



# BIOLAN

## COMPOSTER 220<sup>eco</sup>

### Instructions for use

The Composter Biolan 220<sup>eco</sup> is intended for the year-round composting of kitchen waste. Thanks to its thermo-insulated structure and the efficient ventilation system, ready compost is processed rapidly. You can follow the wonder of composting by monitoring the thermometer and looking through the emptying doorway. The Composter Biolan 220<sup>eco</sup> is dimensioned for the biowaste of one family (1-6 persons).

Proper use of the Composter Biolan 220<sup>eco</sup> allows more efficient composting of the mass, and enables more convenient use and emptying of the composter.

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Keep these instructions for use!



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#### Dimensions

volume	about 220 l
capacity depending on the amount and type of waste	for 1-6 people
bottom area	54 x 54 cm (w x d)
top area	73 x 80 cm (w x d)
height of the composter	115 cm
working height	102 cm
weight of an empty composter	about 30 kg
weight of a full composter	100-150 kg
weight of the cover when opening	3.5 kg
diameter of the seep liquid hole	16 mm

## Component list

Component	Part name	Part No.	Material
1	body		PE + PU
2	top, grey	17790002	PE + PU
3	convex sticker	27710360	PE
4	lock bearing	18790004	PE
5	spring wire (for the lock)	21579001	RST
6	lock handle	18790005	PE
7	lead-through rubber 30/40 2 pcs. (1 installed)	19780050	EPDM
8	outlet air valve	18790903	PE
	outlet valve cover		PE
	outlet valve adjuster		PE
9	plastic/metal screw (for the supporter), 2 pcs.	20040005	PP + ST Zn
10	plastic nut (for the supporter)	20020005	PP
11	cover stay	18790016	PE
12	hinge pin, 2 pcs.	18790002	PE
13	hinge, 2 pcs.	18790003	PE
14	ball-headed screw (for the hinge), 2 pcs.	20010025	RST
15	emptying door, grey	17790003	PE + PU
16	latch, 2 pcs. and	40580006	EPDM
17	latch washer, 2 pcs. and		PP
18	latch screw, 2 pcs.		RST
19	liquid separator plate	18710141	PE
20	inlet air valve body	18579001	PE
21	inlet air valve cover	18579003	PE
22	inlet air valve adjuster	18579002	PE
23	thermometer	29726070	RST
24	lower air pipe	18790906	PE
25	connecting air pipe	18790014	PE
26	upper air pipe	18790905	PE
	In addition to the components illustrated in the components picture, the Biolan 220 <sup>eco</sup> also includes:		
	rodent guard (for the seep liquid hole)	21900010	RST
	filling plug for urethane, grey, 3 pcs.	18790001	PE
	insert, 3 pcs.	20020016	ST Zn
	lockhandle screw	20040030	RST
	name tag	27790010	PE TOP + PP TOP
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Spare parts sales:

Please contact your dealer or Biolan Oy.



