A Sulzer Brand

Overview
Biological Removal Systems

Biological Treatment

FRC biological wastewater treatment systems use MBBR and MBR technology to remove BOD, COD, and nutrients. Compact, efficient, and scalable solutions for industrial and municipal wastewater treatment.

FRC biological treatment systems use Membrane Bioreactor (MBR) and Moving Bed Biofilm Reactor (MBBR) technologies to deliver high-performance treatment in compact, reliable designs. They reduce BOD, COD, and nutrients while minimizing footprint and operator involvement. With flexible configurations and durable construction, FRC systems provide cost-effective solutions for industrial and municipal wastewater.

MBBR: Specialized plastic carrier media circulate freely in an aerated tank, providing a large, protected surface area for biofilm growth. The biofilm consumes organic matter and nutrients, naturally shedding excess biomass for removal via clarification or DAF.

MBR: Submerged ultra-filtration or micro-filtration membranes replace traditional clarifiers, filtering out biomass and suspended solids. This process produces exceptionally high-quality effluent suitable for reuse, discharge, or advanced polishing.

Key Features

- High-efficiency removal of BOD, COD, nutrients, and suspended solids
- Compact footprint compared to conventional activated sludge systems
- Resilient performance under variable flows and shock loads
- Low operator involvement with automated controls and monitoring
- Durable stainless-steel or concrete tank construction
- Scalable and upgradeable for future capacity needs

Specifications

- **Flow Rates:** Up to 10,000+ GPM (depending on configuration)
- **MBBR Media Fill:** 30 – 70% tank volume
- **MBR Membrane Pore Size:** 0.04 – 0.4 µm
- **Construction:** Stainless steel, coated steel, or reinforced concrete

Applications

- Industrial wastewater with high organic load
- Municipal wastewater treatment and reuse projects
- Mining, landfill leachate, and renewable fuels
- Facilities requiring nutrient removal (nitrogen, phosphorus)
- Treatment plants needing compact or retrofit solutions

Why choose biological system from FRC?

FRC provides biological treatment with proven MBR and MBBR technologies. Our systems deliver high-quality effluent in a compact footprint while reducing energy, sludge, and operator needs—helping with compliance today and scalability for tomorrow.

How can we help you? Contact us today to find your best solution.

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