



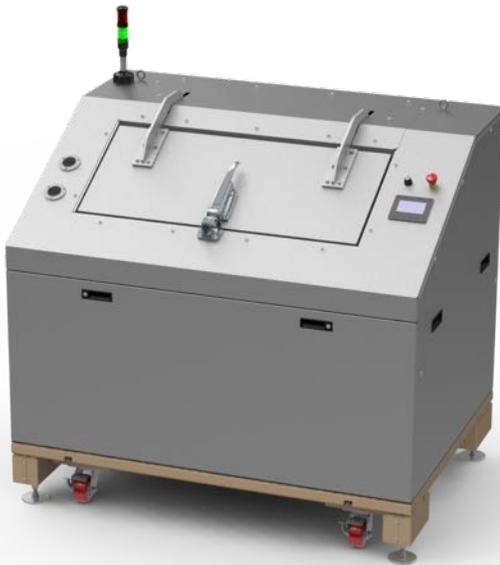
Eco-Safe Digester

Site Preparation Guide

For E3 Series Digesters

Version 1.2

Published: Apr. 13, 2017



Eco-Safe Digester Site Preparation Guide

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Preface

1. Document Revision History

Table 1. Revision History

Version	Date	Comments
1.0	August 19, 2016	Initial release of new manual supporting E3 Series Digesters.
1.1	March 30, 2017	Added photos and clarifications on water pressure, incoming water temperature, and outdoor installations.
1.2	April 13, 2017	Fixed section numbering.

2. Intended Audience

This manual provides information on preparing your site for the installation of the Eco-Safe Digester.

Note

This manual outlines the site requirements for the E3 Series of Eco-Safe Digesters. If you are installing an E1 or E2 Series Digester, please refer to the appropriate manual for that series. If you are unsure which model Digester you have, please contact BioHiTech.

This manual is intended for BioHiTech technicians, authorized service partners, and customers who are responsible for the installation and start-up of the Eco-Safe Digester.

3. Errors and Omissions

Please report any errors, omissions, or corrections to BioHiTech America.

BioHiTech America
80 Red Schoolhouse Road
Suite 101
Chestnut Ridge, NY10977
Phone: 888.876.9300
Email: support@biohitech.com

For more information about contacting BioHiTech, see Appendix A, *Contacting BioHiTech Support* .

Guide

1. Site Preparation

Please review the requirements outlined in this section before your Digester ships to your location.

Note

All work and costs associated with the site preparation phase are the responsibility of the *customer*.

1.1. Location

With guidance from the customer, BioHiTech recommends a location for the Digester that blends seamlessly into their current workflow and processes. Units are typically placed either at the food waste's point of generation, or its final point of collection.

Easy access to power, water, and drainage aids in determining a unit's location. Finding a location that has adequate and relatively easy access to power, water, and drainage helps minimize site preparation costs.

The optimal space for the machine has at least 3 feet (1 meter) of clearance on both sides of the machine. The additional room is necessary to help facilitate maintenance of the machine.



Appropriate Clearance

Due to the weight and size of the machine, we strongly recommend that these criteria are met. In the event this space is not available, a customer application may be necessary.

See the chart below on the Digester’s physical dimensions, based on the model.

Table 2. Machine Dimensions

Model	Dimensions (W x H x D)	Weight
Eco-Safe 4	48" x 46" x 35.5" 1220 mm x 1168 mm x 876 mm	1400 lbs. 635 kg.
Eco-Safe 8	59.75" x 52" x 44" 1518 mm x 1321 mm x 1118 mm	2000 lbs. 900 kg.
Eco-Safe 12	69.25" x 52" x 44" 1759 mm x 1321 mm x 1118 mm	2200 lbs. 1000 kg.

1.1.1. Outdoor Installations

In the case of an outdoor installation protection from the elements must be in place. It is recommended to contain the Digester in a shed or similar shelter.



Outdoor installation

1.2. Power

Note

Please inform your installer of your exact power configuration before your unit ships to ensure that your Digester is configured correctly for your power supply.