Fig. 1: Adjustment of the inlet air valve:  
arrow to the left = minimum flow



Fig. 2: Adjustment of the inlet air valve:  
arrow to the right = maximum flow



Fig. 3 Tank for collecting seep liquid

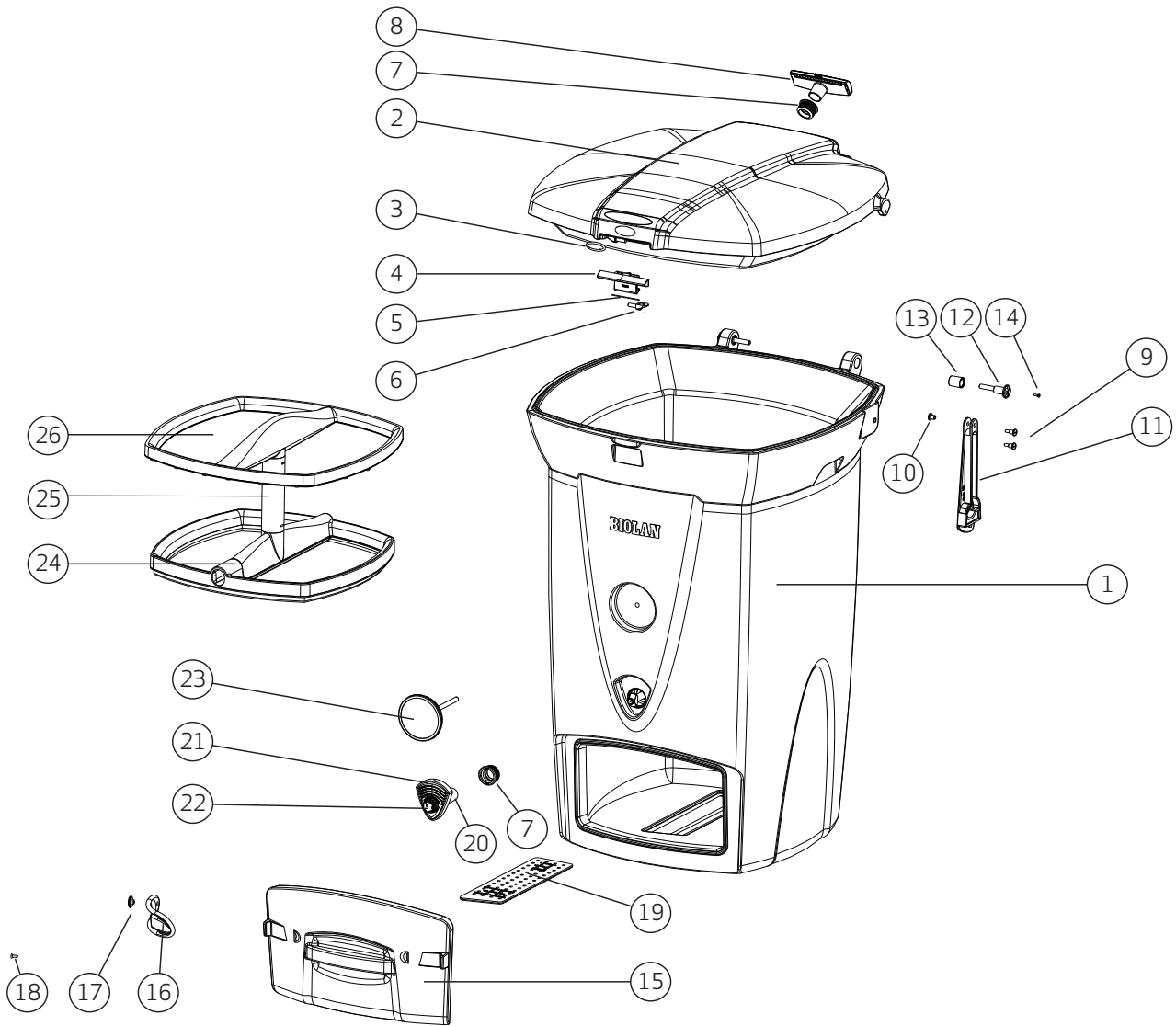
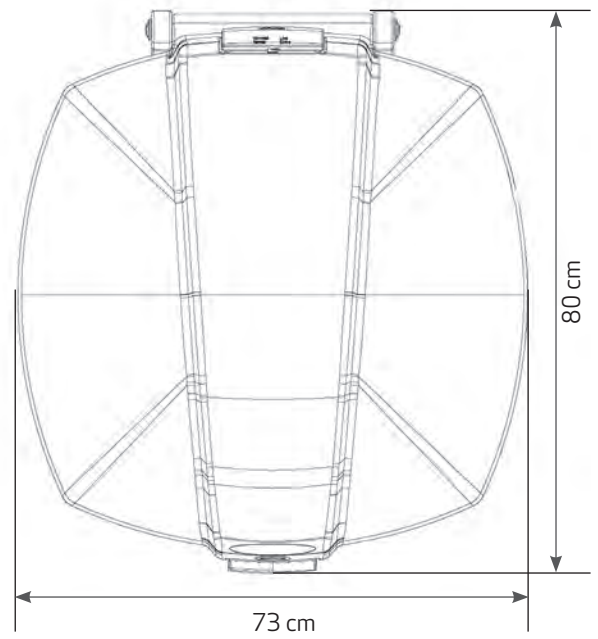
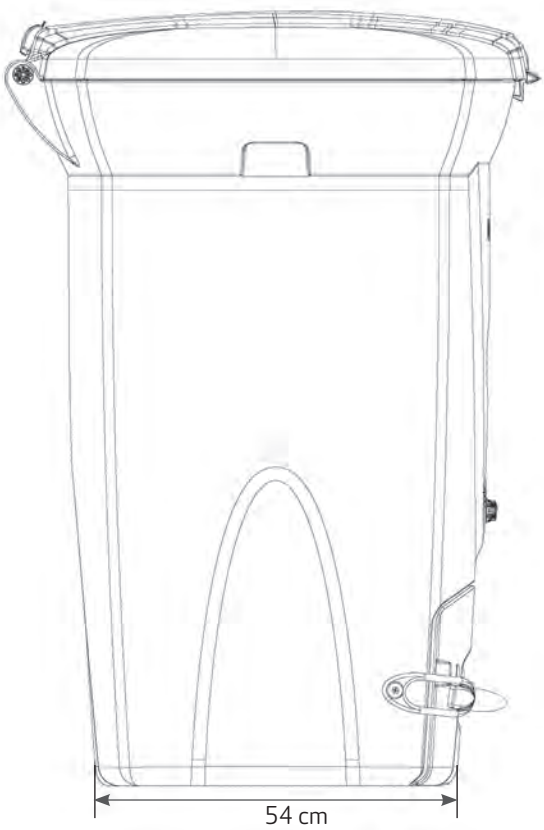
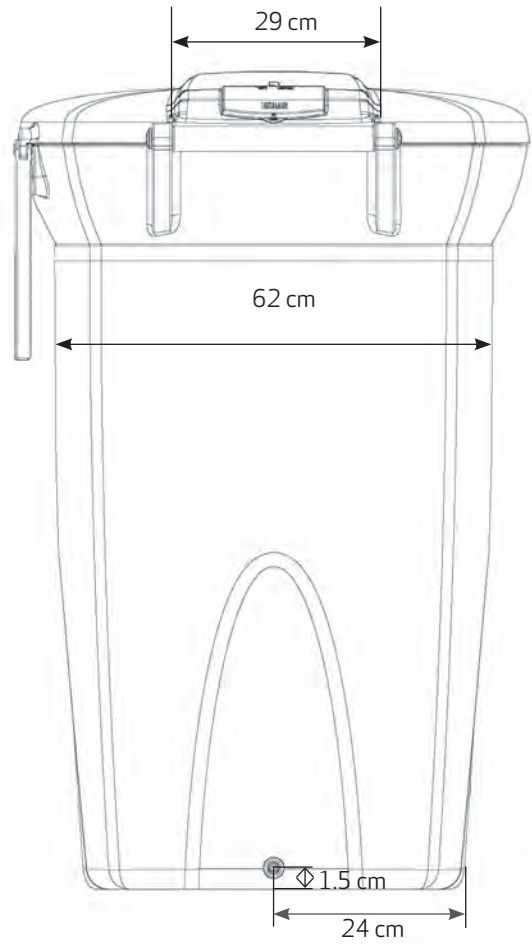
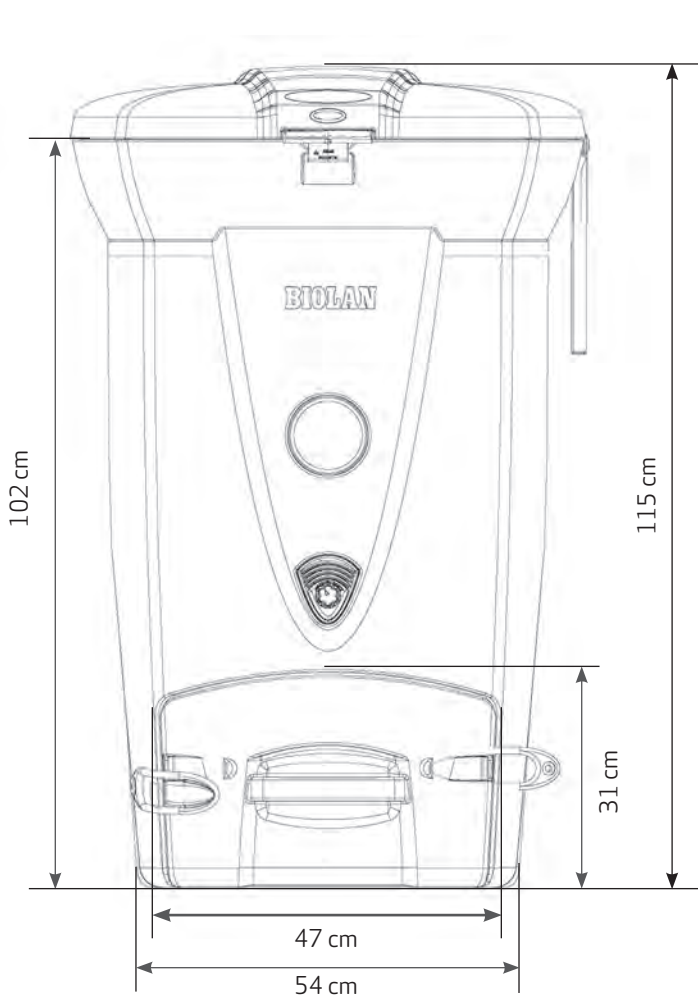


