



Mulltoa 60 / Mulltoa 40

### Emptying the tray

If you use your cottage 30-40 days a year it is usually enough to empty the tray once a year.

If you use the Mulltoa™ more frequently it should be emptied before the compost reaches the upper arm, point 17. After a while you will learn when to empty the tray, as it depends on usage.

Empty the tray after the toilet has not been used for a time, for instance before the holiday season.

1. Switch off the electricity.
2. Check that there is no fluid in the indicator tubes, points 21 and 22. If there is fluid in the indicator tubes, leave the toilet running with the thermostat setting at 10 for approx. 1 week.
3. Close the grate by pulling the handle.
4. Remove front cover and pull off tubing to the tray.
5. If the tray is difficult to remove, use the rake to pull out the tray.
6. Dispose the humus in the garden compost or mix it with soil (30:1).
7. Clean the tray, especially the float and the area around it. After putting the tray back into the toilet make sure that the level sensor (9) is above the float. Open the grate. Replace the tubing and front cover, make sure it is tight so it will not leak. Put approx. 4 litre (1 gal) of Humus Starter Mull into the toilet, if required.
8. After approx. a week, take the front cover off and close the grate by pulling out the handle.

### Away more than 2 days

In order to prevent the compost from becoming dry, turn off the toilet if you are going to be away from the house more than two days. Put the cover (15) into the toilet opening. The "chimney-effect" of the vent pipe insures an odour free room, even with the power off.

If you have been away for a long period of time the compost might have hardened so you may have to sprinkle some water on it and use the rake in order to break up the compost before using the toilet. Otherwise the shear-pin might break.

If there is fluid in the indicator, leave the electricity on and set the thermostat at 1.

### Before the season

Before starting to use the Mulltoa™ the compost tray should be emptied (see instructions). Before turning on the electricity check if the compost has become dry and hard. If that is the case, sprinkle some water, approx 4 litres (1 gal), and use the rake in order to break up the compost. Turn on the electricity and the Mulltoa™ is ready to be used.

### After the season

Switch off the electricity and sprinkle some water, approx 4 litres (1 gal) over the compost and put the cover (15) into the toilet opening. Switch off the heater in the bathroom since there is nothing that will freeze or break due to low temperature. The "chimney-effect" of the vent pipe will insure an odour free room, even with the power off.

### A CORRECTLY INSTALLED Mulltoa™ HAS NO OFFENSIVE ODOUR

If you notice offensive odour in the bathroom, check that you have followed the Installation and Care & Use Instructions carefully.

### Ventilation pipe – toilet

Air-tight connection?

### Too many or sharp bends?

### Front cover

Is it properly secured?

### Windows or exhaust fans in the bathroom?

Must be closed.

### Does the Mulltoa™ get enough air?

Gap under door or holes?

### Any obstructions on top of the vent pipe?

### INSECTS

If insects have gotten into the compost one should sprinkle "EcoEthic Insect Stopper" over the compost and in the compost tray.

