# The Green Potty

*Canadian Composting Specialists*

# The Green Potty Composting Toilet

# User Manual

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# Introduction

Your Green Potty Composting Toilet is an environmentally friendly, self-contained unit that does not require plumbing, electrical, or sewage connections. (See Figure 1.) It is constructed with fiberglass and marine-grade stainless steel allowing it to safely withstand freeze-thaw cycles, and arrives preassembled for easy installation. This high capacity toilet processes waste from 2 adults or a family of 3 under regular continuous use. Under occasional or weekend use, it accommodates waste from 5 adults or a family of 7.

Figure 1. The non-electric composting toilet. Image courtesy of Sun-Mar.

## How Composting Works

Composting is a natural process where aerobic microbes break down organic waste into nutrient rich material that can be used for fertilizing plants. The dried solid waste produced by composting occupies only 3% of the waste's original volume. Water, which constitutes 90% of human waste, is evaporated into the atmosphere. Harmless gases make up the remaining 7% of volume, which also evaporate.

Here's what your composting toilet needs to function effectively:

- **Organic waste**: Human waste and Compost Sure™ bulking material provide the proper organic carbon/nitrogen ratio for the aerobic microbes to function.
- **Oxygen**: Microbes need oxygen to function. Rotate the toilet drum every other day to aerate the waste.
- **Moisture**: The waste needs to be kept damp for the microbes to work. If normal urination is not sufficient to keep the waste damp, add up to 3 ½ litres of warm water. However, make sure that you do not add excess water, as this displaces oxygen and stops the microbes from functioning.
- **Moderate temperatures**: The aerobic microbes are most effective at temperatures between 21-38˚C. Below 13˚C, microbes become dormant and the composting toilet only acts as a holding tank. If your composting toilet is being used more than 3-4 weekends in the winter, the bathroom needs to be heated for the microbes to function.

## An Overview of Your Composting Toilet

The composting toilet features a three-chamber design to safely process human waste to compost. (See Figure 2.) The main function of each chamber is given below:

1. **Drum**: Human waste mixes with Compost Sure™ in the drum when the handle is rotated. This also aerates the mixture and allows the composting microbes to decompose the moist waste.
2. **Finishing Drawer**: The compost transfers from the drum into the finishing drawer to continue composting for 4 weeks.
3. **Evaporation Chamber**: A screen at the base of the drum allows excess liquid to drain into the evaporation chamber from the drum. If the evaporation chamber is full, the overflow drain assembly at the back of the unit drains excess liquid waste to the approved drainage facility.

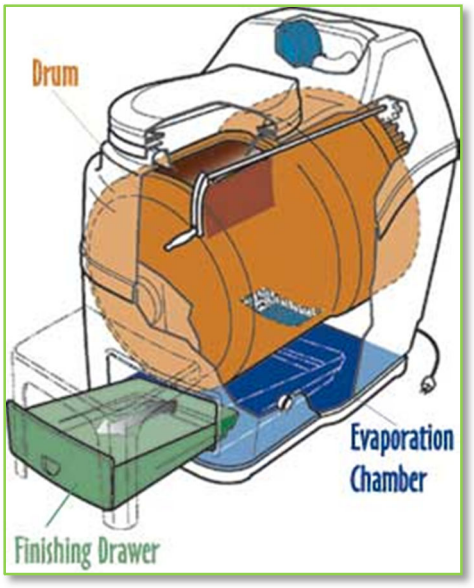



Figure 2. The three-chamber design. Image courtesy of Sun-Mar.

### Potential Locations for Use

The Green Potty Composting Toilet can be installed anywhere as it is self-contained, and does not require any plumbing, electrical, or sewer connections.

Potential locations for use include:

- Residential home - where an extra/emergency toilet is needed
- Seasonal properties - eco-resorts, cottages, lodges, campsites
- Secondary structures - barns, stables, greenhouses, garages
- Industrial sites - oil rigs, worksites, mines, warehouses, construction sites

## Safety Considerations

The Green Potty Composting Toilet is designed to compost human waste and toilet paper only. Do not add any other material into the toilet.

### Do Not Flush the Following Items

- Baby wipes, diapers, feminine products, plastic, glass, metal, cigarettes etc. (will not compost and will clog the toilet)
- Chemicals (will kill the aerobic microbes)
- Kitchen and garden waste (could cause the toilet to clog as the microbes do not have the capacity to handle large volumes of organic waste)

### Cleaning the Bowl

Use Compost Quick™ to clean the toilet bowl. Do not use ordinary toilet bowl cleaners; the chemicals will kill the composting microbes.

