



MulitToa 30 NE

Waterless Composting Toilet

Owner's Guide

1-888-436-3996

Call our Customer Assistance Centre

With questions or comments

www.ecoethic.ca

Specifications

Capacity: 3 people full-time use (4 people with auxiliary fan); 4 people part-time use (6 people with auxiliary fan)

Weight Limit: 330 lb

Measurements and Weight

	Shipping	Installed
Depth	44"	29"
Width	16"	15.75"
Height	26.5"	25"
Seat Height	19.5"	19.5"
Weight including vent kit and initial starter mulch	67 lb	59 lb

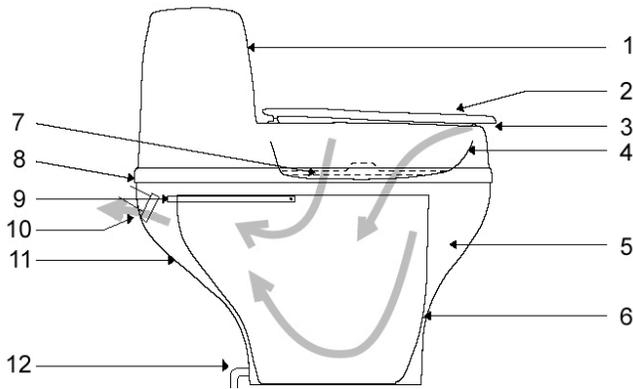
Thank you for your purchase of a MullToa Composting Toilet.

Your MullToa Composting Toilet is a biological composting toilet that uses the processes of evaporation and aerobic decomposition to transform human fecal waste, urine, and toilet paper to a hygienically safe product (humus) that may be safely utilized if disposed of in a manner described in this manual or by your local health authorities. With proper installation and maintenance we are certain it will offer you the convenience and reliability you would expect from the manufacturer of the best septic-free toilet in the world.

Due to the absence of electricity, the MullToa 30 NE does not have a heat source to aid in the evaporation of excess liquid. A drain tube MUST be installed to evacuate excess liquid. This liquid should be disposed of according with your local health authorities most areas have regulations pertaining to draining liquid from composting toilets. Always check with your local health authorities for specific regulations governing composting toilets prior to installation of your MullToa 30 NE.

Box Contents

- | | |
|---|--|
| 1 - MullToa 30 NE Composting Toilet | 1 - 22" section 108 mm black vent pipe, belled 1 end |
| 1 - 20L bag Starter Mulch | 1 - 26" section 108 mm black vent pipe, non-belled |
| 1 - Auxiliary compost bin | 2 - 22" sections Styrofoam insulation |
| 1 - Bowl Cap | 1 - 108 mm X 54 mm reducing coupler |
| 1 - Manual mixing rake | 1 - 3' section of drain hose |
| 5 - 2' sections 54 mm white vent pipe, belled 1 end | 1 - Roof flashing |
| 1 - 2' section 54 mm white vent pipe, non-belled | 1 - Insect netting |
| 1 - 19" section of 54mm white vent pipe, non-belled | Mounting hardware |



Toilet Components

1. Top part
2. Seat
3. Compost Cover Button
4. Compost Cover
5. Compost Chamber
6. Compost Bin
7. Bowl Cap
8. Mounting holes
9. Bin handle
10. Air Outlet
11. Unit Base
12. Drain Outlet

Installation

Tools Required

- Standard screwdriver
- Phillips screwdriver
- Drill
- 2 1/4" hole saw
- 1 1/4" drill bit
- Jig saw or keyhole saw
- Hammer
- Roofing nails
- 100% adhesive silicon caulking (do not use latex silicon)
- Plum bob or weighted string
- Pencil

Before installing your MullToa

- Check with your local health authorities for specific regulations governing the installation of your MullToa.
- Ensure the flow of air into the bathroom is from the living area (not from outdoors). A 1" gap under the bathroom door or a vent in the bottom of the door or wall will ensure sufficient airflow to the toilet. Overhead vents and open windows should be used with caution as these may cause a negative pressure in the room and promote a back draft into the room through the toilet causing the presence of an unpleasant odour.
- Ensure the floor under the toilet is level.
- Prepare how you are going to drain you Mulltoa in accordance with local health regulations.
- Ensure drain tube will have a constant downward angle (straight down from the toilet if possible) with no kinks to promote proper flow of liquids.
- **Ensure the vent pipe will be able to extend at least 19" above anything within 10' of it or above the peak of the roof. Additional vent pipe may be necessary (extra).**
- Verify that the total run for the vent pipe is less than 25'. If this is exceeded an auxiliary 12 volt fan may be required.