### SUGGESTIONS FOR CLEANING

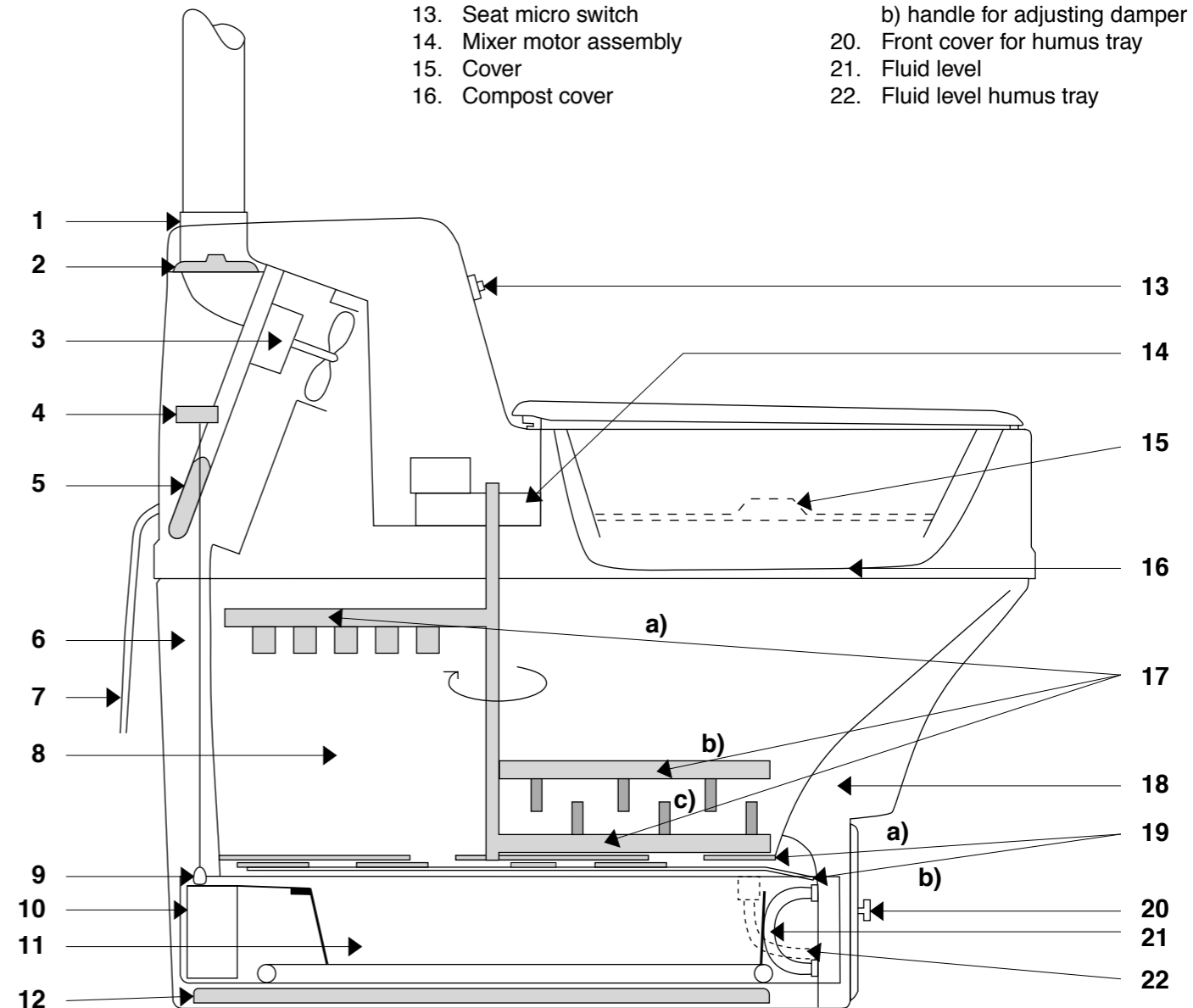
Use liquid soap or some mild detergent when cleaning your Mulltoa™. Never use scouring powder or other strong detergent that could scratch the surface.

### WARNING

Never put cigarettes, burning material or sanitary napkins into your Mulltoa™.

The Mulltoa™ is a biological composting toilet, which evaporates excessive moisture and decomposes human waste with the help of Nature's own micro-organisms. The controlled supply of heat, air and periodic mixing of the compost accelerates the decomposition process and transforms human waste into a harmless product which is beneficial when returned to the soil.

- |                                     |                          |                                |
|-------------------------------------|--------------------------|--------------------------------|
| 1. Ventilation outlet               | 7. Electrical plug       | 17. Mixer arms                 |
| 2. Thermostat and electrical switch | 8. Composting chamber    | a) levelling                   |
| 3. Fan motor                        | 9. Level sensing         | b) mixing                      |
| 4. Micro switch (float)             | 10. Float                | c) raking                      |
| 5. Heating element                  | 11. Humus tray           | 18. Air return channel         |
| 6. Warm air channels                | 12. Bottom heater        | 19. Grate with damper          |
|                                     | 13. Seat micro switch    | b) handle for adjusting damper |
|                                     | 14. Mixer motor assembly | 20. Front cover for humus tray |
|                                     | 15. Cover                | 21. Fluid level                |
|                                     | 16. Compost cover        | 22. Fluid level humus tray     |



**THE Mulltoa™ BOX INCLUDES:** • toilet • handrake • Humus starter • emptying bag with frame and nuts

**THE INSTALLATION KIT CONTAINS:** • 4 pcs x 1,1 m (3 1/2') ventilation pipes Ø 55 mm (2 1/4") outer diameter bellended • 1,0 m (3') pipe Ø 110 mm (4") diameter with reducing coupling • 1,0 m (3') insulation • reducing coupling • roof flashing • insect netting

**Extra: pipe bends 45°, insulation and Humus Starter Mull.**



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# INSTALLATION INSTRUCTIONS

## TEMPERATURE

The temperature in the bathroom should not be lower than 18° C (64° F) when toilet is in use.

