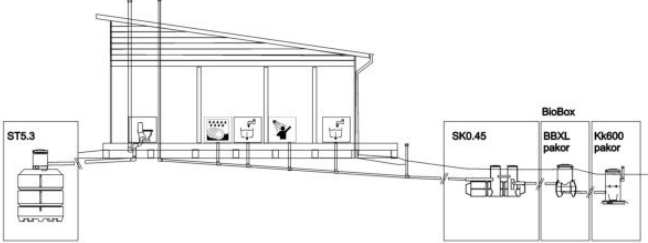
The waste/sludge from the BioBox and from a small sludge separator (100 or 250) are placed in a compost from Raita. The compost is very easy to care for and is also suitable for composting the food waste from the property.



2) For a BioBox in combination with a wc + closed tank for the toilet (the property has double drainage), we recommend using a larger precipitation well for to increase capacity. The closed tank is emptied regularly and at the same time you can empty fat/sludge from the precipitation well without extra cost.



Increased capacity with precipitation well.
Sludge separation. 450 l and 600 l increase capacity by 50 litres/hour.
SK450/600 XL = 125l/hr
SK450/600 XL+ = 175l/hr



The closed tank waste water and grease/sludge from the precipitation well are emptied regularly with a tanker. It is further treated in the municipal sewage treatment plant.

The BioBox's filters are cleaned annually. This small amount of waste (max. 1-2 l) is easily composted in the property.



Improved natural method. The organic load and nutrients are degraded by biological microbial activity.

The same method is used in traditional soil beds and infiltration field, i.e. natural microbes accumulate to clean nutrient-rich water when they have the right circumstances. BioBox purification is based on biological microbial activity which takes place in filter elements. The elements have three different densities (290, 350, 450 m² / m³). With the help of these it is naturally occurring biofiltration process (biofilm) reinforced in a small space. The microbes in the elements take remove organic matter, nutrients biologically. The big the surface of the filter elements corresponds to a ground filtration of 12 m². With good air circulation, the purification is through the filters very effective. BioBox also works well if this happens change in the load, the filter quickly responds to flow changes.

The cleaning performance and technical characteristics of BioBox is in accordance with EU standards - see "Declaration of conformity".

RAITA BioBox cleaning efficiency has been tested, see raitabiobox.com. Purified water can be drained into a ditch, stone bed or to the ground. We have infiltration packages with filter plates (100 cm x 120 cm x 4 cm) which makes it easy to infiltrate water into the soil.

Alternatively, our biomodules can be used. With biomodules treatment capacity is also increased.



Raita



BioBox – Products and solutions for summer cottages and holiday homes



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Holiday homes are increasingly used for year-round living

The summer cottage is increasingly the family's second home, where comfort and functionality are crucially important.

- We have had a cottage in the Kimitoön archipelago for two years now. We fell in love with the place and plan to spend more time on the island, even year round. Here there were already two small cottages that had been built in the early 2000s and which we use, but we needed more space, says the family from Espoo.

The family had electricity and potable water and an outhouse in the middle of the forest. The new holiday home was built in 2021.

- The toilet is very important, especially in winter. Then it's not so nice to go out to the dasset. We decided to find out about different options. There are good and functioning incineration toilets and water closets, of course, but neither was really optimal for us. Coming with a ferry and emptying the tank of a regular flush toilet out on an island once a year is not ecological. Raita Environment's system immediately sounded like something that would work here. It met our needs, says the mother in the family.

The holiday home is located on a mountain cliff, and it was easy to find a suitable location for a small sewage treatment plant at the foot of the cliff. The team that built the house also built the toilet and the purification system. The system consists of two tanks, and it is easy to replace them. When one tank is put into use, the other can be left and the contents allowed to rot and decompose. When the tank is needed again, the contents of the container have become soil again. By following the instructions, the purification system is odorless.

Using nutrients locally is good for the environment

Transporting waste water to the municipal waste water plant not only burdens nature but also the wallet. In addition, the capacity of several cottage municipalities' wastewater treatment plants has been dimensioned for only the municipality's wastewater. When the waste water is cleaned and the sludge is composted on one's own plot, nutrients can also be used locally.