Fig. 4 Air outlet valve in the normal position



Fig. 5 Air outlet valve in the extra-position

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# (EN) INSTRUCTIONS FOR USE

## 1. PERMISSIONS AND REGULATIONS APPLYING TO COMPOSTING

The permissions and regulations applying to the composting vary from country to country, or even from municipality to municipality. Consult your local municipal environmental authority for the regulations valid in your own municipality.

## 2. SELECTING THE LOCATION FOR THE COMPOSTER

Place the Composter Biolan 220<sup>eco</sup> in a location where it will be easy to take the waste, and where the emptying is easy all year round. Place the composter on a firm surface in a location where water will not gather. Place the composter on a level surface or incline it slightly to the rear by raising its front edge a little.

The Biolan 220<sup>eco</sup> has a hole for seep liquid in the lower part behind the unit for draining any excessive liquid. Place the composter in direct contact with the ground so that possible seep liquid can be absorbed into the soil. Optionally, you can collect the seep liquid for later use (see point 3.1).

If the compost mass is exceptionally wet, some seep liquid can run out from under the emptying door (part 15) or can seep through the inlet air valve in the front wall (part 21).

## 3. BEFORE THE USE

Check that the knob of the outlet air valve is in the position "normal", i.e. to the left as seen from behind the composter.

Fix the stay for the cover (part 11) in place on the cover using the screw (part 9) and the plastic nut (part 10). Fix its lower end to the body by means of the screw (part 9). Put the liquid separator plate (part 19) into place in the recess at the bottom of the composter, i.e. in the seep liquid chute. The purpose of the liquid separator plate is to extract any excess liquid from the compost mass. If necessary, the plate can be removed and cleaned.

### 3.1 Connecting the seep liquid hose and conducting the liquid

The Biolan 220<sup>eco</sup> has a hole in the lower part behind the unit, for draining off any excess liquid allow it to be absorbed into the soil. If you want, you can conduct the seep liquid into a collecting tank, but this is not mandatory. Remove the rodent guard from the seep liquid hole, located behind the unit at the lower edge, using e.g. a screwdriver. Connect a fabric-reinforced garden hose of 16 mm to the seep liquid hole in the lower part at the back of the unit. Route the hose into a canister, which you have placed in such a position that the liquid will flow into it by gravity. If you want, you can make a pit with a cover from film-faced plywood and insulate it externally (as shown in Fig. 3).