## AIR SUPPLY

The supply of air should flow from a heated room, i.e. through a 5 mm (1/4") gap under the door or through 5 x 25 mm (1") holes. The discharge of the air should be through the Mulltoa™ and therefore overhead vents or windows in the bathroom must be closed.

## PRACTICAL ADVICE WHEN INSTALLING

- 1) Position the toilet against the wall.
- 2) Take measurement and drill a 55 mm (2 1/4") diameter hole in the ceiling for the ventilation pipe.
- 3) Drill a hole of the same size in the roof.
- 4) Cut the ventilation pipe to the proper length and push it up through the hole. Seal with silicone around the hole in the roof to avoid any leakage.
- 5) Cut the 110 mm (4") pipe so that it fits the angle of the roof.
- 6) Slip the roof flashing over the 110 mm (4") pipe.
- 7) Adjust the roof flashing and seal carefully between the roof flashing and the roof.
- 8) Put on the insect netting on top of the pipe.  
**IMPORTANT:** Do not install a raincap over the ventilation pipe.

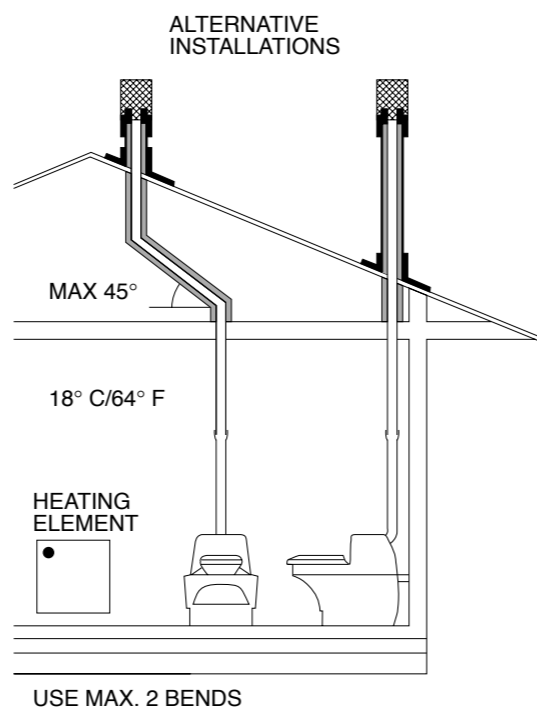
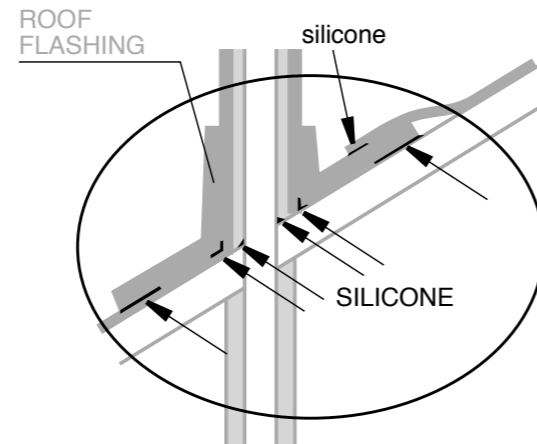
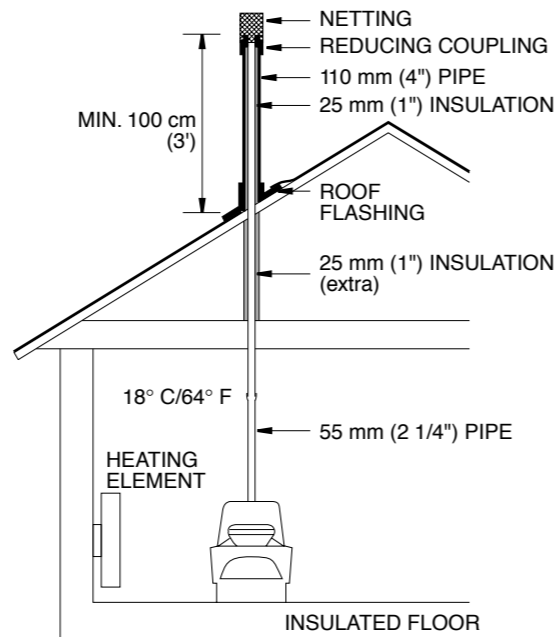
## STARTING PROCEDURES

- 1) Take the front cover off and open the grate by pushing the handle to the back. Put the front cover back.
- 2) Pour the whole bag of Humus Starter Mull into the toilet. Level the humus starter over the grate. Some of the humus starter will fall through the grate into the humus tray.
- 3) Adjust the thermostat in relation to the number of people using the toilet.
- 4) Turn on the electricity.