- We have used the system now for a year. We have been pleasantly surprised by how smoothly everything went, both the planning and the construction. Life on the island is completely different now. We spent almost a year in a small cabin of 25 square meters, had no running water and the old outhouse was quite a distance from the cabin. The young people are used to certain comforts, but now they also like to come to the island together with their friends. The fact that the system is convenient and user-friendly has had a big impact, but so has the ecology. All purchases and solutions must be made based on the archipelago's conditions. Functioning systems also increase the property's value, the family sums up.



A Biological toilet composts the waste/latrine into environmentally friendly compost. The toilet is odorless and easy to service. The small amount of compost mulch that is formed can easily be used in flower beds or plantings. RAITA's "biotoilet" has several models, both for indoor (IN) and outdoor (OUT) installations.

The largest amount of nutrients in the wastewater is concentrated in the urine. The load is approx. 1-2 liters of urine per day for one person. Then 3 people are staying for 50 days in the cottage to the total amount will be quite high - 150-300 liters of urine. RAITA's "biotoilet" has two efficient alternatives for handling this amount of urine:

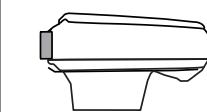
SEP: the urine is separated at the top of the chair and led down to a separate collector and then used as fertiliser.

ECO: urine is used in composting. Moisture and nutrients are taken care of in composting.

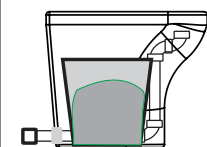
MINI

Compact urine separating (sep) "biotoilet" for indoor use. Suitable as a second toilet inside the cabin.

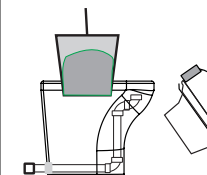
Capacity: 60 days of use



1) The separation of urine takes place in the seat where it is collected in a container of 20 liters. All urine can be used as fertilizer.



2) Ventilation pipe, 110 mm (pipe hat and withdrawals include delivery - direct pipes and angles are purchased separately). The ventilation can be equipped with adjustable fan (accessory).



3) Fluid pipe, 32 mm socket, hose 1 m delivery included - additional pipe fittings are purchased separately. 20 l container is included.



4) Place DryMix litter, 1-2 cm, i bottom of the tank. Add DryMix during use 0.3 - 1 dl. Five liter DryMix 5 l included in the delivery.

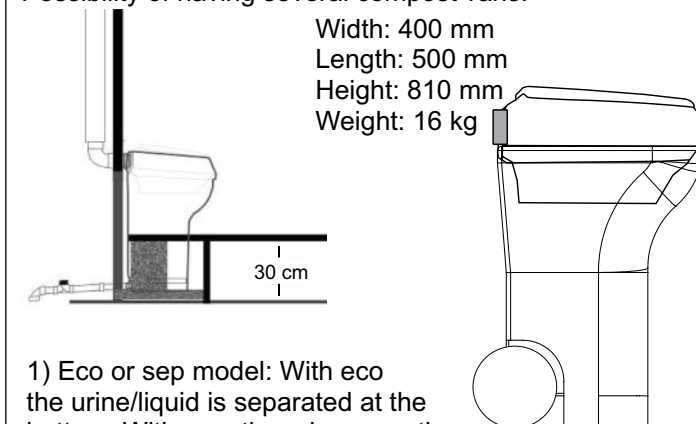
5) Empty the contents into compost.

EASY

Eco or sep biological toilet for indoor use as works well in tight spaces. Mounted against the wall and emptied from the outside.

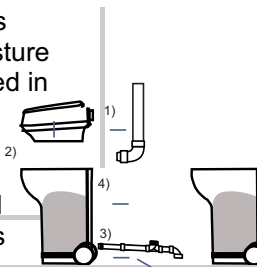
Capacity: 120 days of use

Possibility of having several compost vans.

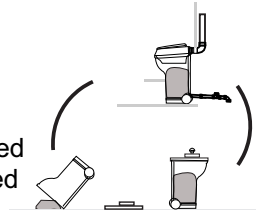


1) Eco or sep model: With eco the urine/liquid is separated at the bottom. With sep, there is separation in the seat, all urine can be used as fertilizer. With eco, 95% of the moisture evaporates (the liquid can be treated in the property's sewage system).

2) Ventilation pipe, 110 mm (pipe hat and toilet outcome are included in delivery - direct pipes and angles are purchased separately). The ventilation can be equipped with adjustable fan (accessory).