# Getting Started

Time to get acquainted with your composting toilet.

## What's in the Box

Your shipment contains everything you need to install and operate your composting toilet.

Your shipment contains:

- User Manual
- Guest instructions poster
- Maintenance Log booklet
- Composting toilet
- Compost Sure™ peat mix (30 litre bag) and Microbe Mix™ dried bacteria for starting the first batch of compost
- Rake for periodic clearing of evaporating chamber
- Warranty card
- Compost Quick™ enzyme
- Complete vent kit including all pipes, fittings, diffusor and vent intake assembly
- Evaporation tray
- 10 feet of 1" diameter drain hose
- Complete waste inlet piping kit

## Accessories and Supplies Required

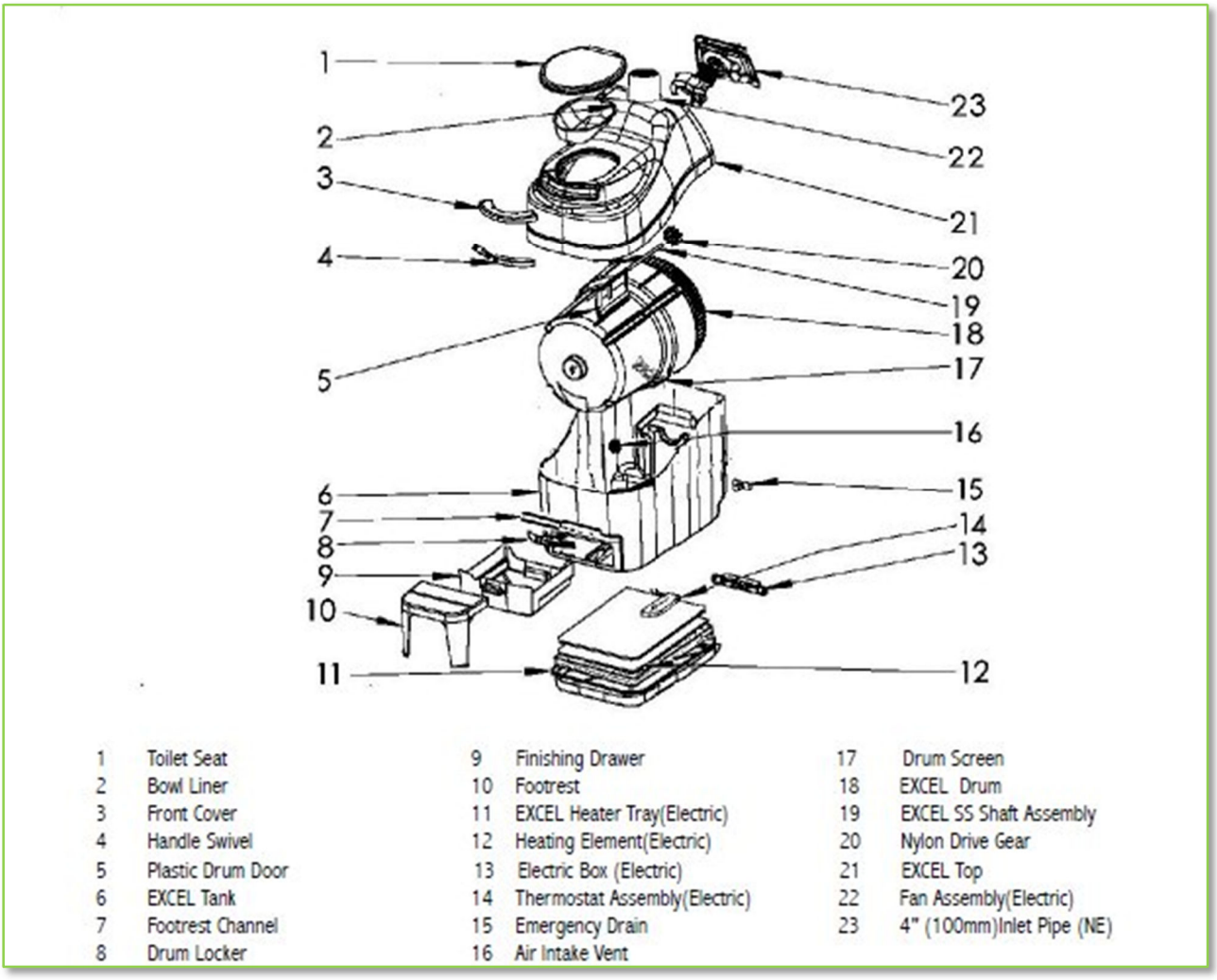
There are three accessories you need (included in the box) to start your compost:

- **Compost Sure™**: A bulking material for the composting toilet. Compost Sure™ is a biologically active mix of hemp and coarse peat moss.
- **Microbe Mix™**: A mix of supercharged bacteria and enzymes ideal for composting.
- **Compost Quick™**: A liquid mix of bacteria and enzymes useful for cleaning the unit and breaking down waste.

