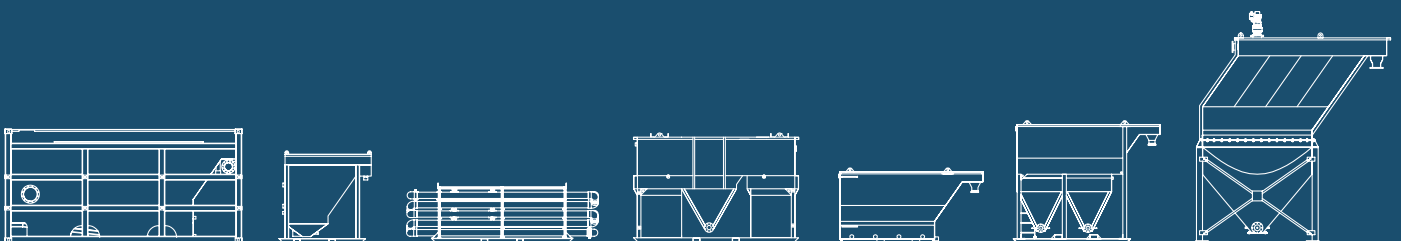




Biological Treatment Solutions Moving Bed Bio-Film Reactor



Hire, Sales & Technical Support

MBBR

Biological Treatment Solutions



Overview

Siltbuster's range of Moving Bed Biofilm Reactors (MBBR) are designed to be plug and play solutions to integrate with the existing Siltbuster range of packaged treatment solutions.

Based on established fixed film biological treatment our MBBR uses media with a specific area of upto 1000m²/m³. This leads to the MBBR providing a greater treatment capacity per m² when compared with traditional mobile treatment solutions, such as Submerged Aerated Filters (SAFs).

This mobile unit has been developed to provide compact biological treatment for new treatment plants and additional treatment capacity during planned works, consent compliance activities, site resilience measures and pilot studies.

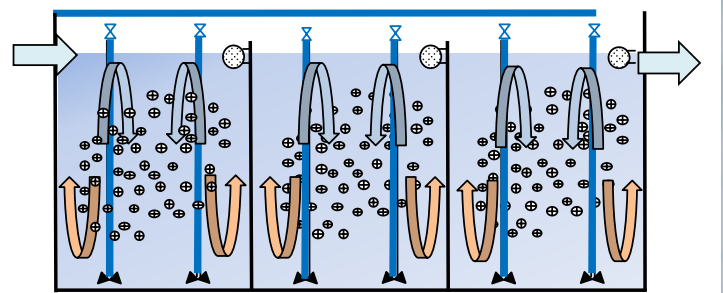
How it works

The MBBR is configured with three compartments. BOD removal occurs in the first two chambers prior to ammonia removal in the third, where nitrification is required.

An aeration system uses multiple diffusers within each compartment to provide an even air distribution for mixing energy whilst also maximising the oxygen transfer efficiency. The MBBR uses a plastic carrier media with a large specific surface area which provides an optimal attachment surface.

The movement of the media allows for the regulation of biomass accumulation, thus avoiding the need for scour cycles. Media is retained within each compartment through screens with minimal headloss.

A blower skid delivers the air flow through a common manifold with the connection at ground level. The air flow rate is controlled by a dissolved oxygen meter for optimisation of biological treatment whilst minimising energy consumption.



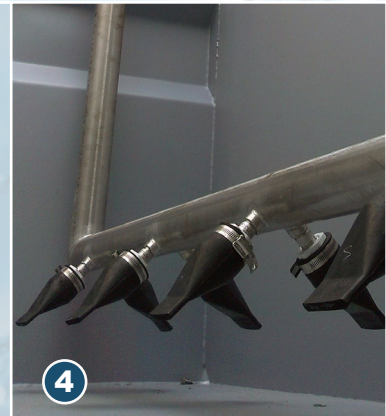
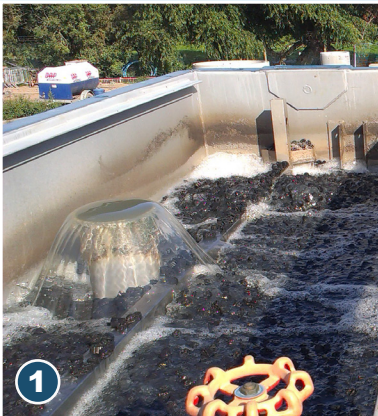
Municipal

