



# BioBarrier<sup>®</sup>

MEMBRANE BIOREACTOR



Residential • Community • Commercial

**BIO** **MICROBICS**<sup>®</sup>

BETTER WATER. BETTER WORLD.<sup>®</sup>



# BioBarrier<sup>®</sup>

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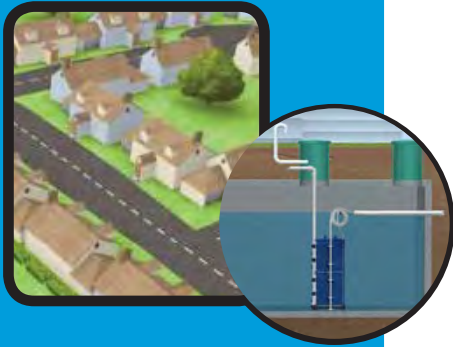
## Single-Family & Residential Systems

**BioBarrier<sup>®</sup> Membrane BioReactor (MBR):** NSF/ANSI Standard 350 certified for Water Reuse, our advanced MBR systems are designed specifically for single-family homes to far exceed effluent requirements and provide new opportunities for wastewater recycling projects. These MBR systems are ideal for new construction, renovations, and repairs for nitrogen-sensitive areas.



## Multi-Family & Community Systems

**BioBarrier<sup>®</sup> HSMBR<sup>®</sup>:** Exceeding typical treatment effluent requirements of the local regulations, our multi-family FAST<sup>®</sup> systems provide small communities, sub-divisions, apartment dwellings, and other residential developments with highly treated effluent to provide opportunities for wastewater recycling. An increase in property value is guaranteed with less aesthetic disturbance of property value due to a very large leach field or system components.



## Small & Large Commercial Systems

**BioBarrier<sup>®</sup> HSMBR<sup>®</sup>:** Offering versatility and consistent high performance for commercial properties with kitchens and cafeterias, the BioBarrier<sup>®</sup> HSMBR<sup>®</sup> produces high-quality effluent specifically designed for water reuse applications.



*Mighty Tough  
on Cleaning!*

Use Mighty Mike<sup>®</sup> environmentally-friendly Tablets & Cleaners to effectively clean without damage or leaving residues!

Call 1-866-652-4539 or email [solutions@sciencofast.com](mailto:solutions@sciencofast.com)





# Onsite MBR Systems

Whether for a water reuse or environmental sensitive applications, end-users choose Bio-Microbics more than ever for their wastewater treatment requirements to help conserve natural resources, protect ground & surface waters, and to overcome land constraints.

With unmatched effluent quality, the BioBarrier® MBR (Membrane BioReactors) and BioBarrier® HSMBR® (High Strength Membrane BioReactors) systems help to meet the increasingly stringent and/or reuse needs of specialized on site residential and commercial wastewater treatment applications.

The submerged membrane modules and BioAeration Grid allows for a constant permeate flow, eliminates clogging, and delivers high effluent quality without costly chemicals, additives, or add on disinfection.

Always check with local regulations for guidelines to the wastewater treatment system that will fit your needs.