## Getting to Know Your Composting Toilet

While simple to operate, your composting toilet has about two dozen components. The following diagrams will help you get to know your Green Potty.

### Seeing Your Toilet in Pieces




| | | | | | |
|---|---|---|---|---|---|
| 1 | Toilet Seat | 9 | Finishing Drawer | 17 | Drum Screen |
| 2 | Bowl Liner | 10 | Footrest | 18 | EXCEL Drum |
| 3 | Front Cover | 11 | EXCEL Heater Tray(Electric) | 19 | EXCEL SS Shaft Assembly |
| 4 | Handle Swivel | 12 | Heating Element(Electric) | 20 | Nylon Drive Gear |
| 5 | Plastic Drum Door | 13 | Electric Box (Electric) | 21 | EXCEL Top |
| 6 | EXCEL Tank | 14 | Thermostat Assembly(Electric) | 22 | Fan Assembly(Electric) |
| 7 | Footrest Channel | 15 | Emergency Drain | 23 | 4" (100mm)Inlet Pipe (NE) |
| 8 | Drum Locker | 16 | Air Intake Vent | | |

Figure 3.Toilet components. Image courtesy of Sun-Mar.

## Your Toilet Side View

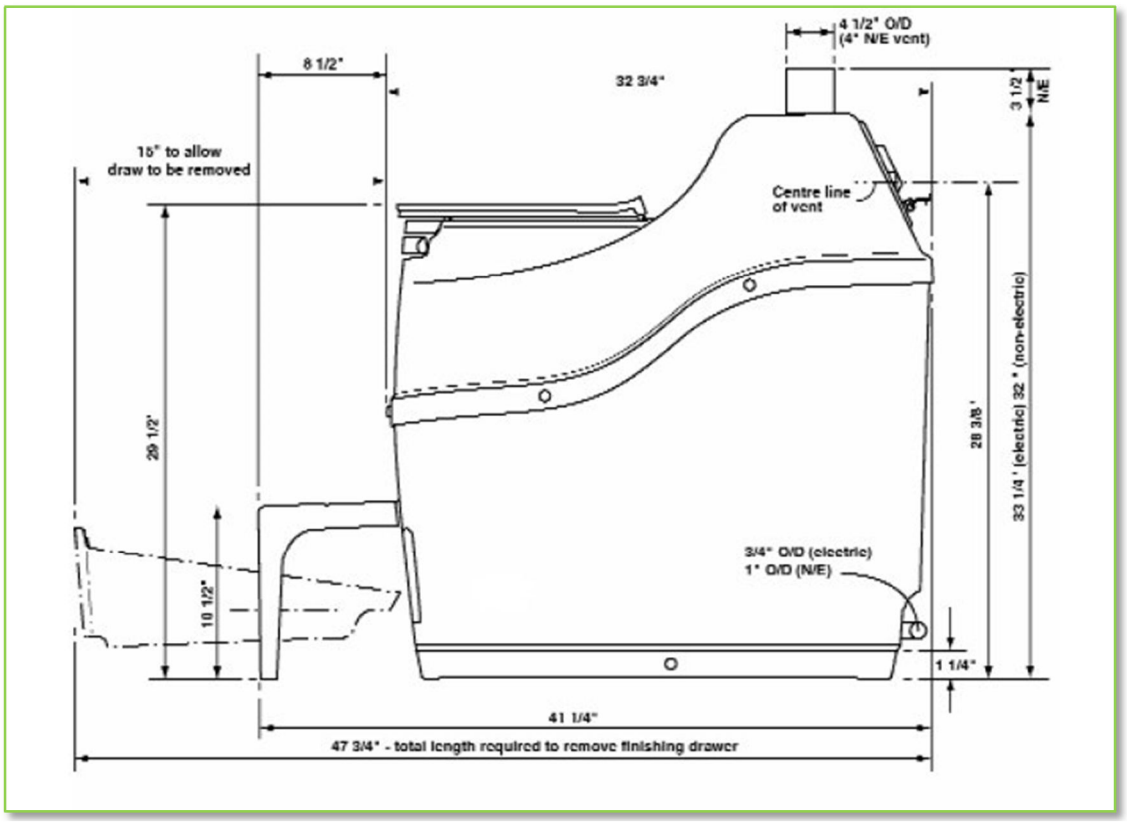



Figure 4. Side view. Image courtesy of Sun-Mar.

