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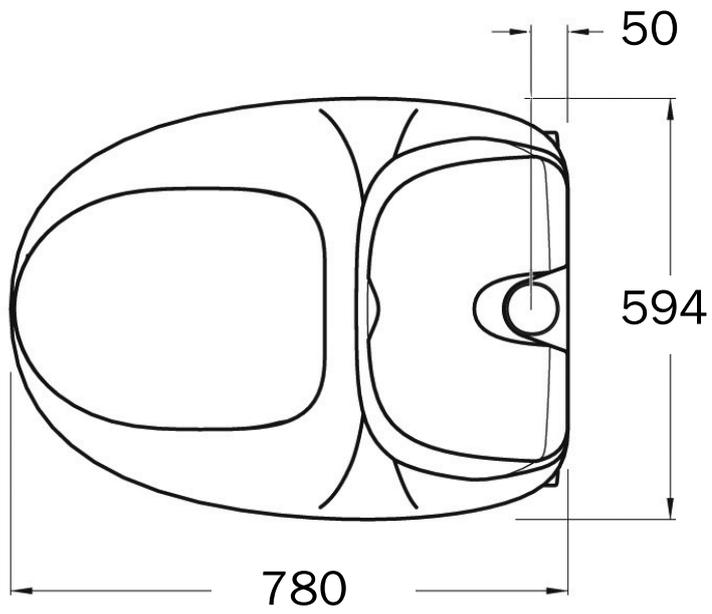
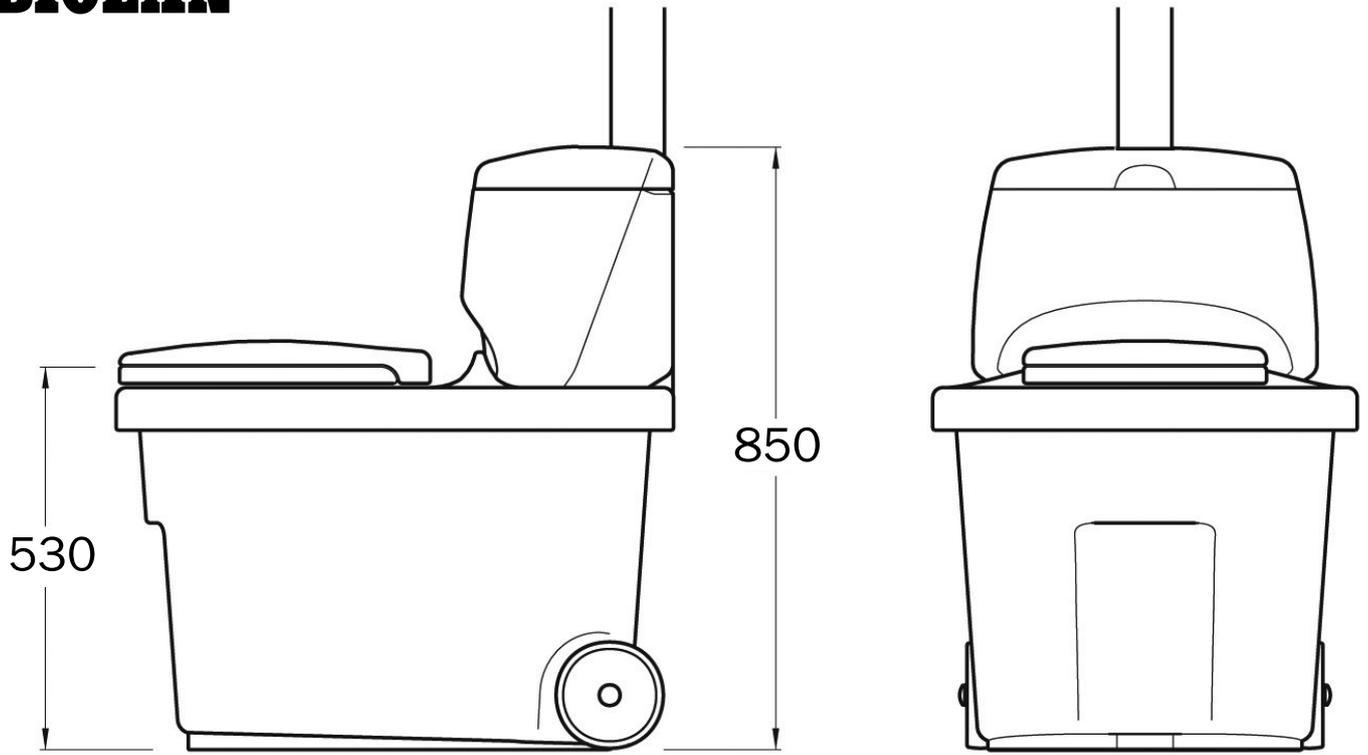
KOMPLET DRY TOILET

