

Biowaste Composter

Instructions for use

Biolan Biowaste Composter is designed for year-round composting of kitchen waste. The thermally insulated composter with an efficient ventilation system quickly produces compost. Biolan Biowaste Composter has been dimensioned for the biowaste generated by a single family. If Biolan Biowaste Composter is used in the correct manner, the mass will be efficiently composted, which will make using and unloading of the composter more pleasant.

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Dimensions

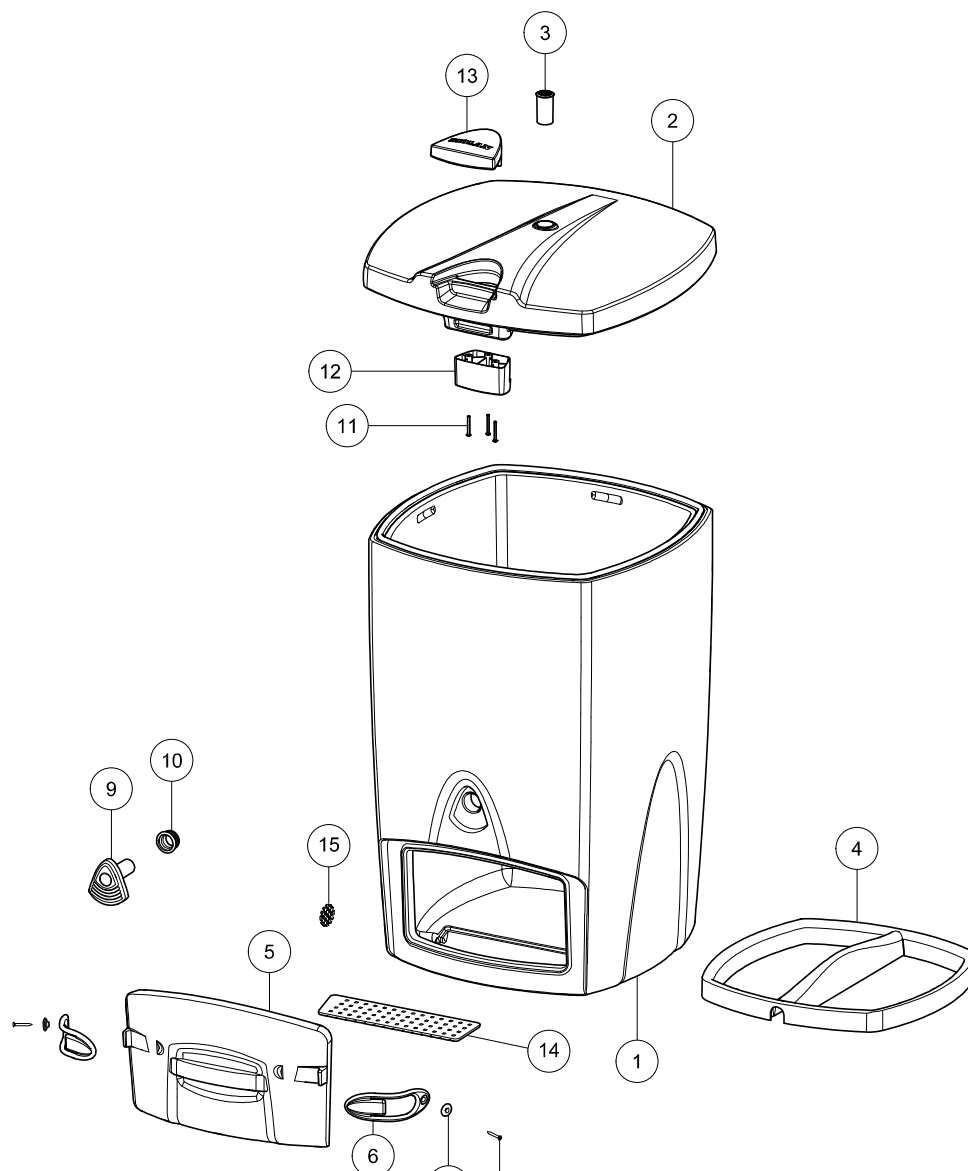
volume approximately	200 litres
capacity (depending on the volume and type of waste)	1-6 persons
Bottom (w x d)	54 x 54 cm
Lid (w x d)	62 x 63 cm
Total composter height	100 cm
Working height	91 cm
Weight when empty approximately	21 kg
Weight when full approximately	100-150 kg
Weight of lid when opened	1.5 kg
Diameter of seep liquid opening	32 mm