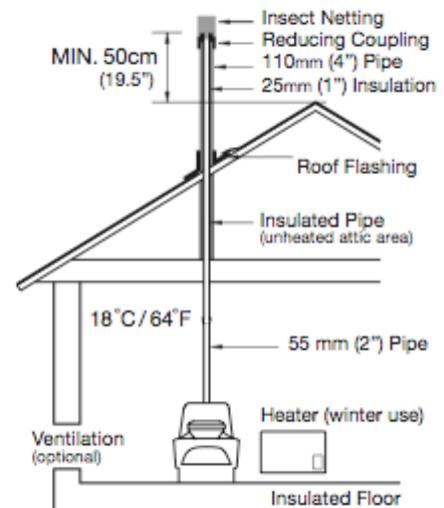
******IMPORTANT:** Installation of the vent pipe system is **CRITICAL** to the operation of your MullToa Composting Toilet. If you have any questions regarding your specific installation please contact Customer Assistance Centre (toll free: 1-888-436-3996) prior to installation.

Straight run through ceiling and roof

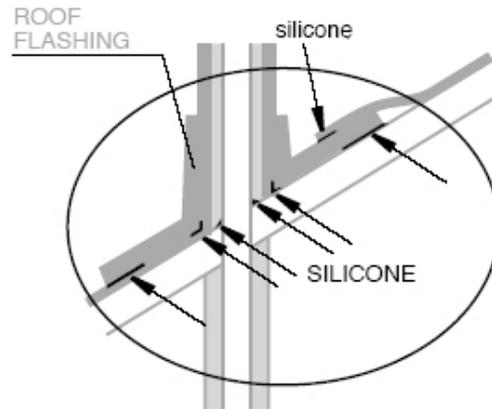
1. Position the toilet 2 1/4" from the wall.
2. Determine how and where you are going to run the drainage tube.

IMPORTANT

Whenever possible, turn the drain tube nipple straight down and pass the drain tube through the floor directly below the nipple. Ensure placement of the drain tube allows for a constant downward slope to promote proper flow of the liquids. Ensure drain tube does not kink wherever bends are necessary.



3. Drill a 1 1/4" hole in the floor or wall to accommodate the drain tube.
4. Using a plumb-bob or a weighted string, find and mark the spot on the ceiling directly above the center of the ventilation outlet on back of the toilet.
5. Drill a 2 1/4" hole in the ceiling where you just made a mark in Step 2.
6. Drill a 2 1/4" hole in the roof above the hole in the ceiling.
7. Remove the top of the unit and insure that the rubber pipe connector is all the way on the nipple inside the toilet so the flange fits square against the nipple housing.
8. Insert 1 length of 54mm, white, belled pipe **into** the rubber connector on the back of the toilet with the belled end up.
9. Install the drainage tube attaching it to the connector on the back of the toilet.
10. Place the large white spacing cylinders between the pre-drilled holes on the rear of the unit and the wall and screw the long (3 1/2") mounting screws through the assembly. (****NOTE** if the screws do not line up with the studs in the wall, be sure to first install the wall anchors.**)
11. Insert the next white, belled pipe into the pipe installed in the back of the toilet. Repeat until the end of the white pipe extends through the roof.
12. Cut the last pipe so only the bell of the pipe is sticking above the roof.
13. Seal the hole in roof using the silicone to caulk around the pipe.
14. Remove the 54mm white pipe and insulation from inside the 108mm black pipe, keeping the reducing coupling attached to the white 54mm pipe with no bell.
15. Slide non-belled black pipe into belled end of other black pipe.
16. With the bell facing downward cut the black pipe so it fits the angle of the roof and the other end extends at least 6" above anything within 10 feet if it. Wherever possible, extend the vent pipe above the peak of the roof. (The total length of the black piping must be at least 2'; 4' on roofs with less than a 3/12 pitch.)
17. Cut the insulation to the angle of the roof as done with the black pipe in step 14.
18. Slide the roof flashing over black pipe with the top of the flashing away from the cut end of the pipe.
19. Reinsert white pipe and insulation into the black pipe with the reducing coupling toward the uncut end.
20. Place the black pipe over the white pipe that extends from the roof, ensuring that the white pipe inside the black pipe securely joins with the pipe extending from the roof.
21. Slide roof flashing down so it lies evenly on the roof, slipping its flanges under the shingles along the top edge.
22. Outline the flashing on the roof.
23. Raise the flashing and apply silicone sealant inside the outline.
24. Slide the flashing back down, sliding the flange under the shingles along the top edge and press it firmly into the sealant. When the flashing is properly placed the top part of the flashing should be under the shingles and the lower portion should be on top so water sheds easily.
25. Secure the top of the flashing with corrosion resistant nails or staples at each corner and along the sides at 4" – 6" intervals.
26. Exposed nails or staples should be sealed with silicone sealant.
27. Slide the reducing coupling down till it fits over the black pipe.
28. Cut off the white 55mm pipe even with the top of the reducing coupling.
29. Attach Insect Netting (optional). During Winter in extremely cold areas icing up can occur and removal of netting may be necessary.



