



BioMOD™ MBBR

Packaged Moving Bed Biofilm Reactor

Aquatech's MBBR provides proven wastewater treatment and recycling to a broad range of industries at the highest unit capacity (up to 1800 m³/d) and lowest energy consumption (1.75 kWh/m³ or less for moderate wastewaters) on the market.

www.aquatech.com



BioMOD™ MBBR

Mobile. Agile. Efficient

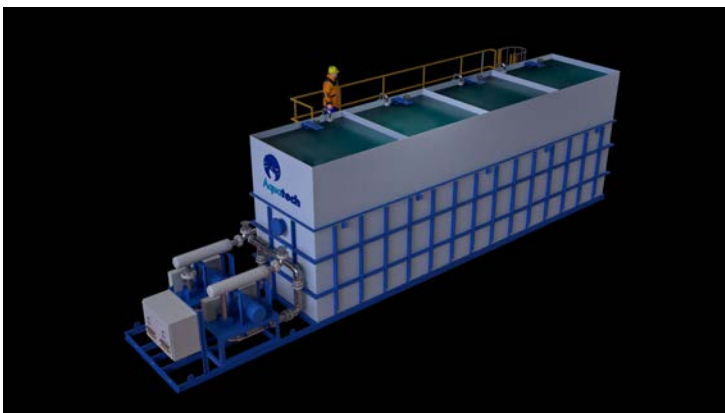
Aging infrastructure and increasing demand for high capacity biological water treatment have created a need for more efficient, compact and affordable solutions. Integrated treatment systems must be easy to operate and install while minimizing capital expenditure. These new systems must also be capable of addressing frequent changes in feed water. A mobile, packaged solution is thus key to enabling companies to manage their wastewater with the most efficient technology at the lowest cost. Aquatech's BioMOD™ MBBR provides all of these benefits for end-users in industries ranging from Food & Beverage to Pharmaceutical. In addition, BioMOD™ MBBR offers added value to the customer through flexible design, rapid implementation and automation built to minimize manual intervention and operating costs.

Package Features

- Various packaged models are available to accommodate treatment needs across a variety of industries and feed water conditions.
- Packages are capable of being operated in series or parallel modes for flexibility in effluent quality and flow rate, respectively.
- All process components are included within a single skid to simplify transport, layout and operation. Within our 53' length scope, we include aeration blowers, tank covers, feed pumps, PLC and controls.
- Packages can be configured with multiple compartments and treatment options for various treatment needs.
- One BioMOD™ MBBR package can be used for multiple projects and occupy minimal footprint. For clients with these types of needs, we can easily transport the packaged system with the use of standard freight.
- By minimizing the client expenditure for production, installation, commissioning, and operation, the BioMOD™ MBBR provides a highly economical solution.

Typical Applications

Food & Beverage
Municipal/Commercial
Pulp & Paper
Pharmaceutical
Hotels/Resorts
Industrial Parks
Residential Complexes
Malls
Military/Work Camps



