



Giving Back to Nature

Biolet 20

Waterless Composting Toilet

Owner's Guide

Thank you for your purchase of a Composting Toilet.

This 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 most sold composting toilet in the world. **Please read instructions completely.**

Always check with your local health authorities and building inspectors for local regulations governing composting toilets prior to installation of your BioLet.

SPECIFICATIONS

Model 20	2 – people* full time	Total = 250 watts Heater = 225 watts Fan motor = 25 watts	Toilet Dimensions: H 66cm x W 55cm x D 74 cm (H 26" x W 22" x D 30")
	3 - 4 people* part-time use (5 days in a row or less) * 5 toilet uses per person per day Weight Limit = 350lb		
			Floor Space Required (for compost tray removal) W 55cm x D 110 cm (W 22" x D 44")
			Seat Height 50 cm (19½")

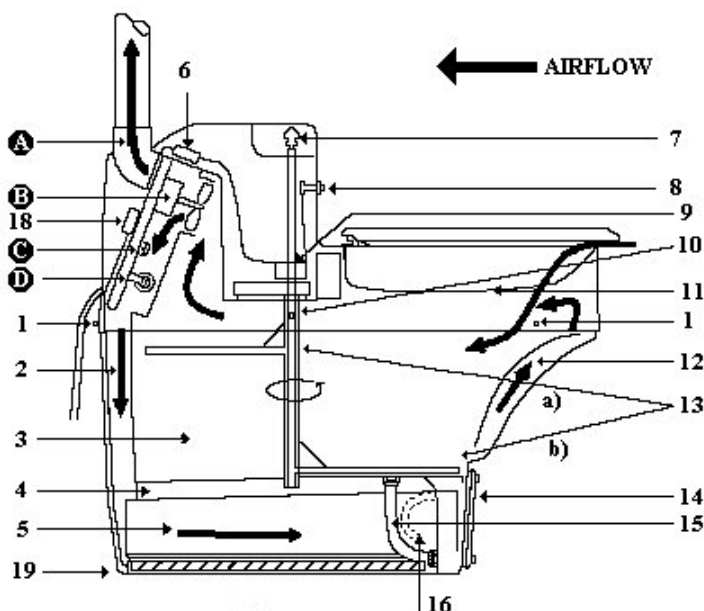
What Comes in the Box

- | | |
|--|--|
| 1 – Composting Toilet | 1 – 2' section 108mm black vent pipe, belled 1 end |
| 2 – Starter Mulch (2 – 20 L bags) | 1 – 2' section 108mm black vent pipe, no bell |
| 1 – Winterizing Plug | 4' – Styrofoam insulation |
| 1 – Manual Mixing Rake | 1 – 108mm X 54mm reducing coupling |
| 2 – Wall Brackets | 1 – Roof flashing |
| 4 – Wood Screws | 1 – Insect Netting |
| 5 – 2' sections 54mm white vent pipe, belled 1 end | |
| 1 – 2' section 54mm white vent pipe, no bell | |

Accessories (available separately)

- 45° Vent Pipe Elbows • Insulation • Interior/Attic/Exterior Pipe • Starter Mulch •

GETTING TO KNOW YOUR BIOLET



- A. Ventilation outlet
- B. Fan motor/fan blade
- C. High temperature limit switch
- D. Heating Element
- 1. Terminal block
- 2. Warm air channels
- 3. Compost chamber
- 4. Grate
- 5. Humus tray
- 6. Adjustable thermostat
- 7. Micro-switch
- 8. Mixer motor assembly
- 9. Shear pin
- 10. Compost cover
- 11. Air return channel
- 12. Mixer arms
 - a. Leveler
 - b. Rake
- 13. Front cover for humus tray
- 14. Fluid level indicator (emptying)
- 15. Fluid level indicator (tray)
- 18. Terminal block

INSTALLATION

Tools You Will Need

- Screwdriver
- Drill
- 2 1/4" hole saw or Jig saw or keyhole saw
- Hammer
- Roofing nails
- Level
- 100% adhesive silicon caulking (do not use latex silicon)
- Plumb bob or weighted string
- Pencil

