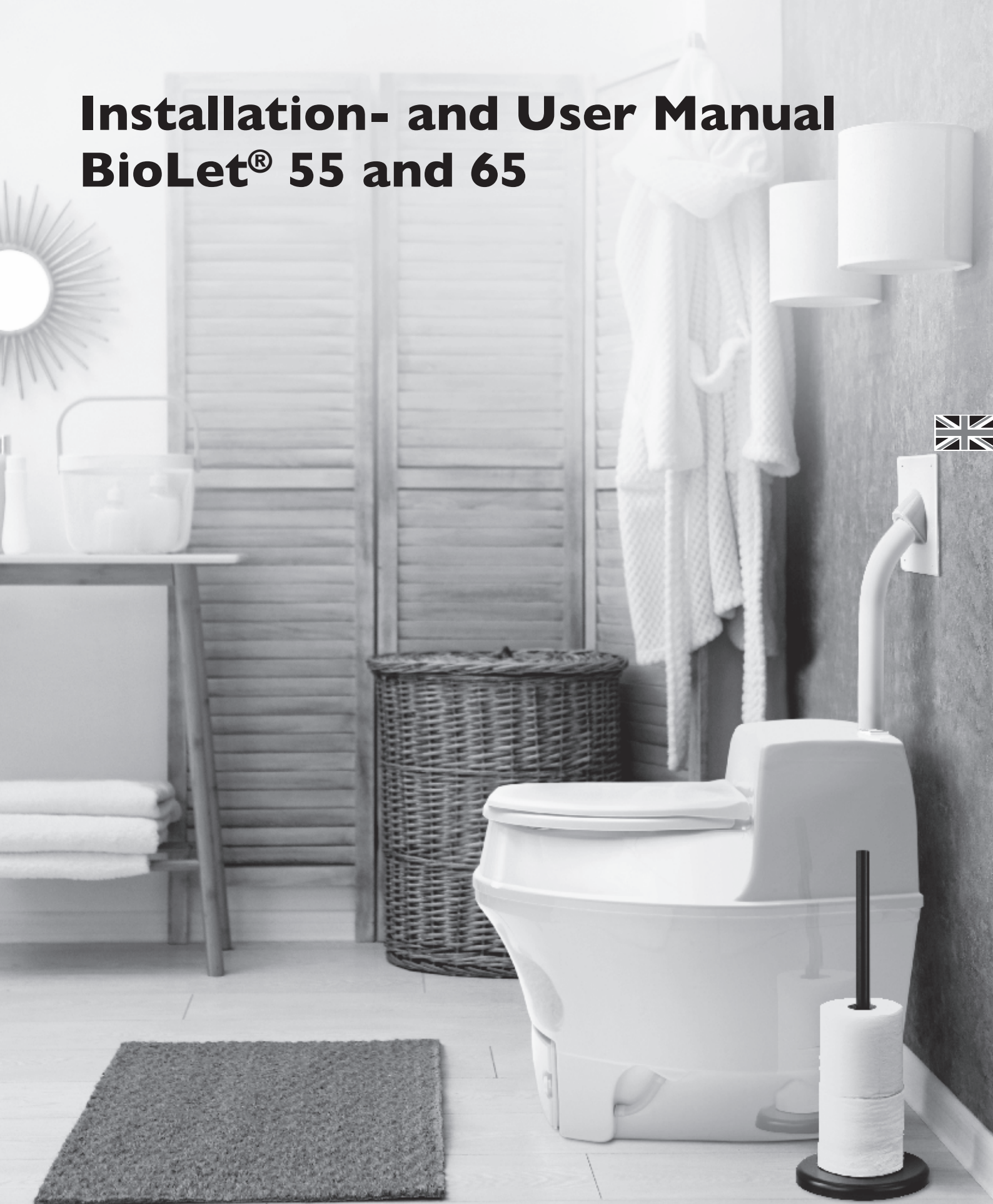


Installation- and User Manual BioLet® 55 and 65



BioLet®

- Established 1970 -

User- and installation manual for BioLet® 55 and 65

HOW THE BIOLET WORKS

Biolet is a self-contained biological toilet that composts waste, toilet paper and evaporates liquid. The composting process takes place using nature's own microorganisms, without the need of any chemicals. The toilet should be used as any other. Controlled air supply and heat, as well as regular mixing of the compost accelerates the composting process and converts toilet waste into eco-friendly humus. This makes a nutrient rich supplement for your garden.