Drainage information

The drainage system to be chosen depends entirely on your local health authorities regulations. Distance regulations from lake, wells, property lines and high water levels vary from area to area and it is very important to contact your local health department prior to installing the MullToa 30 NE. Installing a MullToa 30 NE without information from your local health authorities could result in groundwater contamination and/or pollution.

Setting Up The Toilet

1. Insert the composting bin inside the toilet with the curved end facing forward.
2. Place the carrying handle in the down position to the rear of the toilet.
3. Open the included 20L bag of starter mulch and add about 1 quart of water to it. (just enough to keep the mulch from dusting)
4. Mix the water with the mulch to evenly distribute it throughout the bag.
5. Place approximately 2" of starter mulch into the bin.
6. Replace the top on the toilet.
7. Your MullToa is now ready to use.

Use and Care

To ensure your MullToa will operate at its peak potential and the end product (humus) will be hygienically safe to handle and recycle on your property, pay close attention to the following directions. NEVER put cigarettes or other burning or glowing materials into your MullToa. Do not put sanitary napkins, food scraps, or animal excrement in your MullToa. Your MullToa is intended for the disposal of human urine, fecal matter and toilet paper ONLY. Introduction of other materials may hinder the composting process or decrease the capacity of your toilet.

Adding starter mulch

It is very important to add starter mulch to your toilet on a regular basis in order to promote aeration, add carbon and to improve the compost's ability to absorb liquid. During regular operation add a minimum of 1 quart of starter mulch per week per person. Therefore, one should make it a habit to add about 1/2 cup of starter material after each fecal use.

Approved mulches

Use of only MullToa approved starter mulches is recommended. Approved mulches will carry the MullToa logo. Using any other mulch can cause a decrease in the efficiency of your toilet and may void the warranty on mixer parts if their failure is determined to be caused by usage of unapproved mulch.

MullToa and its distributors cannot guarantee the operation of your unit unless you are using approved mulch.

Mixing the Compost

Approximately once a week, insert the manual mixing rake into the toilet pressing it through the product in the bin until it reaches the bottom of the bin. Move the handle in a circular and back-and-forth motion to agitate the product in the bin. The function of mixing is to mix paper and waste, increase aeration and to keep the compost porous and uniformly moist. This is necessary to transform the compost into humus.

Emptying the Compost Bin

In a full-time residential setting, the compost bin should be emptied when the bin is about 3/4 the way full or once every 6 months, whichever comes first. In a part-time cabin/cottage setting, the compost bin should be emptied when the bin is about 3/4 the way full or once a year whichever comes first.

1. Remove the top of the toilet by lifting straight up.
2. Straighten the carrying handle on the bin into an upright position.
3. Remove the bin.
4. Move the material from the bin into the auxiliary compost bin to finish composting.
5. If the auxiliary bin contains humus, dispose of it by adding it to an existing outside compost pile for finishing or when an existing compost pile is not available, by mixing it with soil or compost and trench it in around ornamental trees and plants and cover it with a minimum of 5" topsoil, or dispose of it in a manner approved by your local health authorities.
6. Add about 2" of moist starter into the bottom of the bin.
7. Replace the bin in the toilet with the curved end facing forward.
8. Place the carrying handle in the down position to the rear of the toilet.
9. Replace the top of the unit, ensuring it is evenly setting on the base.

Use and Care - continued

Shutting down and Starting your toilet back up

If your MullToa is going to be idle and not used for periods of two days or more:

Add about one quart of humus starter per week that you will be away or one gallon (whichever is less) and mix it well into the compost.

When you are ready to use the toilet again:

- Press on the seat to open the compost cover.
- Visually inspect the material inside to ensure it is moist.
- If necessary add enough water to moisten the material.
- Mix the material as described in "Mixing the Compost" above.

In case of paper build up

If a build-up of toilet paper occurs, sprinkle a small amount of water over it to make it dissolve and mix into the compost.

Cleaning

Use a sponge or sponge style toilet brush and liquid soap or some other mild detergent when cleaning your MullToa. Never use scouring powder or other strong detergent that could scratch the surface.

