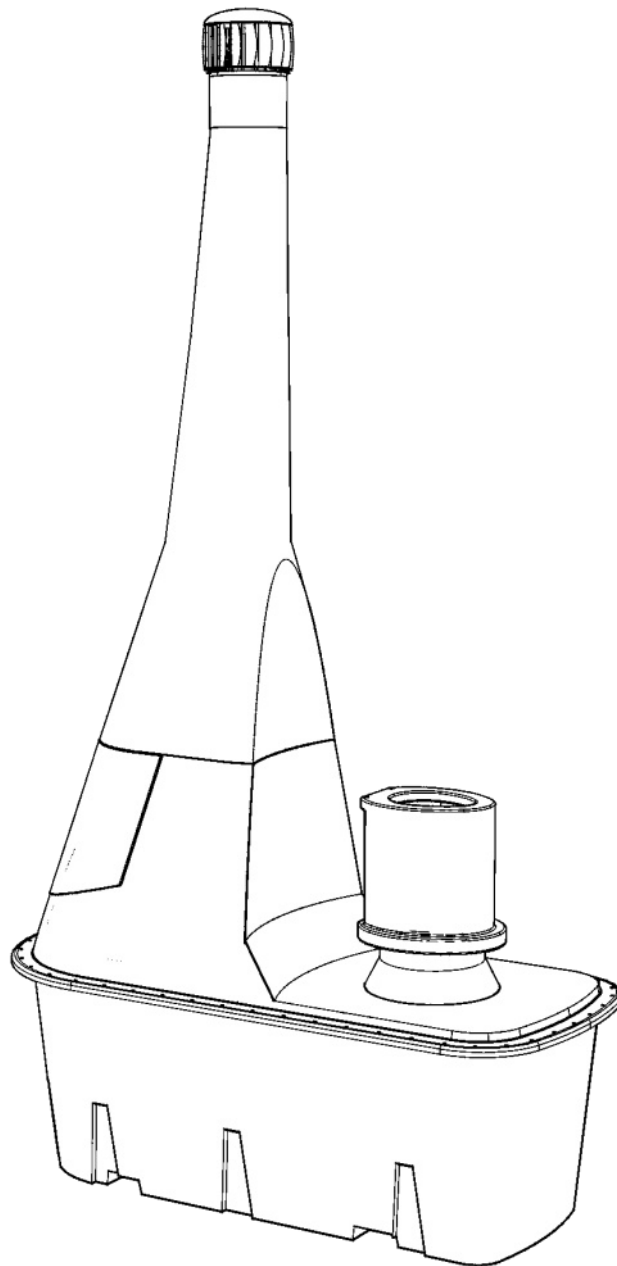


# Kazuba<sup>tm</sup>

## STK Maintenance guide

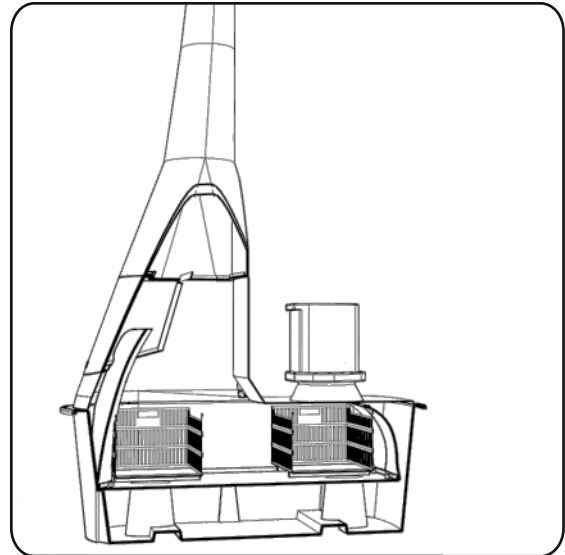


## **Putting the STK into operation**

Once the STK has been installed, both empty baskets may be placed inside the unit.

The active basket sits directly below the toilet bowl. This is the basket into which waste will fall.

