BioToi® user manual

Thank you for your trust and purchase of a BioToi - the most compact separating toilet with composting function on the market. Please read the following instructions carefully before first use / installation.

Prepare coconut brick:

Before using the solids container the coconut brick must be prepared. To do this, place the coconut brick in a bowl with approx. 0.5 to a maximum of 0.75 l of water and allow it to swell for 12 hours until the material is completely crumbled. The material then looks like garden turf. Sometimes you also have to crush the chunks a little by hand.

Then fill the solids container up to approx. 1 to 2 cm below the agitator axle with the coconut material. This quantity corresponds to about 60-70 % of a whole brick.

The drier the coconut fibres are when starting to use the toilet, the better the drying of the excrement works. Therefore, it is helpful to dry the coconut fibre in the open bowl for a few days after swelling.

To re-purchase, please get fine coconut bricks without fertiliser. These bricks are available from BioToi.de in the online shop, in DIY stores and in pet shops (terrarium supplies). One brick is sufficient for about 20 to 30 uses of the solids container.

Link Youtube-Video (in German):

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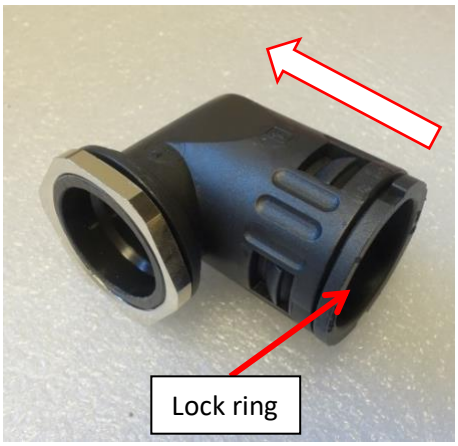
Mounting of the fan unit



The fan bracket has a short thread on the side of the housing. The nut is screwed onto this.

On the other end, the fan bracket has a quick-release fastener. The hose is pushed in and locks firmly.

(To release, press the locking ring in the direction of the arrow and pull out the hose).

The fan bracket can be mounted on the prepared cut-out either on the left or right side of the enclosure.

The angle of rotation is freely selectable.

The fan bracket is fixed to the housing with the nut. A little screw lock (e.g. Loctite medium strong) on the thread prevents the nut from loosening automatically due to movement of the fan hose.

The fan unit is simply looped into the hose (inline mounting). This avoids contact from the fan to the vehicle, which further reduces the noise level of the very quiet fan.

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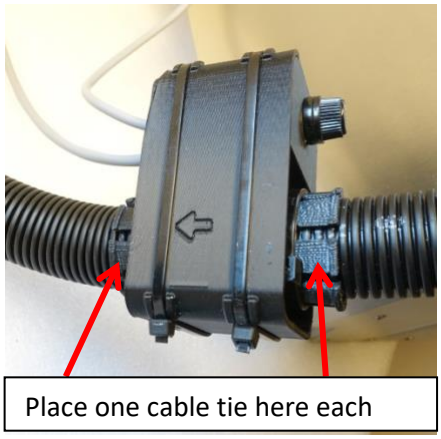

The fan hose is snapped into the fan housing with a slight twisting movement. The hose is then fixed to the fan unit with a cable tie.

Note: the arrow on the fan indicates the direction of the air flow. This must be directed away from the BioToi.

The fan unit is designed for a 12 V DC power supply. Before connecting, make sure to check the supply line in the vehicle with a voltmeter and pay attention to the polarity when connecting.

white = plus; brown = minus

The control unit is connected as shown in the picture.

brown to brown

white to white

green to green

Switch position I = continuous operation

Switch position II = interval operation

Note on interval operation: When the fan is connected for the first time, it runs for about 30 minutes. It then switches to an alternating interval: approx. 12 minutes of pause alternate with approx. 12 minutes of operation. This preserves the vehicle's battery charge if the fan should be in continuous operation during longer stationary periods.

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How to connect the fan electrically?