Even any canister made from frost-resistant plastic fits for the purpose. You can obtain the canister from the dealer.

## 4. STARTING THE USE

Put a 5 cm-thick layer (about 20 litres) of Biolan Compost and Toilet Bulking Material on the bottom. Turn the inlet air valve (part 22) in the front wall to the left (see Fig. 1).

Start to use the composter as instructed in point 5. Add bedding more generously during the first filling. You can reduce the amount of bedding later.

## 4.1 Start of the composting process

The composting process starts as soon as there is a sufficient amount of waste in the composter, i.e. the surface of the waste has reached the level of the air channel. The temperature in the composter is raised and maintained by the vital functions of the micro-organisms that will be created in the composter, provided that waste is added regularly. The insulation of the composter keeps the heat inside, and prevents the outside air from cooling the mass.

In the Composter Biolan 220<sup>eco</sup> the temperature of the mass varies between +10 – +70 °C. Typically, the reading of the temperature gauge is between +30 and +40 °C. Observe the location of the thermometer (part 23) at the upper air pipe (part 26). The thermometer gives indicative information about the various stages of the composting process and the temperature during the hot phase. Composting of the waste will proceed as long as there is a supply of oxygen and the temperature stays above 0 °C.

The function of the composter can at best be judged by the quality of the compost being emptied. In a well-functioning composter, the waste decomposes fully, except for the citrus fruit peels or eggshells, which still may remain recognisable. After start-up, the waste reaches the cover soil stage in approximately 5-8 weeks. If the outside air temperature is below 0 °C, the start-up may be delayed.

## 5. USING THE COMPOSTER BIOLAN 220<sup>eco</sup>

The composter is intended for biodegradable waste. Do not put anything into the unit that hampers the composting process or does not compost, such as:

- plastic, rubber, glass, leather
- chemicals, rot-resistant or disinfecting agents, paints, solvents, petrol
- detergents, washing water
- lime
- ash, cigarette butts, matches
- vacuum cleaner bags
- coloured advertising paper
- a large amount of paper at one time

### 5.1 Filling

- empty the biowaste bin into the composter. The larger the bits you place in the compost, the longer it takes for them to decompose.
- if you use biodegradable bags, empty the waste from the bag into the composter and put the bag there separately.
- always cover the waste with Biolan Compost and Toilet Bulking Material (see Accessories on page 10). A suitable amount is about 1/3–1/2 of the amount of waste added. Use more bedding if the waste is wet.
- you can also put the bedding onto the bottom of the biowaste bin. This way the bin will also remain tidy.
- Continue the filling at the same pace as the waste is accumulating. If possible, add waste to the composter several times a week. This is particularly important during the cold season.
- if the temperature of the composter is higher than the temperature of the outside air, turn the adjuster of the inlet air valve to the figure 100. Follow the temperature of the composter and the outside air. If the compost mass tends to cool down, decrease the setting until the temperature stabilises.
- using the Compostmixer, mix the part of the waste added most recently, i.e. the layer about 20-30-cm thick from the top. Mixing is not necessary after every time waste is being added. The more generously you apply the bedding, the less you need to mix the mass.
- do not mix the compost mass down to the bottom, so that the lowest layer that has already cooled down does not cool down the compost mass in the heating phase.

## 5.2 Emptying

- The Composter Biolan 220<sup>eco</sup> must be emptied all year round. Thanks to the oxygen burst, the temperature of the mass often rises in connection with the emptying. Empty the composter, when it is almost full with waste. The composter must be emptied more often during the cold season than during the warm season.
- during the winter, only empty a small amount at a time. During the summer, you can empty more – however, only a maximum of half the content.
- open the emptying door (part 15) and empty the mass the lower way using spade.
- finish the job using the Emptying Aid. Clean in particular the edges of the emptying door and its doorway.
- also clean under the liquid separator plate (part 19), and make sure that the seep liquid hose is not clogged.
- if the mass that you are emptying is very wet, shovel a couple of spadefuls of Biolan Compost and Toilet Bulking Material onto the bottom of the composter.
- close the emptying door.
- using the Compostmixer or the spade, push down the mass from the top. This is easiest to begin from the corners. Be careful not to break the air channel in the middle.
- empty the seep liquid receptacle, if necessary.

