

BIOLAN®

KOMPLET DRY TOILET

INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE

| | |
|---|---------------------|
| Serial No. | |
| Assembler | Date of manufacture |
| Stamp of seller, signature and date of purchase | |



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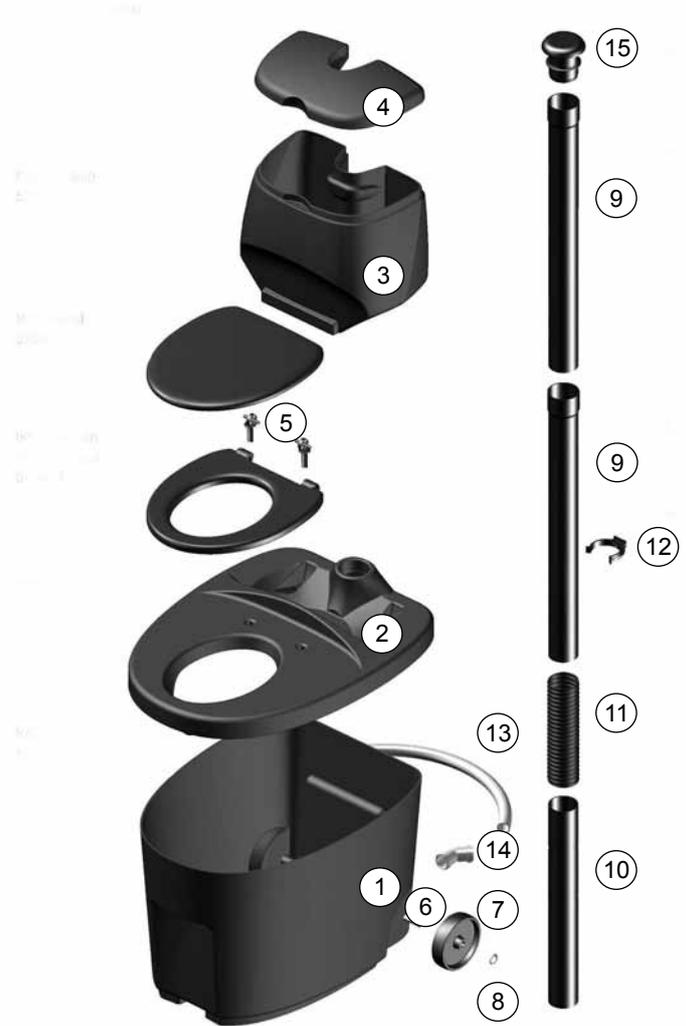
Components of the Biolan Komplet Dry Toilet

| | 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 | Liquid removal hose of 1.5 m | 28704080 | PE |
| 14 | Angular sleeve connector | 28707090 | PE |
| 15 | Ventilation pipe cap | 18710250 | PE |

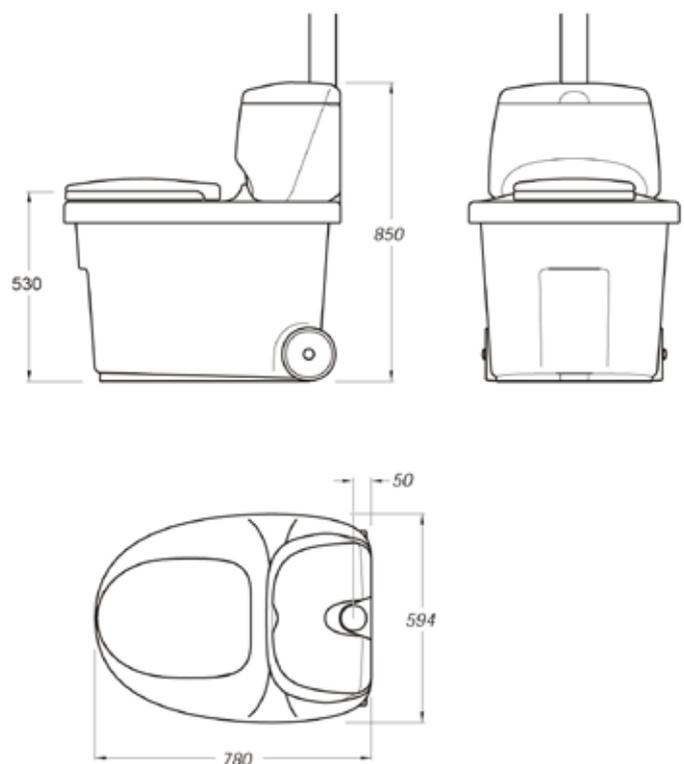
In addition to the components illustrated in the components picture, the Komplet Dry Toilet also includes:

| | | | |
|--|---|----------|------------|
| | Bucket for dosing | 18704100 | |
| | Instructions for use | 27704130 | Paper |
| | Compost and Toilet Bulking Material, 40 l | 70562100 | Package PE |

* Part 25 is available in most gardening and hardware shops under the product name "Pehvakka".



Dimension drawing of the Biolan Komplet Dry Toilet



BIOLAN KOMPLET DRY TOILET

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

1. Planning and installation

When selecting the right location for the Biolan Komplet Dry Toilet, and then building it, it is essential to provide sufficient space for its use and maintenance. Also, the ventilation pipe must be routed without any bends through the roof above the ridge. The liquid shall be collected in a closed tank for later utilization, using an evaporating pan or treating it with Biolan Suotis (see optional equipment on page 6). The toilet's location and post-treatment of its solid waste must also be carefully planned in order to facilitate easy servicing of the unit.

Technical specifications

- length 78 cm, width 59,4 cm
- sitting 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 liquid removal pipe 32 mm

1.1 Placing the Komplet Dry Toilet in the toilet space

Place the Komplet Dry Toilet at a level position on the floor. When selecting the location for the unit, the space required for ventilation, the liquid removal system and maintenance of the unit need to be taken into account.

1.2 Installing the ventilation pipe

The ventilation pipe is led from the toilet unit straight up above the roof ridge. Any bends in the ventilation pipe impede natural ventilation, causing odour problems. The ventilation pipe is joined up in accordance with the component picture on page 2 and the lead-through on the roof is sealed using sealant suitable for the roofing material. As required, the ventilation pipe can be extended using a sewage pipe 75 mm in diameter.

In complicated installations, or if the toilet is being erected to serve living quarters, it is recommended that the ventilation be ensured using the separate Biolan Exhaust Ventilator or the Biolan Wind Ventilator. These ventilators are available as options and can be retrofitted as required (see p.6).

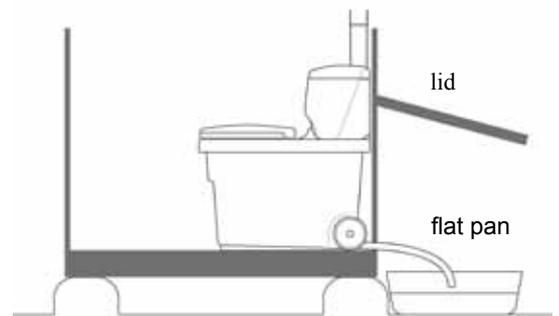
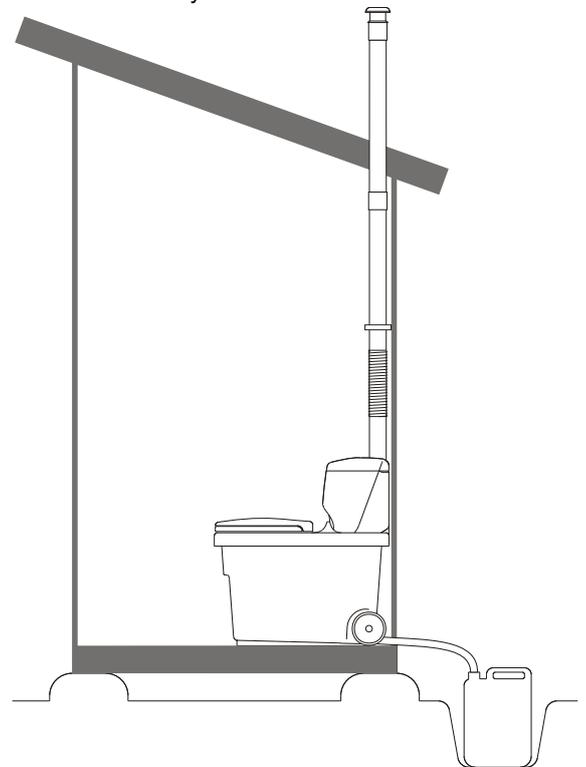
1.3 Leading off the seep liquid