Instructions for installation, use and maintenance

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BIOLAN®



KOMPLET DRY TOILET

Instructions for installation, use and maintenance

The Biolan Komplet Dry Toilet is a toilet unit designed for 1-6 people to be placed simply on the floor. Its operation does not require water or electricity supply; just adding bulking material is enough.

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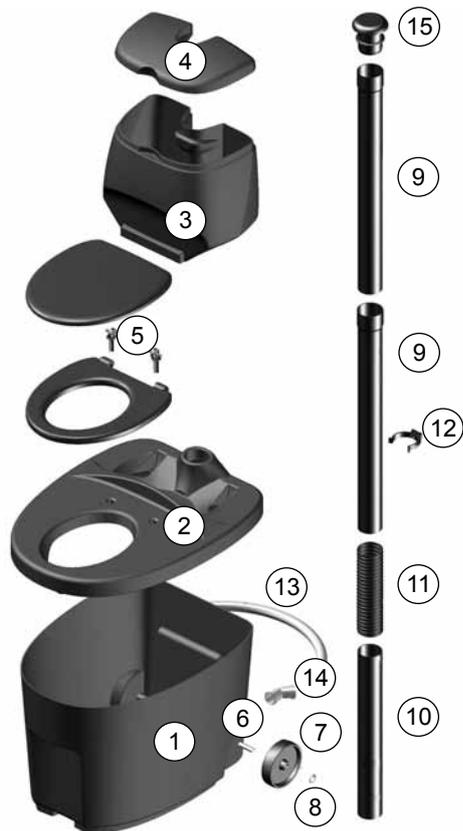
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Dimensions

dimensions (height x width x depth)	85 x 60 x 78 cm
weight	about 15 kg
sitting height	53 cm
volume of the waste tank	about 140 litres
volume of the bulking material container	33 litres
diameter of the outlet air pipe	75 mm
diameter of the liquid removal pipe	32 mm
length of the drain pipe	885 mm
material	dyed throughout polyethylene plastic
other	thermal seat

Component list

Component	Part name	Part No.	Material
1	Toilet tank	17704010	PE
2	Top	17704150	PE
3	Bulking material container	17704160	PE
4	Cover for bulking material container	17704170	PE
5	Thermal seat, hinge pins, 2 pcs.*	70578500	EPP
6	Rod	21704190	Steel
7	Wheel	18704060	PE
8	Lock ring	20070003	RST
9	Ventilation pipe 750 mm	28704030	PE
10	Ventilation pipe 600 mm	28704040	PE
11	Flexible ventilation pipe	19704020	PE
12	Pipe bracket	18704050	PE
13	Drain hose	28704080	PE
14	Angular sleeve connector	28707090	PE
15	Ventilation pipe cap	18710250	PE



In addition to the components illustrated in the components picture, the Komplet Dry Toilet also includes:

	User manual Finnish/Swedish	27704130	Paper
	Bucket for dosing	18704100	PE
	User manual in 10 languages (export products only)	27704135	Paper
	Compost and Toilet Bulking Material, 40 l	70562100	Package: PE

Spare parts sales: dealers and the Biolan online shop at www.biolan.fi

1. Planning and installation

When selecting a location for, and then installing, the Biolan Komplet Dry Toilet, provide sufficient space for its use and maintenance, and route the ventilation pipe straight up through the roof above the ridge. Collect the seep liquid in a closed tank for later utilisation, evaporate it using an pan or treat it with Biolan Suotis (see Accessories on page 6). The method for post-treating the solid waste should also be carefully planned, to enable easier servicing of the unit.

