

# BioBarrier Membrane Bioreactor

## Product Certifications

Our products are certified to the highest national and international standards in our industry. If you require additional certification marks, etc, please e-mail your request to [sales@biomicrobics.com](mailto:sales@biomicrobics.com).

## USA and International Product Certifications

The list below is a summary of a few certifications received for the products of Bio-Microbics:

- **NSF/ANSI Standard 40, Class 1 Certified (BioBarrier® 0.5, 1.0, & 1.5)** - NSF (National Sanitation Foundation International) tests residential wastewater treatment systems having rated capacities between 400 gallons (1514 Liters) and 1500 gallons (5678 Liters) per day. The Standard 40 includes a wide range of product evaluation methods and criteria for residential treatment systems. Most notably is the ability of the treatment system to produce an acceptable quality of effluent. This is demonstrated during a six month (26 week) test where wastewater of required strength is subjected to the system at the rated capacity of the system as evenly dosed at periods prescribed by the standard. Stress sequences are included to simulate wash day, working parent, power outage, and vacation conditions. The effluent criteria required of a Class I system is based on the U.S. EPA secondary effluent treatment requirements for municipal treatment facilities. In addition to the effluent performance, requirements also exist for product literature, including installation, operation and maintenance, and trouble shooting and repair manuals. The system must also meet minimum requirements for structural integrity, leakage, noise, electrical certification, access ports, failure sensing and signaling equipment (visual and audible alarms), flow design, data plate and service labels.
- **NSF/ANSI Standard 245 (Nitrogen Reduction) Certified (BioBarrier® 0.5, 1.0, & 1.5)** - Developed for systems to

provide acceptable levels of nitrogen reduction. The evaluation involves six months of performance testing, incorporating stress tests to simulate wash day, working parent, power outage, and vacation conditions. Throughout the testing, samples are collected during design loading periods and evaluated against the pass/fail requirements. A treatment system must meet the following effluent concentrations averaged over the course of the testing period in order to meet Standard 245 (CBOD5=25 mg/L, TSS=30 mg/L, Total Nitrogen=at least a 50% average of influent TKN, and pH=6.0 to 9.0 SU).

- **NSF/ANSI tested for bacterial reduction of fecal coliform (BioBarrier® 0.5, 1.0, & 1.5)**
- **NSF/ANSI Standard 350, Class R (Water Reuse) Certified (BioBarrier® 0.5, 1.0, & 1.5 – FIRST system to achieve this Standard!)** - Developed for residential wastewater treatment systems designed to provide for water reuse onsite. The evaluation involves 6 months of performance testing, incorporating stress tests to simulate wash day, working parent, power outage, and vacation conditions. With a key focus on public health and appropriate water quality criteria for reuse applications; this is the first standard of its type for comprehensive evaluation of water reuse technologies, spanning residential and commercial applications. Technologies testing against Standard 350 must meet Standard 40 and 245 prior to testing.
- **EN 12566-3 (European Union Standards)** – Packaged and/or site assembled domestic wastewater treatment plants for up to 50 People
- **All Control Panels – CSA (Canadian Standards Association) Electrical Certification** CSA International and the International Association of Electrical Inspectors (IAEI), the Electrical Safety Foundation International (ESFI), Health Canada, provincial regulators, and the U.S. Consumer Product Safety Commission (CPSC) to promote standards for consumer safety in North America and around the world. CSA testing is accepted by key conformity assessment organizations in the U.S. including IAPMO and ASSE. Tested and meets applicable standards for safety and/or performance, including the applicable standards

- written or administered by the American National Standards Institute (ANSI), Underwriters Laboratories (UL), Canadian Standards Association (CSA), National Sanitation Foundation International (NSF), and others.
- **All Control Panels – CE – European Electrical Systems** (including a “Tropical Certification Rating”) The European (EN) standards by adopting universal requirements to cover all of Europe and promote the free movement of goods within Europe. When products have been shown to meet the essential requirements of the directive or EN standard the product is available for sale anywhere in the European market.
  - **All Control Panels – ETL and RoHS Compliant – Intertek Testing Services** Evaluated and meets the standard equivalent to the requirements set by Intertek and equivalent to UL (Underwriter’s Laboratories). Periodic checks are performed to assure consistent compliance of the product and in compliance with both Canadian and U.S. requirements.
  - **FOGHog® Fat Oil & Grease Interceptor FH-20 & FH-50 – IAPMO Certified-** IAPMO (International Association of Plumbing & Mechanical Officials) developed a Uniform Plumbing Code and Uniform Mechanical Code that is adopted by plumbing and mechanical engineers who follow these standards of uniformity to promote professionalism within the industry. Using the ANSI-accredited organization method, which is based on consensus, these codes set the standard for engineers to perform plumbing and mechanical duties uniformly, according to IAPMO standards of certification. Several states are or have considered making Mechanical or Plumbing Inspector certification a requirement for current or prospective inspectors.
  - **All Control Panels – SASO (Saudi Arabian Standards Organization) Electrical Standards** The Saudi Arabian Standards Organization approves national standards and measurements for all commodities and products, methods of sampling, inspection and testing, in addition to other assignments resolved by SASO Board of Directors in the Kingdom.
  - **Independent Third-Party Testing** Verification

programs/locations in which Bio-Microbics installed a Wastewater Treatment System for analysis of performance:

- Massachusetts Title 5 General Use – The first system described as an “Innovative and Alternative (I/A) System” to received the General Use Approval rating for Nitrogen Reduction
- Florida OWNRS (Onsite Wastewater Nitrogen Reduction Study) Phases I and II
- New Mexico State/New Mexico University
- University of Rhode Island
- Buzzards Bay, MA
- Ventura County, CA
- US EPA Environmental Technology Verification Program (ETV), B.C., Canada
- La Pine, OR
- Burnette, WA
- NSF International testing and evaluation for Standard 40, 245, and 350

• **Recent Business and Technology Awards**

- 2012 US President’s “E” Award for Excellence in Exports (USA)
- 2011 Kansas Governor Exporter of the Year
- 2011 Frost & Sullivan Technology Innovation Award (Decentralized Commercial Outlets)
- 2011 New Product of the Year (Recycling) – BioBarrier® MBR System – Environmental Protection Magazine (EPOnline)
- 2010 North American Technology Innovation Award (Water/Wastewater) – Frost & Sullivan
- 2009 Exporter of the Year Award, Environmental – ThinkGlobal / Commercial News USA (Official publication of the US Dept. of Commerce)

2009 Technology Merit Business Achievement Award, Water/Wastewater – Environmental Business Journal (EBJ)