

Membrane BioReactor MBR System

Biological Treatment



FRC's MBR system integrates biological treatment with membrane filtration, producing ultra-clear effluent in a space-saving configuration.

FRC's Membrane Bioreactor (MBR) system integrates biological treatment with advanced membrane separation for ultra-clear effluent. Ideal for reuse or discharge into sensitive environments, MBRs provide high-performance treatment in a compact design.

Wastewater is biologically treated in a reactor where microorganisms break down organic matter and nutrients. Instead of using a clarifier, the MBR system uses submerged ultra-filtration membranes to separate treated water from biomass. Membranes retain solids and pathogens, allowing only clean water to pass through. Sludge is wasted directly from the MBR tank. Aeration supplies oxygen and mixes the biomass, while membrane cleaning systems prevent fouling, producing high-quality effluent suitable for reuse or discharge.

Key Features

- Submerged membrane modules eliminate clarifiers
- Ultra-low TSS and turbidity and contaminants for reuse or discharge
- Compact footprint vs. conventional systems
- Sludge wasting directly from MBR tank
- Durable stainless-steel or concrete tank construction
- Excellent BOD, COD, nitrogen, and phosphorus removal

Specifications

- **Treatment Targets:** BOD, TSS, TN, TP, COD
- **Effluent Quality:** TSS < 5 mg/L (typical)
- **Reuse Potential:** Service water, irrigation, cooling tower
- **Membrane Type:** Submerged ultra-filtration

Options

- Air blowers and scour systems
- Clean-in-place (CIP) membrane cleaning
- SCADA control and automation panels
- Stainless or concrete tank configurations

Applications

- Industrial wastewater reuse
- High-quality municipal effluent
- Decentralized or mobile treatment systems
- Facilities with space or discharge constraints

Why choose an MBR system?

FRC's MBR delivers top-tier effluent quality, small footprint, and streamlined operation—making it ideal for advanced wastewater reuse and treatment compliance.

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



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