## Your Toilet from the Top

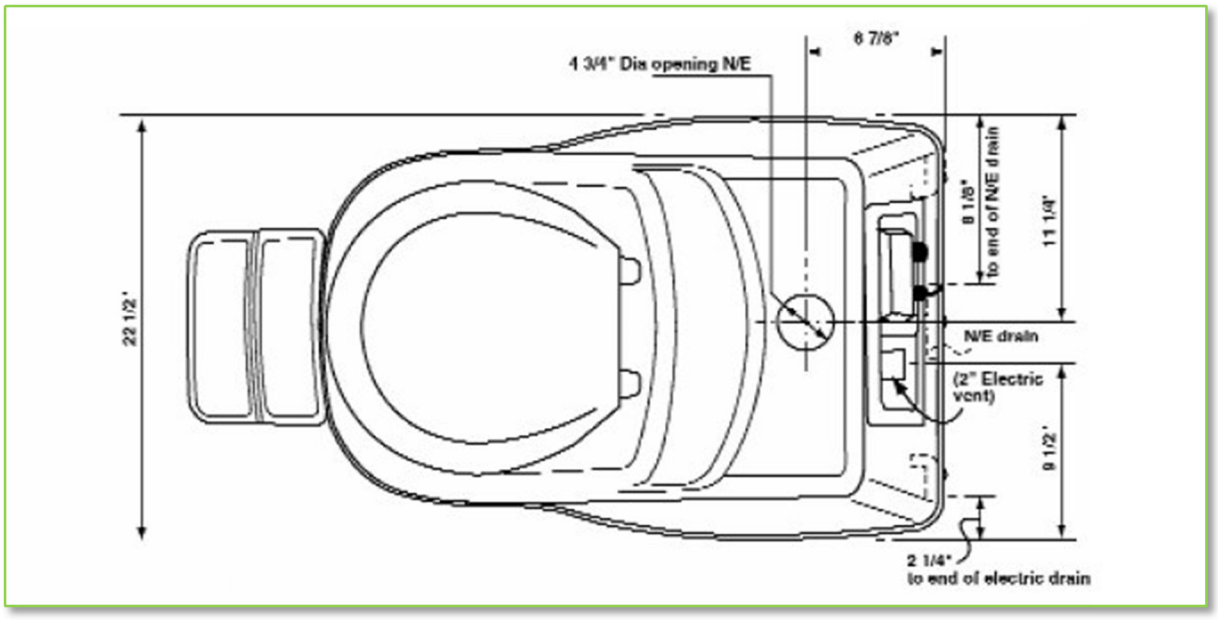



Figure 5. Top view. Image courtesy of Sun-Mar.

# Installation Guide

The Green Potty Composting Toilet comes preassembled. To install the toilet, select the optimum space to position your toilet using the guidelines below. You must then connect the toilet to the vent stack and drainage system.

## Space Guidelines to Aid in Positioning the Toilet

These guidelines will help you select an appropriate space to position your toilet:

1. Install the composting toilet in a room that is not air tight.
2. Allow a minimum of 15" of space in front of the toilet to remove the finishing drawer.
3. Install the vent pipe vertically, with a maximum of two 45˚ bends if required. Figure 6 shows the passive air flow direction in a properly installed unit.
4. The safety drain (located at the rear of the unit) must be connected to a drain that slopes downwards. A drainage facility (recycling bed, old septic system, holding tank, or drain pit) that meets local regulations is required to handle any overflow liquid waste.

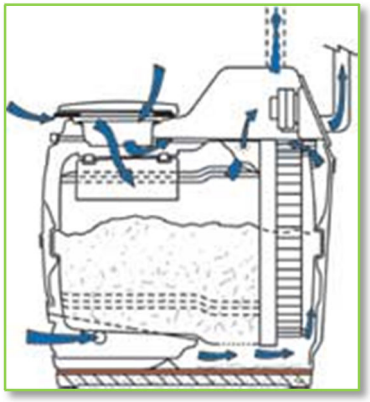


Figure 6. Direction of air flow in the composting toilet.
Image courtesy of Sun-Mar.