Please read the instructions before beginning to install your Biolet toilet. Experience has shown that problems that might occur are almost all related to installation or maintenance.

IMPORTANT:

- When the toilet is used, room temperature should be at least + 18° C (65° F).
- If you are away for more than two days, always turn the power off and put the cover in the seat opening.
- The heating element in the room can also be switched off, the composting toilet will not be damaged by freezing.
- The disposal of items such as sanitary towels, tampons, cigarette butts, burning or glowing objects should not be put into the toilet.

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Your Biolet box and installation kit

The box contains:
The toilet, bag of humus, rake and manual.



Optional

Roof Installation kit

Ventilations pipes 1100mm (43") x 4 pcs.
Exterior pipe 1000 mm (39") x 2 pcs.
Insulation x 1000 mm (39")
Reduction coupling 55/ 110 mm (2 1/4" / 4")
Roof flashing, Insect netting



Wall installation kit

Bends 45° x 2 pcs, Insulation 500 mm (19"),
Inside- and Outside-cover,
Exterior pipe 45° x 2 pcs,
Insulation 55/90 mm (2"/ 3,5") 1000 mm (39") x 2 pcs,
Exterior pipe 110 mm (4") 1000mm (39")
Exterior pipe 1100 mm (43") belled,
Reduction sleeve,
Insect netting.



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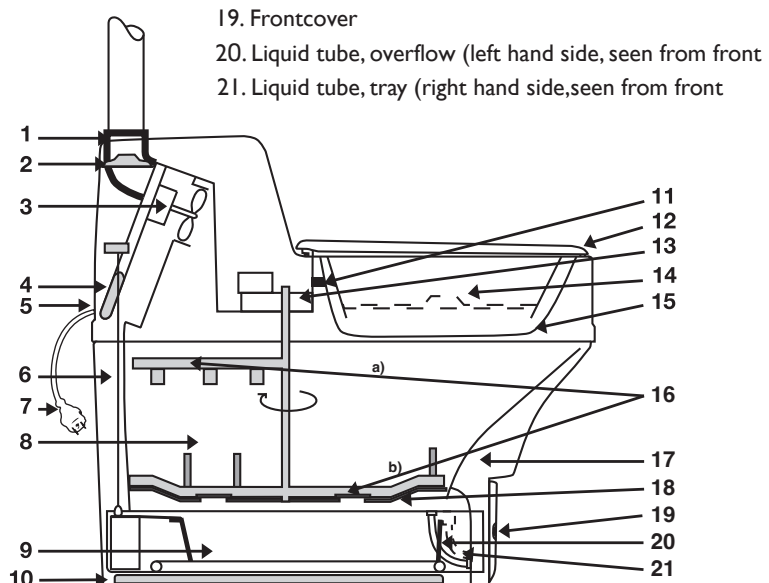
Parts

Pipebends 30° and 45°, insulation, straight pipes, humus starter, extra tray.

BioLet cross section

1. Pipe connection
2. Adjustable heat setting
3. Fan motor
4. Heating element
5. Philips screw, fastening top part
6. Air flow
7. External cord
8. Compost chamber
9. Tray
10. Bottom heater
11. Switch for mixer
12. Sleeve nut, fastening top part
13. Mixer motor
14. Cover removable
15. Compost cover
16. Shaft with mixer arms
 - a. leveling arm
 - b. mixer arm

17. Airflow
18. Grate
19. Frontcover
20. Liquid tube, overflow (left hand side, seen from front)
21. Liquid tube, tray (right hand side, seen from front)



INSTALLATION

You will need the following:

- Hole saw 55mm (2 1/4") or Jigsaw
- Saw
- Measuring tape
- Asphalt sealant/adhesives

Required floor space

BioLet 55 width 55 cm (21 1/2") x length 110 cm (43") (toilet and room for removing tray)

BioLet 65 width 65 cm (25 1/2") x length 135 cm (53") (toilet and room for removing tray)

Pipe installation

The entire pipe, from ceiling and up through cold areas such as attic, must be insulated. This is to prevent condensation in the ventilation pipe and to increase natural draught. **Insulation is essential**, no matter how much or little the toilet is used, even if the toilet is used only in summer. **Do not use bends more than 45 ° and no rain cap on top of the ventiation pipe, only the included netting.**