Before You Begin

- Make sure there is adequate airflow into the bathroom. This should preferably be from the living area. A 1" gap under the bathroom door or a vent in the bottom of the door or wall should ensure sufficient airflow to the toilet. Overhead vent fans and open windows should not be used as they may cause negative air pressure and promote a back draft through the toilet causing the presence of unpleasant odors. You are installing a chimney.
- In some cases it may be necessary to install a 3" wall vent in the bathroom in order to ensure enough airflow to the toilet (see diagram below).
- Ensure there is adequate floor space in front of toilet to accommodate removal of the tray.
- The temperature in the room where the toilet is to be installed must be maintained above 18°C (64°F) during periods while the toilet is being used.
- Make sure the floor under the toilet is level and insulated.
- The vent pipe must be able to extend at least 50cm (19.5") above your roof peak. Or anything within 10' (additional vent pipe may be ordered separately).
- If you cannot install the vent pipe straight up from your toilet, make sure your installation can be achieved with the installation of no more than 2 x 45° angles (available separately).
- Make sure the vent pipe is less than 30' in a straight up installation or 27' if 2 x 45° angles are required. Consult with technical support if a longer run is required

INSTALLATION

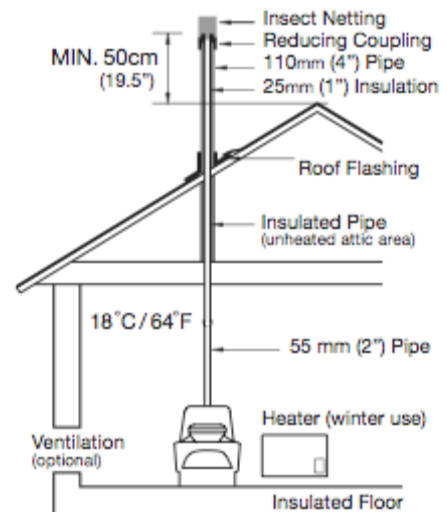
Straight Vent Pipe (through ceiling and roof)

Use only our special Vent Pipe. Installing other vent pipe can cause venting problems and odors.

1. Position the toilet against the wall.
2. Drill a 2 1/4" (55mm) hole in the ceiling above the vent connection in the toilet (use Plumb Bob to align vent pipe with toilet).
3. Drill a 2 1/4" (55mm) hole in the roof above the hole in the ceiling.
4. Push white ventilation pipe, belled end up, through the holes and seal with silicone around the hole and roof to avoid any leakage.
5. The white pipe must extend through the roof, by at least 2".

IMPORTANT: All pipe from ceiling through any unheated area (i.e. attic space) must be insulated. Make sure there are no gaps in insulation. Use Only Our Special Attic Pipe & Insulation (additional pieces sold separately).

6. Insulate the pipe in the area between the ceiling and the roof.
7. Cut the non-belled black pipe and insulation to match the angle of the roof.
8. Slide roof flashing over non-belled black pipe.
9. Outline the Flashing on the roof. Raise Flashing and apply silicone inside the outline of the flashing.
10. Slide the Flashing back down, sliding the flange under the shingles along the top edge and press it firmly into the silicone. When 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.
11. Secure the top of the flashing with corrosion resistant nails or staples at each corner and along the sides at 4" – 6" intervals. Exposed nails or staples should be sealed with silicone.
12. Attach additional pieces of black pipe, insulation and white pipe.
13. The end of the last pipe must extend at least 50cm (19.5") above the peak of the roof or anything within 10 feet.
14. Slide the Reducing Coupling down into the last black pipe.
15. Attach Insect Netting.



Getting Your Toilet Ready to Use

1. Add 2 L (8 cups) Water to 30 L of Starter Mulch. Let sit until absorbed. (This prevents mulch from dusting).
2. Open the Front Cover (20), by removing the 2 thumbscrews and 2 washers.
3. On the right side at the front you will see the Indicator Tube (22) attached to the Humus Tray (11). Make sure the Tube is securely attached to the Tray.
4. Replace Front Cover, Thumbscrews and Washers. Make sure the Thumbscrews are tight.
5. Open the compost covers by pressing down the toilet seat.
6. Add half the bag of Starter Mulch into Upper Chamber of Toilet. Distribute evenly.
7. Push button (8) a couple of times.
8. Add the remainder of the Starter Mulch to the toilet to ensure there is at least 10cm (4") of Starter Mulch on top of the grate.
9. Repeat no 7.
10. Plug in your BioLet to a grounded outlet.
11. Adjust your thermostat to the appropriate setting using the chart below.