**WARNING**: A 12 volt fan must be installed to prevent air from being drawn in through the vent stack if any of the following conditions occur:

- Hills or tall trees are present in the area
- Vent cannot be installed without bends or has horizontal sections
- Other appliances that draw air into the room such as wood stoves are present. These appliances require separate external air intakes.

**TIP:** To build a small cesspit as shown in Figure 7:

1. Dig a trench with a depth of approximately 1-2 feet and 2 feet in diameter.
2. Lay a plastic sheet liner in the trench, and fill it with gravel.
3. Cover with a sturdy lid (plastic, tin, wood).
4. Create a mound at the top with 6” of earth to form a barrier that keeps soil and surface water from mixing with the gravel.


Figure 7. A small cesspit (French drain). Image courtesy of Sun-Mar.

## Vent Stack Installation

The vent stack consists of three parts the vent inlet coupling, the vent pipe, and the diffusor. Consult a licensed contractor to install the vent piping through the roof as shown in Figure 8.

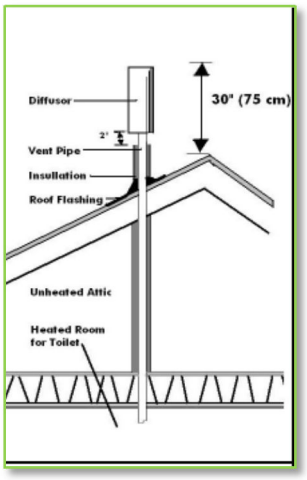



Figure 8. Schematic showing the vent stack installation through the roof.
Image courtesy of Sun-Mar.

**WARNING**: In regions with winter snowfall, install a heavier pipe outside the vent pipe to protect it from snow shear, and seal the space between the two pipes with a waterproof material.

1. To install the vent stack attach the narrower end of the vent inlet coupling shown in Figure 9 to the 4” vent hole located at the top of the toilet. Install the vent pipe vertically, 24-30” above the highest point of the roof (reduces downdraft), with no more than two 45˚ bends as shown in Figure 10.

2. Glue the smaller end of the diffusor, vertically, to the top of the vent pipe as shown in Figure 11. The larger end of the diffuser sits at the very top and helps deflect rain and wind from entering the vent stack. The diffusor works best in calm weather and does not freeze in the winter.

Figure 9. Vent inlet coupling. Image courtesy of Sun-Mar.

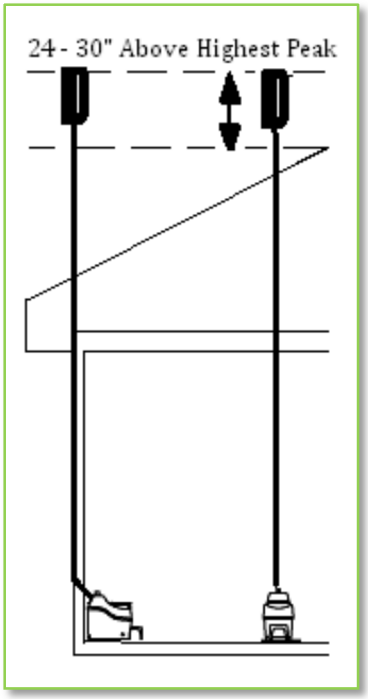



Figure 10. Install the vent vertically, 24-30” higher than the tallest point of the roof. Image courtesy of Sun-Mar.

**WARNING:** Do not block the vent by installing anything above the diffuser.

3. Seal all connections at the inlet coupling and along the vent pipe with silicone caulking (prevents odor release from joints).

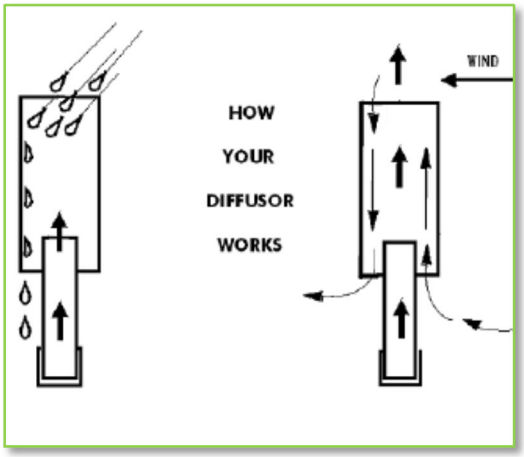



Figure 11. The diffusor helps improve updraft of odor from the vent. Image courtesy of Sun-Mar.

