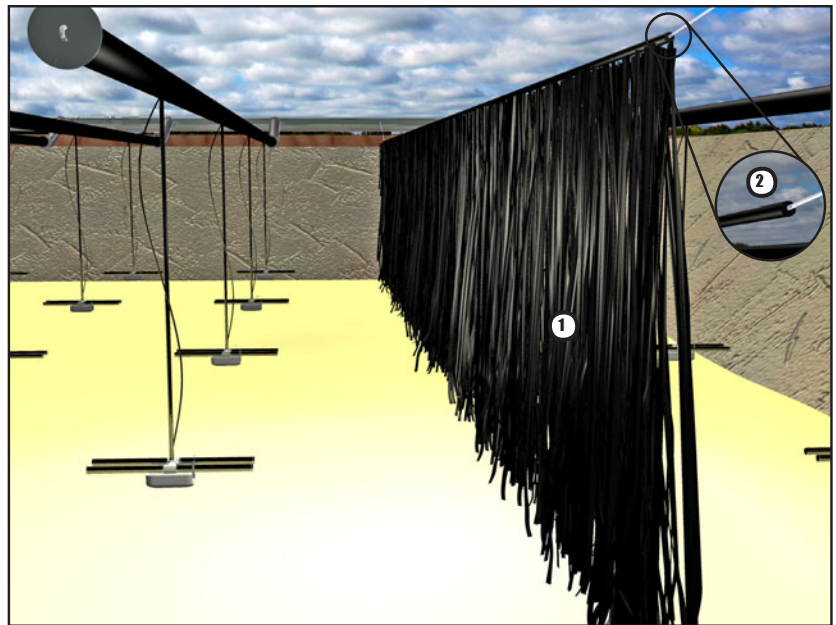


## PRODUCT SPECIFICATION SHEET

# EDI BioReef<sup>®</sup> System

### Innovative Attached Growth Technology for Advanced Treatment Lagoon Performance

- High surface area to volume ratio; approximately 150,000 ft<sup>2</sup> direct area per 100,000 gallons per day treated
- Clog free performance with non-confined and flexible media
- Maintenance free with self-regulating biofilm and no supplemental mixing or agitation is required
- Well suited for carbonaceous BOD removal, TSS polishing, ammonia conversion, or nitrogen removal even in cold climates
- System is resistant to biological solids washout and is well suited to applications with highly variable flow
- Maximum contact with wastewater using full depth and full basin width deployment.
- Installs independent of basin structure with floating boom and suspended submerged media
- Long service life with UV stabilized high density polyethylene media and closed-cell, nitrile foam floatation
- Easy deployment with factory preassembled BioReef boom



1. Flexible Submerged Fixed-Film Media
2. Mounting Cable and Flotation Boom
3. Factory Assembled



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Environmental Dynamics International

Value Solutions  
Since 1975

# PRODUCT SPECIFICATION SHEET

The EDI BioReef® system is a submerged fixed film technology that is ideally suited to improve the removal of BOD, TSS, and nitrogen in conventional lagoons or suspended growth biological processes. Treatment systems experiencing any of the following conditions will benefit from the application of the BioReef system:

- Hydraulic or organic overload
- Inadequate BOD or TSS reduction
- Poor ammonia conversion
- High effluent total nitrogen
- Reduced cold weather performance

Biological processes are limited in their ability to treat wastewater by the mass of microorganisms that can be retained in the biological reactor. The BioReef system effectively increases the mass of microorganisms in the biological reactor by providing surfaces where micro-organisms can attach. Improved system performance is also attained through the promotion of plug flow conditions, and bio-filtration and flocculation mechanisms. The system requires no additional solids separation or recovery devices, or mixing energy for solids management.

The BioReef system is engineered to be compatible with existing lagoon-based wastewater treatment processes. Biological solids are self-regulating. Excess biological solids that accumulate on the BioReef product are automatically shed from the media.

The BioReef system is an aerobic process and requires aeration to support the respiration requirements of the retained

biomass population. When combined with an EDI high efficiency FlexAir® diffused aeration system, the BioReef system is one of the more energy efficient, wastewater treatment processes available in the industry.

The BioReef system is also effective in reducing total nitrogen. Once a stabilized biofilm is developed, dissolved oxygen gradients within the biofilm allow nitrates to be reduced to nitrogen gas which is released from the system. This denitrification process provides additional benefits including alkalinity and oxygen recovery increasing the process and operating efficiency of the overall system.

The BioReef system is easy to install making the product ideal for large reactors including stabilization ponds and aerated lagoons. BioReef modules are delivered to the jobsite factory preassembled with mounting cables and flotation components. The BioReef assembly is pulled across the water surface and retained in place with mooring anchors on the reactor perimeter. No other installation requirements or mounting hardware are required. Once the system is properly installed, little maintenance is required for long-term performance.

The BioReef system is one of many efficient, low cost, lagoon-based technologies available from EDI. For detailed information on how to improve the performance of lagoon-based systems, contact EDI or a local EDI representative.



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