## RESIDENTIAL

- Single-family homes
- Multi-Family Properties
- Apartment Complexes

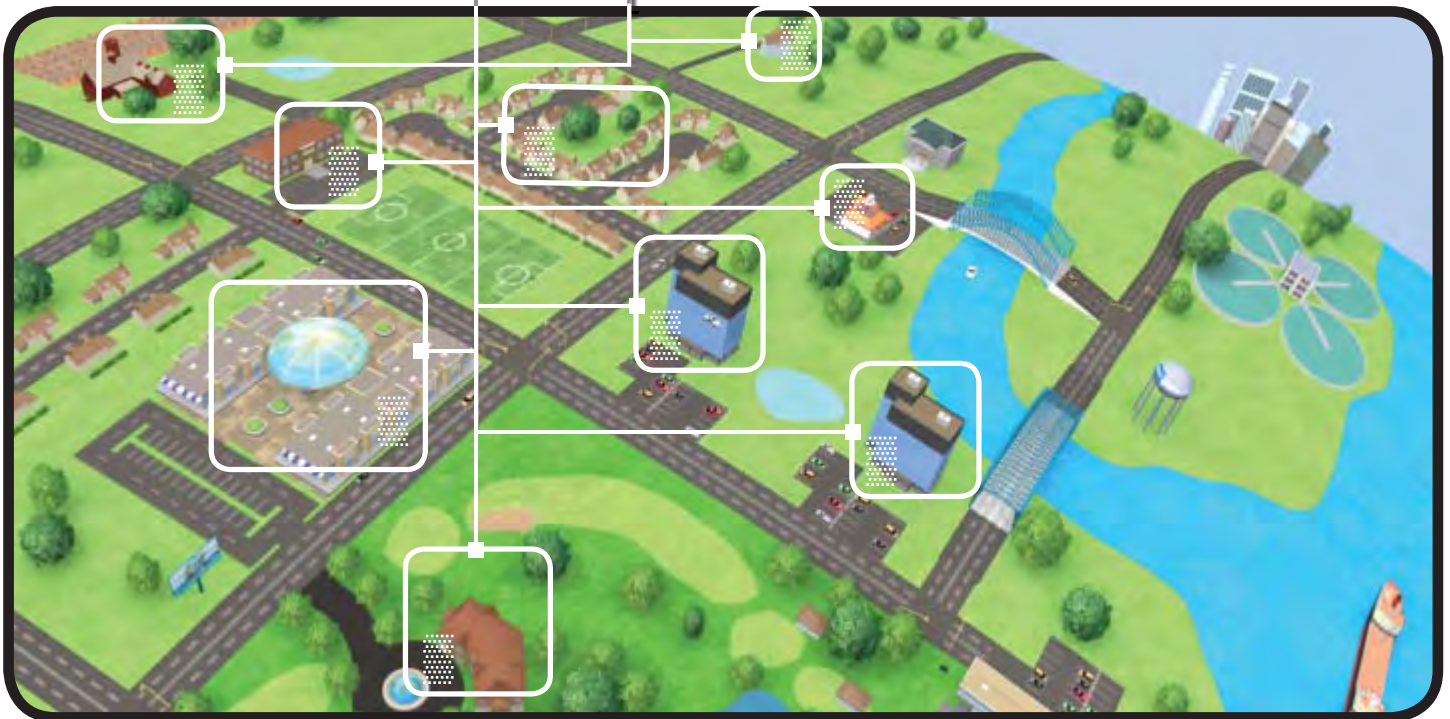
## COMMERCIAL

- Schools/Universities
- RV/Mobile Home Parks
- Country Club/Golf Courses
- Restaurants/Cafes/Pubs
- Office/Business Parks
- Resort Areas/Hotels
- Shopping Centers/Food Courts
- Military Posts/Army Barracks
- Guard/Police/Fire Stations
- Recreational Facilities
- Highway/Motorways Rest Areas
- Power Stations
- Laundries
- Wineries/Farmsteads
- Supermarkets/Grocery Stores
- Food Packaging Plants
- Beverage Facilities

...and more!

**BioBarrier HSMBR**  
HIGH STRENGTH MEMBRANE BIOREACTOR

**BioBarrier**  
MEMBRANE BIOREACTOR



# GENERAL SYSTEM INFORMATION

BioBarrier MEMBRANE BIOREACTOR	Maximum Treatment Capacity**			# of Modules Module Footprint***	Module(s) Shipping Weight***	
	Volume per System**	USA-rated systems	EU-rated systems		Pounds	Metric
		People per System**	People per System**			
BioBarrier® MBR 0.5*	500 gpd (1892 lpd)	1-8	1-10	(1) = 21" (53 cm) L x 14" (36 cm) W	36 lbs	16 kg
BioBarrier® MBR 1.0*	1000 gpd (3487 lpd)	1-16	1-20	(2) X 21" (53 cm) L x 14" (36 cm) W	72 lbs	33 kg
BioBarrier® MBR 1.5*	1500 gpd (5675 lpd)	6-24	10-30	(3) X 21" (53 cm) L x 14" (36 cm) W	108 lbs	49 kg
BioBarrier® MBR 2.0	2000 gpd (7571 lpd)	18-32	25-40	(4) X 21" (53 cm) L x 14" (36 cm) W	144 lbs	65 kg
BioBarrier® MBR 2.5	2500 gpd (9464 lpd)	25-40	35-50	(5) X 21" (53 cm) L x 14" (36 cm) W	180 lbs	82 kg
BioBarrier® MBR 3.0	3000 gpd (11350 lpd)	35-48	45-60	(6) X 21" (53 cm) L x 14" (36 cm) W	192 lbs	87 kg

For larger applications > 3000 GPD (11350 lpd), a versatile design BioBarrier® can be used in parallel for additional flow and level of treatment.