3) Liquid pipe, 32 mm hose 1 m, included in the delivery - additional pipe parts purchased separately. At high load excess liquid is released into waste water (eco) or is collected urine up as fertilizer (sep) i a separate tank. Equip the system with suitable liquid collection/ sewage treatment.



4) Place DryMix bedding, 1-2 cm, in the bottom of the tank. Add DryMix after use 0.3 - 1 dl. Five liters of DryMix delivery included.



Raita products and solutions for summer cottages and holiday homes



RaitaPro helps

There are many different ways to implement a sewage project.

We specialize in effective solutions that can be adapted to the needs of the property and the customer. We can use existing wells, sewer lines and for the sewage sludge we have different treatment methods. We also offer a variety of toilet solutions.

A well-planned project reduces costs, both for construction and when the system is commissioned.

The cottage's sewage and toilet issues are easily solved

The treatment of waste water and household and toilet waste in a cabin can seem challenging, especially if the cabin is located in the archipelago. The smartest, easiest and cheapest way is to manage the waste on site, as long as you do it safely and in an environmentally friendly way.

More and more time is spent in the cabin, so you want it to be as comfortable as possible. As holidays become longer and the possibility of remote work means that many people live regularly in their summer houses. Then functional solutions are needed.

As capacity requirements increase at the cabin, the environment and nature must also be protected. Waste management and wastewater treatment are becoming increasingly important and are also regulated by law.

Return of nutrients to the slope

In many cottages, black and gray water goes directly to a closed tank because unclean water and sludge cannot be released into nature without proper treatment.

But from an environmental and economic point of view, the smartest thing would be to return the nutrition to nature and make use of it locally. It would eliminate long transports of sludge discharges and maintain balance in the nutrient circulation on the islands.

Det är bättre att avloppsvattnet renas och tas upp i backen där den egna fastigheten befinner sig än att behöva transportera till ett kommunalt reningsverk.

A biological toilet eliminates many sewage concerns

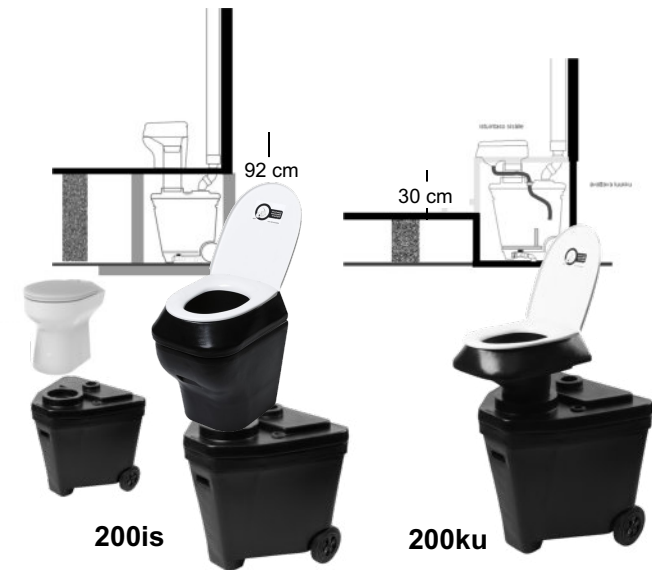
They are odorless, environmentally friendly and easy to maintain with safe waste management.

The "Biotoalett" range is a good alternative instead of the outdoor toilet.

The toilets in the biological AQ range are modern, hygienic and easy to use as they compost toilet waste directly in a container.

200is / 200ku

Capacity: 2-300 days of use
Possibility of having several compost vans



1) Eco or sep model: With eco is separated the urine/fluid at the bottom. With sep happens separation in the seat, all urine can be used as fertilizer. With eco, 95% evaporates the moisture (the liquid can be treated in the property's sewage system).