## Drainage Connection

The safety drain in your toilet must be connected to an approved drainage facility using the drain hose provided. This diverts any overflow liquid waste to the drainage facility, particularly during periods of heavy use.

To set up the drainage system:

1. Unplug the orange cap that covers the overflow drain assembly, located on the side of the toilet (Figure 12).
2. Then, attach the 1” stainless steel hose clamp to one end of the 1” drain hose, and slide the drain hose over the overflow drain assembly. Tighten the clamp.
3. Finally, attach the other end of the 1” drain hose to the drainage facility that has been built to handle liquid waste in compliance with local regulations.

Figure 12. The overflow drain assembly of the composting toilet. Image courtesy of Sun-Mar.

# Operation Guide

## First Steps

Your first batch of compost takes at least six weeks to complete. Here are the steps to get you started:

1. Add 15 litres of peat mix (half of the whole Compost Sure™ bag) to the drum. This acts as the carbon base and foundation of the compost.
2. Add half (227g) of the 454g Microbe Mix™ jar. You need to add the rest of the mix two weeks later. This adds the necessary microbes which break down the compost.

**NOTE:** If the compost toilet is meant to be used periodically, add the other 227g on your next visit.

3. Sprinkle approximately two litres of warm water into the drum. This moistens the compost.
4. Spray Compost Quick™ enzymes into the drum. The enzymes will act as a catalyst, speeding up the start-up of the compost.
5. Mix the compost thoroughly by turning the drum handle only. This will rotate the drum, turning and mixing the compost.

**WARNING:** Do not release the drum locker at this step. If you release the drum locker, the drum will empty its contents.

6. Spray Compost Quick™ enzymes into the drum again.
7. Take out the finishing drawer. Coat the evaporation chamber, the compartment below the drawer, with Compost Quick™ before you use the toilet.
8. Rake the loose peat moss from the evaporation chamber until the compost becomes established (approximately six weeks after start-up).
9. Return the finishing drawer.

### How Do You Know if the Compost is Properly Made?

There are three signs to look for:

- The expansion rate of the compost volume slows (compared to the beginning).
- The compost turns black and loam-like (loam is a soil of clay and sand).
- The toilet paper decomposes within few days.

As long as these three visual cues have occurred, there is nothing to worry about.

**TIP:** You can use any toilet paper you like. Brands and type will not affect the compost in any way.

## Regular Use

There are three things you need to do for daily use: adding the bulk, turning the drum, and removing compost.

1. **Adding the Bulk**
   - After each bowel movement, add one cupful (two handfuls) of Compost Sure™ to the Bio-Drum.
   - If you do not have Compost Sure™ available, use a 50/50 mixture of peat moss and non-cedar wood shavings.
   - The usual daily amount of bulk is one cupful per person.

2. **Turning the Drum**
   - To mix the compost, turn the handle four to six full rotations every couple of days when in regular use.
   - If the toilet is only used on certain days of the week, such as the weekend, just rotate the drum on the last day of use.

3. **Removing Compost (pictured in Figure 13)**
   - You need to transfer compost into the finishing drawer when it is either half or 2/3 full. The drum is 2/3 full when the compost is about two to three inches below the opening.
   - To empty the drum, pull the drum locker button and rotate the handle counter-clockwise.
   - If necessary, use the rake to level the compost in the drawer.
   - If you did not remove enough, turn the drum backwards (clockwise) one full rotation.
   - Leave the compost in the finishing drawer for two to three weeks to complete the six week composting process.

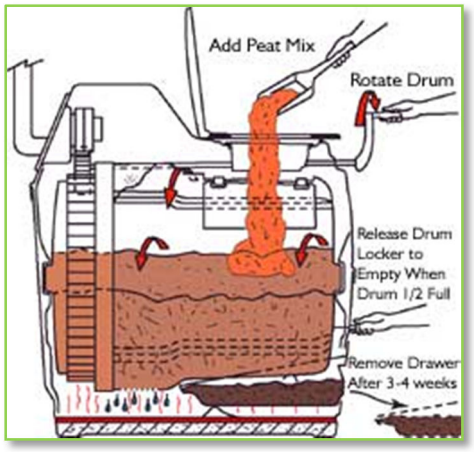



Figure 13. Use and maintenance of a compost toilet. Image courtesy of Sun-Mar.

