

**BIO** MICROBICS®

# BioBarrier®

MEMBRANE BIOREACTOR



*NSF/ANSI STD 40 Class 1,  
STD 245 and STD 350*



*Ultrafiltration membrane*



*Reliable performance  
with low maintenance*



**Industry Leading Water Recycling Technology**  
**RESIDENTIAL • COMMERCIAL • COMMUNITY**

**BETTER WATER. BETTER WORLD.®**

**[www.biomicrobics.com](http://www.biomicrobics.com)**

# SIMPLE • LOW

## BioBarrier® MEMBRANE BIOREACTOR

The BioBarrier® is a Membrane Bioreactor (MBR) technology that removes organic pollutants and suspended solids with the use of ultrafiltration membranes. This membrane system replaces the clarifier, sand filter, and disinfection processes used in many conventional wastewater treatment processes.

The membrane module is submerged in a tank full of aerated MLSS (Mixed Liquor Suspended Solids), where organic matter and suspended solids are biologically broken down. The membranes physically separate water from microorganisms and suspended solids. Water is drawn through the membranes with vacuum pressure, leaving the suspended biomass material in the aeration tank. The resulting effluent is 99% free of contaminants such as BOD, TSS, and fecal coliform. Depending on the design of the system, a high level of nitrogen and phosphorus can be removed, as well.



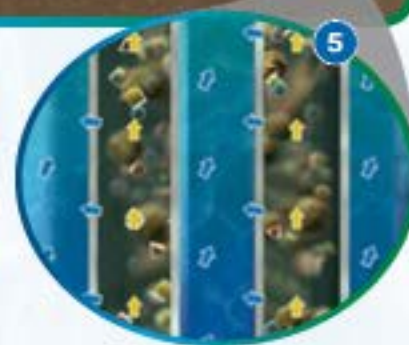
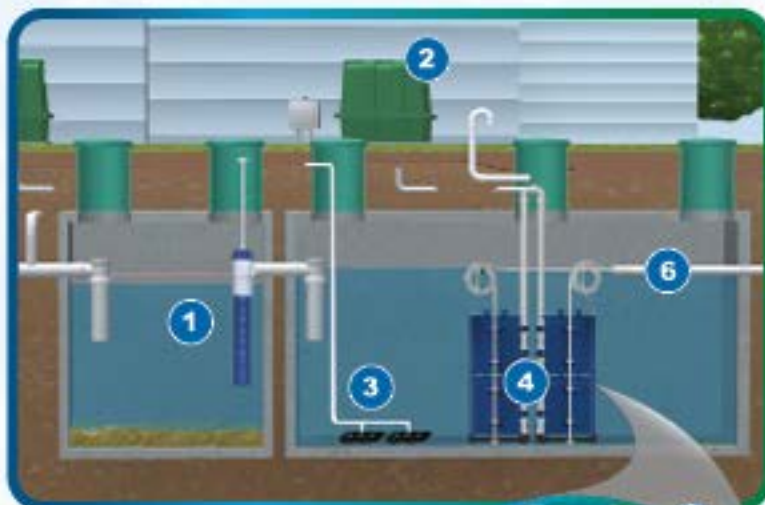
The BioBarrier® system is scalable to fit many residential and commercial applications, from single homes to large businesses, and is particularly suitable for cases where high quality effluent is required, such as in water reuse.

## HOW IT WORKS!

- 1 In the primary settling zone, a SaniTEE® screen prevents large solids from entering the treatment zone.
- 2 An above-ground blower introduces air into the treatment module to aerate the wastewater.
- 3 In the treatment tank, microbes thrive in the richly aerated environment as suspended growth (MLSS).

*An optional BioRobic® system can be used for extra aeration for high BOD concentrations.*

- 4 The BioBarrier® module is immersed in the treatment tank. Air grids supply coarse bubble aeration to oxygenate the water and scour the membrane surfaces.
- 5 Treated water is drawn through the membrane by vacuum pressure delivered by a submersible pump.
- 6 Clear, odorless, treated water exits the treatment system.



# COST • ROBUST

**BioBarrier®** Membrane Bioreactor. Versions with higher Total Nitrogen (TN) reduction, designated as “-N” models, are also available.



	UNIT	MAX HYDRAULIC LOADING		MAX ORGANIC LOADING Pop. Equiv.
		GPD	LPD	
EN	0.5 (-N)	500	1890	8
EN	1.0 (-N)	1000	3800	16
EN	1.5 (-N)	1500	5700	24
EN	2.0 (-N)	2000	7600	32
EN	2.5 (-N)	2500	9500	40
EN	3.0 (-N)	3000	11400	48

*MBR module capacities are best rated based on hydraulic loading, organic loading, and other project-specific considerations. Actual capacity may vary with local conditions and performance goals.*

**BioBarrier® HSMBR®** High Strength Membrane Bioreactor. Versions with higher TN reduction (“-N” models) are also available.



	UNIT	MAX HYDRAULIC LOADING		MAX ORGANIC LOADING Pop. Equiv.
		GPD	LPD	
	HSMBR® 1.5 (-N)	1500	5700	<b>CONSULT FACTORY</b>
	HSMBR® 3.0 (-N)	3000	11400	
	HSMBR® 4.5 (-N)	4500	17000	
	HSMBR® 6.0 (-N)	6000	22700	
	HSMBR® 9.0 (-N)	9000	34000	

*For flows larger than 9,000 GPD [34000 LPD] or applications requiring different treatment levels, please consult the factory.*

- NSF/ANSI Standard 40, Class1 Residential Wastewater Treatment Systems**
- NSF/ANSI Standard 245, Class1 Residential Wastewater Treatment Systems, Nitrogen Reduction**
- NSF/ANSI Standard 350, Onsite Residential and Commercial Treatment, Water Reuse**
- CAN/BNQ 3680-600 (Onsite Residential) Wastewater Treatment Technologies**
- EN 12566-3 Packaged wastewater treatment plants for up to 50 people.**



Pictured: HSMBR® membrane modules, control panel, blower housing, SaniTEE®



Established in 1998 to focus on water, BioMicrobics – and subsidiaries SeptiTech and Scienco/FAST – is at the forefront of sustainable design, with more than 80,000 systems in over 80 countries. Our systems meet the highest performance standards for treatment of water,

greywater, wastewater, and stormwater. BioMicrobics produces innovative systems dealing with wastewater treatment in decentralized settings. Our products are engineered to be simple, low-cost, and robust.

## BioBarrier

### Single-Family & Residential Systems

The BioBarrier® MBR models 0.5-1.5 are certified to the following standards: NSF/ANSI Std 40, Class 1, for wastewater, Std 245 for nitrogen reduction, and Std 350 for water reuse (the first to receive this distinction), as well as EN 12566-3 certified. This product provides opportunities for water reuse.

## BioBarrier HSMBR

### Small & Large Commercial Systems

BioBarrier® HSMBR® (High Strength Membrane Bioreactor) system is designed specifically to treat all the wastewater (greywater and blackwater) from commercial applications, from small flow to higher flows, such as gas stations, strip malls, office buildings, and even wineries.



## BIO MICROBICS

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