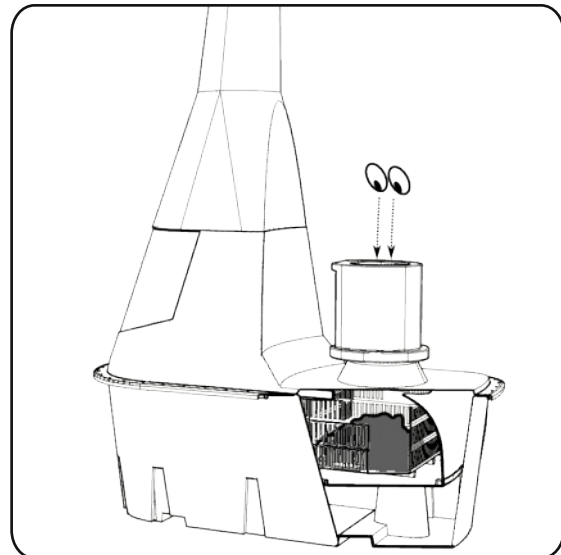
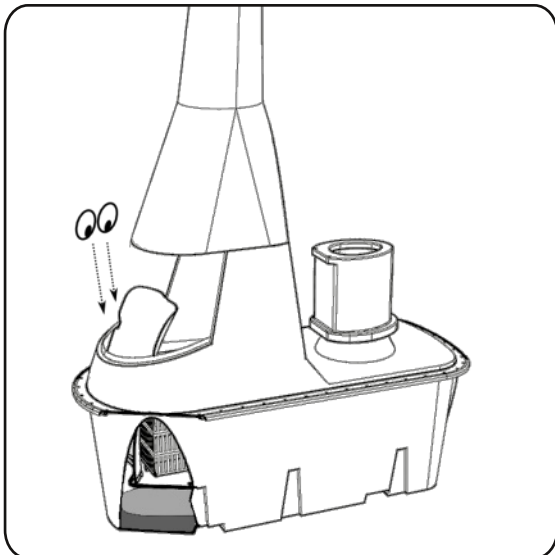
The spare, (drying) basket is placed in front of the rear deflector and the hatch is closed.



## **Maintenance**

### ***Estimating frequency of service***

Once your STK is operational, it is recommended that a visual inspection is undertaken following one month of use and then again after a further 3 months use. The purpose of these first inspections is to estimate the frequency of use of the system and therefore the frequency of regular servicing.



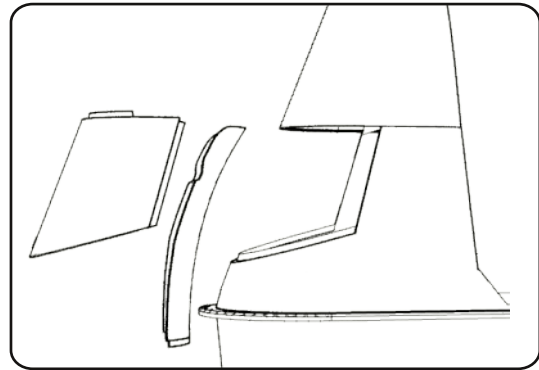
A visual inspection can be undertaken by simply removing the hatch cover. A high usage level will be evident by a raised liquid level, (visible at the pump access point at the rear of the drying plate), and/or by a large amount of solid waste in the basket beneath the toilet bowl. No action needs to be taken at this point, (unless the liquid level is extremely high – see 'Trouble Shooting'), but in the event that high usage levels are noted, it is recommended that the unit is serviced every 6 months rather than the usual 12.

### ***Servicing after Installation***

Subsequent maintenance may be done either manually or by pumping, the choice depending on, amongst other things, frequency of use and personal preference.

## **Service procedure**

It is recommended that servicing is carried out 12 months after commissioning and every 12 months thereafter. Low usage applications may only require service every 24 – 36 months. Tools required for servicing include the hatch lock key, the basket moving tool and gloves.