The electrical fan should be connected by a competent person. Basic knowledge of automotive electronics is important for proper installation of the fan. In the worst case, an improper connection can lead to a cable fire. The installing person is liable for possible resulting damage.

The fan is designed for use with a 12 V supply. (Operation on a 24 V on-board power supply destroys the fan.) In continuous operation, the fan requires approx. 1 W (24 Wh per day).

In interval mode, the fan runs at the same speed. After approx. 12 minutes of operation, there is a pause of approx. 12 minutes and so on.

The voltage is supplied via the cable with two wires:

(+ 12V) to white, negative pole/ground to brown.

The included fuse holder (3 A) is looped into the plus wire.

There is an undervoltage protection inside the fan. If the on-board voltage drops below 11.7 V, the fan is temporarily switched off from the on-board power supply to protect the battery.

The cable on the fan's control unit has three wires:

Green wire from fan to green cable from switch
White wire from fan to white cable from switch
Brown wire from fan to brown cable from switchGrüne

The fan supports continuous ventilation or interval ventilation (12 min. ventilation - 12 min. pause). During initial start-up, the fan runs in interval mode for 30 minutes.

Note: During the pause (interval mode), the fan does not restart until the designated pause time has elapsed. It cannot be activated during the pause by switching it on and off again. The pause must be awaited first.

Switch position "I Interval ventilation
Switch position "II Continuous

If you want to change the switch assignment ("I" = continuous ventilation), the green remains connected to the green. To change the switch assignment, white and brown are connected "crosswise".

Note for owners of a Ford Nugget: In the Ford Westfalia Nugget, the easiest way to supply the fan is via the 12 V connection of the gooseneck lamp in the loft bed. The socket in the toilet compartment only has voltage for approx. 30 min. after the engine has stopped. Then the socket in the toilet compartment is switched off.

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Note: If a suction vent was installed on the old cassette

With the suction system, the exhaust air is directed to the outside via an activated carbon filter. This is not a problem for the suction fan, as it is much more powerful but also much louder than the smaller BioToi fan. If the exhaust air of the BioToi is to be led to the outside via this method, please be sure to **remove the activated carbon filter**! The filter cartridge is unsuitable for the BioToi because it drastically reduces the air flow. Therefore, always remove the activated carbon filter.

Video about the LV2 (in German):

The fan connection on the housing of the BioToi:

Depending on the version, the scope of delivery includes a ventilation angle with quick-release fastener for the hose. This angle connector is screwed to the housing with the flat metal nut included in the delivery. Optionally, the ventilation angle can be mounted at the rear right or rear left of the housing into the prepared holes. Carefully apply the supplied union nut by hand without tilting the thread and tighten it with care. The fan hose is only inserted into the bracket. It can be pulled out easily without tools when the locking ring on the quick-release fastener is pushed towards the housing.

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Good to know

How often should I crank the solids tank? (BioToi models R, RL and RL UTA).
The faster the excrements dry in the solids container, the better. Since only the upper part of the contents in the solids container dries due to the ventilation, it is helpful to also crank 1-2 turns after urinating. In this way, the contents of the solids container are well ventilated and dry more quickly. This also extends the emptying intervals BioToi-Modelle R, RL und RL UTA).

Can I throw toilet paper into the solid waste container?
The blade agitator means that toilet paper is no problem in the BioToi. An economical use of paper extends the emptying cycles. If paper gets stuck on one of the blades of the agitator, a splash of water from the included spray bottle directly onto the paper will help. Then crank briefly - done.

Wet wipes must not be put into the solids container! These wipes are made of synthetic fibres and do not decompose. The economical use of normal household toilet paper, on the other hand, is no problem.

Why is the urine bowl drain so small?
The size of the drain from the urine bowl is matched to the venting of the tank. Therefore, DO **NOT INCREASE THE DRILLING OF THE URINAL TANK!!!!!!!**

It is not a problem if urine remains at the bottom of the bowl for a short time when there is a strong urge to urinate. It takes a moment and the bowl runs empty.