## Seasonal Use

If you only use your toilet seasonally, such as during the summer, follow these instructions on starting up the toilet after a dormant period:

1. Empty any compost that has been left in the finishing drawer. Use the rake to clean out the evaporation chamber, paying extra attentions to the back and the corners.
2. Remove any additional drawers of compost if there is more than six to eight inches from the previous season. Do this by releasing the drum lock and rotating the handle counter-clockwise. This moves more compost into the drawer, making room in the drum.
3. Leave approximately six to eight inches of compost in the bottom of the drum at the start of the season. This acts as the foundation for your new batch of compost.
4. Add two litres of water to raise the moisture level.

**NOTE:** Assuming the compost from the previous season has been left untouched, the compost is ready to be used as fertilizer without any waiting period unlike the initial batch.

### Additional Options for Quality

Your existing compost contains microbes from your last batch. However, the quantity of microbes is lower since a majority of the microbes were removed when the compost toilet was cleaned. To replenish the lost microbes to improve efficiency, try one or both of the options below. The options can be followed in any order depending on the supplies on hand.

- Add Microbe Mix™ to the compost. If you do not have any, use unsterilized black earth from a garden center. If you are using black earth, avoid the topsoil as it may contain fly larvae and may not contain enough necessary bacteria.
- Add Compost Quick™ enzymes as a compost accelerator.

### Hibernation

If you are leaving the toilet unused for more than a few days, add about half a gallon of warm water before leaving. This will keep the compost moist.

## Maintenance

Regular and periodic maintenance ensures that your Green Potty Composting Toilet continues functioning effectively. Follow these instructions to prevent product damage and to promote an efficient composting ecosystem.

**WARNING:** Prior to conducting maintenance on your Green Potty Composting Toilet, please note the following:

- Do not clean the toilet bowl with chemicals (these will kill the bacterial and inhibit the composting process.) Use **Compost Quick™**.
- The only materials you should add to the toilet are human waste and Green Potty Bulking Material™. Adding any other material may inhibit the composting process or damage the toilet.

## Scheduled Maintenance

Use the **Green Potty Log Book** to track your scheduled maintenance activities.

| | |
|---|---|
| Daily | • After each bowel movement, add **1 cup (250 ml) of Compost Sure Green™** to the unit. Sprinkle directly over the waste.<br><br>• If the unit is only used for urination**,** add **1 cup (250 ml) of Compost Sure Green™** per person per day. |
| Every 2nd day | • Before rotating the handle every second day (see Regular Use on page 14), use **Compost Quick™** to spray the surface of the compost pile **3 to 4 times**. The Compost Quick™ enzyme will speed up the composting process. |
| Every 2 weeks | • Add **one scoop of Microbe Mix™** to the bio-drum. Microbe Mix™ reinforces the microbe colony that exists in your toilet and enables the continued composting of your waste. |
| Every 3 months | • Clean the evaporation chamber:<br>1) Remove the finishing drawer to expose the evaporation chamber.<br>2) Rake any solid debris from the floor of the unit and ensure all corners have been inspected and scraped. |
| Every 6 months | • Clean the drum screen:<br>1) Break down encrusted debris by spraying the drum screen with Compost Quick™. Let it sit for 15 minutes.<br>2) After 15 minutes, scrub the screen with a wire brush.<br>3) Pour liquid over the drum screen to check that it's draining effectively.<br><br>**Note**: If liquid still won't drain through the screen after the first scrubbing, repeat the process. If the second scrubbing doesn't clear the screen, use a pointed object to clear each hole in the drum screen. |

## Periodic Maintenance

The frequency of periodic maintenance varies based on toilet use. If the toilet is not in regular use, ensure that you complete the task below prior to shutting down the toilet for an extended period of time.

| | |
|---|---|
| When the drum is half full | • Remove compost from the drum:<br>1) Detach the footrest.<br>2) Pull the drum lock button (white button below the footrest) and hold in the pulled out position.<br>3) Turn the drum handle counter clockwise for one full revolution.<br>4) Remove the drum and dispose of composted waste in an appropriate outdoor area.<br>5) Rinse out drum with water (do not use chemicals) |

# Troubleshooting

The following troubleshooting information will help you resolve any compost or mechanical issues. The notes below provide both action steps to resolve the issue and tips to prevent issues from recurring.