Technical specifications

- length 78 cm, width 59.4 cm, seat height 53 cm
- height 85 cm
- weight about 15 kg
- volume about 140 l
- external diameter of the ventilation pipe 75 mm
- external diameter of the liquid removal pipe 32 mm

1.1 Placing the Komplet Dry Toilet in the toilet space

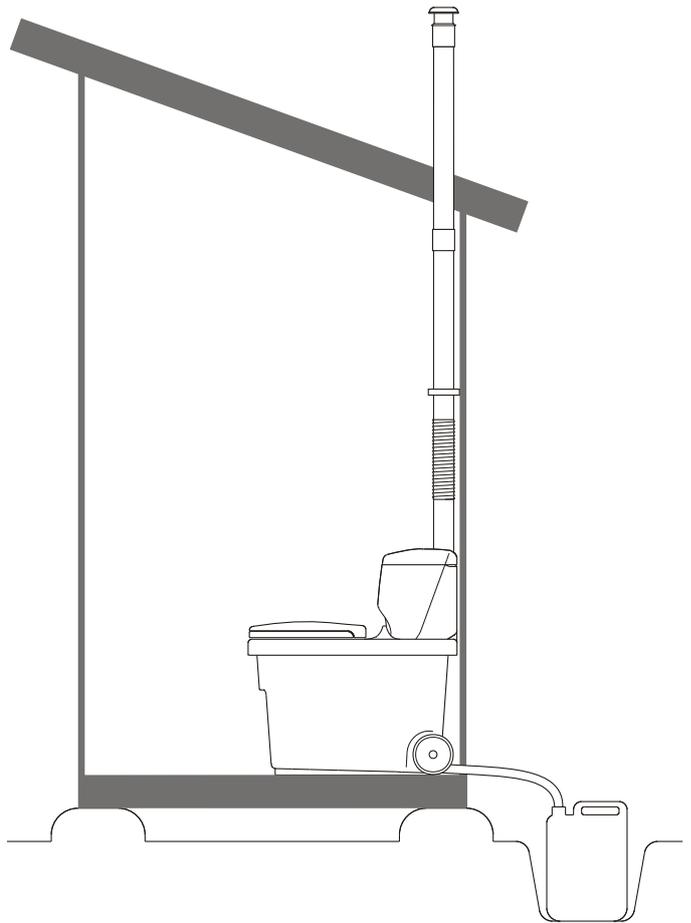
Install the Komplet Dry Toilet at a level position on the floor. When selecting the location for the unit, take into account the space required for the ventilation and liquid removal arrangements and the maintenance of the unit (see Dimension drawing on page 2, and Examples of installation on page 5).

1.2 Installing the ventilation pipe

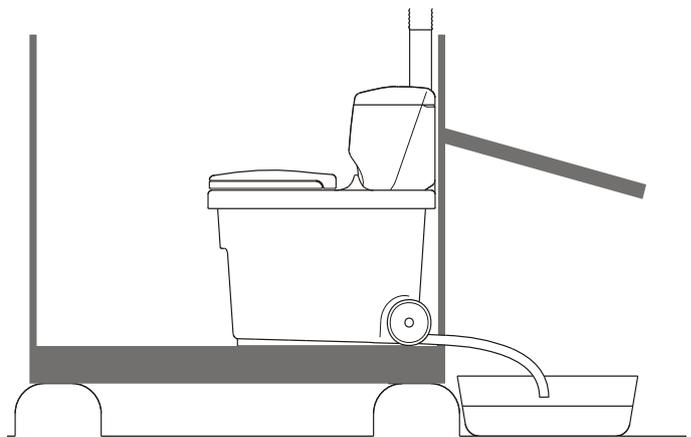
Route the ventilation pipe from the toilet unit straight up above the roof ridge. Any bends in the pipe will impede natural ventilation, causing odour problems. Join up the ventilation pipe as shown in the detail drawing on page 4, and seal the lead-through using a sealant that is suitable for the roofing material. As required, extend the ventilation pipe with a Ø 75-mm sewer pipe, or with the pipe parts that are sold as spare parts for the toilet.