Do you have to empty the solids container after each weekend trip?
No. Due to the separation of urine and excrements in combination with the drying process in the solids container, a mostly odour-free storage of a partially filled solids container is possible. Due to the interval function of the ventilator (energy consumption only 12 Wh per day), the ventilation can also remain switched on for a longer period of time. This works very well, especially for vehicles that are used in everyday life. The solids container is then only emptied when the crank can only be turned with great difficulty because the mass in the solids container is already tightly compacted.

The quick-release urine tank is emptied as needed and after each trip.

If the urine tank is not to be used for a longer period of time, remove the rubber insert (odour trap), rinse, dry and treat with a little talcum powder. This prevents the rubber from sticking.

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How and where can I dispose the contents of the two containers?
The urine can be disposed of in any household toilet or in motorway toilets. Some users also use it as fertiliser for their lawns (mixing ratio 1 part urine to 3 parts water).

The contents of the solid waste container can be disposed of in household waste or organic waste. It can also be emptied at the home compost heap.

Cleaning / care of the BioToi
The urine bowl can be cleaned quickly and easily during the tour with a squirt from the spray bottle. You can add a little citric acid to the water in the spray bottle to prevent the formation of urine stone. The plastic parts can be cleaned with a mild soap and water detergent solution. Appropriate household stainless steel cleaners are suitable for the care of the stainless steel housing.

Video for cleaning and care (in German):

Video for the installation in a Ford Nugget (in German):

Docking station video

Side handle video

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Correctly install and care for the odour trap on the urine tank:

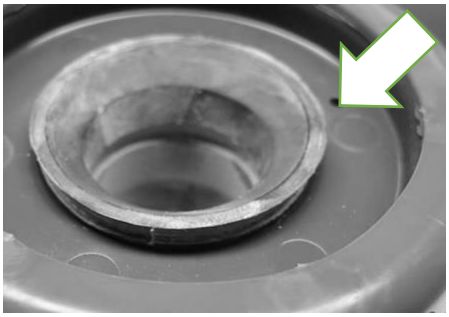
Two points are crucial for the proper function of the odour trap:

1. The rubber insert must not stick.
2. The rubber insert must be correctly seated in the receptacle.

Wrt. 1: To prevent the rubber lips from sticking, please "rinse" briefly with a little water from the spray bottle included after urinating. This rinses the urinal and the rubber insert. The rubber insert can react sensitively to sanitisers (the rubber swells). We therefore do not recommend the use of sanitisers. If you do use sanitiser, rinse thoroughly with clean water.

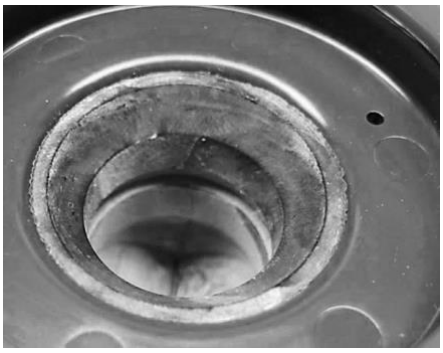
After a tour, remove the rubber insert, rinse and dry. Then treat the rubber lips with talcum powder so that they do not stick together during storage.

Wrt. 2:



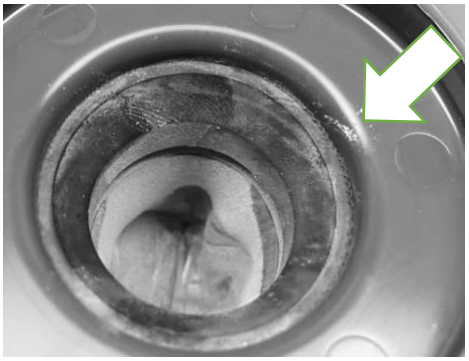
WRONG

Here the rubber insert was not pushed deep enough into the receptacle.



CORRECT

The grey plastic receptacle merges smoothly into the sloping edge of the rubber insert.



WRONG

Here, the odour trap was inserted too deep into the receptacle. This causes the odour trap to tighten and the urine cannot drain off properly.

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