



## MBBR Pack

*The modular plug & play wastewater treatment solution*

# MBBR Pack

## *The modular wastewater treatment solution*

### The stakes

Local authorities and industries have to deal quickly with rapid increases - or wide swings – in the volumes of wastewater to be treated. Hence, the carbon and nitrogen-based pollutants should be eliminated against the upcoming standards which become more and more stringent.

Whether they decide to install new sewage treatment plants or to upgrade existing units to meet the standards, a growing number of them are looking for comprehensive, flexible biological treatment options.

They want effective solutions that can be quickly delivered and whose “Plug & Play” installation and commissioning enable them to reduce their infrastructure and civil engineering costs while ensuring continuity of sanitation services for their communities or for their industrial production.

In a context of economic pressure, these customers not only expect reliable, proven, standardized solutions with high quality, but also a compact, design to cost approach which should be able delivered quickly on site within an easy installation and commissioning on site.

To meet all of these customers needs, PMT - a Veolia Water Technologies subsidiary - has developed **MBBR Pack**, the ideal packaged solution for biologically treating wastewater.

### **Flexible solution applicable for:**

#### **Industrial**

- > Food & Beverage, Dairies,
- > Pharmaceutical,
- > Light industries (Microelectronics, Data Centers, Hospitals, etc.)
- > Pulp & Paper, Mining, etc.

#### **Hospitality, Commercial & Tertiary**

- > Resorts and hotels,
- > Universities
- > Construction sites and rehabilitation areas,
- > Business parks

#### **Municipal , local authorities**



# MBBR Pack

*Compactness, Biological efficiency and robustness*

## MBBR Pack; all of AnoxKaldnes' experience in a standardized Plug & Play solution

By integrating the Moving Bed Biofilm Reactor, biological treatment technology, developed and mastered by Veolia subsidiary AnoxKaldnes more than 30 years ago, the MBBR Pack meets the market needs with a packaged solution based on their recognized, proven expertise.

The MBBR Pack provides all the advantages of a conventional MBBR system, in a standard prefabricated package with a Plug & Play function that is easy to install.

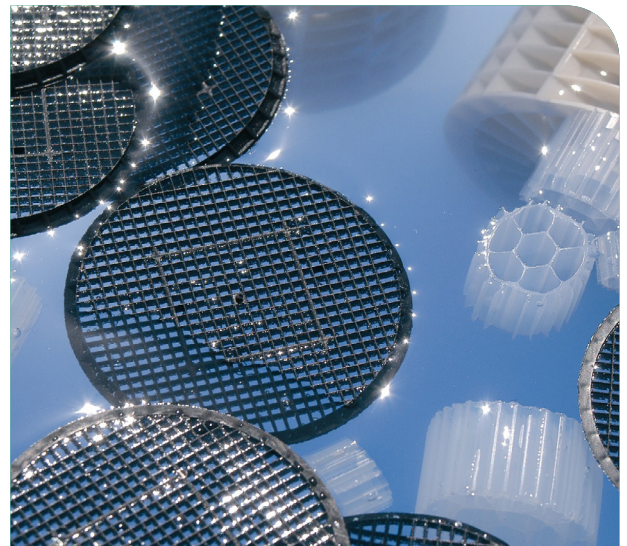
It is an ideal response for customers who want to be equipped as quickly as possible. By combining the modules with each other, you get a packaged solution that can cover most flows and pollution loads.

## High treatment capacity in a very small footprint

MBBR Pack technology is based on the biofilm principle, which uses microorganisms for biological treatment of wastewater.

The microorganisms grow on the surfaces of plastic carriers in the treatment reactor. As the carriers move through wastewater in the reactor, microorganisms utilize contaminants present in the effluent for their biological activity. The proprietary design of the carriers ensures that a high protected surface area is provided for the development of biofilm, enabling high treatment capacity in a very small footprint.

The flexibility of AnoxKaldnes patented technology allows the design of very compact and efficient MBBR solutions for new installations as well as optimal upgrades of existing biological processes.



### KEY BENEFITS

Modular biological solution within a standardized package

- > Quick delivery
- > Easy installation
- > Limited engineering costs
- > Small footprint
- > Optimized transportation
- > Robust biological system resistant to:
  - Toxic shocks
  - Fluctuating flows
  - Varying loads
- > Automatic operation
- > Built-in easy of expansion:
  - Modular units
  - Easy carrier addition
- > 30 years of experience and more than 1,200 MBBR references worldwide