From the toilet unit, the seep liquid shall be routed into a liquid tank, an evaporating pan or Biolan Suotis. During installation, provide the required gradient to enable unobstructed flow of the liquid all the way to the drain. Depending on the installation location, the lead-through can be accomplished 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. Observe the possible use in the winter when laying the seep liquid pipe and locating and insulating the canister.

Where the liquid is routed into an evaporating pan, the pan shall be fitted with an overhead rain lid. To neutralise odours, we recommend using Biolan Ground Peat (product number 70544200) in the pan.

Example picture of installation

this picture is indicative only



The flexible ventilation pipe (part 19) is easiest to install when it is warm, using a screwdriver as a stretching aid. As necessary, the surfaces can be made slippery using, for example, dishwashing detergent.

Any curves in the ventilation pipe impair natural ventilation, causing odour and moisture problems.

Liquids rich in nutrients must not be allowed to enter the soil, as they 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 fertilizer. Seep liquid is also an excellent starter for garden compost.

2. Use and maintenance of the Biolan Komplet Dry Toilet

The Komplet Dry Toilet must be used and maintained in accordance with the instructions. This makes use and maintenance of the toilet more pleasant. The Komplet Dry Toilet is intended for composting toilet, including toilet paper. Do not put into the toilet anything that could hamper post-treatment of the toilet waste, such as:

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

2.1 Before use

Put a layer about 5-cm thick of Biolan Compost and Toilet Bulking Material 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 some bulking material. Applying suitable bulking material is essential for proper operation of the toilet. We recommend using the Biolan Compost and Toilet Bulking Material as bedding. The Compost and Toilet Bulking Material efficiently absorbs odours and keeps the toilet compost airy.

2.3 Year-round use of the toilet

Installed in a warm space, the toilet can be used all year round. This requires that thermal insulation of the ventilation and the liquid removal systems in cold spaces be taken into account.

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. If the liquid is collected in a canister, the canister must be emptied 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

1. Disconnect the ventilation pipe (part 21) of the toilet and the bulking material container from the top of the unit for emptying.
2. Turn up the angular sleeve connector and disconnect the liquid removal hose.
3. Drag or carry the tank to the emptying location. The body of 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. Seep liquid, rich in nutrients, can be utilized as a source of nitrogen for compost. In particular, this improves the composting process of garden compost that is rich in carbon but poor in nutrients.

Seep liquid can also be used as fertilizer for ornamental plants in the yard and garden. A safe dilution ratio is 1:5. Undiluted seep liquid can also be used, but the area must then be carefully watered after the application to avoid early blight. Fertilizing 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 fertilizer is approximately one year.

2.6 Cleaning the Komplet Dry Toilet

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

3. Problems that may occur

3.1 Odours and moisture

No odour problems occur in the Komplet Dry Toilet provided that it is installed and used in the correct manner. If odour problems occur, check 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, you should repair the installation or improve the ventilation by installing a separate Biolan Exhaust Ventilator or a Biolan Wind Ventilator (see 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 (product number 70562100). If a mixture of peat and wood shavings 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, fruit flies etc. Using a fly net does not prevent these tiny flies from entering the compost. If flies appear in the compost:

- make sure that you have used the Biolan Compost and Toilet Bulking Material (product no. 5621) as bedding. 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 the flying flies using a pyrethrin-based insecticide (e.g. Bioruiskute S, Raid). Repeat the spraying three to four times at intervals of two days to exterminate the new generations of flies emerging from eggs and maggots. In addition the fly maggots can be eradicated using substances based on fly bacteria that are available at e.g. agricultural stores. A bacterial treatment is long lasting and safe. This bacterium, living in the ground, can in most cases survive in the compost throughout the summer.
- make sure 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, you should repair the installation or improve the ventilation by installing a separate Biolan Exhaust Ventilator or a Biolan Wind Ventilator (see 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 utilized.