Toilet used by	Thermostat Knob setting
1 person	2-3
2 people	4-5
3 – 4 people	6-8

12. Your BioLet is now ready to use.

Using & Caring

To ensure your toilet 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 the toilet. Do not put sanitary napkins, food scraps, or animal excrement in the toilet. The toilet 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. Unplug before emptying the tray or working on the toilet.

Using the Mixer

After each use of the toilet, turn the handle **two full revolutions** in the clockwise direction (four turns). The mixer increases aeration and keeps the compost porous and uniformly moist. The mixing of compost and waste is necessary to transform the compost into humus, as well as to transport the compost into the collection tray. After each use of the toilet, close the toilet lid. This releases the seat-micro switch (13) and activates the mixer motor to make a complete revolution.

Adding Starter Mulch

There should always be at least 10 cm (3") of compost on the grate. If there is little usage one might have to add some mulch on a weekly basis.

Use only our special approved Starter Mulch. Approved mulch carries the BioLet logo. Using any other mulch can cause a decrease in the efficiency of your toilet and will void the warranty on mixer parts.

Learning When to Adjust the Thermostat

The thermostat manages the moisture content inside the toilet. When the moisture level is too low there is not enough moisture for the microorganisms to decompose waste effectively. When the moisture level is too high saturated conditions develop and prevent effective decomposition. The composting material should have the consistency of a well wrung-out sponge. During the first month using the toilet, take the time to learn what works best for you and your family.

Things to Look For

- Look at the Indicating Tube on the right side (when facing toilet) to see if there is any liquid in the tube.
 - * If liquid is present: increase the thermostat setting by 1 for at least a couple of days.
 - * If liquid level continues to rise after subsequent toilet uses, continue increasing thermostat setting 1 number at a time, until the level in the indicating tube stabilizes or recedes. This may take a number of days.
- Press down on the toilet seat and look at the material inside the toilet. It should appear to be a moist material.
 - * If the material appears dry (toilet paper is seen), decrease the thermostat setting by 1, repeat if necessary.
- Continue to monitor the tubes and material inside the upper chamber of the toilet. Make appropriate adjustments until you have moist material inside the toilet with little or no liquid in the Indicator Tube and toilet paper is being mixed into the compost.

How & When to Empty the Humus Tray

Empty the humus tray when material in the Upper Chamber reaches the upper mixing arm or once a year whichever comes first.

1. Turn the thermostat up to 10 for a couple of days.
2. Place newspaper or sheet of plastic in front of the toilet.
Check the liquid level Indicator Tubes, on both the left and right side of the toilet (when facing toilet). Make sure there is NO liquid in either tube before proceeding.
If liquid is present in the Indicator Tube **DO NOT OPEN** the Front Cover for Humus Tray until liquid has been evaporated.
3. If no liquid is in the tubes, open the Front Cover, by removing the 2 thumbscrews and 2 washers. Detach the indicator tube from the tray by bending the tube upwards and push its upper part into the toilet (behind the metal frame) making more room to pull out the Humus Tray.
4. Pull out the Humus Tray.
5. Empty the tray. Dispose of the humus by adding it to an existing outside compost pile for finishing, or by mixing it with soil (30:1) and trench it in around ornamental trees and plants. Cover with a minimum of 15 cm topsoil, or dispose of it in a manner approved by your local health authorities.
6. Check whether any compost material has spilled onto the bottom of the toilet. Clean up any spilled material (which can be put back into the toilet).
7. Clean the Humus Tray ensuring the area around the Indicator Tube nipple is free of material.
8. Replace the Humus Tray inside the toilet and reconnect the Indicator Tube to tray.
Replace the Front Cover, Washers and Thumbscrews. Make sure the Thumbscrews are tight..

Cleaning

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

Shutting Down

When the toilet is not going to be used for periods of three days or more, Add 1L (4 cups) Starter Mulch per week that you will be away, or 5L (whichever is less). Mix it well into the compost.

Turn off the toilet and seal the opening by inserting the Winterizing Plug supplied with the unit (white, boat-shaped cover with a rubber seal). This will help prevent the compost from becoming dry & hard.

Spring/Seasonal Start Up

If you have been away from the toilet for an extended period of time, **before** turning it on, take the Manual Mixing Rake and mix the material in the upper compost chamber to break up any dry pieces, making certain the compost material has not dried and hardened on the bottom mixing arm. It may be necessary to sprinkle some water, approximately 2-3L, and then mix well with Manual Mixing Rake to break up the compost.