## 5.3 To be observed during the cold season

The heat in the composter is generated by the composting waste. The unit itself does not create any heat. The micro-organisms continuously need fresh waste to maintain their vital functions.

The thermal insulation of the Composter Biolan 220<sup>eco</sup> light prevents the heat from escaping, and thus sustains the operation as well as prevents freezing up.

- in the cold time of the year it is important to use the composter, i.e. to fill and empty it. Only then can such conditions be created for the micro-organisms that they will be able to maintain a temperature that is higher than the outside air temperature.
- even if the composter's gauge had shown zero for a few days, the composter can still contain some non-frozen mass. Do not stop filling the composter. If the composter fills up, empty it also in winter.
- do not reduce the amount of bulking material or stop using it during the cold season, as that is when using it in large amounts is particularly important. Wet mass freezes more easily.
- We also deliver Biolan Winter Bedding, which is developed for composting in particular during the cold season. This bedding contains the energy that sustains the activity of the micro-organisms.
- keep the bulking material in a warm space, and protect it against the rain.
- check that the circulation of air does not become obstructed if the inlet or outlet air valve (part 21 or 8) freezes. Remove any ice, as required.
- freezing of the mass neither damages the composter or its parts nor harms the compost mass. Decomposing of the compost mass will continue once the sun starts warming things up again in spring.

## 5.4 Cleaning the Composter Biolan 220<sup>eco</sup>

- Do not wash the composter. Various mould and ray fungi and micro-organisms are the decomposers in the compost, and should not be washed away.
- Clean the inlet air valve (part 21), the outlet air opening and the seep liquid hose, if necessary.

## 5.5 Using the inlet air valve

- if the temperature of the composter is higher than the temperature of the outside air, keep the adjuster of the inlet air valve (part 22), in the front wall, turned to the right, at the position 100 (see Fig. 2). Follow the temperature of the composter and the outside air. If the compost mass starts to cool down, decrease the setting until the temperature stabilises (see Fig. 1).

- during the warm season, you can, in general, keep the air inlet valve fully open, i.e. in the position 100, and during the cold season, almost closed, i.e. in the position 20 (see Figs. 1. and 2.).
- by design, the air inlet valve can never be fully closed.

## 5.6 Using the air outlet valve

- normally, the air outlet air valve (part 8) does not need to be adjusted. It is open, and cannot be closed at all. If the moisture-content of the composter is high, you can increase the ventilation by opening the valve.
- to open the valve, move its knob to the right to the position "extra", i.e. to the right, as seen from behind the composter (see Figs. 4 and 5).
- when using the composter in winter, observe that the increased ventilation may cool down the composter. Keep an eye on how the situation develops.

## 6. USING THE COMPOST AND THE SEEP LIQUID IN THE GARDEN

The compost makes an excellent soil conditioner as it contains nutrients with a long-lasting effect that are usable for the plants. Compost soil changes and develops constantly, and during different stages of its development, It should be used in a different manner. Compost soil is typically divided into two categories based on its maturity: half-mature cover soil and mature compost soil.

### Maturing cover soil to compost soil

The mass, emptied from the Biolan Composter, has usually matured to the cover soil stage. It is recommended that cover soil is only used under ornamental plants. If you wish to use it for edible plants, post-compost it for another year to allow it to develop into proper compost soil.

### Using cover soil

By cover soil we understand the semi-mature compost mass. At this stage, the decomposing has advanced to such an extent that all the food waste has already decomposed. Harder wood matter and, for example, eggshells and citrus fruit peels may not yet have completely decomposed; thus the cover soil has a rough look. The half-mature compost soil may still contain substances that hamper germination and growth. For this reason, there is no point in using it as substrate. The cover soil is not harmful to the plants, if it is applied under ornamental plants as a few centimetres thick layer. Then the nutrients, which the compost contains, will be released for the disposal of the plants.