### **Before each service**

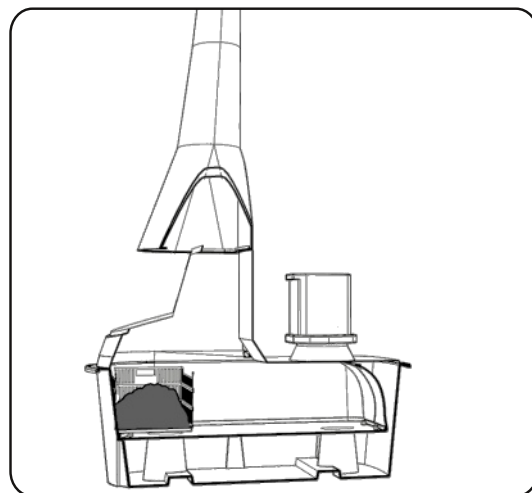
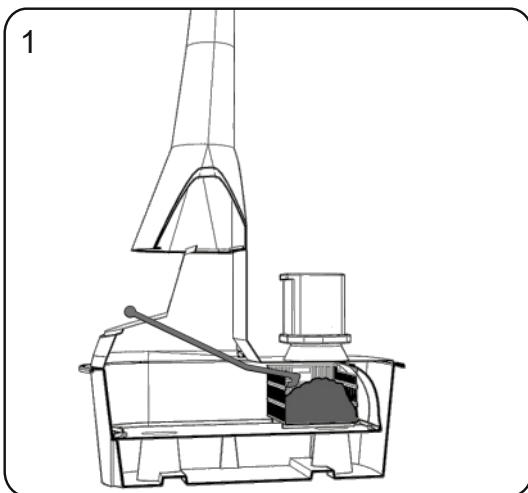
Use the key to unlock the rear hatch and put to one side outside the unit.

Carefully squeeze the deflector plate to release it from the retaining clips. Remove and put it to one side outside the unit.

### **First Manual Service**

Once the active basket is full, remove the empty rear basket and place it to one side outside the unit.

**1.** Using the basket moving tool, draw the front basket back from underneath the toilet bowl to as far back on the drying plate as possible. This basket will contain waste to dehydrate.

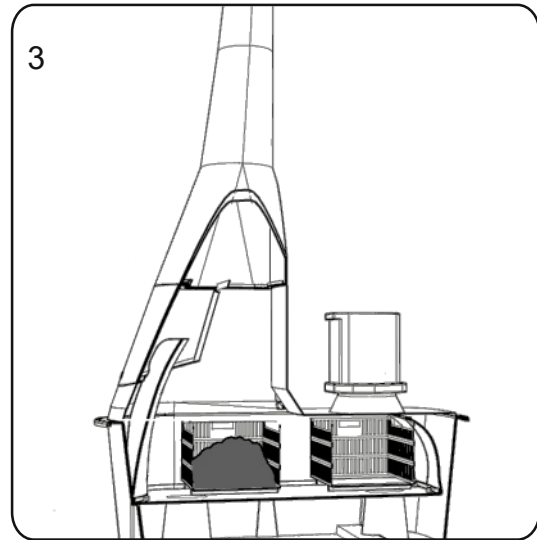
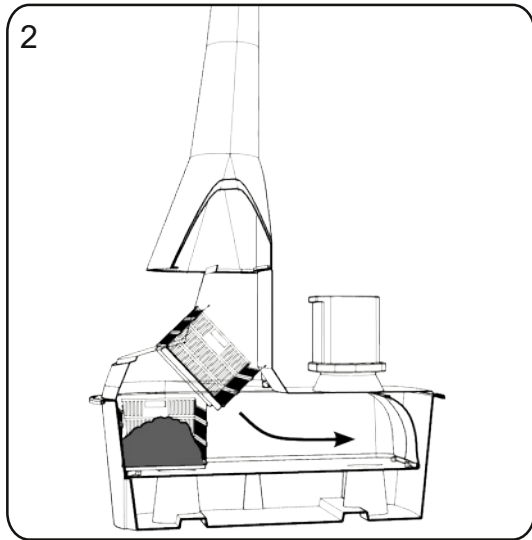


**2.** Slide the empty basket over the top of the full basket, and place it directly underneath the toilet bowl. Use the basket moving tool to manoeuvre it into position.

**3.** The full basket can now be placed forward of the rear deflector as shown. It will remain inside the unit for another cycle whilst it's content dries.

Secure the rear deflector and shut the hatch.