In complicated installations, or if installing the toilet within living quarters, it is recommended that the ventilation be ensured using a separate Biolan Exhaust Ventilator or Biolan Wind Fan. The Exhaust Ventilator is available as an option and, as required, it can be retrofitted. (see Accessories on page 6).

Example of installation with collecting tank for liquid (picture is indicative only)



Example of installation with evaporating pan (Picture is indicative only)



The flexible ventilation pipe (part 11) is easiest to install when warm, using a screwdriver as a stretching aid. As necessary, the surfaces can be made slippery using, for example, dishwashing detergent.

1.3 Leading off the seep liquid

Route the seep liquid from the toilet unit into the liquid tank, the evaporating pan or Biolan Suotis. During installation, provide sufficient gradient to enable the liquid flow without obstruction all the way to the drain. Depending on the installation location, accomplish the lead-through either as a sewer, or as a pipe leading through the wall or the floor.

The diameter of the toilet unit liquid hose is 32 mm. Sewer pipe parts or a hose 32 mm in diameter are suitable for conducting the liquid away. We recommend using a coupling sleeve at the pipe or hose joint. Keep in mind possible use of the toilet in winter when laying the seep liquid pipe and locating and insulating the canister or the treatment unit.

If you route the liquid into an evaporating pan, fit an overhead rain lid above the pan. Use Biolan Peat in the pan for neutralisation of odours. (see Accessories on page 6).



Any bends in the ventilation pipe impede natural ventilation, causing odour and moisture problems.

Do not allow liquids that are rich in nutrients to enter the soil, as these cause an excessively concentrated nutrient load.



What is seep liquid?

Excess liquid on the bottom of the dry toilet which has not been absorbed by the toilet waste is called seep liquid. This liquid is rich in nutrients, but contains microbes. Therefore it is recommended that it be kept in storage for about a year before it is used as fertiliser. Seep liquid is also an excellent starter for garden compost.

2. Use and maintenance of the Biolan Komplet Dry Toilet

Using and maintaining the Dry Toilet in accordance with these instructions makes for a much more pleasant experience.

The Komplet Dry Toilet is intended for composting toilet waste, including toilet paper. But do not put into the toilet anything that could hamper the post-treatment of the toilet waste, such as:

- debris, sanitary towels
- chemicals, lime
- detergents, washing water
- matches, ash, cigarette butts.

2.1 Before use

Put a layer of Biolan Compost and Toilet Bulking Material about 5-cm thick on the bottom of the toilet tank. Fill the removable bulking material container (part 3) with bulking material.

2.2 Using bulking material

Every time after using the toilet, add 0.2-0.5 litre of bulking material (Fig. 1). Applying suitable bulking material is essential for proper operation of the toilet. For bedding we recommend Biolan Compost and Toilet Bulking Material. The Compost and Toilet Bulking Material efficiently absorbs odours and keeps the toilet compost airy.

2.3 Year-round use of the toilet

The toilet may be used all year round, if installed in a warm space. Thermal insulation of the ventilation and liquid removal systems in cold areas must then, however, be taken into account. Also provide a sufficient inclination so as to prevent the liquid from freezing in the pipe.

Installed in a cold space, the toilet can freeze during winter. The toilet unit is manufactured of frost-proof polyethylene, so freezing does not damage it. A toilet located in a cold space can be used occasionally during winter. Empty the liquid tank before the liquid in it freezes.

If the liquid is collected in a canister, empty the canister in the autumn in order to avoid damage caused by freezing of the liquid. If the bulking material in the container is moist, it may freeze during winter. Keep the bulking material in a dry place for use in the winter.

2.4 Emptying the toilet

(Figs. 2 and 3)

1. Disconnect the ventilation pipe (Part 21) from the top and lift the bulking material container (part 3) to the side.
2. Turn up the angular sleeve connector (part 14) and disconnect the liquid drain hose (part 13).
3. Drag or carry the tank to the emptying location. The body of the tank is fitted with handles both in the front and rear.

2.5 Emptying the liquid tank

Empty the seep liquid canister as required, however, at least once a year. Utilise the seep liquid that is rich in nutrients as a source of nitrogen for compost. This intensifies the activity of the garden compost in particular, which is poor in nutrients but rich in carbon.