BioBarrier HSMBR HIGH STRENGTH MEMBRANE BIOREACTOR	Maximum Treatment Capacity*		Module Dimensions***	Shipping Weight***	
	Volume Per System**	People Per System**			
BioBarrier® HSMBR® 1.5	1500 gpd (5675 lpd)	Consult Factory	Consult Factory	144 lbs	65 kg
BioBarrier® HSMBR® 3.0	3000 gpd (11350 lpd)	Consult Factory	Consult Factory	288 lbs	131 kg
BioBarrier® HSMBR® 4.5	4500 gpd (17034 lpd)	Consult Factory	Consult Factory	432 lbs	196 kg
BioBarrier® HSMBR® 6.0	6000 gpd (22712 lpd)	Consult Factory	Consult Factory	648 lbs	294 kg
BioBarrier® HSMBR® 9.0	9000 gpd (34069 lpd)	Consult Factory	Consult Factory	864 lbs	392 kg

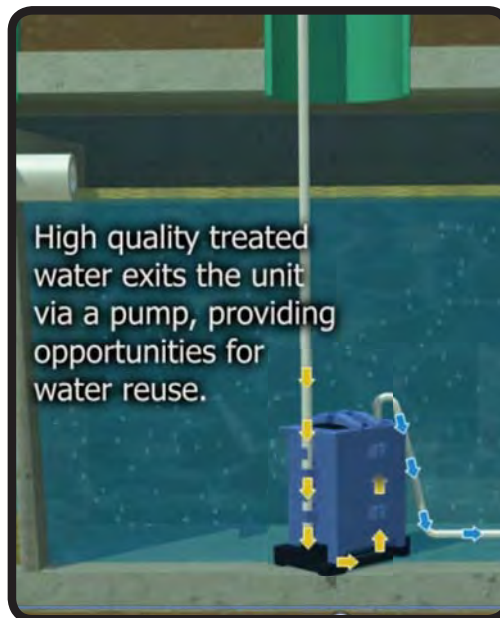
For larger applications >9000 GPD (34069 lpd), the BioBarrier® HSMBR®'s versatile design can be used in parallel for additional flow and treatment levels.

## Low Cost, Long Lasting Solution

Designers, Installers, regulators and property owners each benefit from BioBarrier®'s advanced features. The pre-engineered, modular system ships installation-ready for new or existing tanks. Complete with a control panel, blower, and SaniTEE®, the BioBarrier® system is easier to install, operate, and maintain than other types of treatment systems. Optional additional aeration devices (Lixor®) available.

### Why use a BioBarrier® Membrane BioReactor?

- Meets the most stringent requirements.
- Effective and proven to reduce or remove Fecal Coliform, E. Coli, and other harmful pathogens from wastewater.
- Ideal for direct discharge and water reuse applications; can make even the most difficult sites usable!
- The first system to be certified the NSF/ANSI Standard 350 for Water Reuse!



Please see product drawings and/or manual for further details.

\*NSF/ANSI Standard 40 class 1, NSF/ANSI Standard 245 (nitrogen reduction), NSF/ANSI Standard 350 class R (water reuse) certified systems

\*\*Treatment Capacity / Volume / People per module are given as guidelines for suggested use. BioBarrier® module capacities are rated based on biological (BOD), hydraulic and other project-specific considerations. **Please Note:** Only residential applications or those applications requiring treatment for only sanitary wastewater, may be designed from the volume and number of people per module. *Actual capacity may vary with local conditions and performance goals.*

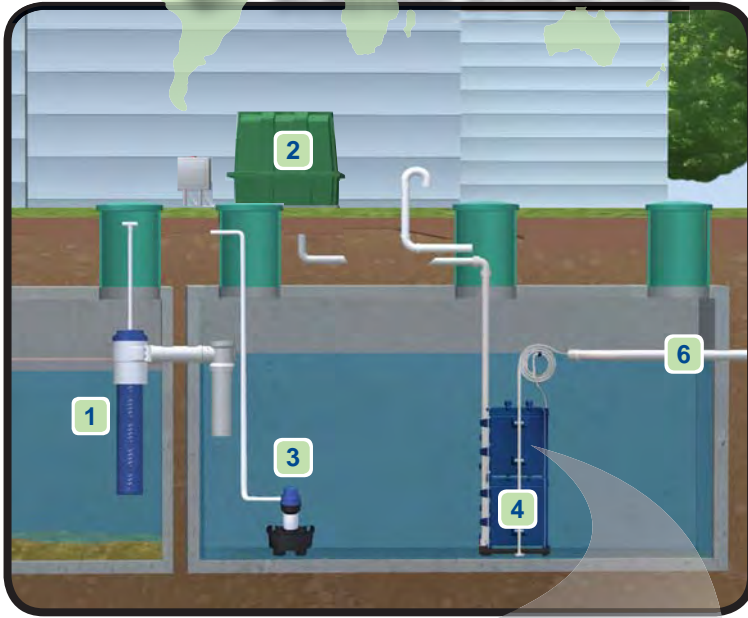
\*\*\*Module dimensions/weight can be provided for shipping specifications.