Helpful hints

- *Keep a small sealed container, with starter mulch and a ½ cup measurer in it, next to the toilet for convenience of adding mulch after each fecal use.*
- *Hang a sign above the toilet, for the convenience of guests, that states 'To "flush": Add ½ cup starter mulch after each fecal use.'*
- *For male urination, the gentlemen may either sit or stand close enough to the toilet so their knee applies a little pressure to the toilet seat and opens the compost cover.*

Limited Warranty

This limited warranty covers the following materials and workmanship in your new MullToa Waterless Composting toilet.

Limited 3 year parts replacement on electrical components; *during the first three years defective electrical components will be replaced free of charge. **Limited 5 year parts replacement on remaining components;** *during the first five years defective remaining components will be replaced free of charge; replacement of unit body parts (top, base, and tray door), which are defective in material or workmanship due to normal use in accordance with the Owner's Guide. Subject to the following Conditions and Limitations.**

Conditions and Limitations:

- This warranty is limited to the original owner. The original sales receipt is required together with a serial number and model number when making any warranty claims. The warranty registration card should be returned within 14 days to register the warranty.
- Transportation charges, labour or any other costs, export duties or expenses related to the re-installation of a warranted part, and such expenses are not covered by this warranty.
- This limited warranty does not cover damages caused by improper installation, misuse, rough handling, lack of maintenance, hostile environments, accidents, alterations, abuse, neglect and parts installed from other manufacturers.
- Shear Pin replacement is not covered by the warranty.
- This limited warranty further does not cover any scratches, dents, corrosion or discoloring by abrasive and chemical cleaners.
- Neither the manufacturer, its' agents or dealers accept responsibility, legal or otherwise for incidental or consequential damage to property or persons resulting from the use of its products.

Theory of composting toilets: 4 factors that affect efficiency of a composting toilet:

Moisture

In optimum conditions, the composting material has the consistency of a well-wrung sponge – about 45% to 70% moisture. When below 45%, there is not sufficient moisture for the microorganisms to function, and above 70%, saturated conditions begin to develop, and oxygen depletion becomes a limiting factor.

Maintaining moisture

Since the MullToa 30 NE does not have a heater, the moisture content needs to be maintained by proper ventilation, addition of proper mulch, frequent mixing of the compost and a good flow from the drain tube.

Temperature

The typical temperature range for most composting toilets is 64°F to 112°F. Lower temperatures result in a moldering process that takes a significantly longer period of time to compost and therefore requires a much larger composting chamber.

Maintaining temperature

Since the MullToa 30 NE does not have a heater, the temperature needs to be maintained by maintaining ambient room temperature and by the natural heat generated during the composting process. Therefore, ambient room temperature of at least 64°F needs to be maintained during periods while the toilet is being used.

Aeration

The aerobic organisms responsible for the composting process require free atmospheric or molecular oxygen to survive. Without oxygen, they will die and be replaced by anaerobic microorganisms that will slow the composting process and generate odors. For composting toilets to work most effectively, the materials being composted should be unsaturated with liquids, and have a loose texture to allow air to circulate freely within the pile.

Maintaining aeration

Since the MullToa 30 NE does not have a ventilation fan, maximum aeration can be achieved by: 1) Keeping the product inside the composting chamber in a loamy consistency. 2) Proper installation of the ventilation pipe. Keep in mind that the addition of any angles in the vent pipe will reduce the airflow. 3) Ensure a good flow of air to the bathroom from the living area. 4) Proper mixing of the product inside the composting chamber (see “Mixing the Compost” on page 8). 5) Addition of an auxiliary 12VDC ventilation fan that can be ordered from EcoEthic Inc. or your local authorized dealer.

Carbon to Nitrogen ratio (C:N)

Microorganisms require digestible carbon as an energy source for growth, and nitrogen and other nutrients for protein synthesis. When measured on a dry weight basis, an optimum C:N ratio for aerobic bacteria is about 25:1.

Maintaining C:N

A small handful of starter mulch per person per day or approximately 1 quart per person every week is a good rule of thumb to maintain a helpful C:N ratio, absorb excess moisture, and maintain pores in the composting material.

Troubleshooting

Odors in bathroom

If you detect a pungent or ammonia odor in your bathroom there is a possibility of insufficient airflow from your toilet. Please check the following:

- All vent pipe connections airtight?
- Is the vent pipe **inside** the rubber connector on the back of the toilet?
- Vent pipe ends at least 19" above anything within 10' (see "Installation")?
- Vent pipe unobstructed?
- Is the vent pipe insulated in all unconditional (i.e. attic) areas?
- If there is a ventilation fan in the ceiling or wall of your bathroom, do not use it. The fan will draw air from the bathroom, causing a back draft through the toilet.
- If there is a window in your bathroom and the air is drawn out through it, you should close the window.

