EVOQUA
WATER TECHNOLOGIES

Evoqua Water Technologies, now part of Xylem, Provides our Biosphere® Mobile Moving Bed Biofilm Reactor (MBBR) System

RENTAL MBBR SYSTEMS FOR INDUSTRIAL WASTEWATER TREATMENT

GENERAL DESCRIPTION

A Moving Bed Biofilm Reactor (MBBR) is a biological treatment technology for wastewater that uses microbial biofilm formed on media "carriers" to remove organic contaminants dissolved in water. Biofilm carriers are suspended in the wastewater flowing through the reactor and thoroughly mixed to create a protected surface to develop a biofilm community. This biofilm subsists on the organic molecules while treated wastewater leaves the system. MBBR systems are commonly used by industrial facilities due to their compact sizing and high treatment rate. They can be used to remove soluble BOD/COD and nitrogen-based contaminants (TKN, Ammonia, Nitrate/Nitrite) that are common in industrial wastewater.

The Biosphere® Mobile MBBR System by Evoqua Water Technologies, now part of Xylem, is a skid-mounted system that does not require a permanent foundation for installation. This compact system is delivered pre-assembled and rapidly commissioned.

It is an effective solution to quickly deliver MBBR capabilities on demand, avoiding the long lead times for permanent biosystem installations. Our rental MBBR systems fit a number of potential applications, including:

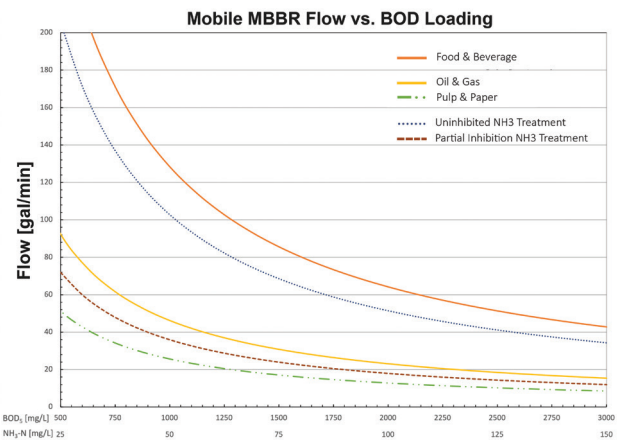
- Rapid replacement of failed equipment
- Providing a bridge solution during permanent system construction, retrofits or maintenance turnarounds
- Meeting pretreatment discharge limits
  - Soluble BOD/COD removal
  - Biological nutrient removal
  - Piloting: partial and full scale

BIOSPHERE® MOBILE MBBR SYSTEM FEATURES

Our Biosphere Mobile MBBR System consists of three primary components: the mobile bioreactor, aeration blower, and the system control skid. The chart illustrates the potential treatment capacity of a single mobile MBBR across several different industries. Multiple mobile units can be systematized in parallel or series configurations to treat additional wastewater capacity or to meet different treatment goals.

Leases for the Biosphere Mobile MBBR Systems are available for any duration longer than 6 months. Xylem offers high-rate RT-Series dissolved air flotation (DAF) clarification systems for lease alongside the Mobile Biosphere Mobile MBBR Systems for applications that require clarification.

- Biosphere Mobile MBBR System with rugged stand-up frame, capable of rapid installation on site
  - Internal aeration grid with coarse bubble diffusers and external riser with ground-level connection
  - Influent downcomer with external riser with ground-level connection
  - pH and DO monitoring probes with insertion manifolds
  - Level monitoring and control with high level alarm switch
  - Delivered to site pre-loaded with biofilm carriers
- Aeration Blower Skid
  - Weather enclosure
  - 12' stainless flexible hose for connection to the aeration grid
- MBBR Control Skid with PLC, chemical dosing pumps, & flow control system
  - Includes an Allen-Bradley PLC system to operate the entire system
  - Injection quills to allow chemical addition to all system influent
  - Includes four (4) dosing pumps to deliver any necessary chemicals to sustain the MBBR system. Dosing pumps include containment enclosures and are mounted on the same skid as the flow control manifold and PLC
  - 12' stainless flexible hose for connection between the flow control manifold and the Mobile Bioreactor
  - Pre-wiring of all on skid components to run from a single power connection; 120V/1phase/60Hz
  - Tubular stainless support frame to combine all skid components and allow for easy placement on site



*The estimated treatment capacities in the chart above are for wastewater at 20°C.

+1-866-926-8420 evoqua.com