Temperature

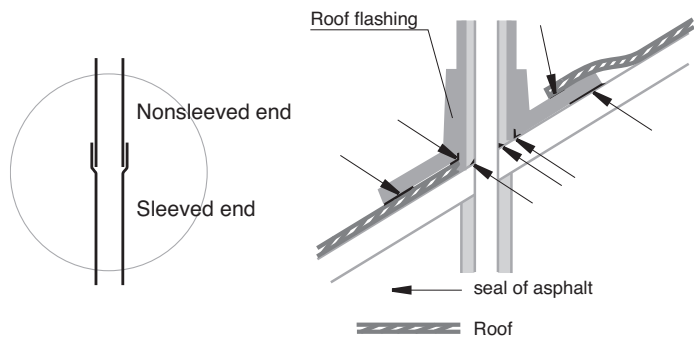
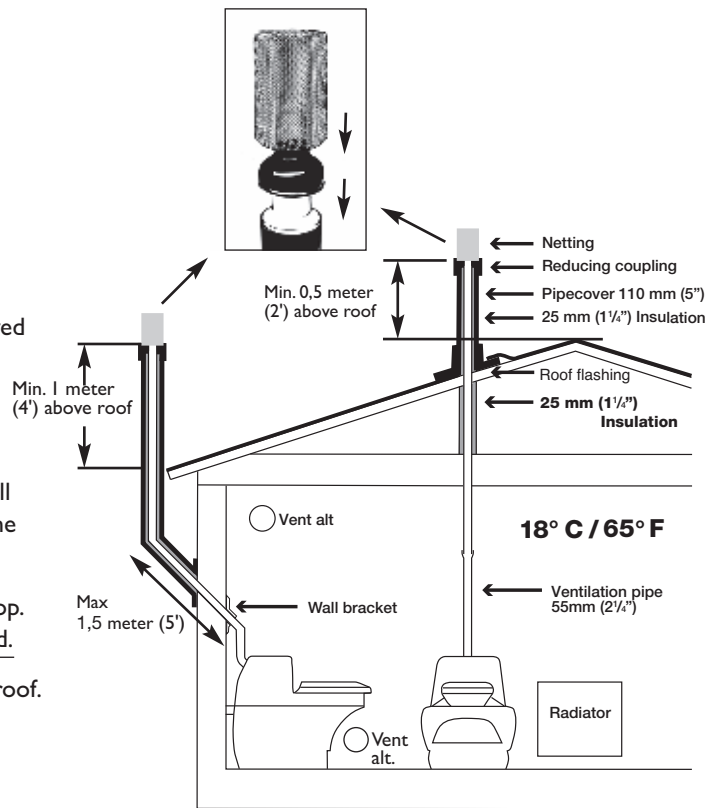
The room in which the toilet is installed must be insulated. When the toilet is in use, room temperature should be at least 18° C (65° F) to ensure proper function. The best thing to do is to install a thermostatically controlled heating element. **During periods when the toilet is not in use the temperature in the room can be low or even freezing without any damage to the unit.**

Air supply

To ensure adequate air supply, **a vent through the outer wall should be installed diameter 100 mm (4").** No bathroom fan in the toilet room to avoid back draught, which can lead to odour in the room.

Pipe installation

1. Set the toilet in position against the wall.
The floor must be even and insulated.
2. Measure and make a hole for the ventilation pipe in the ceiling, 55 mm (2 1/4") diameter. Install the ventilation pipe with the non-sleeved end down inside the coupling on the toilet.
3. Measure and make a hole in the roof, with 55 mm (2 1/4") diameter.
4. Push the pipe up through the hole. Seal it well using asphalt sealant between the pipe and the roof to prevent any leaks.
5. Insulate the pipe from the ceiling up to the top. All pipework in cold spaces must be insulated.
6. Cut the exterior pipe to fit the angle of the roof.
7. Push the roof flashing over the exterior pipe. (Use soapy water to make it easier). If you have a tin roof, the best thing to do is to get a sheet metal worker to make a junction between the roof and the exterior pipe.
8. Put the exterior pipe over the ventilation pipe's insulation and the reduction coupling on top.
9. Adjust the roof flashing and seal firmly with asphalt sealant between the roof flashing and the roof.
10. Fit the insect netting against the stop on the reducing coupling.