Odors outside the structure

The presence of odors outside the structure is a positive indication that the vent pipe is in an area of air turbulence above the roof. The vent pipe must be raised to get the top above the air turbulence.

Excess moisture in the toilet

If you detect excess moisture inside the toilet:

- Check that there is a good flow of liquid from the drain tube.
- Ensure the mulch is not compacted and causing a "damming effect", preventing the liquid from getting to the drain.
- Ensure you are using the toilet within its limits of 3 people full time use (4 people with auxiliary fan) and 4 people part-time use (6 people with auxiliary fan).

Excess moisture in the composting bin

If you notice the material inside the composting bin is not loamy and appears to be holding excessive moisture:

- Are you mixing the material once a week?
- Ensure you are using approved starter mulch (see "adding starter mulch" in the "use and care" section above).
- Ensure you are adding a sufficient amount of starter mulch.
- Ensure there is sufficient ventilation from the toilet (see "Odors in the bathroom" above)
- Ensure you are using the toilet within its limits of 3 people full time use (4 people with auxiliary fan) and 4 people part-time use (6 people with auxiliary fan).
- If all else fails add 1 quart of coarse Perlite (available from most nurseries) to each gallon of starter mulch.

Insect control

The presence of insects in and around your MullToa is frequently an indication of excess moisture. If there is excess moisture you will need to remedy this situation to be able to completely remove the insects from your toilet. Use of mulch not authorized for use in your MullToa may also introduce insect larvae into your toilet.

The presence of insects in and around your MullToa is an indication of excess moisture. The toilet was most likely used past capacity. You will need to add Starter Mulch and in problem situations we recommend Diatomaceous Earth (available at garden centers).

Please complete and mail

MullToa Warranty Registration

With over 30 years of Swedish engineering and continual advancements, the MullToa toilets are the most advanced, easiest to use, easiest to install, self-contained composting toilet system in the world. The latest innovations incorporated into our models are the largest advancement in the industry to date. In case anything does go wrong MullToa toilets come with a comprehensive limited warranty. Shear Pin replacement, shipping and labour charges are not included or covered by the warranty.

Limited Warranty

This limited warranty covers the following materials and workmanship in your new MullToa Waterless Composting toilet.

Limited 3 year parts replacement on electrical components; during the first three years defective electrical components will be replaced free of charge. **Limited 5 year parts replacement on remaining components;** during the first five years defective remaining components will be replaced free of charge; replacement of unit body parts (top, base, and tray door), which are defective in material or workmanship due to normal use in accordance with the Owner's Guide. Subject to the following Conditions and Limitations.

Conditions and Limitations:

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- Transportation charges, labour or any other costs, export duties or expenses related to the re-installation of a warranted part, and such expenses are not covered by this warranty.
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- Shear Pin replacement is not covered by the warranty.
- This limited warranty further does not cover any scratches, dents, corrosion or discoloring by abrasive and chemical cleaners.
- Neither the manufacturer, its' agents or dealers accept responsibility, legal or otherwise for incidental or consequential damage to property or persons resulting from the use of its products.

To validate your warranty and help us serve you better please fill out and return this registration card within 14 days.

Date Purchased: _____

Purchased From: _____ Address: _____

City: _____ Province _____ Postal: _____

Model: _____ Serial#: _____

Owner's Name: _____

Address: _____

City: _____ Province _____ Postal _____

Phone: _____ Email: _____

Yes, I would like to receive periodic information on product updates and specials from EcoEthic Inc.

Address of Installation: _____

City: _____ Province _____ Postal: _____

Number of floors in building where installed? _____ Installed on which floor? _____

Type of Vent installation? Straight up Angled inside Angled through the wall Other

Installed in a: Vacation Home Residence Other _____

How many people reside or stay at installation location? _____

I would like to receive a coupon for a free bag of Starter Mulch (shipping not included). I am sending pictures of my installation and a brief letter about my buying and installation experience. I understand that all pictures will become the property of EcoEthic Inc. and give my permission for EcoEthic Inc., to use my pictures and letter for the purposes of advertising and referral.

Signature: _____

Date: _____

Fold Here

Affix
Postage

Mail To:

EcoEthic Inc.
Attn: Warranty Dept.
23 Thompson Rd Box 566
Sunderland, ON L0C 1H0