

BioBarrier 0.5 Basic

Product Description & Layout

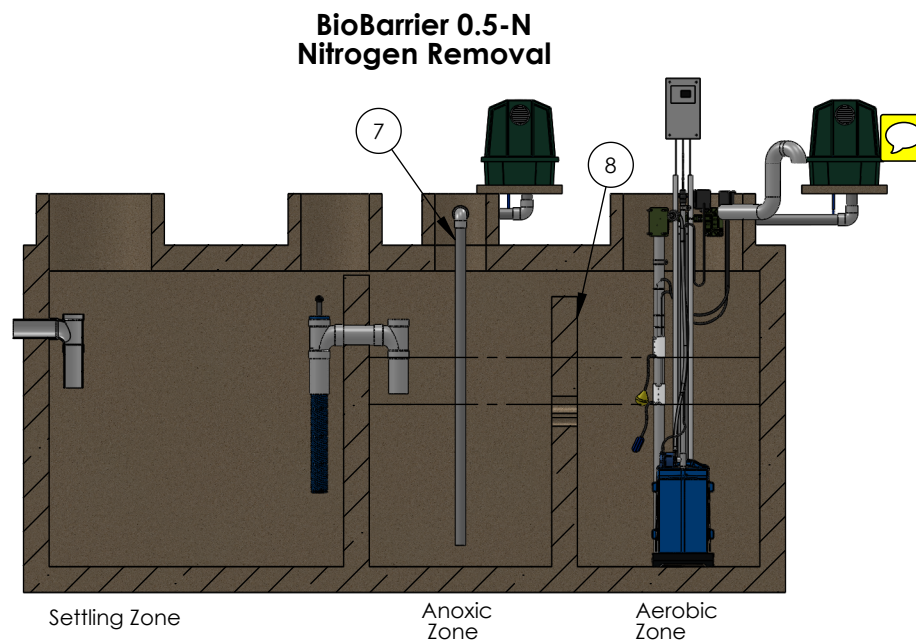
BIOBARRIER® 0.5 BASIC

Designed to treat up to 500 GPD of residential waste water.

1. Membrane module assembly
2. Float tree
3. Blower & blower housing
4. Control panel
5. SaniTEE®
6. Vent

OPTIONS:

- BioBarrier 1.5-N Nitrogen Removal
7. Anoxic mixing device
 8. Anoxic baffle wall



**BioBarrier 0.5-N
Nitrogen Removal**

DO NOT SCALE
UNLESS NOTED
DIMENSIONS
ARE IN INCHES
[CENTIMETERS]
TOLERANCES
± 0.02 IN/IN
[± 0.05 CM/CM]

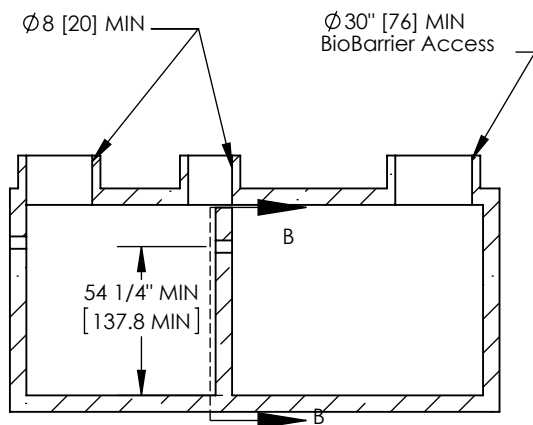


BioBarrier 0.50

2	WEIGHT		lb	SIZE	DRAWING NUMBER		SHEET 1 OF 4
	NAME	DATE	A		Layout		
	DRAWN	CTC					
	CHECKED	PF					
			1/23/2009				
			10/16/2012		REVISED 10/16/2012	REV. INI-04-R	

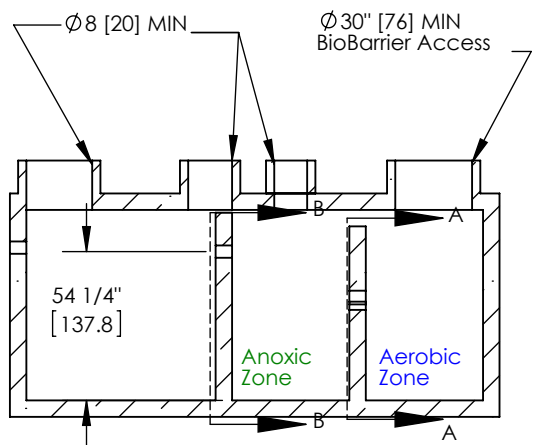
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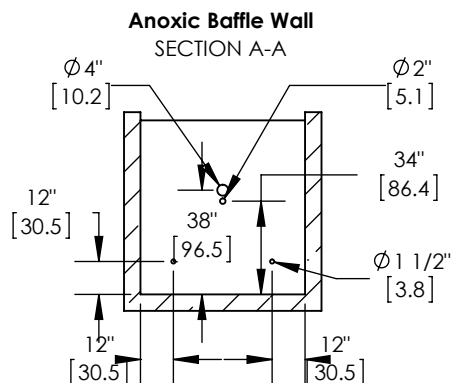
Settling Zone
375 Gallon MIN
[1420 L MIN]