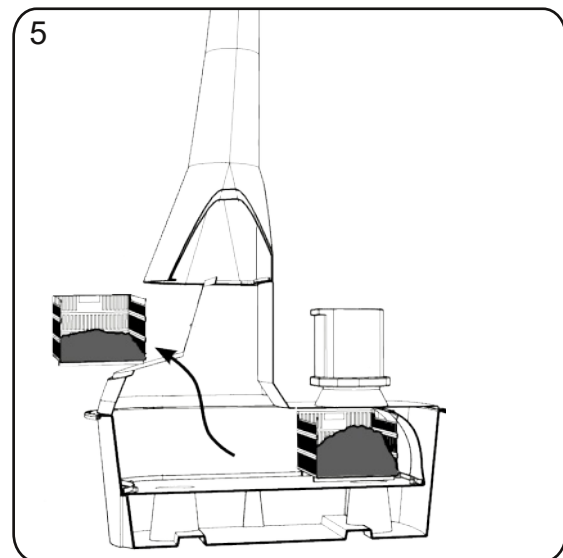
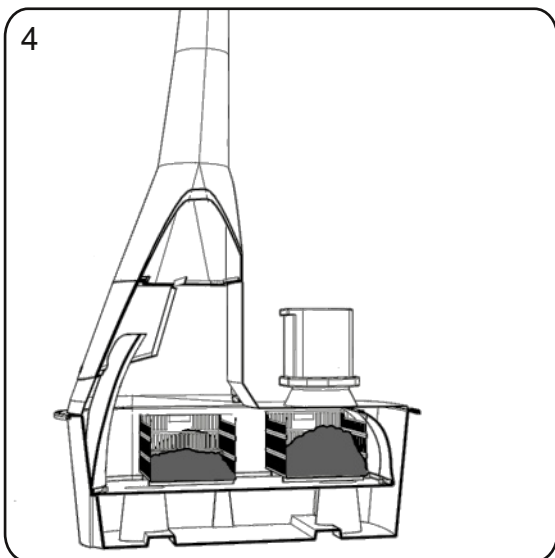




### **Second Service**

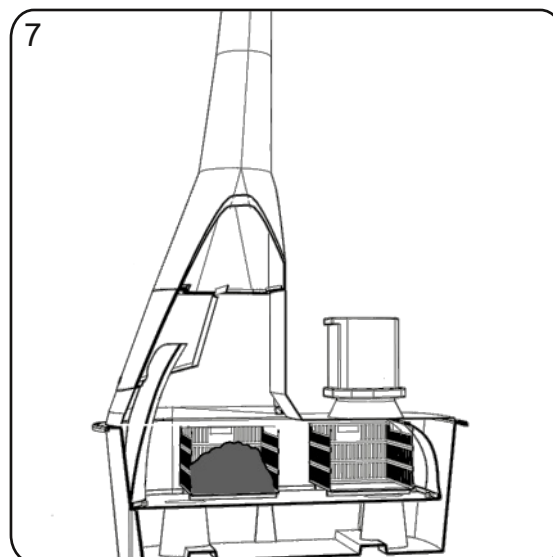
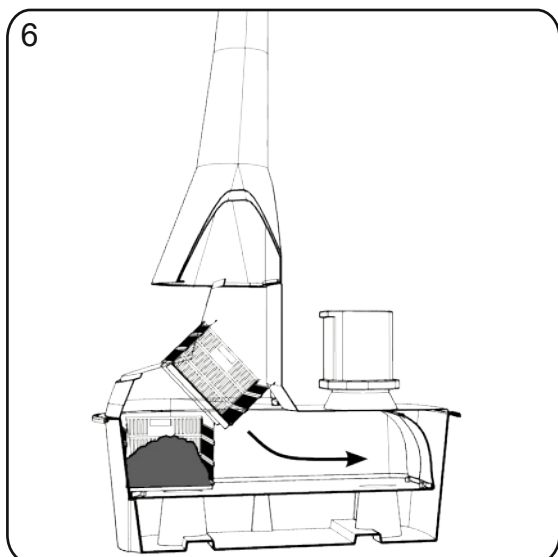
4. The unit will now contain a full basket under the toilet bowl and the dried basket from the first service in the drying position. Note that it's volume has decreased.

5. Open the hatch and remove the rear deflector as before. Remove the basket containing the now dried waste from the first service cycle. The dry material can be disposed of in the preferred fashion, ( see "*Disposing of dried waste*" page 5 ).



6. Move the full basket from under the toilet bowl to the back of the unit as before and slide the recently emptied basket into the active position.

7. You may now move the full basket into the drying position, secure the rear deflector and shut the hatch.



### **Ongoing Service**

8. At the end of the next cycle and all following cycles repeat the sequence 4 to 7.

### **Disposing of dried waste**

At the end of the second and subsequent cycles, the dried waste found in the basket to be emptied will, under normal circumstances, be a neutral, odourless, compostable material.

Dried material may be disposed of by composting, incineration, burying or by collection for waste treatment. In any case, waste should not be used as fertiliser or soil conditioner for plants destined for consumption, (e.g., vegetables).

### **Disposing of liquid waste**

Depending on the rate of evaporation, liquids will need to be emptied from time to time but in any case should not be allowed to rise above the drying plate, (see **Estimating frequency of service**). Liquids can be pumped from the unit without having to remove the deflector.