Starting of toilet

1. Put about 2/3 of the bag of the Biolet humusstarter into the toilet, except to model 65 where the whole bag should be used. About half of the Humusstarter falls directly through the grate into the humus tray.
2. Connect the main plug into an grounded wall socket. Push down the toilet seat, the compost cover (15) opens, which activates the mixer motor. The mixer will automatically start and make one turn, repeat this a couple of times, in order to even out the humus starter.
3. Set the heating control (the recommended start setting, page 6).

The tray will be filled and should stay this way until the compost chamber is filled to leveling arm (I 6a)

RESTART AFTER PERIOD OF NO USE

1. Break up the old compost in the chamber with the manual rake, add some water to make it moist, before start using the toilet.
2. Add some humusstarter to the compost.
3. Connect the plug.

MAINTENANCE

Capacity setting

ADJUST CAPACITY BY TURNING THE KNOB



The recommended start setting for 2 people using the toilet is step 2.

After 1-2 weeks in operation, you might have to adjust the setting depending on the liquid level in the tube (21).

If the tube is empty, decrease the setting and if the tube is more than half full increase the setting.

TO SET THE HEATER

Set the heat according to load, read the level tube (21) on the right hand (seen from the front).

- Step 1 green light - Only fan
- Step 2 Yellow lamp 1 - fan and 30% of heating capacity
- Step 3 Yellow led 2 - fan and 60% of heating capacity
- Step 4 Yellow led 3 - fan and 100% of heating capacity

Function

LIQUID IN THE LEVEL TUBE

The level tube (on the right hand side, viewed from the front) (21) shows how much liquid there is in the tray. The tube should definitely not be full; this means the tray is full of liquid. 1 to 2cm (1/2 - 1") of liquid in the tube is normal.



CAPACITY SETTING

At the correct setting, the compost has a porous and moderately moist consistency. If liquid stays on top of the compost and seeps into the tray slowly, then the compost is too wet and can no longer absorb the liquid as intended. Increase the setting and add a few litres (quarts) of humus starter.

On the other hand, if hard lumps form or toilet paper remains on top and does not get soaked and mixed in properly during mixing, the compost is too dry. Turn the setting down and sprinkle a few litres (quarts) of water over the compost.

EMPTYING FREQUENCY

In a cottage, with four to six weeks of use per year, it is normally enough to empty the tray once. More frequent use and you have to empty the tray more often. The general rule is to empty the tray when the compost level reaches the upper mixing arm (16a). It will only take a few days after emptying, before the tray is filled and **should stay full for composting until the next emptying of the tray.**

ADD EXTRA HUMUS STARTER

The compost should be porous and of moderately moist texture. Add humus regularly, approx. 1 litre (quart) / week. If the compost get wet and compact is it often more important to add humus starter then increase the heat, as long as the liquid in the tube does not increase.

MIXING

When using the toilet, the mixer-motor is activated automatically by the compost cover. The waste and paper will be mixed into the compost.

EXTRA GUESTS

Add a couple of litres (quarts) of humus starter. Increase the setting to step 4 (3 yellow lights).

EMPTY TRAY

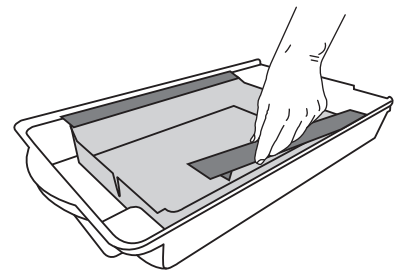
Where you can get by with one emptying a year, leave the compost in the toilet during the off season.

The tray is then emptied before the season starts.

If necessary to empty during the season, increase the setting to 3 yellow lights a few days before emptying.

Once the liquid has disappeared from the level tube, do as follows:

1. Make sure there is no liquid in the level tubes on the right (21) or left hand (20) sides.
2. If there is still liquid in the tubes, wait until the liquid has evaporated.
3. Disconnect the power.
4. Remove the front cover (19) and remove the tube from the tray.
5. Empty the tray.
6. Clean the tray and the channels along the long sides of the tray. On the MullToa 55, this channel is located between the outer and inner wall of the box, above which there is a cover strip that snaps into place and functions as a "roof". In the MullToa 65, the channel consists of a tube on each side.
7. Before you slide the tray back into place, remove any material on the bottom.
8. Reassemble the level tube and front cover.



In more frequent use, for example in permanent housing, the tray needs to be emptied more often. A normal emptying interval is usually every 4 weeks. If the toilet has not been in use for the past 3 months, the contents can be used directly as a soil improver. When emptying in the middle of the season, the contents should be composted afterwards, the easiest way is if you leave the compost in the tray and get an extra tray to use alternately (this can be purchased from us).

