Moving Bed Biofilm Reactor SmartMBBR Package Plants for Sewage Treatment

Cost Effective & Compact Technology for Wastewater Reuse
Wastewater Treatment with MBBR Technology

MENA-Water SmartMBBR is a compact Moving Bed Biofilm Reactor (MBBR) used for wastewater treatment. The plastic media acts as suitable carriers for biological colonies of bacteria. Aeration and mixing is provided via coarse bubble diffusers to aid biological process. If de-nitrification is needed anerobic step with mechanical agitation will be applied in the first chamber before aeration. After aeration, lamellar settler acts as clarifier. The water is then passed through a filtration treatment step and disinfected with chlorine.

Main Features of SmartMBBR

MENA-Water offers complete MBBR package plants, pre-assembled as containerized system (ISO sizes). This facilitates easy transportation, fast availability and straight start-up of the MBBR plant. Included inside the package housing are all main components such as:

- Durable / long life (stainless steel components)
- Stainless steel process tank in ISO container with Alu Cladding
- Completely closed (top cover) ensure low odors
- All components built in the container (plug and play)
- Duty / Standby for main rotating equipment
- European / German manufactures
- Automatic PLC control with web monitoring system

For optimized performance of the entire plant, all necessary equipment for installation in the external structures are included in our scope of supply:

- Equipments for lifting station and mechanical pre-treatment
- Diffusers, pumps and mixers for balancing tank
- Equipment for sludge treatment and clean water pumping

If desired, MENA-Water provides comprehensive support for installation, start-up and maintenance activities and can consult anytime via remote monitoring from back office.

Beyond our SmartMBBR scope of supply, we can also offer solutions for further plant equipment such as:

- Sludge treatment
- Mobile power generator
- Odor control
- Containerized operator room
Benefits of our MENA-Water Package Plants

- Well-proven, complete and clean system solution
- Compact footprint combined with convenient accessibility
- Minimum works for site installation and civil structures
- Fully automatic system operation with online monitoring facility
- Adaptable to future demand due to modular system design

Fields of Application

MENA-Water SmartMBBR package plants are capable to handle a wide range of capacities, starting from a daily throughput of a few cubic meters, reaching to some thousands of cubic meters per day. Our plants can be arranged custom-fit to serve your desired wastewater application.

Typical applications are:

- Common municipal sewage treatment
- Independent sewage treatment system for stand-alone operation (hotels / business areas / housing complexes etc.)
- Sanitation solution for outlying locations
- Sanitation solution for close and densely populated residential areas due to minimized smell, dirt and footprint
- Process step for industrial wastewater treatment
- Pre-treatment step for reverse osmosis plants

<table>
<thead>
<tr>
<th>Standard Sizes</th>
<th>Capacity m³/d</th>
<th>Population Equivalent</th>
<th>Approx. Footprint</th>
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</thead>
<tbody>
<tr>
<td>SMBBR50</td>
<td>50</td>
<td>up to 330 PE</td>
<td>8 x 5 m</td>
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<tr>
<td>SMBBR100</td>
<td>100</td>
<td>up to 660 PE</td>
<td>15 x 6 m</td>
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<tr>
<td>SMBBR200</td>
<td>200</td>
<td>up to 1300 PE</td>
<td>16 x 6 m</td>
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<tr>
<td>SMBBR250</td>
<td>250</td>
<td>up to 1600 PE</td>
<td>16 x 8 m</td>
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<tr>
<td>SMBBR300</td>
<td>300</td>
<td>up to 2000 PE</td>
<td>14 x 6 m</td>
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<tr>
<td>SMBBR500</td>
<td>500</td>
<td>up to 3300 PE</td>
<td>16 x 7 m</td>
</tr>
<tr>
<td>SMBBR1000</td>
<td>1000</td>
<td>up to 6600 PE</td>
<td>16 x 7 m</td>
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