Liquids normally contain high levels of nutrients which may be recycled into compost, although this guide does not seek to cover this process.

*NOTE Disposal or treatment of human waste may be subject to local authority regulations. Be sure to check before proceeding.*

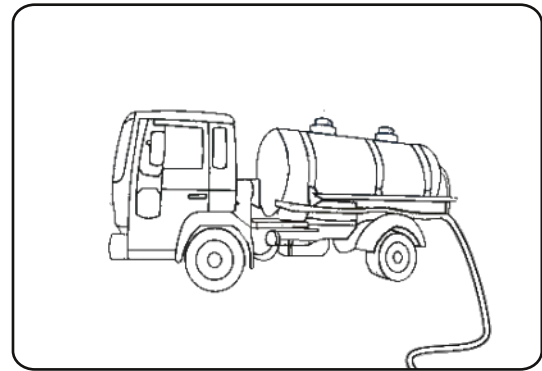
### **Foreign Objects**

It may occur that non biodegradable objects such as plastic bags, aluminium cans, babies nappies, etc., find their way into the system. These objects will not impair the functioning of the STK and can be removed and disposed of during servicing.

### **Service by pumping**

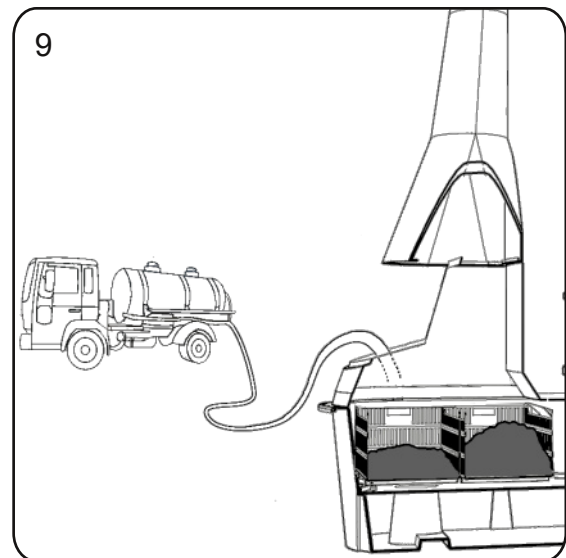
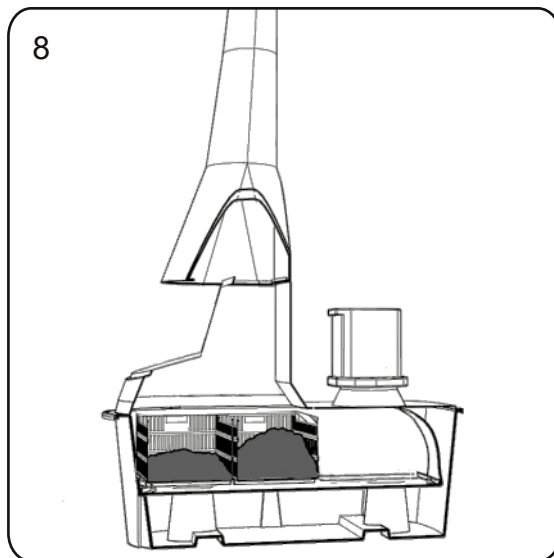
A number of clients have opted for the emptying of the system by vacuum service, contracting an appropriate organisation to remove solids and liquids, disposing of them in an appropriate waste treatment center.

The number of passages in the year will depend on the visitation frequency of the site - this may be useful for high frequency sites.



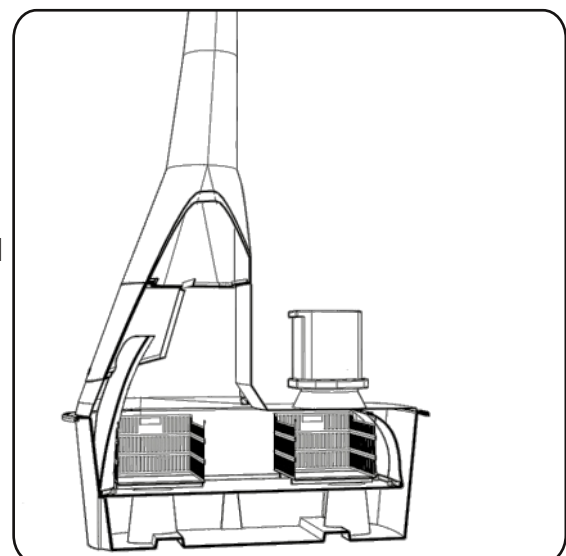
**8.** Remove the hatch and deflector as before and move both baskets to the rear of the unit to provide easy access.

