



Continuous Flow Bio-Extractor

Operating Instructions & User Manual

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1. Input Material

- Compost Material
 - Input material must be screened to a quarter inch particle size. DO NOT put large rocks, sticks, or similar material that will damage the extraction sieve through the extraction chamber.
 - Biologically Complete¹ Compost is recommended.
- Water Supply
 - Ensure you have a good source of clean water free from Chlorine, Chloramine and below 75 ppm Calcium. If you need more information on what a good water source is or different filtration and storage options for your existing water supply reach out to a certified Soil Food Web Consultant in your area or give us a call at Hiwassee Products.
 - The water supply to the extractor must be a minimum of 12 GPM.
 - Booster pump will not maintain pressure with inadequate water supply.
 - If using pressurized water supply, the Grundfos pump can be adjusted to achieve recommended pressure.

2. Priming

- Before loading the hopper, the Bio-Extractor booster pump must be primed:
- To prime Booster Pump: (see Grundfos pump manual for priming requirements)²
 - Attach water source to input camlock and turn on. A solenoid valve built-in to the input line will control flow and open when *Start* button is activated.
 - If water line is not pressurized, remove the priming bung³ and fill pump.
 - Push the *Start* button and monitor the pressure gauge until 40 psi is reached.
 - Press *Stop* button to turn off extractor.

3. Loading

- Before loading Hopper, check that agitator switch is in the *OFF* position.
- To load Hopper:
 - Measure compost
 - A 5-gallon bucket is recommended for measuring and loading.
 - Recommended ratio is 5:1 gallon: pounds (i.e. If you need 100 gallons of extract you would measure out 20 pounds of compost)
 - Pour compost into the Hopper.
- Calibrate auger speed to match bulk density of your compost.

¹ Biologically Complete is a term meaning compost has sufficient diversity of beneficial microorganisms

² Grundfos pump manual included with Product Literature

³ Reference Grundfos manual

- Add 10lb of compost into the hopper, turn on the extractor and set the auger speed to whatever setting you want to test. Run the extractor until the compost becomes flush with the bottom of the hopper.⁴
- Add another 10lb of compost into the hopper and this time when you turn on the extractor start a stopwatch and time how long it takes the compost to again become flush with the bottom of the hopper.
 - Using this time and the flow rate of the extractor you can calculate the exact compost to water ration of your extractor.

4. Extraction

- Before extraction, check that the drainage valves for the catch basin and auger are shut.
- To Extract:
 - Press the *Start* button and turn *Agitator* switch to the *ON* position.
 - Monitor the water pressure, a minimum of 40 psi should be maintained during extraction (see troubleshooting section if unexpected loss in pressure).
 - Monitor the catch basin. The catch basin will act as a sediment trap for abrasive sands that would damage pumps used during application. If you are running a large batch, periodically check the buildup of sediment in the catch basin – remove sediment build up as needed.
 - Note: Transfer pump will automatically turn off/on as it fills with Extract

5. Cleaning

- To prevent build-up of Biofilm⁵, it is important to clean the Bio-Extractor after use.
- To clean: Turn extractor *Off*.
 - Release *E-stop* and press the *Purge* button to empty the transfer pump.
 - Remove the clear plastic lid covering the auger sleeve.
 - Place a 5-gallon bucket under the catch basin drain and open the valve to drain basin. Sediment build-up can be rinsed out the drain valve.
 - Place a bucket under the augur drain located on the bottom of the auger housing under the Hopper. Open the valve to drain the auger housing.
 - When catch basin is empty and clean, close drain valve and replace the lid.
 - Press the *Start* button to thoroughly rinse the extractor until clean water is flowing from the output discharge line. During this rinse cycle the catch basin drain, and auger sieve drain valves can be opened to allow sediment to be rinsed out. Place 5-gallon buckets under each valve.

⁴ For a 1:5 ratio (compost:water). 10 lbs. of compost at 40 psi should take 4 minutes.

⁵ Biofilm is a microscopic layer of biology which sticks to surfaces. If left uncleaned, this layer will go anerobic.

- Rinse Bio-Extractor thoroughly. Components are water-resistant⁶ and can handle a water rinse. DO NOT direct high pressure spray nozzles on electrical components, motors (See footnote for component rating).
- Press *Purge* button to empty transfer pump.

6. Sanitize

- The built-in sanitation function is a closed cycle process.
- The Sanitize cycle should be run every 50 hours or annually, whichever comes first.
- Run the sanitize cycle if the extractor will not be used for 60 days or prior to winter storage. RV & Marine Anti-freeze is acceptable for winterization.⁷
- To Sanitize: Turn extractor *Off*.
 - Detach ¾" camlock from the front of the auger.
 - Using the supplied sanitize hose, connect the discharge outlet to the ¾" camlock at the front of the auger to create a closed loop.
 - First fill the catch basin with 5 gallons of water and hit the sanitize cycle button to start the timed cycle.
 - Add 5 more gallons of water into the catch basin while the cycle is running.
 - Using the proper PPE required on the product label add 14 ounces of SaniDate 5.0 to achieve a 0.25% hydrogen peroxide dilution.
 - The Sanitize cycle will automatically run for 10 minutes and shut off when complete.
 - Drain the catch basin and auger housing.
 - Press *Purge* to pump remaining water into the catch basin.
 - Rinse the Bio-Extractor with water for at least 5 minutes to ensure no Sanitizer is left in the machine (can use any water supply, so you don't reduce your filtered water).
 - Drain and store the Bio-Extractor for future use.

7. Storage

- It is recommended that the Bio-Extractor is stored in a location that will not freeze. If there is any chance of freezing it is essential to ensure that all water has been drained from the booster pump and purged from the transfer pump.
- Improper storage could permanently damage the pumps. Damage occurring from improper storage is not covered by the warranty.

⁶Motors are rated: IP44, Pumps are rated: IP67. Electrical Enclosures are rated: NEMA 4

⁷ If storing in a freezing environment, drain all liquid from pumps and water lines. R&V and Marine Anti-freeze is acceptable. Call Customer Support with any questions regarding Sanitation or Winterization.

8. Service Requirements

- T-filter
 - Periodically clean T-filter by unscrewing and emptying contents.
 - T-filter is located on the front of the extractor below the inlet.
- Grease zerks
 - Every 20 hours or yearly, grease the rotary union located on the front of the auger.

9. Troubleshooting

- Low water pressure
 - If water pressure loss is seen, check and clean the T filter, see service requirements.
- High water pressure
 - To compensate for high pressure water supply, booster pumps can be adjusted to decrease incoming pressure.
- Auger binding
 - Loosen three bolts on the front of the auger and reposition auger.
- Leaking Fittings
 - Ensure the fittings are tight. Reseal with thread sealant if necessary (DO NOT overtighten plastic fittings)
 - If fittings still leak – call customer support.
- Electrical – call Customer Support.
- Any other problems – Call Customer Support.
- Customer Support:
 - Phone: (423) 436-0502
 - Email: info@hiwasseeproducts.com

Visit [Hiwassee Products website](#) for more helpful information or find updated versions of the [*Operating Instructions & User Manual*](#)