NOTE: Systems can be doubled-stacked and bolted together, which can affect final size. Please see Product Drawing for design specifications and recommended exterior tankage sizing. Treatment modules shall be installed inside tanks that are locally approved and manufactured using watertight materials.

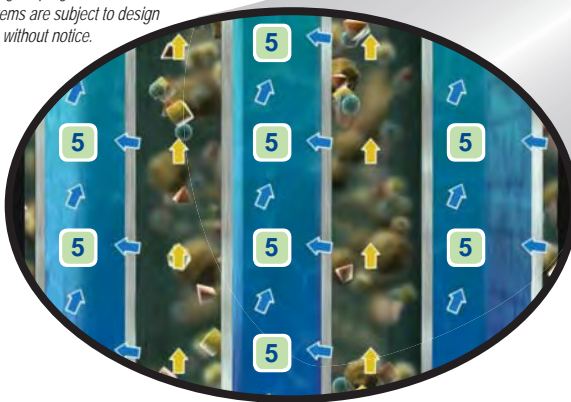
Electrical options are available to meet all worldwide electrical specifications (volt/phase/frequency).

# BioBarrier®

MEMBRANE BIOREACTOR



*In the Interest of technological progress, BioBarrier® MBR and HSMBR® Systems are subject to design and/or material changes without notice.*



## How Does the System Work?

- 1 In the primary settling zone, a SaniTEE® device is used to prevent large solids from entering the treatment zone.
- 2 A remote, above-ground blower introduces air (oxygen) into the treatment module to facilitate a robust circulation of wastewater.
- 3 Once inside the treatment tank, suspended treatment occurs. Optional added components, such as the Lixor® System, can be used for extra aeration for higher than normal BOD concentrations.
- 4 Immersed in the treatment tank, the BioBarrier® module(s) and air grid creates an upward flow between membrane plates providing vigorous scouring action to reduce clogging. This ensures superior robust performance.
- 5 The membrane pore size specifically designed to allow for microfiltration and ultrafiltration processes.
- 6 Clear, odorless, treated water is ready for standard or innovative dispersal.

Other Systems/Products available to suit your particular needs

### FAST® Wastewater Treatment Systems

- RetroFAST® Septic System Enhancement
- MicroFAST® Wastewater Treatment System
- NitriFAST® Wastewater Treatment System
- HighStrengthFAST® Treatment System
- MyFAST® Wastewater Treatment System

### Horizontal Trickling Filter Technology

- SeptiTech® STAAR™ Residential
- SeptiTech® STAAR™ Commercial

### Stormwater Treatment Solutions

- BioSTORM® Stormwater System
- StormTEE® Litter Control Screen

### Marine Sanitation Technology

- MarineFAST® LX-Series
- MarineFAST® M-&MX-Series
- MarineFAST® DV-Series

### Influent/Effluent Screening Solutions

- BioSTEP® Screened Pumping Systems
- MyTEE® Grit Control Screen
- SaniTEE® Wastewater Screen

### Other Management Solutions

- Lixor® Submerged Aeration Systems
- FOGHog® Traps & Tablets
- ABC®-N Clarifiers & Devices

### Water Treatment Solutions

- SciCHLOR® Hypochlorite Generators
- SciBRINE® BrineMakers
- Mighty Mike® CPT Tablets

### Environmentally-Friendly Cleaning Solutions

- Mighty Mike® All Purpose Cleaner
- Mighty Mike® Laundry Detergent
- Mighty Mike® Marine Multi-Purpose Cleaner
- Mighty Mike® Marine Liquid Descaler
- Mighty Mike® Industrial Descaler

With over 45,000 installations in more than 60 countries, our Fixed Integrated Treatment Technologies (FITT®) are the result of decades of experience, research & development, and real world operating history.