**The Mulltoa™ is now ready for operation. Before using it, read your Care and Use Instructions.**

## ELECTRICAL OUTLET

**Plug into grounded socket. Check local regulations to determine whether an electrician is required.**



# CARE AND USE INSTRUCTIONS

To ensure that your Mulltoa™ will operate at its peak potential, please follow the Instructions carefully

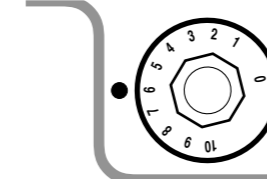
The function of the mixer is to mix paper and waste, to increase aeration and to keep the compost porous and moist. Also, the mixer rakes humus into the collection tray, which is necessary in order to transform the compost to humus. This also prevents the compost from becoming hard and dry. At the same time, the compost will absorb more fluid. The mixing will take place automatically after each use.

## How to use the thermostat:

### THERMOSTAT SETTING

The thermostat setting should be according to how many people are going to use the toilet.

Number of people	Recommended thermostat setting
Switched off	0
1-2	4
3-4	5-7
5	10



At thermostat setting 10 the float operation is bypassed and the heaters will be on all the time. This is to be used when heavy use is expected, if there is fluid indicated in the level indicator (22) or a couple of days before emptying the tray.

The indicator tube on the right hand side shows if there is any fluid in the tray. Although some fluid does not matter, it should not fill the whole indicator tube, since this means that the tray is full.

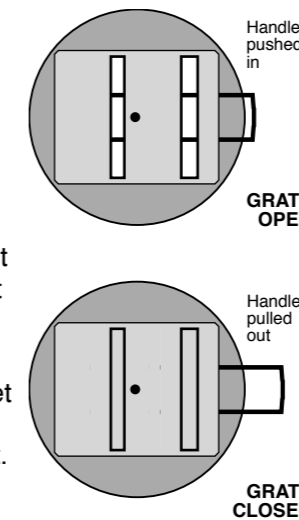
The compost is too wet when it can no longer absorb the fluid. The fluid stays on top of the compost and drains very slowly into the tray. If there is any fluid in the indicator tube (21), turn up the thermostat. You can also add some extra, Humus Starter Mull to the compost in order to absorb more fluid. It might take a week or more for the fluid to disappear from the indicator tube.

### GRATE ADJUSTMENT

Under normal use the grate should be closed, in other words the handle should be in a pulled out position.

The reason for this is that as little liquid as possible should be drained into the tray before it has been mixed with the compost and in order to keep the compost moist, especially if there is little use of the toilet.

Before starting to use the toilet open the grate and then pour the Humus Starter Mull into the toilet. Leave the grate open for a week and close it thereafter.



Before the tray is emptied close the grate, by pulling out the handle. After the tray has been emptied and put back into the toilet, open the grate by pushing in the handle and leave it open for approx. one week in order for some of the compost to fall into the tray. After that, close the grate by pulling out the handle.

### FUNCTION OF THE FLOAT:

The Mulltoa™ toilet is equipped with a float that regulates the heaters automatically depending on how much fluid there is in the tray. The heaters are turned on when there is 2-3 cm (1") of fluid in the tray and are switched off below this level in order to reduce the risk of drying out the compost. Check the fluid level in the indicator tube once a week.

### Is the compost too dry?

The compost is too dry when it becomes hard and dry, the paper stays on top and is not mixed into the compost. There should always be at least 5 cm (2") of compost on the grate.

Turn the thermostat setting down to a lower number to avoid excessive dryness.

### You have adjusted the thermostat, but the compost is still too dry (hard).

Sprinkle some water over the compost, not faster than the compost can absorb, at the same time as you run the mixer motor. Continue with this as long as the compost absorbs the water. You might even have to use the handrake to break up the hard areas.

If there is a buildup of dry paper, sprinkle approx. 1 litre (1 quart) of water over it to make it shrink.

### Is the compost too wet?

Check that the fan is running (you can hear it) and that the heating element is working (you can feel the warmth with your hand on the back of the toilet, lower section).

Also check:

- that the ventpipe is installed according to the instructions, well insulated and no more than two 45° bends
- that the temperature is at least 18° C (64° F) in the bathroom
- that the toilet has not been overloaded

In order to evaporate the fluid:

- open the grate by pushing the handle in
- mix some Humus Starter Mull into the compost
- set the thermostat on a higher setting and do not turn it down until the fluid in the tube has almost disappeared. It can take up to a week or two until it disappears depending on use.