Power requirements vary by country and Digester model.

The following power requirements must be met:

- In the United States, low voltage power is used:
 - For Eco-Safe 4 Models: 220V - 230V, Single Phase + 1 ground
 - For Eco-Safe 8 and 12 Models: 200V - 240V, 3-Phase + 1 ground

- Outside of the United States, high voltage power is typically used:
 - For Eco-Safe 4 Models: 220V to 230V, Single Phase + 1 ground (50Hz or 60Hz)
 - For Eco-Safe 8 and 12 Models: 380V - 480V, 3-Phase + 1 neutral + 1 ground
- Integrity of power source is vital; incoming power must supply consistent minimum voltage and must be dedicated solely to the operation of the maintain.
- 30 Amp breaker required (minimum)
- Disconnect box or a 30 Amp receptacle should be mounted within 6 feet of unit, a matching 10-foot electrical whip is also needed to connect the Digester. Electrical connections are located on the front, left hand side of the unit.

Wiring can be routed through the interior of machine resulting in a stealthy and clean installation.

1.3. Water

Warm water is essential to the operation of the Eco-Safe Digester.

The location of the water connection varies by unit model:

- On the **Eco-Safe 4** model, the water connection is located on the left side of the unit as shown in the photo below:



Eco-Safe 4 Water Connection

- On the **Eco-Safe 8 and 12** models, the water connection is located in the front, left of the unit. The water line is fed through the *rear, left of the unit* to this connection on the front as shown in the photo below:



Eco-Safe 8 and 12 Water Connection

The following water requirements must be met:

- A dedicated warm water source with a 3/4 inch male pipe fitting is also required within 6 feet (2 meters) of the left side of the machine.
- Incoming water pressure should be a minimum of 50 PSI (3.5 bars) at 4 gallons (15 liters) per minute.
- The water source should provide water at 90° to 110° F (32° to 43° C).
Some customers may choose to use a mixing valve and a thermometer to ensure a proper temperature.



Water Mixing Valve

- The water source should be dedicated to machine operation only. Sharing the water source with other usage is not recommended.

1.4. Drainage

Proper drainage is essential for safe disposal of wastewater from the Digester into the sewer system.

The following drainage requirement must be met:

- The drain must be an open floor drain and should be connected to the Digester with a minimum 2-inch drain pipe (PVC or Copper). Please minimize any changes in flow direction from the machine to the drain hole.



Typical floor drain

- An elbow fitting should not be used more than 2 times.
- A pitch must be maintained at least 1/4-inch declination for every 2 feet length.
- If processing large amounts of meat and dairy products, a grease interceptor should be considered.

2. Network Connectivity

Each Digester is fitted with a computing device that provides real-time data that is accessible on BioHiTech Cloud™, waste analytics platform for food waste diversion. With BioHiTech Cloud, users are provided with secure access to cloud reporting and analytics about their Digesters. In order to take advantage of this powerful technology, the Digester will be need to be connected to an Internet connection. This section outlines these requirements in details.

Note

These requirements are only necessary for Digesters that will be connected to the internet for the BioHiTech Cloud™ service.

Network Connectivity Options

There are two network connectivity options for the Digester:

- An RJ45 Ethernet connection in close proximity to the Digester
- A cellular modem rented from BioHiTech

A dedicated hard line RJ45 Ethernet connection is the preferred network connection type due to the reliability of the hardline connection. However, in areas where providing access to an RJ45 Ethernet connection is not possible, a cellular modem may be purchased from BioHiTech.

Note

When using the cellular modem, be sure that adequate cellular coverage is available at the location of the Digester.

Network Configurations

If you are using the cellular modem purchased from BioHiTech, then no more network configuration is required. The Digester will connect to the cellular modem via DHCP (dynamic network) to the wireless cellular network.

For RJ45 Ethernet connections, additional network configuration may be necessary.

The Digester can used with both DHCP (dynamic) and Static IP configuration.