# Awards, Technology Approvals, and Certifications

- **2012 President's "E" Award** for Excellence in Exports, granted by the President of the United States, presented by the U.S. Department of Commerce
- **2011 Technology Innovation Award** (Decentralized Commercial Outlets) – Frost & Sullivan – FAST® Technology
- **2011 New Product of the Year Award** – Recycling Category. Environmental Protection Magazine (EPonline.com) "The financial, environmental and social benefits of 'recycling' are indisputable." – BioBarrier® MBR Technology
- **2011 Kansas Governor's Exporter of the Year** – presented by the Governor of KS, KS Dept. of Commerce
- **2010 North American Technology Innovation Award** (Water/Wastewater) – Frost & Sullivan – FAST® Technology
- **2009 Technology Merit Business Achievement Award**, Water/Wastewater – Environmental Business Journal (EBJ) – BioBarrier® MBR Technology
- **2002 U.S. Export Achievement Certificate**, US Dept. of Commerce, US & Foreign Commercial Service
- **2000 U.S. EPA Environmental Technology Innovator Award** – U.S. EPA, Region 1 – SeptiTech® Technology
- Australian Dept of Transportation & Royal Australian Navy - Technology Approval
- Canadian Great Lakes (CGL) Maritime Certification – Canadian Coast Guard
- Canadian Standards Association (CSA) International Electrical Certification
- CE – European Electrical Systems (including a "Tropical Certification Rating")
- China Classification Society (CCS) 中国船级社 – FAST® Technology Approval
- EN 12566-3, Packaged and/or site assembled domestic wastewater treatment plants for up to 50 People, PIA GmbH tested - BioBarrier® MBR 0.5, 1.0, & 1.5
- GreenSpec® (BuildingGreen.com Product Directory) listed...Provides accurate, unbiased...information [to]...improve the environmental performance, and reduce the adverse impacts of buildings
- IAPMO (International Association of Plumbing & Mechanical Officials) Listed – Fat Oil & Grease Interceptors/Traps R&T File #2586 – FOGHog® FH-20 & FH-50
- IMO (International Maritime Organization) MARPOL Annex IV (2010) – provides guidance for the Navigation and Vessel Inspection Circular (NVIC) No. 1-09, US EPA and other effluent standards as may be required – FAST® Technology
- Massachusetts Title 5 Innovative/Alternative System - Technologies Listed under "General Use Permit for Nitrogen Reduction", "Provisional Use," & "Remedial Use"
- NSF/ANSI Std 40, class 1 Certified – MicroFAST®, BioBarrier® MBR and SeptiTech® Systems up to 1500 GPD – Recognized in domestic and international trade by regulatory agencies at the local, state/province, and federal levels.
- NSF/ANSI Std 245 (Nitrogen Reduction) Certified – MicroFAST®, BioBarrier®-N MBR, BioBarrier® MBR and SeptiTech® Systems up to 1500 GPD
- NSF/ANSI Std 350 class R (Water Reuse) Certified – BioBarrier® MBR 0.5, 1.0, & 1.5
- PDI (Plumbing & Drainage Institute) Certified – Standard PDI-WH201 and PDI-G101 grease interceptors – promotes the advancement of innovative plumbing products.
- Poland – Aprobata Techniczna (Technology Approval) ze Instytut Ochrony Srodowiska (Institute of Environmental Protection)
- România – Avizează Favorabil – Consiliul Tehnic Permanent Pentru Constructii – Ministerul Dezvoltarii Regionale Si Turismului
- Russia – Technology Approval – Федеральная Служба По Надзору В Сфере Защиты Прав Потребителей И Благополучия Человка (Federal Service of Environmental Protection)
- Russia – CPT Свидетельство о Российских Стандартах (Certification of Russian Standards) – BioSTORM® – All sizes
- Russia – PMPC (Russian Maritime Register of Shipping) МЕЖДУНАРОДНОЕ СВИДЕТЕЛЬСТВО О ПРЕДОТВРАЩЕНИИ ЗАГРЯЗНЕНИЯ СТОЧНЫМИ ВОДАМИ - International Sewage Pollution Prevention Certificate
- SASO (Saudi Arabian Standards Organization) Certified
- ETL (UL) – Listed to US electrical certification requirements
- U.K. – United Kingdom Department of Trade – FAST® Technology Approval
- U.S. Coast Guard – 33CFR159, MEPC.159(55) – FAST® Technology Approval for Type II MSD (Marine Sanitation Devices)
- U.S. EPA-ETV (Environmental Technology Verification) – validates the performance of technology that may improve the protection of the environment. – RetroFAST®, Report No. 03/08/WQPC-SWP – SeptiTech®, Report No. 02/04/WQPC-SWP

...and MORE!



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## SeptiTech®

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