Prepare for brief absences

If you are away for more than two days, turn the power off. If there is liquid, for example, after heavy use, you can leave the toilet running for a limited period (approximately one week). Leave the toilet running on step 1. Then only the fan will run, and the contents of the tray will dry slowly.

At the end of the season

When the season is over and it is time to leave your cottage, unplug the toilet and put the cover (14) in the seat opening. You can also turn off the heat in the toilet room, as the Biolet does not freeze or break. The contents in the toilet can be left until next season.

Start-up after periods of no use

When you take the toilet into operation after short or long breaks, it is important to start by making the compost porous using the included rake. This is done for the rakes in the toilet to rotate freely when the motor starts.

Before the season, always start by emptying the tray, add and mix in humus starter in the compost (not in the tray) in order to get sufficient volume, at least 10 cm (3") on top of the grate. Sprinkle a few liters (quarts) of water and mix to moisten the compost before using the toilet. If there are larger lumps that you do not manage to break, remove them.

FAQ

– What to do if the compost becomes too dry?

The forming of hard lumps or that toilet paper remains on top instead of becoming wet and getting mixed in to the compost indicates that it is too dry. There should be about 1 cm (1/3") of liquid in the level tube (21). Use the setting to reduce the heat to a lower level and spray a couple of litres (quarts) of water on the compost, at the same time mix the compost through the seat opening using the rake. If the compost is consistently too dry, despite the setting being at step 1, install a timer that turns the power off at night.

– What to do if the compost becomes too wet?

That is, when there is liquid left on top of the compost, while the box is dry or has only a little liquid.

1. Mix a few litres of Biolet Special Humus into the moist compost until all the liquid has been absorbed.
2. If the volume of the compost has become so high that it reaches the upper rake, empty the tray. (see page 7).
3. If necessary, repeat the emptying after a few weeks to reduce the volume further.
Do not increase the heat if there is no liquid in the tray.

– What do if there is too much liquid in the tube ?

1. If the liquid has only risen in the right level tube (21), it is usually sufficient to increase the setting while continuing to use the toilet.
2. Should liquid also be visible in the left hand tube (20), the tray has flooded. Start by increasing the heat and avoid overloading the toilet with too much liquid. If the entire tube is filled, you first need to drain, this to regain air circulation in the toilet. Loosen the tube (20) in the upper attachment and tip the tube into a low tray or similar for draining. With a tube nipple you can connect the tube to a garden hose. Then increase the heat to the highest setting for a couple of days. When the liquid has disappeared in both tubes (20 and 21), empty the tray.

3. **Do not open the front cover before!**

– What to do if there is a bad odor in the toilet room?

A properly installed and maintained Biolet is completely odour-free. If you do experience a bad odor in the toilet room. Make sure you have followed the installation and maintenance instructions (using the quickguide below) and you will probably be able to determine the cause of the problem.

Check:

- That the Biolet is getting enough air through a vent diameter 100mm (4") in the outer wall.
- Make sure the front cover is put on properly.
- Avoid draughts by not having both windows and vents open at the same time, or bathroom fan running.
- Pipes fit the toilet properly and pipe joints are sealed.
- Pipe bends are not more than 45° or more than two bends.

- What do I do if the mixer motor does not work?

The mixer motor is activated at each visit. When the compost cover (15) is opened the motor will start a short sequence.

Then, when the compost cover is closed after the visit, start again and complete the mixing.

Each visit means that the rakes go one full turn and return to their starting position. If the compost cover is opened during ongoing mixing, it is interrupted and stops until its closed again.

If there is too much resistance where the rakes cannot rotate, there is an overheating protection in the motor.

This resets automatically when the engine has cooled down, but if it triggered due to resistance, the compost must be thoroughly mixed with the mulching rake before it can restart.

- When do I need to call a qualified electrician?

Biolet is approved for installation in bathrooms. If the main cord is damaged it must be replaced by the manufacturer or its service people, or another qualified person, to prevent injury. This manual should be placed near the toilet.

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- What should not be put in to the toilet?

The disposal of items such as sanitary towels, tampons, cigarette butts, burning or glowing objects should not be put into the toilet.

- Where do I get parts?

Svar: Contact your national dealer. Always have the serial number and model at hand and what year it was bought. This information can be found on the sticker on the back of the toilet.

BioLet[®]

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