Parts list

Part	Item	Part number	Material
1	Frame	17792901	PE+PU
2	Lid	17710040	EPP
3	Exhaust air valve	18710400	PP
4	Inlet air channel	18792003	PE
5	Unloading door	18790950	PE+PU
6	Latch	18710370	EPDM
7	Washer for rubber latch strap	18726140	PE
8	Latch screw	20010023	RST
9	Inlet air valve	18792901	PE
10	Lead-through rubber 30/40	19780050	EPDM
11	Screw for fixing handle 4,5 x 45 tx 20 A2	20010024	RST
12	Hook	18704096	PP
13	Handle	18704095	PP
14	Liquid separation plate	18710141	PE
15	Rodent shield	21900020	RST

In addition to the parts shown in the detail, the composter includes the following:

	Instructions for use	27579070	Paper
Installed	Lid gasket	19733220	Silicone
Installed	Unloading door gasket	19733210	PE



1. Composting permits and regulations

The permits and regulations applicable to composting vary from country to country and municipality to municipality. Consult your local municipal environmental authority for the regulations valid in your area.

2. Choosing correct composter location

Place the Biowaste Composter in a place where you can easily take your waste and unload the composter all year round.

Set the composter up on a firm surface at a location with good drainage. Make sure that the composter is level.

The Biowaste Composter includes a seep liquid opening in the bottom left-hand side to drain any excess liquid. Place the composter directly onto the ground so that the soil will absorb any seep liquid. Alternatively, you can collect the seep liquid (see Chapter 3.1).

If the compost mass is unusually wet, seep liquid may also seep from under the unloading door (part 15) and from the inlet air valve at the front of the composter (part 9).

3. Prior to use

Place the liquid separation plate (part 16) in the recess located in the bottom of the composter (the seep liquid drain). The purpose of the liquid separation plate is to separate any excess liquid from the compost mass. The plate can be detached and cleaned if necessary.

3.1 Attaching the seep liquid hose and draining liquid

The Biowaste Composter has a seep liquid opening in the bottom left-hand side to allow any excess liquid to drain from the composter and be absorbed into the ground. You can collect the seep liquid in a container if you like, but this is not mandatory. Remove the rodent shield from the seep liquid opening in the bottom edge of the composter with a screwdriver, for example. Connect a liquid hose, diameter 32 mm, to the seep liquid opening in the bottom edge of the composter. Place the other end of the hose in a container located in such a place that the liquid will flow downhill.

4. Commissioning

Place a layer of five centimetres (5 cm) of Biolan Bulking Material in the bottom of the composter.

Start using the composter in the manner described in Chapter 5. When you are putting waste into the composter for the first time, use more bulking material than recommended – you can reduce the amount later on.

4.1 Starting the composting process

The composting process will start when there is enough waste in the composter, i.e. the composter is approximately half full. Once the process has started, the waste will turn into cover soil in approximately five to eight weeks. The start of the process may be slower if the outdoor temperature is less than 0°C. The micro-organism population that will develop inside the composter will increase the temperature inside the composter and keep it at this level, provided that waste is regularly added to the composter. The composter's thermal insulation material will keep the heat in and prevent the outdoor air from cooling the compost mass.

The best indicator of a well-functioning composter is the quality of the compost mass when the device is being emptied. If the composter is working fine, the waste will have disintegrated, except for citrus fruit peels or eggshells, which may still be clearly identifiable.