Limited Warranty

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

Limited 5 year parts replacement on electrical components; during the first five 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. **Life time parts replacement on body (top, base, and tray door);** 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 must be returned within 14 days to register the warranty.
 - Transportation charges, labor 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 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.

	<p>TROUBLESHOOTING</p> <p>Please review the information below. If you have any questions please call our Customer Assistance Centre.</p>
	<p>Odors in bathroom ~ Venting</p> <p>If you smell ammonia or a pungent odour in your bathroom there is a possibility of insufficient airflow to your toilet. Please check the following:</p> <ul style="list-style-type: none"> • Is your unit plugged in and is there power to the plug? Can you hear the fan motor running? • Is the Front Cover for humus tray door properly secured? • Is the toilet vented correctly and are the Vent Pipe connections airtight? • Does the Vent pipe extend at least 50cm (19.5") higher than anything within 10' (see "Installation")? • Is the Vent Pipe unobstructed or plugged? • If there is a ventilation fan in the bathroom ceiling or wall, do not use it. A 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, close the window. • Hold a smoke source approximately 2" in front of the toilet seat and see if the smoke is drawn to the toilet. If the smoke is not drawn into the toilet, watch where it goes and eliminate the source of draw from the bathroom. Install a vent to the outside. • Is odor is detected during periods when there is a breeze outside? Extend chimney • Is excess moisture present in the Indicator Tubes? Increase thermostat setting, check installation, to many using the toilet.
	<p>Liquid in Indicator Tubes or Excess moisture in Upper Composting Chamber</p> <p>If you see liquid in the indicating tube(s). Control it by adjusting the thermostat. If liquid is in the Indicating Tube on the left side of the toilet (when facing toilet), DO NOT OPEN the Front Cover. This tube indicates there is liquid outside the tray. Removal of the Front Cover will release liquid onto the floor.</p> <p>If the material inside the upper composting chamber is not slightly moist and appears to be holding excessive moisture adjust the thermostat and/or add Starter Mulch.</p> <ul style="list-style-type: none"> • Is your unit plugged in and is there power to the plug? Can you hear the fan motor running? • Check and see if your thermostat is working by turning the thermostat from 1 to 10 and listening for 2 quiet "clicks". • Check and see if your heater is working by turning the thermostat up to 10 for 30 minutes and use your hand to feel the middle-back of the toilet, just below the seam where the top joins the bottom. You should feel a small amount of heat in this area. • In the upper composting chamber ensure the mulch is not compacted (use manual rake). • Ensure you are using the toilet within its capacity. • Is the toilet seat lid closed after each use? • Make sure you are using only our special Starter Mulch. • Are you adding enough Starter Mulch? • Ensure there is sufficient ventilation to the toilet (see "Odours in the bathroom" above). • If weather has been very cold (-30°C) check if the Insect Netting has iced up. If so, remove Insect Netting.
	<p>Toilet paper build up</p> <p>If a build-up of toilet paper occurs it indicates the compost material is too dry or there is too little compost in the upper chamber. Sprinkle 1L (4 cups) of water over the compost material in the upper chamber and mix into the compost or add additional mulch.</p>
	<p>There are Little Flies! Insect control</p> <p>The presence of insects in and around the toilet is an indication of excess moisture. The toilet was either used past capacity or the thermostat was not set correctly. You will need to add Starter Mulch and increase the thermostat setting. In problem situations we recommend Diatomaceous Earth (available at garden centers) or contact us.</p>

Thank you for choosing BioLet!



Giving Back to Nature

BioLet Warranty Registration

To validate your warranty and help us serve you better please fill out and return this registration card to Barclay Sales, 1441 Kebet Way, Port Coquitlam, BC V3C 6L3. Under **NO** circumstances will BioLet Canada ever sell or give away this information.

You will not receive mailings, telephone calls or email unless you indicate below that you would like to receive periodic information on updates and specials.

Date Purchased:

Purchased From:

Address:

City: Province: Postal Code:

Model:

Serial#:

Owner's Name:

Address:

City: State: Zip:

Phone:

Email:

Address of Installation:

City: Province: Postal Code:

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

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

I would like to receive periodic mailings or emails about product updates and specials from BioLet.

I would like to receive a free bag of starter mulch. I am sending you pictures of my installation and a brief letter about my buying and installation experience. I understand that all pictures will become the property of BioLet and give my permission for BioLet to use my pictures and letter for the purposes of advertising and referral.