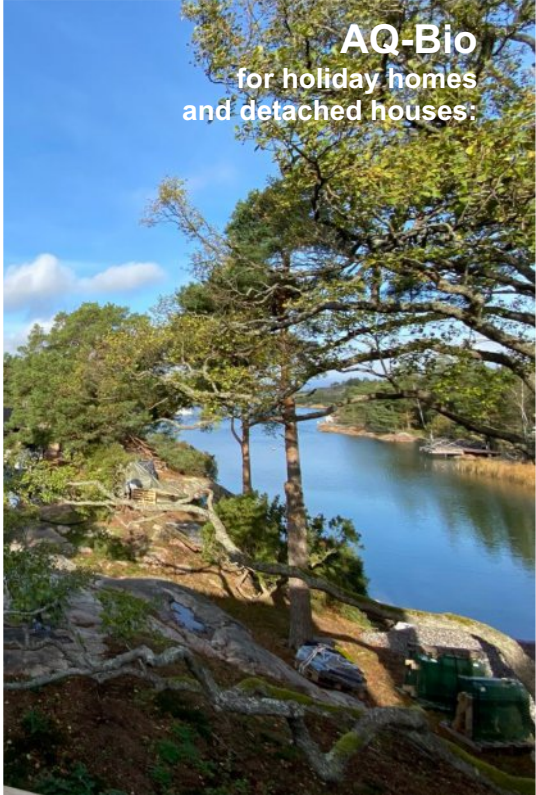
2) Ventilation pipe, 110 mm (rain hat and outlet includes the delivery - straight pipe parts and angles are purchased separately). The ventilation can be equipped with adjustable fan (accessory).

3) Collection pipe for liquid. At high load, excess liquid is released into waste water (eco) or urine is collected up as fertilizer (sep) in a separate tank. Equip the system with the appropriate liquid collection/wastewater treatment.

4) Place DryMix litter, 1-2 cm, at the bottom of thought. Add DryMix during use 0.3 - 1 dl. 5 l liters of DryMix are included in the delivery

5) Empty/change van if necessary.

AQBio



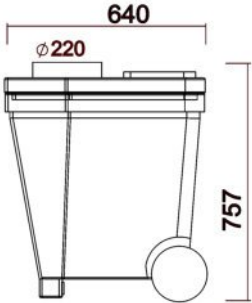
Capacity: 2-300 days emptying/ change interval.
Possibility to increase capacity by 2 or more compost vans.

When flushing, paper and faeces are further separated composting, the flush water and urine are transported to the drain.

- models for both freetime and permanent housing
- the advantages of flush toilets
- the environmental benefits of composting

AQ has containers that are easy to empty where the composting takes place takes place in the same carriage from start to finish. AQ is easily connected to sewage systems.

The WC and sewage system is easily serviced by the property owner himself.



RAITA products and solutions for summer cottages and holiday homes



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Choose the right technology for increased comfort

Increased use at the cottage requires that all technology work smoothly and environmentally friendly. Raita Environment is a pioneer in cottage technology. Raita's systems are developed for holiday homes and they last a long time and are easy to maintain.

Biological toilet

The first step to increasing comfort in the cabin is a sustainable "bio-toilet" that is easy to maintain and treats your waste in a safe and odorless way. The amount of waste is reduced in a few months to one-tenth of the original through evaporation and decay. The end product becomes valuable compost material. Our selection of biological toilets includes solutions for both indoor and outdoor use.

We also have "night toilets" which are installed inside the larger system which has a familiar toilet seat combined with composting.

Gray water filter

When the cabin's amenities are used more efficiently, water consumption also increases. When you wash dishes, cook and shower, there is more sewage to deal with.

- Wastewater is easily purified with BioBox, easy-to-maintain gray water filters that are placed next to the property. The system is specially developed for holiday homes and the cost of acquiring the BioBox is relatively low.

Composting

Reducing biological waste is easy. By using a biological compost in the cabin, nutrients are recycled and become part of the cycle.

This means that both nature and your wallet will thank you.



Care for the environment!

- Sort waste - both nature and your wallet will thank you for that.

- Composting is a natural way to reuse organic waste!

Composting involves the breakdown of biological waste. Composting occurs everywhere in nature, all organic waste is composted and nutrients are returned to the "natural cycle".

The most effective way to recycle nutrients is in the place where biological waste occurs - in the household. Here it is necessary to sort and then compost, in direct connection to the house.

TWIN 2x12 - 2x45 L

Sorted biological waste can be placed in a "twin composter". Emptying of Twin happens relatively rarely - the interval can be from a few weeks to months. Our Twin 12 and 45-models are well suited for composting on the balcony or porch/terrace.

The twin compost 12 and 45 can then be emptied/moved to one of our 180, 450 or 800 liter "outdoor composters" for further composting.

