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MBBR WASTEWATER TREATMENT SYSTEMS

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General Overview

The Moving Bed Biofilm Reactor (MBBR) is an advanced biological wastewater treatment technology designed to achieve high treatment efficiency within a compact footprint. The system utilizes specially designed biofilm carriers that provide a large protected surface area for microbial growth, allowing stable and reliable treatment performance under varying load conditions.

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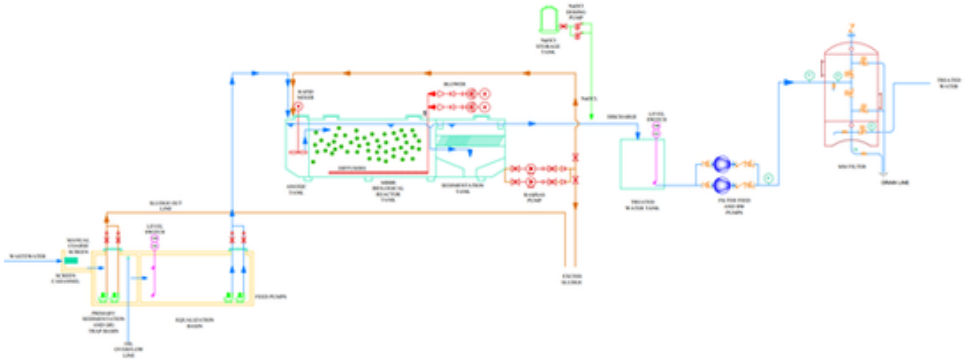
Working Principle

In an MBBR system, free-floating plastic carriers move continuously inside the reactor tank by aeration or mechanical mixing. Microorganisms grow as biofilm on the carrier surface and degrade organic pollutants. The combination of suspended growth and attached growth processes ensures high biological activity and process stability.

Typical process stages include:

- Influent distribution and equalization
- Biological oxidation in MBBR reactors
- Nitrification and optional denitrification
- Secondary clarification or membrane separation
- Sludge removal and discharge



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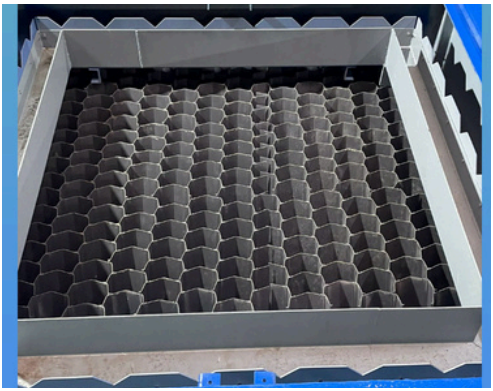
MAIN COMPONENTS

- MBBR Reactor Tank (carbon steel, stainless steel, or concrete)
- Biofilm Carrier Media (high surface area polyethylene carriers)
- Fine Bubble Aeration System
- Air Blowers and Distribution Headers
- Media Retention Screens
- Sludge Handling System
- Instrumentation & Control Panel



Material	HDPE
Protected Surface Area	500–800 m^2/m^3
Density	0.95 g/cm^3
Recommended Fill Ratio	40–60%
Temperature Resistance	Up to 60°C

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TYPICAL APPLICATIONS

- Hospitals & Healthcare Facilities
- Municipal wastewater treatment plants
- Industrial wastewater treatment
- Food & beverage industry
- Textile and chemical industries
- Oil & gas facilities
- Hotels, resorts, and residential complexes
- Reuse and water recovery systems

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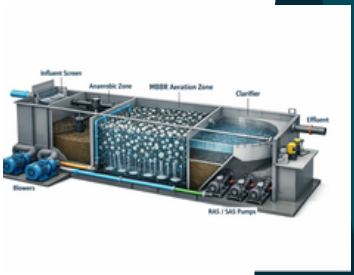

Design Features

Each MBBR system is engineered according to influent characteristics, discharge standards, and operational requirements. Key design considerations include organic loading rate, carrier fill ratio, oxygen transfer efficiency, and hydraulic retention time.

Operation and Maintenance

MBBR systems are designed for continuous operation with minimal operator intervention.

Routine activities include blower inspection, aeration performance monitoring, periodic Screen cleaning, and sludge withdrawal control.

Optional Process Integrations

- Pre-treatment (Screening, Equalization, DAF)
- Chemical dosing systems
- Tertiary filtration
- Ultrafiltration (UF)
- Reverse Osmosis (RO)
- Disinfection systems (Chlorination / UV)

WHY CHOOSE US?

T.C.
TÜRK PATENT ve MARKA KURUMU

MARKA TESCİL BELGESİ

Marka No : 2020 144180 - Ticaret - Hizmet

Marka Sahibi : USSU MÜHENDİSLİK ARITMA VE MAKİNA TİCARET SANAYİ LİMİTED ŞİRKETİ
TÜRKİYE CUMHURİYETİ
GÜNGÖREN MAH. DİYAR SK. 30 -32/6 Çekmeköy İstanbul

Emtiası : 11 , 35 , 42
İlişiktedir.

İşbu Marka 19/11/2020 tarihinden itibaren ON YIL süreyle 30/04/2021 tarihinde tescil edilmiştir.

Prof. Dr. Habip ASAN
Türk Patent ve Marka Kurumu Başkanı

TÜRK PATENT

- **QUICK FEEDBACK**
- **BEST COMPETITIVE PRICING**
- **CONTINUOUS TECHNICAL SERVICE SUPPORT**
- **WESTERN EUROPE EQUIPMENT**

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Why Choose Our MBBR Systems?

- Process-driven engineering approach
- Robust industrial construction
- Energy-efficient aeration design
- Optimized biological performance
- Full engineering documentation support
- Commissioning and operator training services

Engineering Capabilities

- Process design & biological calculations
- Oxygen transfer & blower sizing analysis
- GA drawings, P&ID and fabrication drawings
- Structural & coating specifications
- FAT documentation package
- Commissioning & performance testing

Project Experience

- Municipal & industrial installations
- Oil & Gas wastewater applications
- High temperature climate design
- Containerized modular systems

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Emtiası : 11 , 35
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T.C. TÜRK PATENT ve MARKA KURUMU MARKALAR DAİRESİ BAŞKANLIĞI 1923

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