



# Revolution Series™ Digester

## Installation Manual

For R3 Series Digesters

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# Revolution Series™ Digester Installation Manual

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# Preface

# 1. Document Revision History

**Table 1. Revision History**

Version	Date	Comments
1.0	March 1, 2017	Initial release of the new manual for the Revolution Series™ Digesters.
1.0.1	March 24, 2017	Added clarification about using a level when adjusting the legs.
1.0.2	March 27, 2017	Removed obsolete references to deodorizer tanks and wheels.
1.0.3	April 21, 2017	Fixed various typos. Small copy changes.

## 2. Overview

### 2.1. Manual Overview

This manual provides information on the installation and start-up procedure of the Revolution Series™ Digesters.

#### Note

This manual outlines the installation and start-up procedure for the Revolution Series Digesters. If you are installing the Eco-Safe Digester#, please refer to the appropriate manual for that series. If you are unsure which model Digester you have, please contact BioHiTech.

### 2.2. Intended Audience

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

#### Note

Please be sure to read all sections of this manual prior to installing, operating, or repairing the Digester.

### 2.3. Errors and Omissions

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

BioHiTech America  
80 Red Schoolhouse Road  
Suite 101  
Chestnut Ridge, NY 10977  
Phone: 888.876.9300  
Email: support@biohitech.com

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# Chapter 1. Installation & Start-Up

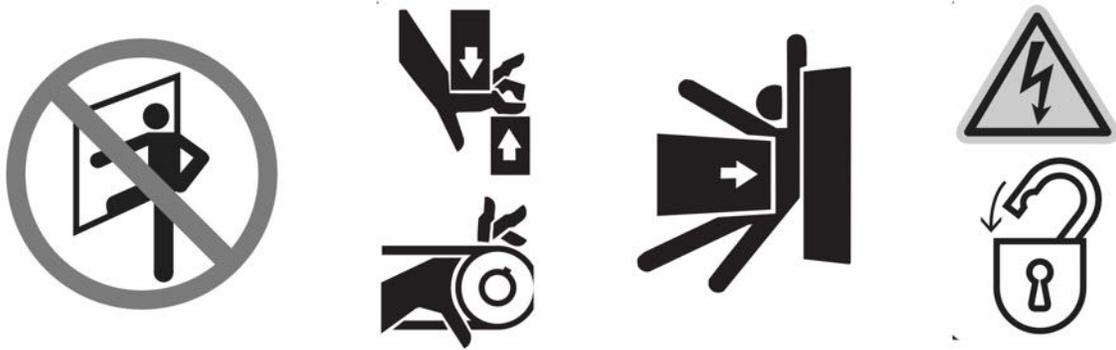
## 1.1. Installation Overview

The installation of the Digester is comprised of the following high-level steps:

1. Site Selection
2. Site Preparation
3. Machine Shipment and Delivery
4. Installation
5. Start-Up
6. Training

This manual covers site selection, preparation, installation, and machine start-up. For more information on the Digester and day-to-day usage, please refer to the *Revolution Series Digester Operations Manual*.

## 1.2. Important Safety Notices



**Moving parts can cause serious injury or death. Before attempting repairs, follow proper shutdown procedures and remove power before commencement of service.**

Safety is of primary concern when installing, operating, or repairing the Revolution Series™ Digester. If you are unsure of how to proceed with a repair or adjustment, consult this manual, a qualified maintenance technician, or customer support. For more information about contacting BioHiTech America, see Appendix A, *Contacting BioHiTech Support*.

Only trained and experienced personnel should attempt installation, maintenance, or repair work on this equipment. Follow all safety procedures including lock-out/tag-out procedures carefully. Ensure that any loose fitting clothing or jewelry is tucked in or not worn to avoid being pulled into the machine.

Before attempting repairs, follow proper shutdown procedures and remove power before commencement of service. Never attempt to clean or service any area of the machine without removing power at the main disconnect. Read, follow, and obey these safety rules!

## 1.3. 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*.

### 1.3.1. 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**

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

**Table 1.1. Machine Dimensions**

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

### 1.3.2. 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:

- Access to a 15 Amp, AC 115V Power Outlet (NEMA 5-15).
- 15 Amp breaker required (minimum)
- Integrity of power source is vital; incoming power must supply consistent voltage

### 1.3.3. 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 5 feet (2 meters) of the left side of the machine.
- 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.

### 1.3.4. Drainage

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

The following drainage requirement must be met:

- Both Digester models (BioHiTech Seed™ and BioHiTech Sprout™) have an integrated pump which allows connection to any existing sanitary sewer line.

- The pump has over 10 feet (3 meters) of head. The pump should not pump greater than 10 feet (3 meters) of height.
- If processing large amounts of meat and dairy products, a grease interceptor should be considered.

## 1.4. Installation

### 1.4.1. Installation Procedure

The following procedure is used to install the Revolution Series™ Digester:

1. Place the Digester in its desired location.
2. Adjust the legs to ensure that the machine is level.
3. Plug the Digester's power cable into the 115V AC power outlet.
4. Power on the Digester. Perform a weight test.
5. Connect the Digester's drainage pipe into existing sewer hookup.
6. Connect the warm water source to the Digester.