### 6.1 Using mature compost soil

The fertilising effect of the compost depends on its raw materials. Compost created from domestic waste has in general a better nutritive value than compost based on garden waste. Plain compost soil as such does not make a good substrate, so it should be mixed with at least 1/3–1/2 of mineral soil, such as, for example, sand, silt, loam or clay.

### 6.2 Using seep liquid

If you have collected the excess seep liquid separated from the bottom of the composter via a hose connected to the seep liquid hole in the composter, you can utilise it. The seep liquid contains nutrients that the plants can make use of.

- before watering garden plants, the seep liquid should be diluted in a ratio of at least 1:2.
- you can also recycle the seep liquid by pouring it from above into the mass in the Composter Biolan 220<sup>eco</sup>. Add bedding and absorb it at most 5 litres of liquid per day. If the mass is already wet, do not water it any further with seep liquid.

## 7. PROBLEMS THAT MAY OCCUR



### Is the composting not successful?

Most of the problems result from using the wrong bedding or using it too sparsely. Also remember Biolan Winter Bedding, if you are composting during winter.

### What is the correct temperature of the compost?

In the Composter Biolan 220<sup>eco</sup>, the temperature of the composting mass varies between +10 – +70 °C. Typically, the reading of the temperature gauge is +30-40 °C. The less waste the micro-organisms have to decompose, the lower the temperature. The most important factor for keeping the composting process alive is that the mass does not freeze.

### 7.1 Smell of decay

If the composter smells rotten, the mass is too tightly packed and wet, and has run out of oxygen.

- check that the bedding used is either Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding.
- check that you have added a sufficient amount of Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding.
- increase the amount of bedding temporarily to bring the moisture-content under control.
- open and empty the biodegradable bags before putting them into the composter.
- open the outlet air valve (part 8) on the cover more (see point 5.6).
- empty wet mass the lower way out of the composter (see point 5.2). Spread it in a layer a couple of centimetres thick under ornamental plants. The unpleasant smell will disappear in a few days.
- add a couple of spadefuls of Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding through the emptying door (part 15) onto the bottom of the composter.
- drop the mass from above and mix it with a large amount of Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding.

### 7.2 Smell of ammonia

A pungent smell of ammonia from the composter means that nitrogen is evaporating from the mass. If the nitrogen content compared with the carbon content is too high, the micro-organisms will not have enough time to make use of the nitrogen.

- check that no substances with a high nitrogen content, such as urine or poultry manure, have been added to the composter. Stop adding excess nitrogen to the composter.
- do not add ash or lime into the composter.
- check that the bedding used is Biolan Compost and Toilet Bulking Material.
- check that you have added a sufficient amount of Biolan Compost and Toilet Bulking Material.
- temporarily increase the amount of bedding added until the smell disappears.
- mix with the Compostmixer.

### 7.3 The temperature does not rise

- the thermometer gives indicative information about the various stages of the composting process and the temperature during the hot phase. The hottest part is in the middle, which the thermometer cannot sense.
- ensure that the mass is sufficiently moist by looking through the emptying doorway and turning the surface layer over.

### The moisture-content is suitable =>

1. when the composting has not yet started (see point 4.1). Continue the filling in the usual way.
2. the amount of waste is too small to generate the high temperature required. The waste is burning more slowly. Continue the filling as usual. More decisive than the height of the temperature is whether the waste has had enough time to decompose before emptying. If you wish to speed up the composting process, add some nitrogen, such as, for example, Biolan Natural Fertiliser.
3. the compost has decayed to a point, where the hot phase is already over. Empty some mass from the composter and continue the use.

### The compost mass is too wet =>

- check that the bedding used is either Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding.
- check that you have added a sufficient amount of Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding.
- adjust the outlet air valve (part 8) on the cover to the position "extra ventilation" (see point 5.6).
- temporarily increase the amount of bedding applied until the moisture-content is suitable.
- empty the wettest part of the mass from the composter through the emptying doorway. Spread it in a layer a couple of centimetres thick under ornamental plants. The unpleasant smell will disappear in a few days.
- shovel a couple of spadefuls of Biolan Compost and Toilet Bulking Material through the emptying doorway onto the bottom of the composter.
- drop the mass from above and mix it with a large amount of Biolan Compost and Toilet Bulking Material.
- subsequently, make sure that the mass does not become too wet.