Industrial

Unit	No ammonia limit	Ammonia limit <15mg/l	Ammonia limit <10mg/l	Ammonia limit <5mg/l	No ammonia limit	Ammonia limit <15mg/l	Ammonia limit <10mg/l	Ammonia limit <5mg/l	MBBR Footprint (m)	Unit height (m)
	Population Equivalent	Population Equivalent	Population Equivalent	Population Equivalent	BOD (kg/d)	BOD (kg/d)	BOD (kg/d)	BOD (kg/d)		
MBBR20	1400	700	600	450	89	44	38	25	6 x 2.44	2.9
MBBR30	2100	1050	900	700	131	65	56	38	6 x 2.44	3.6

Population equivalent based on 60 grams BOD h/D crude and 30% removal through the primary settlement and using a 600m²/m³ media
Blower skid excluded from unit dimensions (approve 2m x 3m)

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MAIN ADVANTAGES

- + Increased treatment capacity within equivalent footprint of other technologies
- + Process stability with fluctuating loads
- + Rapidly deployable plug and play solution with all connections at ground level
- + Part of a packaged system when combined with other Siltbuster treatment solutions

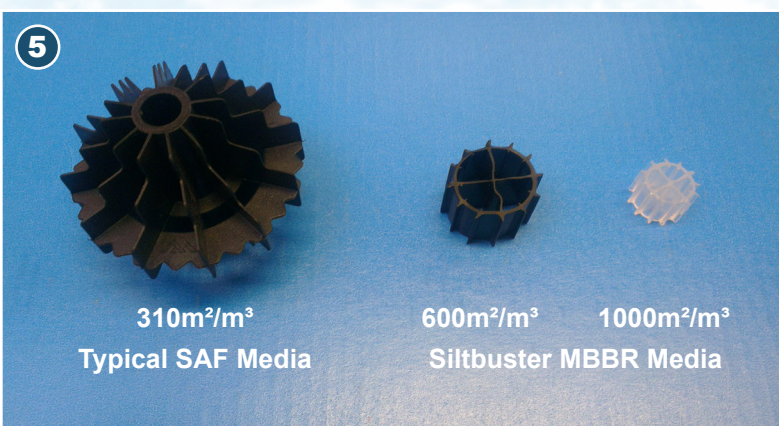
TYPICAL APPLICATIONS

- + Temporary treatment capacity for planned works or site compliance
- + Peak lopping for seasonal trends
- + Replacement and/or extension to existing plants at municipal and industrial facilities
- + Pilot studies or process trials for upgrading activated sludge plants

Did you know...

Siltbuster Process Solutions can provide our MBBR as part of a packaged solution including Lamella Clarifiers and DAFs (Dissolved Air Flotation) units enabling entire treatment plants to be taken offline.

- | | |
|--|---|
| 1 GROUND LEVEL INLET / OUTLET CONNECTIONS | 4 DIFFUSERS FOR MIXING AND AERATION |
| 2 SIDE ACCESS WALKWAY | 5 PLASTIC CARRIER MEDIA |
| 3 MEDIA RETENTION SCREENS | 6 PLUG AND PLAY UNIT AND BLOWER SKID ARRANGEMENT |



310m²/m³
Typical SAF Media

600m²/m³ 1000m²/m³
Siltbuster MBBR Media





Hire, Sales & Technical Support

Tel: +44(0)1600 772256

Visit: www.siltbuster.com

Email: enquire@siltbuster.com



Siltbuster Process Solutions Ltd, Unipure House, Wonastow Road, Monmouth, Monmouthshire, NP25 5JA

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