5. Using the Biowaste Composter

The composter is intended for biodegradable materials only. Do not place anything in the composter that could impede the composting process or will not turn into compost, such as:

- Plastic, rubber, glass, leather
- Chemicals, wood preservatives and disinfectants, paints, solvents, petrol
- Detergents, washing water
- Lime
- Ash, cigarette butts, matches
- Hoover bags
- Coloured advertisement paper
- Large quantities of paper

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5.1 Loading

- Empty the biowaste container into the composter. Please note that the larger the pieces of waste you put into the composter, the longer it will take for them to disintegrate.
- If you use biodegradable rubbish bags, empty the content of the bag into the composter and put the bag in separately.
- Always cover the waste with Biolan Bulking Material. Usually the proper amount is approximately one-third to half of the amount of new waste deposited in the composter. If the waste is wet, use more of the bulking material.
- Continue adding more waste to the composter as you generate more waste. Try to add more waste to the composter several times a week. This is especially important during the cold season.
- Stir in the most recent compost down to some 20–30 cm from the surface. You do not need to mix the compost after every loading. The more bulking agent you use, the less mixing the mass requires.
- Do not mix the entire compost mass all the way down to the bottom to prevent the already cooled lowermost layers from cooling down the compost mass that is still warm.

5.2 Unloading

- The Biowaste Composter must be emptied all year round. Unload the composter when it is almost full, more often during the cold season than during the warm season. After the composter has been unloaded, there is more oxygen in it, which will often increase the temperature inside the composter.
- In the wintertime, only remove a little bit of the compost mass at a time. In the summertime, you can remove more, but always unload at the most half of the compost mass.
- Open the unloading door (part 5) and remove some of the mass from the bottom of the composter with a shovel.
- Also clean the area under the seep liquid plate (part 16) and make sure that there is no blockage in the seep liquid hose.
- If the mass you removed was very wet, place a couple of shovelfuls of Biolan Bulking Material in the bottom of the composter.
- Close the unloading door.
- Press down the mass from the top with the shovel, for example. It will be easier if you start from the corners. Take care not to damage the inlet air channel located in the centre of the composter.
- Empty the seep liquid container, if necessary.

5.3 Issues to be taken into account during the cold season

The composting waste generates heat inside the composter; the device itself does not generate any heat. Micro-organisms require fresh waste regularly to maintain their vital functions.

The thermal insulation of the Biowaste Composter prevents the heat from getting out and, thus, promotes the operation of the composter and prevents the compost mass from freezing.

- Regular use of the composter, i.e. loading and unloading, is very important during the cold season. It is the only way to keep the conditions inside the composter favourable to the micro-organisms and thus keep the composting process going.
- Don't reduce the amount of bulking material or stop using bulking material altogether during the cold season: using enough bulking material is especially important when it is cold, as wet compost mass will freeze up more easily.
- Store the bulking material in a warm space where it is protected from the rain.
- Make sure that the inlet and outlet air valve (parts 9 and 3) of the composter do not freeze over, as it would prevent proper ventilation of the composter. Remove any ice.
- The composter, its parts or the compost mass will not be damaged if the compost mass does freeze over. The composting process will continue when the compost mass thaws at the latest.

5.4 Cleaning the Biowaste Composter

- Do not wash the composter. Various moulds and ray fungi are important decomposing organisms in the compost, and you should not wash them away.
- Clean the inlet air valve (part 9), the exhaust air valve (part 3) and the seep liquid hose (if any) with water, if necessary.

6. Using compost and seep liquid in the garden

Compost is an excellent soil conditioner and contains nutrients with a long-lasting effect for plants to use. Compost soil is usually divided into two groups based on how mature it is: semi-mature cover soil and mature compost soil.