## Compost Issues

Compost issues relate to the processing of solid and liquid waste collected in the Green Potty Composting Toilet.

| Issue | Source | Action | Prevention |
|---|---|---|---|
| **Wet compost** | Compost is too compacted for liquid to flow through.<br><br>Drum screen blocked. | Use Compost Sure Green bulking material.<br><br>Spray Compost Quick™over the drum screen. Use a wire brush to clean the drum screen. | Incorporate Compost Sure Green™ bulking material regularly. |
| **Lumpy compost** | Compost is not moist enough. | Hydrate the compost with 2 to 3½ litres of warm water. Add ½ litre measures until the moisture level is sufficient.<br><br>Lumps can be taken out or broken into smaller pieces. | Incorporate Compost Sure Green™ bulking material regularly and add warm water, as needed. |
| **Compost drum is full** | Finishing drawer has not been emptied on schedule.<br><br>Household organic waste from the kitchen or garden placed in the compost drum. | Drum should be 50% full or less. Remove excess compost to reduce the volume.<br><br>Aerate the compost by rotating the drum.<br>Add Compost Quick™ and Microbe Mix™ to speed up the compost process.<br><br>Do not add household organic waste such as food scraps or garden clippings. | Monitor drum level. Remove excess compost above 50% of capacity.<br><br>Do not add household organic waste such as food scraps or garden clippings. |

## Mechanical Issues

Mechanical issues relate to the operation and function of the Green Potty Composting Toilet.

| Issue | Source | Action | Prevention |
|---|---|---|---|
| **Noisy fan** | Transportation damage to the fan.<br><br>Wear and tear on fan's bearings consistent with use over time. | A humming noise is part of normal operation. In low decibel settings, the hum may be more noticeable.<br><br>A rattling noise suggests the fan components need to be cleaned. If this does not resolve the noise issue, replacement parts may be required. | Annually clean the fan with a firm brush and/or compressed air. For access, remove the fan components by taking off the snap covers and removing the screws that secure it in place. Once the caps and screws are removed, the entire fan unit slides out. Regularly cleaning will increase the life of your fan. |
| **Spilled liquid** | Blocked drains.<br><br>Incorrectly connected overflow drain.<br><br>Toilet balanced too far forward. | Debris can build up near the safety drains. Use provided rake to expose the drains.<br><br>Visually inspect the overflow drain hose. Look for twists or blockages. Blockages will appear as a brown spot through the opaque hose. Also, check for upward bends. Untwist hose and flush blockages. Ensure the hose is sloping downward.<br><br>If the problem persists, guide a wire through the hose to force any blockages out of the way. | Rake the evaporating chamber every 3 – 4 months to prevent blockages.<br><br>Use a high quality 1" ID hose for the drain line. The better the quality the less likely kinks will occur.<br><br>Use only Compost Sure Green™ as bulking material.<br><br>In damp weather conditions, the rate of evaporation is reduced. A properly installed drain hose helps prevent liquid spills. |
| **Drum door not opening or closing properly** | Drum is overfull.<br><br>Hinges not moving correctly. | Reduce the quantity of material in the drum to ½ of capacity, or less.<br><br>Spray hinges with Compost Quick™ then scrub with a toothbrush or other small, soft brush. | Drum should never be more than ½ full. |

# Legal Notices

## Liability Disclaimer

[Legal Disclaimer inserted here by legal team.]

## Safety

[CSA approval notice here]

## Copyright

[Copyright information inserted here]

## Patents

[Patent information inserted here by legal team.]

## Warranty

[Warranty conditions inserted here by legal team.]

## Acknowledgements

The Green Potty would like to thank Sun-Mar for our continued partnership with the Green Potty Composting Toilet.

## Contact Us

If you are experiencing problems with your Green Potty Composting Toilet or would like more information on our other eco-friendly products please contact us.

- www.thegreenpotty.ca
- Sales: 1-888-456-1234
- 24/7 service: 1-877-123-4578
- www.facebook.com/TheGreenPotty
- www.twitter.com/TheGreenPotty
- www.instagram.com/TheGreenPotty

Prior to contacting our service department or an authorized dealer, please be sure to check out the troubleshooting section on pages 19-20 of this manual. Authorized dealers provide toilets, spare parts, additives and service, as required.

To find the authorized dealer nearest you, please visit www.thegreenpotty.ca.

VANCOUVER

**Canadian Energy Vancouver**
4238 Main Ave, Unit #114
Burnaby, BC V3N 1E2
604-420-7737
vancouver@batterydirect.com

**Direct Buy**
91 Golden Drive, Suite 1
Coquitlam, BC V3K 6R2
604-552-5252
coquitlam@directbuy.ca

CALGARY

**Haney Home Hardware #5496-0**
11768 – 223 Street
Calgary, AB V2X 5X7
604-463-4663
info@haneyhomehardware.com

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4238 Main Ave, Unit #114
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