You can also use seep liquid as fertiliser for ornamental plants in the yard and garden. A safe dilution ratio is 1:5. You can also use undiluted seep liquid, but the area must then be carefully watered after the application to avoid early blight.

Fertilising in the autumn is not recommended so as not to disturb the preparation of perennial plants for winter. The recommended storing time before use as fertiliser is approximately one year. During storing the excrement-borne bacteria in the liquid will die.

2.6 Cleaning the Komplet Dry Toilet

The thermal seat of the Komplet Dry Toilet can be cleaned using any common domestic cleaning agents. Check the drain hose (part 13) once a year and clean it as necessary. There is no need to wash the toilet tank when emptying it.



1. Adding the bulking material



2. Disconnecting the drain hose



3. Emptying the tank

3. Problems that may occur

3.1 Odours and moisture

No odour problems will occur in the Komplet Dry Toilet, provided that it is installed and used in the correct manner. If odour problems occur, make sure that:

- the ventilation pipe leading from the toilet unit to the roof, is straight and extends above the roof ridge. If the ventilation pipe is not straight or does not extend above the roof ridge, repair the installation or improve the ventilation by installing a separate Biolan Exhaust Ventilator or a Biolan Wind Fan (see Accessories on page 6).
- the liquid removal system for the toilet is not blocked and the liquid can flow freely all the way down.
- the bulking material used is Biolan Compost and Toilet Bulking Material (see Accessories on page 6). If a mixture of peat and sawdust or other beddings of fine texture is used, the compost mass may be packed too tightly.

3.2 Insects

The most common flies in the composting toilets are small fungus gnats and fruit flies. Using a fly net does not prevent these tiny flies from entering the compost. If flies appear in the compost:

- make sure that the bulking material used is Biolan Compost and Toilet Bulking Material (see Accessories on page 6). Some beddings (e.g. fresh chips of deciduous trees) attract flies to the compost. The pine bark used in the Biolan Compost and Toilet Bulking Material, however, acts as a repellent.
- add a thick layer of bulking material on top of the compost.
- do away with any flying insects in the toilet space using pyrethrin-based spray. Consult your local garden centre to select a suitable product. Repeat the spraying at intervals of two-three days to exterminate the new generations emerging from eggs and maggots. Repeat the spraying until flying insects no longer can be spotted.
- check that the ventilation pipe is routed from the toilet unit straight up to the roof, and that it extends above the roof ridge. If the ventilation pipe does not go straight up to the roof or does not extend above the roof ridge, you can repair the installation or improve the ventilation by installing a separate Biolan Exhaust Ventilator or a Biolan Wind Fan (see Accessories on page 6).
- as required, empty and wash the toilet.

4. Composting the toilet waste

The composting grade of waste emptied from the Komplet Dry Toilet depends on how long the composting has been in progress. In general, the mass requires composting before it can be utilised.

You can compost the toilet waste together with garden waste and domestic bio-waste. While composting, observe the local regulations on waste handling and consider sufficient protective distances to neighbours, wells and bodies of water.

Organise the composting so that no liquids seep from the compost into the soil. The Biolan Garden Composter or the Biolan Biolan Stone Composter (see Accessories on page 6) are well-suited to the purpose. For hygienic reasons, the toilet waste must be composted for at least a year before application to edible plants. Composting for half a year is sufficient before application to ornamental plants. Burying waste in the ground is prohibited.

The micro-organisms in the compost decompose organic matter under aerobic conditions. After the composting has continued for 1–3 years, the result will be compost soil. To ensure that the composting is as efficient as possible, provide the waste-decomposing micro-organisms with favourable living conditions. The basic requirements for compost are the presence of oxygen, moisture and nutrients.

The micro-organisms in the compost require moist conditions, so the compost must be suitably moist, but not wet. To ensure that the compost is sufficiently airy, use coarse bulking material or branch chaff in layers among the waste. Compost that is too tightly packed or too wet is anaerobic and starts to rot and smell.