Aerobic Zone Treatment Zone
1500 Gallons MIN
[5680 L MIN]



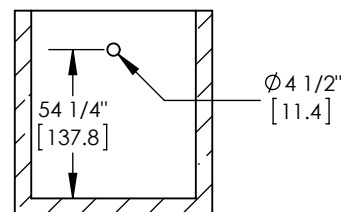
Settling Zone
375 Gallon MIN
[1420 L MIN]

Treatment Zone
(Anoxic and Aerobic)
Combined
1500 Gallons MIN [5680 L MIN]



Settling Zone Baffle Wall

SECTION B-B



NOTES

- Blower piping to BioBarrier® may not exceed 40 FT [12 m] total length and use 4 elbows maximum. For distances greater than 40 FT [12 m] - consult factory. Blower must be located above flood/standing water levels on a concrete base 24" X 18" X2" [61X45.7X5cm] minimum.
- Run vent to desired location above finish grade or higher to avoid infiltration at least 3 inch pipe. Vent piping must not allow excess moisture build up or back pressure.
- All appurtenances to BioBarrier® (e.g. tank pump outs, etc.) must conform to all country, state, province, and local plumbing and electrical codes.
- The primary compartment may be a separate tank.
- The baffle separating the settling and treatment chambers shall extend to the top of the tank locating discharge port 4" [10] MIN above the waterline, as shown on the drawing. Ventilation for the settling zone shall be provided through a house vent line or a vent in the tank itself.
- All inspection, viewing, access, and pump out ports must be secured, to prevent accidental or unauthorized access.
- Tank, anchors, piping, conduit, blower concrete base and vents are provided by others.
- All piping and ancillary equipment installed after BioBarrier®, must not impede or restrict free flow of effluent.
- BioBarrier® module must be secured to the tank to prevent movement or floatation (see drawing 4 of 4 for details).
- Min Volume is determined based on the frequency of sludge wasting. For a reduced pump out schedule, tank volume should be increased, consult factory for guidance.
- If less than any of the specified minimums is considered necessary, consult factory for guidance.
- For enhanced nitrogen removal.
 - Anoxic Zone
 - Baffle wall should evenly distribute the volume in the Treatment Zone between the anoxic and aerobic zone.
 - Mixing device is required.

