

Affix visibly in the toilet

## The use of Ekolet toilet-composter

*The text parts typed with this type of font concerns the biological cleansing of the liquids.*

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|---------------------------------|--|
| <b>Model:</b>                   | <b>YV (Instructions 1.2.2012)</b>              |
| <b>Capacity:</b>                | <b>1-7 persons in year-round use</b>           |
| <b>Electricity consumption:</b> | <b>200/530 Wh/day (normal/biolog.cleaning)</b> |
| <b>Maximum capacity:</b>        | <b>8/40 W (normal/biolog.cleaning)</b>         |

**Close the toilet seat always after use. Fill the composter with toilet (and kitchen) waste. You can also use a bidet shower with the Ekolet composting toilet.**

- 1. The composter has a storage for solid waste divided into four sectors, a storage for liquids, a *biofilter* and a toilet seat.**
- 2. The parts that need to be replaced at certain intervals are the electric fan *and the water pump*. A well-functioning composter must always have the buzzing sound of the fan *and the babbling sound of the water-fountain when the pump is running*. These sounds can be clearly heard when standing next to the compost-container and weak sound of these can be heard in the toilet when the toilet seat is opened.**
- 3. To fill up a composting sector takes normally 6 - 18 months. One can see when the sector is full by looking inside the toilet seat's sewage-pipe or through the special checking hole in the composter's lid with the help of a flashlight.**
- 4. The waste at the level of the emptying door is ready as last. One can speed up the **maturing of the compost** by increasing the temperature of the room the composter is located in, by applying insulating material around the composter, by adding porous substances like straw, chopped bark or acid peat to the waste or by adding composting worms into the soil. To punch holes for example with a crowbar to the dry composting material will speed up the process. Under normal circumstances, however, none of the above-mentioned procedures are necessary.**
- 5. When the composting sector is full, the waste should be covered by 3-6 buckets of ordinary soil or old compost. Rotate an empty sector - or an emptied sector that had contained the oldest compost - into use. Put on top of the filtering tissue 5 - 10 cm layer of straw, chopped bark or acid peat. The gasket of the emptying door shall be greased by the pipe putty (Unipack) before closing. The sector is rotated by the handles above the side door or by using the EKOLET's lever. The rotating is lighter if you grease the roller axis and lift the container's lid. In emptying the sector make sure you don't break the filter-tissue lining the inner surface. Before rotating into its place, make sure to mark the starting date onto the emptying door. We recommend washing the filter cloth when the composting sector is emptied of 2-3 times. Use a water hose, brush, and an environmentally friendly detergent. Pull the bottom of the filter cloth bag out of the emptying door so, that the dirt fall directly out of the sector.**
- 6. The composted soil that is removed from a composting toilet is ready to use as such in the garden as a fertilizer. The composted soil might need watering before emptying.**

**7. Effluents are biologically pre-cleansed and can be directed by an exhaust hose into the greywater precipitation storage.** *When one does not use the composting toilet regularly, one should pour a couple of buckets full of water into the toilet every month so that the liquid compartment is always at least half-full so that the pump doesn't suck air. When full, the liquid level is approximately 7 cm below the check-up opening in the hoop. When the liquid compartment is half-full the liquid level is approximately 15 cm below the opening. There is a special measuring stick into which the liquid level is marked when the liquid compartment is full or half-full.*

**8. For periods of long absence** (several months) it is advisable to detach the pumps electric cord from the outlet. *When the toilet is taken into use again, one must pour 50 - 100 litres of water into the composter, reconnect the electric cord into the outlet and make sure that the liquid is circulating. In case the liquid has evaporated, one must put some water into the water pump prior to the re-start. This can be done most easily by detaching the pressure hose from the composter's lid and by pouring water into it.*

**9. One should rinse the liquid compartment after the composting sector is full** so that the sediment collected into the bottom of the liquid compartment would not be transferred into the water pump. *Detach the pump's electric cord from the outlet. Attach the hose in the lower corner of the liquid compartment into the emptying valve underneath the hoop and open the valve. Sucking with a bilge pump used by boaters can speed up the emptying. Open the checking hole in the side of the hoop and shower in fresh water.*

*After rinsing, close the emptying valve, fill the liquid compartment with water so that it is at least half-full and close the checking hole. Re-connect the pumps electricity and make sure that the liquids are circulating. In case the pump has sucked air one must fill it with water prior to switching on the electricity. (How to do this; please go back to item 7 above).*

**10. One must wash the fan and the water-pump** with clean water yearly. Prior to washing, both will need to be detached (please go back to section "Renewal of Electric Appliances").

**11. One should keep the household waste in the kitchen** in a container that has a lid in order to avoid flies and other insects.

**12. Ventilation via the toilet seat** sucks dusty air from the living quarters. **One can wash the toilet seat** with environmentally safe biologically decomposing, mild detergents.

**13. If one detects flies,** one can get rid of the eggs and larvae by pouring nearly boiling water on the surface of the compost. One can also use egg-destroying products used in cattle rearing (e.g. Dimilin) or get rid of the flying insects by using special poisons (e.g. Baygon). To get rid of the flying insects, the treatment must be done three times in sequent weeks. It is not impossible for the flies to get into the liquid compartment so one can easily get rid of them. Compose a flytrap into the toilet by filling a drinking glass with water, add a spoonful of dishwashing liquid and 2-4 spoonful's of apple vinegar.

**14. In case of a power failure,** one can avoid the unpleasant odours by detaching the fans electric cord from the outlet and by pulling the fan underneath the composter's lid out of its place so that it doesn't hinder natural ventilation. When the electricity is back on, one must put the fan back on its place and switch it back on.