Cover the surface of the compost carefully with bulking material, garden waste or peat after the addition of toilet waste or liquid. Turn the compost at least once during the summer to ensure that all the ingredients of the compost decompose properly. Toilet waste, composted with care, makes excellent soil conditioner for perennial plants, shrubs, trees and a vegetable plot.



Please consult your local waste advisor for regulations on composting. Visit www.biolan.fi for more information on composting and the utilisation of urine.

5. Disposal of the product

The raw materials used are presented in the list (see page 4) Dispose of each part as prescribed. Always follow the regional and collecting-point-specific instructions.



PE = polyethylene
to collection of energy waste or recycling of plastic



PP = polypropylene
to collection of energy waste or recycling of plastic

RST = stainless steel
to recycling of metal

Paper
to recycling of paper

EN

Biolan accessories

Availability varies from country to country. Consult your local dealer for details.

Biolan Compost and Toilet Bulking Material

Biolan Compost and Toilet Bulking Material is a blend made of pure, dried and ground conifer bark and peat for composting and dry toilets. Applying it regularly to the compost keeps the compost mass airy and ensures the composting is efficient and odourless.

Package size: a bag of 40 litres, a bag of 85 litres
Product number: 40 | 70562100, 85 | 70562500



Biolan Garden Composter

The Biolan Garden Composter is intended for the composting of domestic, garden and toilet waste in a detached house or a holiday home. Its large, hinged cover makes the filling of the composter easier. The hermetic structure and adjustable air exchange prevent the compost mass from drying, and reduce the need for maintenance.

Product number: green 70572000, grey 70576700



Biolan Peat

Biolan Peat is clean, white non-fertilised or limed sphagnum peat. It is naturally sour. Biolan Peat is suitable for, for example, storing root crop, use as soil conditioner, and use in an evaporating pan for seep liquid.

Package size: a bag of 70 litres
Product number: 55544200



Biolan Stone Composter

The Biolan Stone Composter is intended for the composting of domestic and garden waste in a detached house or holiday home. Thanks to its large size, it is well-suited to the composting of garden waste and toilet waste from a summer cottage. Biolan Stone Composter having the colour of natural stone merges well with its surroundings, and is well-suited even to small yards.

Product number: red granite 70573100, grey granite 70573200



Biolan Pehvakka

Biolan Pehvakka is a hinged thermal seat, which is hygienic and durable. The flexible foam material neither cracks in use nor absorbs moisture. Both the lid and the seat ring can be lifted up, which makes thorough cleaning of the seat easier. It can be cleaned using any common domestic cleaning agents. The seat can be fitted in toilets where the distance between the hinge pins is either 16 cm or 18 cm.

Product number: 70578500



Biolan Suotis

Biolan Suotis is a biochemical seep liquid filter for a dry toilet. The device cleans up the seep liquid so that it can be run off directly into the natural environment. The filter operates by gravitation and does not need any electricity supply. The capacity of the device is 60 litres.

Product number: 70572100



Biolan Wind Fan

The Biolan Wind Fan is an efficient exhaust fan that is powered by the wind. It is ideal for improving the ventilation in warehouses, dry toilets, bathrooms, small scale water treatment plants etc, and locations that need good ventilation. The Wind Fan is made of aluminium, and thanks to its very mobile bearing, even a slight breeze can improve ventilation significantly.

Product number: 70572500



Biolan Exhaust Ventilator

The Exhaust Ventilator with electric drive is designed to improve the ventilation of the dry toilet. The connectors of the Exhaust Ventilator fit directly onto a pipe 75 mm in diameter. The ventilator only requires electric power of about 10 W. The ventilator operates with a voltage of 12 V and its rotational speed can be adjusted using the transformer included in the package.

Product number: black 70575410, white 705420



About the guarantee

The Biolan Komplet Dry Toilet is guaranteed for one year.

1. The guarantee is valid from the date of purchase and covers possible defects in material and workmanship. The guarantee does not cover any indirect damage.
2. Biolan Oy retains the right to decide about repairing or replacing damaged parts at its discretion.
3. Any damage resulting from careless or forcible handling of the device – from failure to observe the operating instructions, or from normal wear – will not be covered by this guarantee.

For matters related to the guarantee, please consult Biolan Oy directly.

BIOLAN®

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