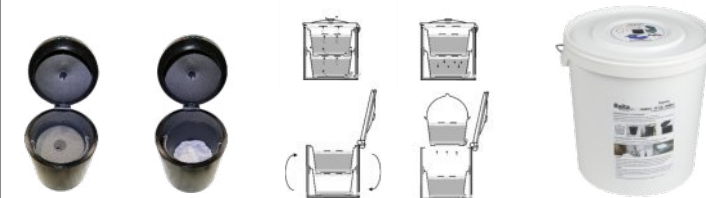


Efficient thermo-twin composting

PE rotomolded, inner container 2 x 12L/45L. PE insulation, 15 mm in walls, lids and intermediate lids. Heating cable 20 W comes as an accessory.

Fill the upper container - then move the filled container down to post-composting with adjustable air circulation.

The end result can then be used directly for plants and plantations.



SINGLE 180 - 450 L

Sort the biological waste directly in the kitchen and empty it to the compost in the yard at intervals of a few days.

Add litter and nutrients as needed and drain the compost during the growing season.

This model, 180 and 450 L is well suited for cottages and villas.



180: 1-3 l biowaste/day

450; 3-10 l biowaste/day

Effective thermo-composting

Rotational molded, cellular plastic insulation, adjustable air circulation.



15 or 30 mm insulation package of cellular plastic on walls, lid and intermediate lid, possibility of liquid drainage. Emptying takes place by lifting up the front wall section or removing the wall section completely.



Heating cable comes as an accessory.



RAITA products and solutions for summer cottages and holiday homes



Composting

It is easy to reduce the waste generated during food making. With the help of a composter, waste can be disposed of and nutrients can be returned to nature's nutrient cycle. Especially in holiday homes, composting bio-waste removes odors from garbage bags. - Composting bio-waste at the cottage is also reasonable. Bio-waste is sorted and composted. Other waste fractions remain "clean" and can be emptied less often. The environment will thank you and at the same time effort and money are saved, says Raita.

Are you thinking about what kind of environmentally friendly solution would suit your holiday home? Raita Environment, which develops and manufactures gray water and mixed waste treatment plants as well as environmental toilets and composters, specialized in environmental technology, and long-term experts are happy to discuss with you which solution suits you.

The holiday homes of the future are equipped with amenities – without environmental impact

People are becoming more and more environmentally conscious and want solutions for their holiday homes that do not burden nature to the same extent.

The changes that have taken place in recent years, where many people work remotely, increase the need for comfortable, sustainable solutions for holiday homes and cottages.

The property's total waste water load is generated for the most part from toilet waste - choosing an eco-toilet is a big step towards a more sustainable development.

Odor-free and easy-care eco-solutions

Raita Environment has been developing environmental technology since the 1950s and specializes in gray water systems, composts and environmental toilets that have become very popular, both nationally and internationally. The series for "biotoilets" has models for both indoor and outdoor use. The biological toilets are exactly what many want in the holiday home for increased convenience. In addition to being environmentally friendly, they are also hygienic, odorless and easy to maintain.

According to Ilkka Raita, CEO of Raita Environment, it is good to think about how toilet waste is treated:

- Emptying faeces and sludge directly into nature is not permitted and transporting the waste to a treatment plant can be both cumbersome and expensive. Then it is better for the environment if the nutrients can be returned to the surroundings and thus become part of the natural cycle. Alongside a biological toilet, it is smart to buy a gray water filter. The BioBox filter effectively cleans greywater, after which it can then be safely released into nature. There are no running costs as the BioBox does not use electricity, peat or moss. The maintenance is simple, says Ilkka:
- The filters are cleaned once a year, the filter elements are replaced every 10-15 years. The boxes are small in size and designed to cope with the amount of gray water cabins and holiday homes have.

The third product in the arsenal is compost. Ilkka Raita mentions that sorting and composting bio/food waste effectively removes odors from garbage bags. He sums it up:

- Our products create comfort for cottages and holiday homes without burdening the environment. We make cottage life easier when it comes to waste and sewage. Wondering which type of solution is right for your cabin? As specialists in environmental technology, we help you with the right solution for your needs.

SINGLE 800

Collect the compost into a large RT 800 composter.

SINGLE 800 is the composting model for commercial kitchens, hotels, camping where large amounts of biological waste need handled.