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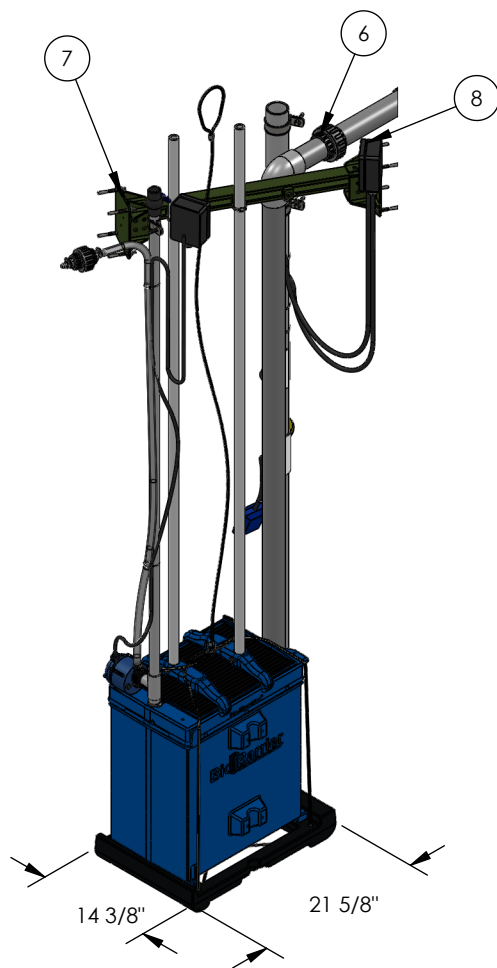
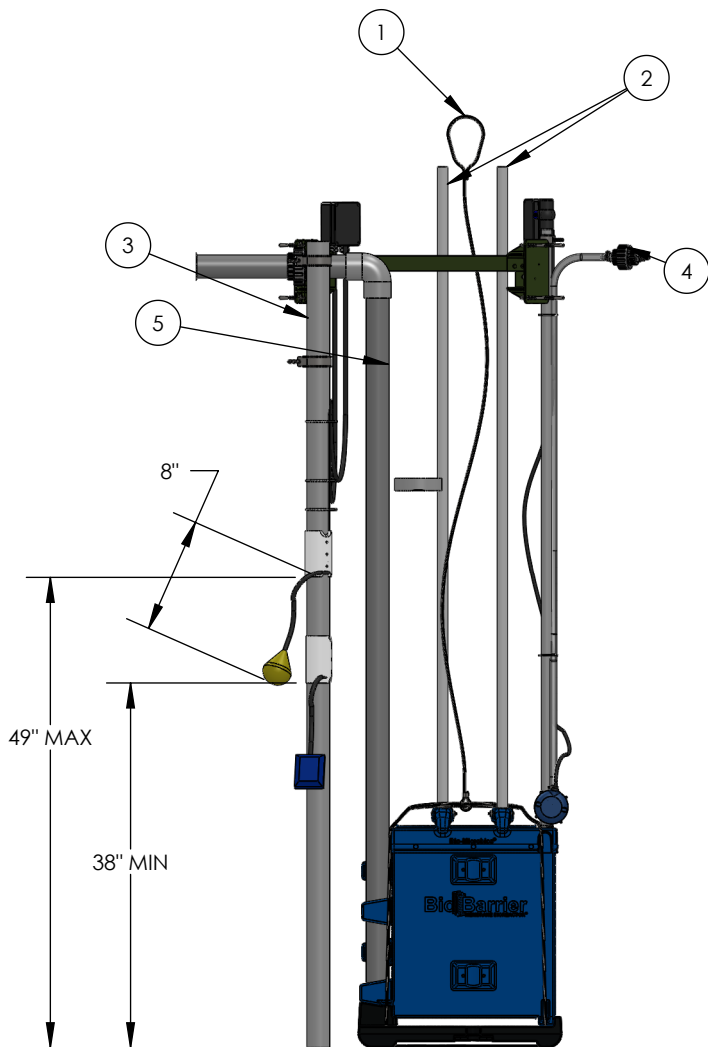
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BioBarrier 0.50

WEIGHT		lb	SIZE	DRAWING NUMBER		SHEET 2 OF 4
NAME		DATE	A	Tank Details		
DRAWN		CTC				
CHECKED		PF				
		1/23/2009		REVISED 10/16/2012		REV. INI-02-U

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NOTES:

- Float tree should be located approximately 1 ft [0.3m] away from the BioBarrier modules within the treatment zone to prevent float chatter.
- Utilize SS lifting cable to remove the BioBarrier module assembly.
- Components shown on the drawings:
 1. Lifting cable
 2. 3/4" sch 80 PVC pipe to secure and hold the unit down.
 3. Float tree
 4. Effluent line disconnect
 5. 2" PVC sch 40 pipe for the airline (enough to cover the distance between the blower and the connection at the BioBarrier®)
 6. Air line disconnect supplied by others.
 7. Uni-Strut assembly
 8. Water tight junction box (if needed).
 9. Effluent line
 10. 3/4" PVC pipe for the vent/ Clean-In-Place (CIP) line
 11. Permeate pump

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BioBarrier 0.50

WEIGHT		lb	SIZE	DRAWING NUMBER		SHEET 3 OF 4
NAME		DATE				
DRAWN	CTC	1/23/2009				
CHECKED	PF	10/16/2012	REVISED 10/16/2012		REV. INI-04-R	

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Specifications for BioBarrier® 0.50 Wastewater Treatment System

1. GENERAL

The contractor shall furnish and install (1) BioBarrier® 0.50 treatment system as manufactured by Bio-Microbics, Inc. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein. The principal items of equipment shall include BioBarrier® treatment system with all controls, air blower assembly and SaniTEE® 416 screening device. All other items will be provided by others. The BioBarrier® 0.50 unit shall be situated within a 1500 Gallon [5,680 L] minimum single compartment tank or in a 1,850 gallon [7,000L] minimum multiple compartment tank with or without the optional mixing pump. Suggested Maximum settling zone is (1) X the daily flow. Tank(s) must provide adequate pump out access and conform to local, state, and all other applicable codes. The contractor shall provide coordination with tank supplier with regards to fabrication of the tank, installation of the BioBarrier® unit and delivery to the job site.

2. OPERATING CONDITIONS

The BioBarrier® 0.50 treatment system shall be capable of treating the wastewater produced by typical family activities (bath, laundry, kitchen, etc.), ranging from (1) one to (8) eight people and not to exceed 500 US Gallons per day (1800 LPD).

