

biohitech

Revolution Series™ Digesters

Site Preparation Guide

For Series 3 Digesters

Version 1.3 | Published: Mar. 7, 2018



Revolution Series Digester Site Preparation Guide

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Preface

1. Intended Audience

This manual provides information on preparing your site for the installation of the Revolution Series Digester.

Note

This manual outlines the site requirements for the R3 Series of Revolution Series Digesters. If you are installing an Eco-Safe Digester, please refer to the appropriate manual for that product line. 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 Revolution Series Digester.

2. 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* .

Site Preparation

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*.

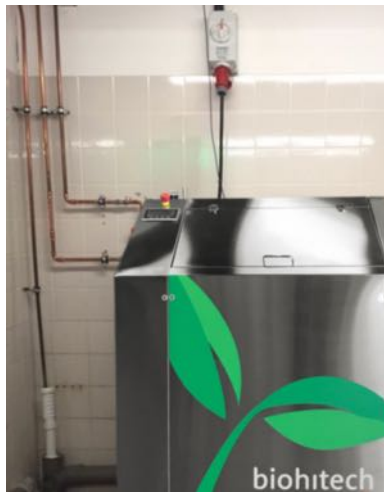
1.1. Location

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 location of the Digester should have a level surface.

The optimal space for the machine has at least 1 - 2 feet (about one half meter) of clearance on both sides of the machine. The additional room is necessary to help facilitate maintenance of the machine.



Appropriate Clearance

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

Table 1. Machine Dimensions

| Model | Dimensions (W x H x D) | Weight |
|-------------------|-------------------------|----------|
| BioHiTech Seed™ | 30" x 48" x 30" | 535 lbs. |
| | 76 cm x 123 cm x 76 cm | 242 kg. |
| BioHiTech Sprout™ | 40" x 48" x 30" | 670 lbs. |
| | 102 cm x 123 cm x 76 cm | 303 kg. |

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 may vary by country.

The following power requirements must be met in the United States:

- Inside the United States: Access to a 15 Amp, 115V AC Power Outlet (NEMA 5-15).
- Outside the United States: Access to a 15 Amp, 230V AC Power Outlet (plug type will be sourced locally and may vary by country).
- The outlet should be a non-GFI (Ground Fault Interrupter) outlet. GFI outlets are not supported at this time.
- 15 Amp breaker required (minimum)
- Integrity of power source is vital; incoming power must supply consistent voltage

1.3. Water

Warm water is essential to the operation of the Revolution Series™ Digester.

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 machine. Water connections are located at the back of the machine. Incoming water lines should be fully flushed before connection to the Digester.
- **If an extension hose is needed:** a 3/4" by 3/4" stainless steel high efficiency hose with a 3/8" inner diameter should be used.
- 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

- Incoming water pressure should be between 50 - 80 PSI (3.5 - 5.5 bars) at 4 gallons (15 liters) per minute.
- 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. Both Digester models (BioHiTech Seed™ and BioHiTech Sprout™) have an integrated pump which allows connection to any existing sanitary sewer line.

The following drainage requirement must be met:

- 3 inch (7.5 cm) or greater floor drain or hard connection to a 1.5 inch (4 cm) or greater drain line
- The pump has over 15 feet (4.5 meters) of head. The pump should not pump greater than 15 feet (4.5 meters) of height.
- The drainage pipe should exit the bottom of the Digester and then rise a minimum of 2 feet (60 cm) for proper pressure for the drainage pump. If draining into a lower area, then drainage pipe can be routed downwards after the 2 feet of rise.



Drainage - 2 feet upwards, then downwards

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

2. Network Connectivity

Note

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

2.1. 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 America

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.

2.2. 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 be used with both Dynamic/DHCP 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 net mask of the 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.

2.2.1. 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.

2.3. Bandwidth Utilization

Average bandwidth utilization is about 3MB per day per Digester.

2.4. 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 Revolution Series™ Digester, please contact BioHiTech. BioHiTech can be reached 24 hours per day, 7 days per week.

Customer Support can be used for:

- Replacement parts
- Ordering supplies
- Scheduling unplanned maintenance or service
- Scheduling clean outs
- 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:

- Access to documentation
- Access to online training videos

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
Phone: 888.876.9300
Email: support@biohitech.com

Appendix B. Site Preparation Checklist

Power

- In the United States: 115V AC Power Outlet (NEMA 5-15 receptable)
- Outside of the United States: 230V AC Power Outlet (plug type will be sourced locally and may vary by country)
- Non-GFI outlet. GFI outlets are NOT supported at this time.
- 15 Amp breaker required (minimum).

Water

- Water source should provide water at 105° F (40° C), plus or minus 10° F (or 5° C).
- Incoming water lines should be fully flushed before connection to the Digester.
- Incoming water pressure should be a minimum of 50 - 80 PSI (3.5 - 5.5 bars) at 4 gallons (15 liters) per minute.
- Water source should be located within 6 feet (2 meters) of the unit.
- If an extension hose is needed: a 3/4" by 3/4" stainless steel high efficiency hose with a 3/8" inner diameter should be used.
- (Optional) Garden hose attachment incorporated into the water line with separate shut-off valve, for use in cleaning and servicing the Digester.

Drainage

- Sanitary Sewer Line near the Digester. 3 inch (7.5 cm) or greater floor drain or 1.5 inch (4 cm) or greater drain line.
- The internal Digester pump is rated for 15 feet (5 meters) of head. The location of the sewer line should be within this requirement.
- If processing large amounts of meat and dairy products, a grease interceptor should be considered.

Location

- The unit's location should have a level surface.
- Ideally, 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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