800; 5-20 l biowaste/ day



Heating cable comes as an accessory.



[kompostoi.fi/kompostera](#)

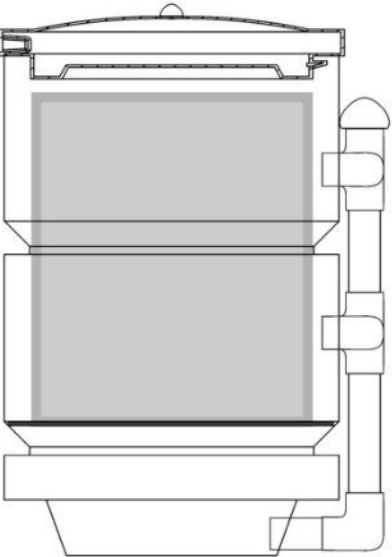
DEEP COMPOSTER



Recycling station with Deep composter from Raita

Modeller / kapacitet:

- 2x300; 5-15 l biowaste/ dygn
- 2x600; 10- 30 l biowaste/ dygn
- 2x900; 15-45 l biowaste/ dygn
- 2x1200; 30-80 l biowaste/ dygn



Efficient and odorless composting with deep composting in the ground - summers and winters under constant operating conditions.

Effective and odorless composting with deep composting. The operating conditions are constant whether it is summer or winter.

An efficient and space-saving solution that empties mechanically. The deep composter moistens and aerates the compost automatically. The function of the device can be monitored and programmed remotely. The efficient process reduces the amount of waste to 10% in a few weeks.



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Our areas of expertise include biotoilets, gray and rainwater treatment, wastewater treatment and composting. Contact us for more information.

Living with environmentally friendly amenities

Rising energy prices and winter's capricious blackouts do not worry Mauno Mäkinen. The self-sufficient house in Karislojo has four kilowatts of energy available, produced via the house's solar cells.

- Ecological living does not mean that you need to give up comforts or quality of life. In addition to a "solar-powered" fridge/freezer, we have an ecological pantry where the temperature is kept above zero, even when it is -25 °C. A P11 gas bottle heats the washing water and what we need for cooking, it lasts about a month. Our fireplace keeps the whole house warm, including the laundry room and its concrete floor, no underfloor heating needed.

- The running costs of the house are currently around 45 euros a month and no electricity, transmission, water or district heating charges are added. Many people do not understand that we have all the comforts here, even though we live organically. We have had solar energy for more than twenty years. I have been surprised that more solar panels have not been installed because they mean that even private individuals can participate in the green transition. A lot can be achieved with small practical ecological choices, Mäkinen points out.

Raita's solutions work without electricity

The Mäkinen family bought Raita Environment's BioBox XL gray water filtration with associated Biomodules for post-polishing/purification of the gray water before it is discharged into the hill. The system is designed for five people and it has proven to work exceptionally well also for two people living in the house. The BioBox is insulated with Styrox sheets so that it does not freeze in cold temperatures. The purified water is then led to a drainage chest on the plot. The house's sewer pipe has been routed through the crawl space, where the heat collected by the rock during the summer is enough to keep the space frost-free even in cold winter weather. The biological activity of the system also generates heat in the form of hot steam which also helps to keep the pipes open.

- The system is a more or less maintenance-free system that does not require any large spaces. The BioBox is opened once/year (suggested in the summer) when the filters are easily cleaned with the high pressure washer. In 15 minutes, the filters have been cleaned, says Mäkinen.

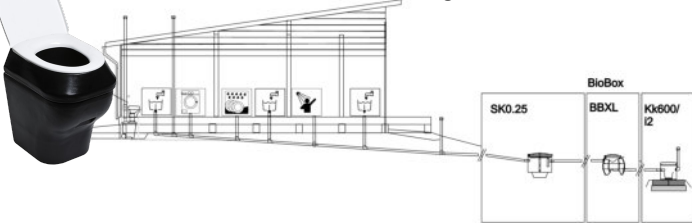
The family has also bought a biological toilet for composting from Raita. The compost container under the toilet is equipped with wheels. When the container is full, I shift it to a new container and put the other one in place. A full container can stand as it is for a whole year, after which the finished mulch can be used for planting.