### The compost mass is too dry =>

- sprinkle with warm water.
- return the too-dry waste to the composter from the bottom after first having sprinkled it.
- subsequently, make sure that the mass remains sufficiently moist.

### 7.4 The compost mass freezes

- act before the compost mass has frozen up. Even if the composter's gauge has shown zero for a few days, the composter can still contain some non-frozen mass. If the composter fills up, empty it also in winter.
- prevent the freezing by using (filling and emptying) the composter frequently as this sustains the activity of the micro-organisms. See points 5 and 5.1-5.6. Keep the composter quite full in winter and empty it frequently.
- pay attention also to the moisture content of the compost mass, as wet mass freezes more easily (see point 7.3).
- during the winter, apply Biolan Compost and Toilet Bulking Material or Biolan Winter Bedding generously, as well as gruel mixed from Biolan Natural Fertiliser and warm water to the surface layer of the compost. Cover it with bedding.
- improve the insulation by piling snow around the composter.
- warm the mass by burying, for example, a canister of 10 litres filled with hot water into the compost mass and change the water sufficiently often.

## 7.5 The compost mass is too tight

- Generously apply Biolan Compost and Toilet Bulking Material or Biolan Winter bedding. Mix the bedding and the mass.
- Subsequently apply the bedding more generously, and while filling, make sure that for example grass, root crop peels or leaves do not form tight layers.

## 7.6 Flies or their maggots in the composter

The compost is more susceptible to the emergence of flies, if the mass is too wet. The fly maggots are about one-centimetre long white worms with black heads. See also point 7.3.

- generously apply Biolan Compost and Toilet Bulking Material, simultaneously mixing the compost. Use the bedding more generously later on.
- turn the surface layer deeper into the compost. The fly maggots die at a temperature of about +43 °C.
- apply a layer about 2 cm thick to the surface. After this, make particularly sure to cover any meat and fish leftovers properly.
- rinse the inner walls and the cover of the composter carefully with hot water in order to destroy the eggs and maggots.
- as desired, you can do away with the flies using a pyrethrin-based spray. Consult your local garden centre to select a suitable pesticide.

## 7.7 Ants in the composter

The composter provides the ants with feed and a cosy environment, which may make it difficult to keep them away. The ants usually like to stay in the lower part of the composter during the cooling phase. The ants are not harmful to the composting process.

- make sure that the composter is not too dry.
- you can disturb the comfort of the ants by emptying small batches of compost regularly.

## 7.8 Mould in the compost

Moulds belong under decomposing organisms of the compost and their existence is quite normal.

- do not remove mould.
- continue using the composter as usual.

## 7.9 Fungi in the compost

Fungi decompose the wood material in the compost, such as the coarse substance of the bedding, and their presence in the compost is normal.

- allow fungi to be present in the compost, as they will disappear with time.
- continue using the composter as usual.

## Disposal of the product

The raw materials used are presented in the component list (see page 2). Dispose of each part as prescribed. Always follow the regional and collecting-point-specific instructions.



To energy-from-waste process or recycling of plastic:

EPDM = ethylene propylene

PE = polyethylene

PP = polypropylene



To energy-from-waste process:

PU = polyurethane



To collection of metal:

RST = stainless steel

ST Zn = hot-galvanised steel

To recycling of paper:

Paper

## About the guarantee

The Composter Biolan 220<sup>eco</sup> is guaranteed for five years.

1. The guarantee is valid from the date of purchase and covers possible defects in the material and workmanship. The guarantee does not cover any indirect damage.
2. Biolan Oy retains the right to decide upon repairing or replacing damaged parts at its discretion.
3. Any damage resulting from careless or forcible handling of the device, from the 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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