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

Organize the composting so that no liquids seep from the compost into the soil. The Biolan Garden Composter or the Biolan Biolan Stone Composter (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. 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 efficient, the living conditions of the micro-organisms must be taken care of. The basic requirements for compost are the presence of oxygen, moisture and nutrients.

The micro-organisms in the compost live in the water, so the compost must be suitably moist. To ensure that the compost is airy, coarse bulking material or branch chaff is used in layers among the waste. Compost that is too tightly packed or too wet is anaerobic and starts to rot and smell.

After the addition of toilet waste or liquid, carefully cover the surface of the compost with bulking material, garden waste or peat. To enable proper composting of all the ingredients of the compost, turn over the compost at least once during the summer. Toilet waste, composted with care, makes excellent matter for improving the soil for plants, bushes and trees.

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

Biolan accessories

Biolan Compost and Toilet Bulking Material

Biolan Compost and Toilet Bulking Material is a blend for composting and dry toilets. It is made of dried, clean conifer bark and peat. Compost and Toilet Bulking Material gives the compost an airy structure, which ensures effective and odourless composting. Package 40 l.



Product no. 70562100

Biolan Pehvakka

The Pehvakka thermal seat is a Finnish hinged thermal lavatory seat made of polypropylene plastic. You can clean the Pehvakka thermal seat using any common domestic cleaning agents. The flexible foam material neither cracks in use nor absorbs moisture.



Product no. 70578500

Biolan Wind Fan

The Biolan Wind Fan is a wind-powered exhaust fan. It is ideal for improving the ventilation of dry toilets and other locations that require good ventilation. Only a slight breeze is needed to improve ventilation significantly. Fits to a pipe of 110 mm or 75 mm in diameter.



Product no. 70572500

Biolan Suotis

Biolan Suotis is a biochemical filter for liquid separated on the bottom of the dry toilet. The unit purifies the seep liquid so that after treatment it can be conducted directly to the nature. The filter operates by gravitation, and it requires no electricity supply. The capacity of the filter is 60 litres of seep liquid.



Product numbers: 70572100

Biolan Exhaust Ventilator

The Exhaust Ventilator is designed to improve ventilation of the dry toilet in complicated installations. Use of the ventilator is recommended where, for example, the air outlet pipe needs to bend and curve, which impairs natural ventilation. The couplers of the fan fit directly to a pipe 75 mm in diameter, so it is easy to install to the air outlet pipe of the Biolan Separating Dry Toilet. The output of the ventilator can be adjusted. The ventilator operates with a voltage of 12 V.



Product no. 70575400

Biolan Garden Composter

The Biolan Garden Composter is intended for composting of garden and toilet waste. Equipped with the bottom basket, which is available as an option, it is also suitable for composting domestic waste. Colour: green. Volume about 900 litres. Dimensions: 154 x 92 x 106 cm (w x h x d). Dimensions of the bottom basket: 154 x 5 x 107 cm (w x h x d).



Product no. 70572000

Biolan Stone Composter

The Biolan Stone Composter is a lightly thermally insulated Finnish composter, for garden, domestic and toilet waste. The composter is strongly built and weatherproof. Its hinged cover makes daily use easier. Colour: red granite and grey granite. Volume about 450 litres. Weight 19 kg. Dimensions: 114 x 95 x 95 cm (w x h x d).



Product numbers:
red granite 70573100,
grey granite 70573200

Visit www.biolan.fi for the latest product information

Matters related to the guarantee

The Biolan Komplet Dry Toilet has a guarantee of 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.

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