### 1.4.2. Fixed Legs

Use the following procedure to move the Digester into place:

1. Use a pallet jack to raise unit off the floor to enable installation of the stationary legs. Install the legs and lower the Digester onto its legs.
2. Remove the pallet jack.
3. Check to make sure that the Digester is level. Do this by using a wrench to make sure that an equal amount of force is required to turn the screw under each leg. When complete, lock down the lock nut to make sure it does not move due to vibration. Use a level to confirm that the unit is level front-to-back and left-to-right.

#### Note

**DO NOT** use the rocking technique to check to see if the Digester is balanced.

### 1.4.3. Electrical Connection

Plug the Digester's power cable into a NEMA 5-15 115V AC power outlet.



**NEMA 5-15 Receptacle**

## 1.4.4. Powering On

1. Remove the front panel of the Digester.
2. Open the electronics box located behind the front panel.
3. Inside of the electronics box, locate the circuit breaker on the far left. Move the blue lever into the UP position.



**Circuit Breaker**

## 1.4.5. Weight Test

The Digester's integrated real-time scale is important for the proper operation of the machine as well as for data collection and analytics to track machine utilization. Therefore, it is important to test the accuracy of the scale system before it is put into use. If the scale system is not accurate, re-calibration of the scale system will be necessary.

Locate the touchscreen on the front, left-hand side of the unit. After powering on the unit, the touchscreen display should be displaying the *Dashboard*.

The dashboard shows the current weight inside of the machine, similar to the screenshot below:



**Dashboard**

Using a known weight, test the accuracy of the Digester's weight scale by performing the following procedure:

1. Take note of the **Current Weight** parameter on the touchscreen display.
2. Place the known weight on top of the Digester. Typically something in the range of 20-50 lbs (10-25 kg.) will suffice.

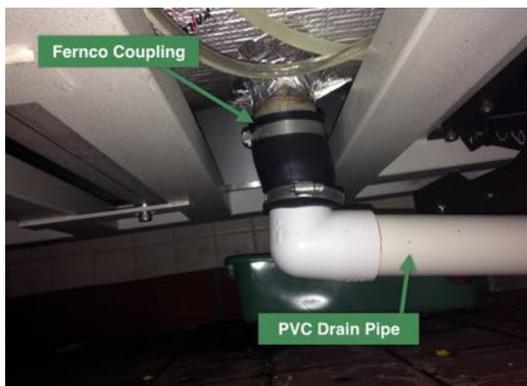
3. Take note of the **Current Weight** parameter on the touchscreen display. The current weight should be reading an equivalent amount higher equal to the weight placed on top of the Digester.
4. Remove the weight from the Digester.
5. The Current Weight parameter on the touchscreen display should return back to its original value.

If the weight values are not consistent with the weight placed on top of the machine, use the touchscreen Display to re-calibrate the Digester's integrated load cell system.

For more information on how to perform a weight calibration, please refer to the *Revolution Series Digester Operation's Manual*.

### 1.4.6. Drainage

The drainage hook-up can be found underneath the Digester.



Drainage Connection

Piping can be routed to the nearest sanitary sewer hookup. The pump inside of the Digester has 10 feet (3 meters) of head (height).

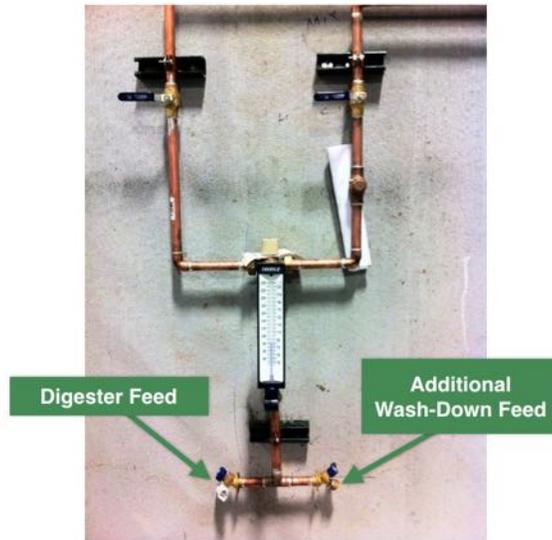
#### Note

A gravity-based drainage system can be used, if the Digester's pump is first removed. Contact BioHiTech Support for more details.

### 1.4.7. Additional Hose Hookup

It is recommended to split the incoming water source to provide one line to feed the Digester and the other to give wash down (hose down) capability for washing down the inside of the Digester food chamber using a hose.

The photo below shows a typically incoming water feed:



Typical Incoming Water Feed

### 1.4.8. Water Feed

Connect the incoming water supply to the Digester. Because the Digester has a *male* pipe fitting, the end of the water feed connection should be a  $\frac{3}{4}$ " *female* pipe fitting as shown below:



Female Pipe Fitting

On the **Seed** and **Sprout** models, this water connection can be found on the bottom side of the Digester.

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## 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](http://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](mailto:support@biohitech.com)

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# Appendix B. Site Preparation Checklist

## Power

- 115V AC Power Outlet (NEMA 5-15 receptable)
- 15 Amp breaker required (minimum).

## Water

- Water source should provide water at 105° F (40° C), plus or minus 10° F (or 5° C).
- 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

- Sanitary Sewer Line near the Digester
- The internal Digester pump is rated for 10 feet (3 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.

## Clearance

- 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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