BioMOD™ MBBR

Operational Benefits

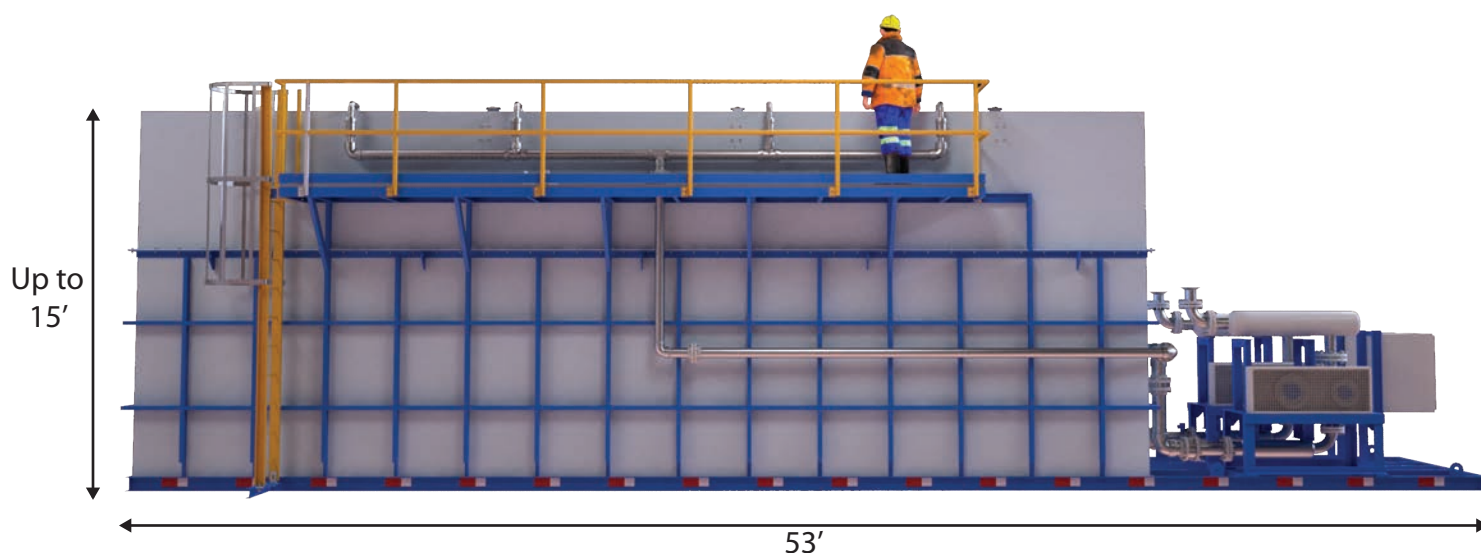
- Non-clogging, self-cleaning MBBR media which allows for high removal rates and superior process stability
- Highest active media surface area available on the market, reducing footprint requirement of overall package
- Capacity range of 100-1800 m³/day, the most flexible packaged MBBR system in the market
- Can treat up to 6,000 mg/L COD
- Simplified transportation, installation and operation
- Superior effluent quality suitable for further recycle options, irrigation or discharge
- Lowest energy consumption of packaged MBBR solutions
- Automatic foaming detection and system response to prevent overflow, and automatic pump actuation determined by level control

BioMOD™ MBBR Configurations¹

| Process Unit | Unit | 250 m ³ /d | 500 m ³ /d | 950 m ³ /d | 1800 m ³ /d |
|----------------------------------|---------------------|-----------------------|-----------------------|-----------------------|------------------------|
| Packaged MBBR | Length (ft) | 53 | 53 | 53 | 53 |
| | Width (ft) | 8 | 8 | 8 | 8 |
| | Maximum Height (ft) | 15 | 15 | 15 | 15 |
| COD Level Treatable ² | mg/l | 3600 - 3000 | 1800 - 3000 | 1000 - 1800 | 600 - 1000 |
| Power Consumption | kWh/m ³ | Contact Aquatech | 0.9 - 1.75 | 0.8 - 0.9 | 0.8 |

Inlet / Outlet Water Quality

| Parameter | Unit | Inlet | Outlet |
|-------------|------|------------|-------------------|
| COD | mg/L | 600 - 6000 | Up to 95% Removal |
| TSS | mg/L | 100 - 200 | <10 ³ |
| Temperature | °C | 10 - 40 | 10 - 40 |



Dimensions : 53' Length x 8' Width x 12' Height

¹ For up to 95% removal
² Must be biodegradable
³ After post treatment using solid-liquid separation

BioMOD™ MBBR

Product Advantages

- Enhanced automation enabling ease of operation and optimum efficiency
- Limited infrastructure construction or modification required
- Consistent product quality regardless of feed load variance
- Extensive experience with biological treatment media
- Product capacity accurately determined based on client specifications.
- User-friendly operation and support
- Fast delivery and installation
- Optional integration with direct solar energy
- Optional supply of specialty bio-augmentation catalyst products to accelerate commissioning and stabilization