**15. Any unpleasant odours due to electric shortage or maintenance work** can be avoided by placing a big garbage bag over the toilet seat.

**16. EKOLET -toilet** is manufactured from polyethylene plastic suitable for recycling, hot zinc plated steel and stainless steel. **The Ekolet is allowed to be used only to the purposes mentioned in this document and to be filled only by the material mentioned in the document "What one can put to the composter and what never put into the composter".** Other kind of use is forbidden.

**17. We have selected long-lasting products for our electric appliances. If an electric appliance becomes defunct, first make sure the electricity is connected. If this doesn't help, one should replace the appliance according to the following instructions:**

## **Renewal of Electric Appliances**

**18. The fan can be replaced by detaching the electric cord from the outlet and by dropping the cord inside the composter. The fan underneath the composter's lid is pulled out from its shelf horizontally. The new fan is pushed into its place. The electric cord is threaded from the hole into the outlet, tightened carefully and is wedged on its place by a rubber cork. The electric cord is attached into the plug. One can purchase a new fan from the EKOLET –representative or from a normal electricity shop.**



*19. The inner parts of the pump can be changed by unplugging the pump's cord from the outlet and by lifting the pump at least to the level of the composter's metal hoop, by pulling out the pumps end grid and by twisting the whole end of the now visible pump out and by pulling out the inner part. After replacing the pump or its inner part one must put the pump back on its place and feed it with water prior to connecting the electricity. (How to do this, please go to item 7 above). One can purchase a new pump or the inner part from the EKOLET –representative or from a normal aquarium shop.*

**We recommend that one replaces the fan and the ceramic shaft of the water pump (or the pump) every five years. We also recommend you always keep these parts as spare parts at hand. Please visit each year our home pages ([www.ekolet.com](http://www.ekolet.com)) to see the possible updates of this manual.**

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## Troubleshooting:

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### Unpleasant odour in the toilet:

- One has left the emptying door or checking hole of the composter open.
  - Close the door.
- The lid of the composter is not securely in its place
  - Fix the lids position.
- The lid of the toilet seat is left open.
  - Close the lid.
- There is a power failure.
  - Detach the fan from the electric outlet and pull out the fan from underneath the composter's lid from its shelf beneath the ventilation pipe (how to do this, please go to the item 18 in the Instructions for use). When the power is back on, put the fan back on its place.
- The fan is too dirty to function.
  - Wash the fan (to detach the fan, please go to the item 18 of the Instructions for use).
- The fan is out of order.
  - Replace the fan (how to do this, please go to the item 18 of this Instructions for use).
- The ventilation pipe is not airtight.
  - Seal the joint of the pipe.
- The ventilation pipe is not long enough to reach over the ridge of the of the building as instructed in the assembly -instructions.
  - Make the pipe longer and increase the voltage of the current (not over 12 v). In the bottom of the transformer is a voltage regulator.
- There is an exhaust-ventilation opening in the toilet room.
  - Close the opening.
- If for the exceptional building these do not help, we recommend installing on the top of the ventilation pipe a Roof fan of 230 V (Radon fan).

### The composter's liquids are not circulating (one can't hear the water bubbling) or the pump trembles and warms :

- *The water pump doesn't get electricity.*
  - *Check the electric outlet.*
- *The liquid compartment has not been rinsed.*
  - *Rinse the liquid compartment (please go to the item 8 of the Instructions for use).*
- *You didn't succeed in feeding the water pump with water.*
  - *Feed the pump again (please go to the item 7 of the Instructions for use).*
- *The pump sucks air from the junction of the suction pipe at the end of the pump.*
  - *Seal the joint.*
- *The pump is dirty (trembles and warms up)*
  - *Wash the pump from the inside (please go to the item 19 of the Instructions for use). It helps if you pour vinegar or citric acid into the pump and let it act for a while (compare "to clean the scale of the boiler")*
  - *Add acid peat, sawdust or bark to the compost to decrease the alkalinity of the liquid (hard water).*
- *The pump is out of order.*
  - *Replace the pump or its inner parts (please go to item 19 of the Instructions for use).*

## One can put into the composter

As a rule of the thumb, everything that has once been alive:

- ✓ **Normal toilet waste.**
- ✓ **The peels of fruit and vegetables.**
- ✓ **Used tealeaves and coffee** (tea bags and coffee filters, too).
- ✓ **All food leftovers.** If you have big individual waste (loafs of bread, cabbage etc. it is advisable to cut these into smaller pieces before putting them into the composter)
- ✓ **Tissue paper** unless you have used these to wipe some harmful liquids with.
- ✓ **Newspapers or paper bags** you may have used as the bottom lining of your kitchen compost-container.
- ✓ **Soil, leftovers from the garden, leaves** (but these take a lot of space).
- ✓ **All natural materials in small quantities** (wool, cotton, linen, silk).
- ✓ **Saw dust, little chunks of wood** (that have not been treated), bark, turf, etc.

## Never put into the composter

Substances that will not decay or that are poisonous

- ✗ **No ashes or lime** (the compost will become too alkaline)
- ✗ **No problem waste** (oil, petrol, solvents, paints, biocides, disinfectants, medicines and batteries).
- ✗ **No water that contain detergents.**
- ✗ **No plastics, glass or metals.**
- ✗ **No manmade materials, plastics, rubbers or biodegradable waste bags.**
- ✗ **No cigarettes, no household dust.**
- ✗ **No big quantities of paper; never put paper with plastic or wax on it into the composter**
- ✗ **Baby diapers.**