If static IP configuration is used, the Digester will require the following configuration parameters:

- **IP Address** - the IP address that you wish to assign to the Digester
- **Net Mask** - The network mask of the local network
- **Gateway IP Address** - the IP address of the gateway or router on your network
- **DNS Server(s)** - the IP address(es) of your DNS server(s). The Digester can accept up to two IP addresses for DNS servers.

Firewall Considerations

The Digester requires only outbound internet access on TCP port 443 (HTTPS / secure HTTP).

The Digester communicates to the following public IP addresses:

- 54.221.243.115
- 54.209.122.209
- 54.209.181.132
- 54.208.204.191
- 54.85.105.167
- 54.85.142.150

Firewalls should be configured appropriately to allow outbound traffic to these IP addresses.

If the Digester is configured to use external DNS servers, then UDP traffic over port 53 should be allowed by the firewall.

Bandwidth Utilization

The average bandwidth utilization is about 3 MB per day per Digester.

SSL Proxies

The Digester does *not* support SSL/TLS proxy servers at this time.

Appendix A. Contacting BioHiTech Support

If you need assistance with your Digester, please contact BioHiTech.

Customer Support can be used for:

- Replacement parts
- Ordering supplies
- Scheduling maintenance or service
- Assistance with troubleshooting problem with your Digester

Note

Depending on warranty and support plans purchased, additional charges may apply.

Online Support

For optimal customer support, please submit a support request online at: biohitech.com. Customers should click the **CUSTOMER** button at the top of the web page.

Other benefits of using the Customer Portal include:

- Online bill payment
- Access to documentation
- Access to online training videos

Email Support

BioHiTech technical support can also be reached by email at: support@biohitech.com.

Phone Support

Alternatively, BioHiTech America phone support can be reached at 888.876.9300, Press Option 2 at the prompt.

By Mail

Written correspondence may be directed to:

BioHiTech America
80 Red Schoolhouse Road
Suite 101
Chestnut Ridge, NY 10977

Appendix B. Site Preparation Checklist

Power

Power Requirements (note: power requirements differ by model and country)

- In the United States, low voltage power is used:
 - Eco-Safe 4: 220V - 230V, Single Phase + 1 Ground
 - Eco-Safe 8 and 12: 200V - 240V, Three-Phase + 1 Ground
- Outside of the United States, high voltage power is typically used:
 - Eco-Safe 4: 220V - 230V, Single Phase + 1 Ground (50 Hz or 60 Hz)
 - Eco-Safe 8 and 12: 380V - 480V, Three-Phase + 1 Neutral + 1 Ground

Communicate your power configuration to BioHiTech *before* your unit ships.

30 Amp breaker required (minimum).

Disconnect box or a 30 Amp receptacle should be mounted within 6 feet (2 meters) of the Digester.

Water

Water source should provide water at 90° to 110° F (32° to 43° C).

Incoming water pressure should be a minimum of 50 PSI (3.5 bars) at 4 gallons (15 liters) per minute.

Water source should be located within 6 feet (2 meters) of the unit.

(Optional) Garden hose attachment incorporated into the water line with separate shut-off valve, for use in cleaning and servicing the Digester.

Drainage

Ideal: 3" Drain Pipe. (3" drain pipe connection originates on the bottom, rear, and right hand side of the unit).

Ideal: 4" Floor Drain to accept 3" drain pipe.

Sufficient pitch required to facilitate proper drainage.

If processing large amounts of meat and dairy products, a grease interceptor should be considered.

Clearance

The unit should have adequate clearance on all sides to aid in proper servicing. Three feet (1 meter) is recommended for clearance.

Network Requirements

Note

These requirements are only necessary for Digesters that will be connected to the internet for the BioHiTech Cloud™ service.

- RJ45 (Hard Line) Connection or Cellular Data Modem Rental through BioHiTech
- For RJ45 (Hard Line) Connections - Firewall Requirements Reviewed with IT Staff

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