**9.** Pumping is done directly from the basket. The pumping company will need to humidify the dried solids from the first basket in order to successfully pump.



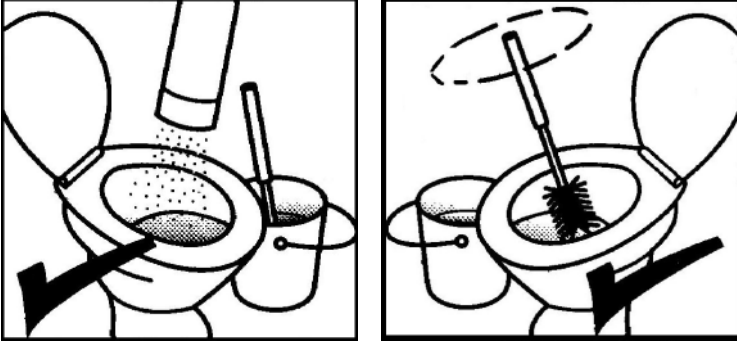
The vacuum service company will also usually rinse the drying plate and the inside of the unit.

The excess water used for rinsing will be emptied at the same time as the other waste.



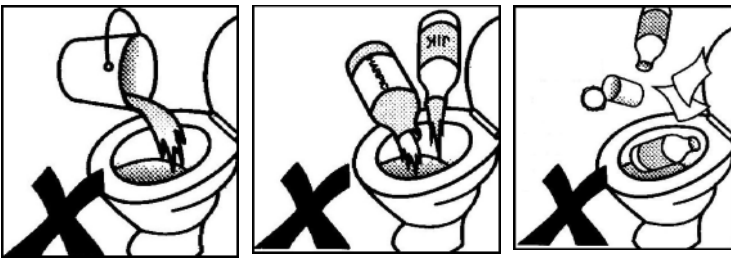
## Cleaning

Cleaning can be carried out as often as required as follows.



- Apply a biodegradable cleaner.
- Using a damp toilet brush, clean the toilet thoroughly.
- Rinse with a little water.

### **DO NOT**



Tip large quantities of water into the toilet for cleaning or any other purpose

- Under any circumstances use chemical cleaning products
- Throw any item other than used toilet paper into the system.

## **Trouble Shooting**

### ***Odours outside the cabin***

If odours are detected outside the cabin, first check the liquid level in the unit. If liquid should rise above the drying plate and wet the solid material in the baskets this may cause anaerobic decomposition which will in turn create odours. The liquid will need to be pumped out.

To pump out excess liquid, open the hatch and insert a 50 – 75mm pipe behind the deflector and down into the liquid collection area below the drying plate. Ensure that the end of the hose is well below the plate.

**NOTE** The liquid should be pumped into a tank and disposed of according to local authority regulations.

### ***Odours inside the cabin***

The STK functions by creating a flow of air which enters via the toilet bowl and exits via the chimney so it is very rare that there are odours inside the cabin, even when there may be odours outside, (see above). However, odours may be present during the following conditions:

**1.** Dawn. It may be that at certain times, usually at dawn, that the air is very still and that the chimney is very cool. This may mean that there is zero air flow through the system and, if there is biological activity in the waste under the toilet bowl, that smells may rise. Normally this moment will pass quickly and normal operation will resume.

**2.** It is possible that under very strong winds against a structure that an area of negative pressure may develop on the leeward side. This in turn may cause the air flow to reverse out of the toilet bowl. No action should be taken and the air current will revert to its usual direction once the wind speed has dropped.

In any case, always check that the extractor is functioning correctly, (turning), and that there are no holes or gaps between the chimney and the hatch.

### ***Fly problems***

Under normal circumstances the unit should be free of flies and other insects in operation.

Insects may find their way into the unit from time to time, but it is rare that they will be noticeable due to the constant current of air flowing into the toilet bowl and out via the extractor. In the event that insects are noticeable at the toilet bowl, check that the hatch cover is properly secured with no gaps between the unit and the cover.

If the problem persists, add some lime to the system via the toilet bowl and via the hatch. The problem will be resolved and the system will revert to normal operation.