3. MEMBRANE

The membrane is a combination of ultra filtration and microfiltration, using PVdF and PES cast material. The membrane sheet is supported by HDPE or ABS and laser, welded to the plate. The BioBarrier® membrane cartridge shall consist of flat sheet membranes arranged in the cartridge which is aerated via subhousing air grid. The BioBarrier® membrane cartridge shall be fixed in position, contain no moving parts and shall not corrode. The membrane system shall be designed and installed to ensure adequate turbulence is provided by the aeration system, and easy movement of MLSS within the membrane system.

4. BLOWER

The BioBarrier® 0.50 unit shall come equipped with a blower capable of delivering 6 - 20 CFM [9-31 m3/hr]. The blower assembly may include an inlet filter with metal filter element.

5. REMOTE MOUNTED BLOWER

The blower shall be mounted, up to 40 feet [12 meters] maximum, no more than 4 elbows from the BioBarrier® unit on a contractor supplied concrete base. The blower must not set in standing water and its elevation must be higher than the normal flood level. A two-piece, rectangular housing shall be provided. The discharge air line from the blower to the BioBarrier® system shall be provided and installed by the contractor.

6. ELECTRICAL

The electrical source should be within 150 feet [45.7 meters] of the blower consult local codes for longer wiring distances. All wiring must conform to all applicable codes (IEC, NEC, etc.). Wiring distances must prevent significant voltage loss. Input power on 60Hz electrical system is 110/220 VAC, single phase, 15/20 Amps. Input power on 50Hz electrical systems 127/230 VAC, single phase 15/20 Amps. All conduit and wiring shall be supplied by contractor.

7. CONTROLS

The control panel provides power to the blower, the filtrate pump, the anoxic mixing pump, and the water level floats with an alarm system consisting of a visual and audible alarm capable of signaling blower circuit failure and high water conditions. The control panel is equipped with SFR® timed control feature. A manual silence button is included.

8. INSTALLATION AND OPERATING INSTRUCTIONS

All work installation and connections of the BioBarrier® 0.50 shall be done in accordance with the written instructions provided by the manufacturer and in accordance with all applicable local codes and regulations. Operations manuals shall be furnished which will include a description of installation, operation, and system maintenance procedures.

9. FLOW AND DOSING


BioBarrier® systems have been successfully designed, tested and certified receiving gravity, demand-based influent flow. When influent flow is controlled by pump or other means to help with highly variable flow conditions, then multiple dosing events should be used to help ensure even flow.

10.WARRANTY

Bio-Microbics, Inc. warrants all new residential BioBarrier® models (BioBarrier® 0.50, 1.0, and 1.5) against defects in materials and workmanship for a period of two years after installation or three years from date of shipment which ever occurs first, subject to the following terms and conditions, (all other BioBarrier® system models are warranted for a period of one year after installation or eighteen months from date of shipment, whichever occurs first, subject to the following terms and conditions):

During the warranty period, if any part is defective or fails to perform as specified when operating at design conditions, and if the equipment has been installed and is being operated and maintained in accordance with the written instructions provided by Bio-Microbics, Inc., Bio-Microbics, Inc. will repair or replace at its discretion such defective parts free of charge. Defective parts must be returned by owner to Bio-Microbics, Inc.'s factory postage paid, if so requested. The cost of labor and all other expenses resulting from replacement of the defective parts and from installation of parts furnished under this warranty and regular maintenance items such as filters or bulbs shall be borne by the owner. This warranty does not cover general system misuse, aerator components which have been damaged by flooding or any components that have been disassembled by unauthorized persons, improperly installed or damaged due to altered or improper wiring or overload protection. This warranty applies only to the treatment plant and does not include any of the structure wiring, plumbing, drainage, septic tank or disposal system. Bio-Microbics, Inc. is reserves the right to revise, change or modify the construction and/or design of the BioBarrier system, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in present equipment. Bio-Microbics, Inc. is not responsible for consequential or incidental damages of any nature resulting from such things as, but not limited to, defect in design, material, or workmanship, or delays in delivery, replacements or repairs.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. BIO-MICROBICS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO REPRESENTATIVE OR PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME FOR BIO-MICROBICS, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. Contact your local distributor for parts and service.

DO NOT SCALE UNLESS NOTED DIMENSIONS ARE IN INCHES [CENTIMETERS] TOLERANCES ± 0.02 IN/IN [± 0.05 CM/CM]		 BioBarrier 0.50	
WEIGHT	lb	SIZE	DRAWING NUMBER
NAME	DATE	A	Specifications
DRAWN	1/23/2009		
CHECKED	PF 10/16/2012		REV.
		REVISED 10/16/2012	

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SHEET
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