# MBBR Pack

Optimized design  
and high performance

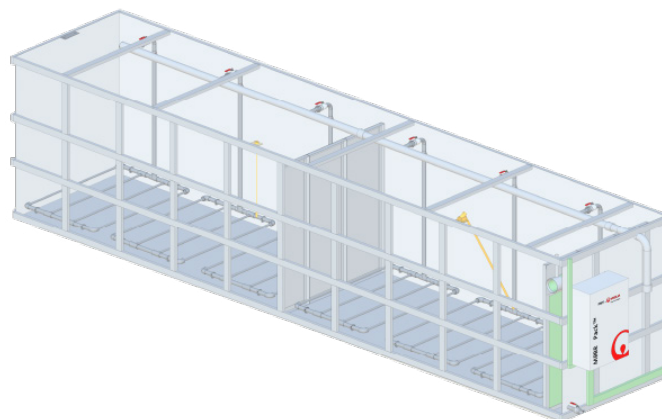
## Modular to suit your needs

For maximum modularity, the MBBR package, alone or in combination with other Veolia Water technologies, can be adapted to each situation. Designed for advanced aerobic treatment, the standard AE-AE configuration has two separate aerated compartments for **optimal carbon and nitrogen (NH<sub>4</sub>) removal**.

## Optimized for transportation

Streamlined without ever compromising performance, the MBBR Pack offers the greatest compactness and fits perfectly **into a standard 40" HC maritime container**.

### Aerobic configuration AEAE



### Technical Data\*

INDUSTRIAL UNIT	Max. Hydraulic Capacity (per module)	Max. TCOD Loading* (per module)
MBBR Pack AE-AE	90 m <sup>3</sup> /h	600 kg/d

MUNICIPAL UNIT	Max. Hydraulic Capacity (per module)	Max. TCOD Loading* (per module)	Max. NH <sub>4</sub> Loading* (per module)
MBBR Pack AE-AE	90 m <sup>3</sup> /h	250 kg/d	20 kg/d

Material	Technical data
Tank material	Epoxy coated carbon steel (S235)
Piping material	PVC / SS 316L
Net volume	48 m <sup>3</sup>
Media	K5 mbbf media - Anoxkaldnes by Veolia Water Technologies
Dimensions for transport	11.2 m (L) x 2.3 m (W) x 2,5 m (H)
Empty weight	6,000 kg
Weight in operation	57,000 kg
Water depth	2.1 m
Automation 24/7/365	PLC / HMI by Schneider
Noise	< 70 [dB (A)]
Marking and standards	CE

Included in the offer scope
Tank
Blower
Sieves
Piping
Manual valves
Diffusers
Automation panel
Level Sensor
Oxygen Sensor

Options
Contact your PMT or local VWT representative

\* Capacity values are approximative and highly depend on several process parameters as water temperature, discharge aims, O<sub>2</sub> demand etc.  
For further information, please consult PMT VWT or your local VWT contact.

# MBBR Pack

*A complete offer*



## Multiple bundling possibilities

To meet the different challenges and quality objectives of each industrial and municipal customer and to provide them with global solutions, the MBBR Pack can be combined with numerous processes designed and manufactured by Veolia Water Technologies for both the pre-treatment and secondary treatment stages.

## RELATED SERVICES

**Hydrex™ 6000** water treatment chemicals from Veolia Water Technologies should be used for optimized plant operation.

**Local after-sales service and support teams** offer preventative and corrective maintenance programs to ensure the long-term, efficient operation of installed plant.

### Pre-treatment

**IDRASCREEN™**  
Screen Filter

**IDRAFLOT™**  
DAF

### Biological treatment



### Post-treatment

**ACTIFLO®**  
Enhanced Clarification

**HYDROTECH™ DISCFILTER**  
Disc Filtration

## Some of our references



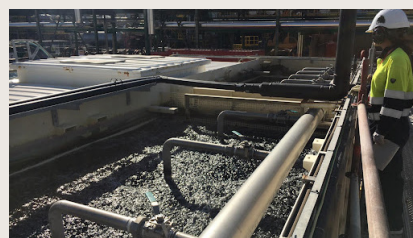
### Italy

Industry: Food & Beverage  
Commissioning Date: 2013



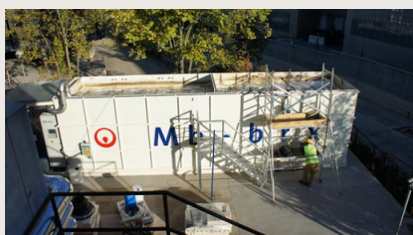
### South Korea

Industry: Food & Beverage  
Commissioning Date: 2015



### Spain

Industry: Oil & Gas  
Commissioning Date: 2017



### Spain

Industry: Food & Beverage  
Commissioning Date: 2014



### Italy

Industry: Pulp & Paper  
Commissioning Date: 2016



### Japan

Industry: Municipal  
Commissioning Date: 2022

# Resourcing the world

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