Maturing cover soil into compost soil

When you unload mass from the Biowaste Composter, the mass has usually matured to the cover soil stage. It is recommended that cover soil only be used for covering the growing beds of ornamental plants. If you want to use it for edible plants, you should post-compost it for another year to mature the mass into proper compost soil.

Using cover soil

Cover soil refers to semi-mature compost mass. The decomposition process has progressed to a stage in which food waste has decomposed. Harder wood matter and eggshells and citrus fruit peels, for example, may still be visible, so cover soil looks coarse. Semi-mature compost may still contain substances that will impede growth and germination, so it should not be used as a growing medium. Cover soil is not harmful to plants when spread to cover the beds of ornamental plants in a layer of a couple of centimetres. This will allow the nutrients contained in the compost to release for the plants to use.

6.1 Using mature compost soil

The fertilizing effect of compost depends on its raw materials. The nutritional value of compost made from household waste is usually higher than compost made from gardening waste. Compost soil alone does not make for a good substrate; instead, you should add one-third to half of mineral soil, such as sand, silt, loam or clay.

6.2 Using seep liquid

If you use a hose connected to the composter's seep liquid opening to collect excess seep liquid from the bottom of the composter, you can utilise it in the garden. The seep liquid contains nutrients which plants can readily use.

- Use seep liquid diluted with water (minimum ratio 1:2) when watering your garden plants.
- You can also recycle seep liquid in your Biowaste Composter by pouring it back into the compost mass from the top. Add some bulking agent and absorb a maximum of 5 litres of liquid per day. If the mass is already wet, do not moisten it further with seep liquid.

7. Troubleshooting

7.1 Rotten odour

If the composter has an odour of rot or decay, the compost mass is too dense or wet, or there is no oxygen inside the composter.

- Make sure that you are using bulking material suitable for a composter.
- Make sure that you have used enough Biolan Bulking Material.
- Temporarily increase the amount of bulking material until the compost mass is no longer too wet.
- Remember to open and empty biodegradable bags before you place them in the composter.
- Unload some of the wet compost mass from the bottom of the composter (see Chapter 5.2). Place a couple of centimetres of the mass around your ornamental plants. The unpleasant odour will dissipate in a few days. Add a couple of shovelfuls of Biolan Bulking Agent to the bottom of the composter through the unloading door (part 5). Compact the mass and mix plenty of Biolan Bulking Agent in it.

7.2 Ammonia odour

If the composter smells like pungent ammonia, the compost mass is releasing nitrogen. If there is too much of nitrogen in relation to carbon, the micro-organisms will not be able to utilise it.

- Make sure that you have not added too much materials containing nitrogen, such as urine or chicken poop, in the composter. Stop adding too much nitrogen into the composter.
- Do not put any ash or lime in the composter.
- Make sure that you are using bulking material suitable for a composter.
- Make sure that you have used enough Biolan Bulking Material.
- Temporarily increase the amount of bulking material you use when loading the composter until the unpleasant odour disappears.
- Mix the compost mass.

7.3 Composting process does not start

- Mix the top of the compost mass and look through the unloading door to make sure that the mass is suitably moist.

If the mass is suitably moist:

1. The composting process has not started yet (see Chapter 4.1). Continue loading the composter normally.
2. The volume of waste is so low that the temperature inside the composter is not high enough. It will take longer for the waste to become compost. Continue using the composter normally. Whether there is enough time for the waste to compost before you unload the composter is more important than a high temperature. If you want to speed up the composting process, add more nitrogen. You can use a starter agent designed for composters, for example.
3. The mass at the bottom of the composter has composted to a stage where it is no longer hot. Unload some of the compost mass and continue using the composter.

The compost mass is too wet:

- Make sure that you are using bulking material suitable for a composter.
- Make sure that you have used enough Biolan Bulking Material.
- Temporarily increase the amount of bulking material until the compost mass is no longer too wet.
- Remove the wettest part of the compost mass from the bottom of the composter. Add a couple of shovelfuls of Biolan Bulking Agent to the bottom of the composter through the unloading door. Compact the mass from the top and mix plenty of Biolan Bulking Agent in it.
- In future, make sure that the compost mass does not get too wet.