- Both systems were easy to build. We have also studied the effectiveness of the systems and the results which have been really good. I am very satisfied with Raita's products. The running costs are very low, the lifespan is long and I am completely self-sufficient, just as I am with the energy and heating solutions in my house. It feels good in the soul, praises Mäkinen.

SLUDGE TREATMENT

Sludge service set, composting

It is easy to recycle toilet waste and sewage sludge of the holiday home when the toilet is a biological toilet solution or incineration toilet there the emptying and maintenance does not need a tanker for sludge removal.



Grey water sludge is formed only a small amount i.e. of the filter elements, which are cleaned (once/year) or replaced (every 10-15 years) and of a possible precipitation tank for pre- treatment before BioBox.

Raita
Environment

BioBox

SK



The sludge service set

The tools in the set are for cleaning BioBox's tank, filters, and the small precipitation tank of sludge and grease.



Composter

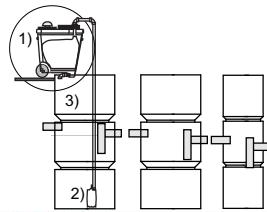
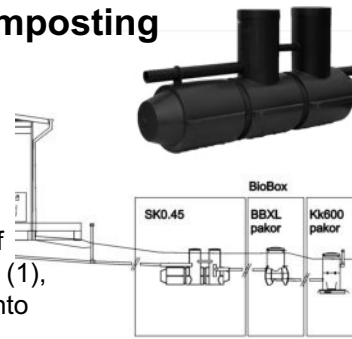
Sludge and grease are emptied to a composter. All biowaste; eg. also property's food waste and biotoilet waste are preferred to compost there also.



Sludge dryer, composting

Sludge dryer

A sludge dryer is used for collecting, drying and composting the sludge of a precipitation tank. The sludge is pumped (2) out of the well to the sludge dryer (1), the liquid then flows back into the well (3).



Delivery contents: SAV1- the delivery includes a compost van with lid, air hat, 2 filter bags, 32+ mm pipe connection parts 4 pcs 32x1000 pipes, 4 pcs 90x32+ corners. Dimensions: Volume approx. 150 L, length



The sludge rally in the archipelago strains nature and purses



According to the Pargas Environmental Office, the smartest thing for the environment and the economy is to return nutrients to the country and utilize them locally.

" Archipelago residents should consider handling sludge on their own, as long as it is done correctly and the sludge recovery is notified to the Waste Management Committee, Huovila sums up."

There are almost a hundred permanently inhabited islands in the Archipelago Sea without a fixed road connection. All transports are challenging as we rely on connecting vessels and our own boats.

During the summer, the population of the islands will at least double and the capacity of municipal wastewater treatment plants will be extreme. Treatment of sewage sludge when dimensioned for sewage from old municipal settlements.

– Sludge is waste and must not be discharged into your own forest or fields without sanitizing. So they are transported from the outer archipelago to inland treatment plants, which is expensive because only a couple of the sludge from the property can be taken out at a time, says Petri Huovila, the environmental inspector of the city of Parainen.

The aim is to treat the sludge on site

According to the Pargas Environmental Office, the smartest thing for the environment and the economy is to return nutrients to the country and utilize them locally. In this case, sludge transport by connecting vessels will be eliminated and the nutrient cycle in the islands will remain in balance.

– The nutrients have come from the country and should be returned there. Municipal treatment plants discharge treated wastewater into the sea, and although it is 90% clean, nutrients burden the water body. It is better that the nutrients are absorbed into the soil on your own property, Huovila emphasizes.

Payback times for new solutions are short

There are methods by which sludge is managed in an environmentally friendly manner and in accordance with regulations on its own site at the cost of a few sludge transports.

– A so-called sludge dryer can be used with the settling well, in which case the contents of the well are pumped to the sludge dryer and the liquid flows back into the settling well. The recovered cocoa sludge can be composted on your own property, says Huovila.

However, sludge dryers are not suitable for use with closed tanks (wc-waters). If you want to get rid of sea transport, you must convert the closed tank to a settling tank and install a sewage treatment system. Self- draining sludge must always be reported to the waste management authority.

– It is easiest if the plot has a dry toilet and only washing water is generated. Solids from the gray water precipitation tank can be scraped into the compost. Today, there are also numerous gray water treatment plants of various sizes where sludge accumulates in the filter and no sludge drains need to be performed at all.