The compost mass is too dry:

- Use warm water to wet the mass.
- Remove the excessively dry waste from the bottom of the composter, wet it and place it back into the composter.
- In future, make sure that the compost mass remains moist enough.

7.4 Compost mass freezes over

- Act before the compost mass completely freezes over. If the composter is full, unload some of the mass also in the wintertime.
- Prevent freezing by using the composter (= loading and unloading it) to keep the micro-organisms active. See Chapters 5 and 5.1-5.4.
- Make sure that the composter is always fairly full in the wintertime; only unload small quantities of compost mass at a time.
- Pay attention to how moist the compost mass is: wet compost mass will freeze up more easily (see Chapter 7.3).
- Use plenty of Biolan Bulking Agent in the wintertime. You can add a starter agent to the surface layer to promote the composting process. Cover it with a layer of bulking agent.
- Pile some snow around the composter to keep it warmer.
- Warm the compost mass by, for example, placing a ten-litre canister filled with hot water inside the top layer and replacing the water sufficiently often.

7.5 Compost mass is too dense

- Add plenty of Biolan Bulking Agent. Mix the bulking agent into the compost mass.
- In future, use more of the bulking agent and make sure not to create dense layers of grass, root vegetable peels, leaves, etc. when loading the composter.

7.6 Flies or fly larvae in the composter

If the mass is too wet, there is a chance that the compost contains flies. Fly larvae are white worms with a black head. They are approximately one centimetre in length. Also see Chapter 7.3.

- Add plenty of Biolan Bulking Agent, mix it into the compost mass and use more of the bulking agent in future.
- Mix the topmost part of the compost mass into the rest of the mass. Fly larvae will die when the temperature reaches approximately +43°C.
- Add a layer of approximately 2 cm of the bulking agent on top. In future, make sure that any meat and fish scraps, in particular, are properly covered.
- Carefully flush the inner walls and lid of the composter with hot water to destroy any eggs and larvae.
- You can also spray pesticide containing pyrethrin as the active ingredient in the compost to prevent flies. Contact your garden supply store for advice on how to select a suitable product.

7.7 Ants in the composter

The composter includes food and a good environment for ants, which means that it is difficult to keep them away. Ants usually like to make their home in the compost mass at the bottom of the composter that is cooling down. The ants will not harm the composting process.

- Make sure that the compost mass is not too dry.
- Unloading small amounts of the compost mass regularly will stop the ants from becoming too comfortable in their surroundings.

7.8 Mould in the composter

Mould is one of the decomposers in a composter, and the presence of mould in a composter is normal.

- Do not remove the mould.
- Continue using the composter normally.

7.9 Fungi in the composter

Fungi digest wood in the compost mass, such as the rough part of the bulking material, and the presence of fungi in a composter is normal.

- Leave the fungi alone: they will disappear on their own.
- Continue using the composter normally.

Product disposal

The materials that the product is made of are indicated in the parts list (p. 4). Dispose of each part appropriately. Always follow the regional and collection-point specific instructions.



PE-LD



PE-HD



PP

Waste-to-energy collection or plastics recycling:

EPDM = ethylene propylene

PE = polyethylene

PP = polypropylene

EPP = Expanded polypropylene

Energy waste collection:

PU = polyurethane

Silicone

Metal recycling:

RST = stainless steel

Waste paper collection:

Paper

Warranty

Biolan Biowaste Composter has a warranty of one (1) year.

1. The warranty is valid from the date of purchase and covers any material defects in materials and workmanship. The warranty does not cover any indirect damage.
2. Biolan Oy reserves the right to either repair or replace damaged parts at its discretion.
3. Any damage resulting from careless or forcible handling of the device, failure to observe the operating instructions, or normal wear and tear are not covered by this warranty.

For warranty-related matters, please consult Biolan Oy directly.