

CMFF®

COMPLETE MIX FIXED FILM

THE PROCESS

The BioWater CMFF® biological process is based on the MBBR (Moving Bed Bio Reactor) concept where moving plastic carriers with fixed biofilm remove organic and inorganic substances in the water. The proposed BioWater CMFF® design includes the BioWater biofilm carrier elements which are freely mixing around in the reactor and are specially designed for biofilm growth.



Bioreactor being filled with media.

The bacteria will grow and develop a solid biofilm on the large protected surface area. The moving pattern of the carriers in the reactors will also provide a natural removal of excess biofilm, due to the shear forces between the carriers and the water in the reactor.

A well developed biofilm can handle an extremely high load of nutrients while avoiding problems associated with clogging or shock.

CMFF® BIOLOGICAL (MBBR) PROCESS:

- A compact solution – High filling degree gives large growth area for the bacteria, and therefore a compact solution
- Maintenance free – The carriers are self-regulating, and do not need daily monitoring
- Stable solution – Self-regulating biofilm ensures stable treatment under variable loads

SERVICES

BioWater will guide you through the process from start to finish.

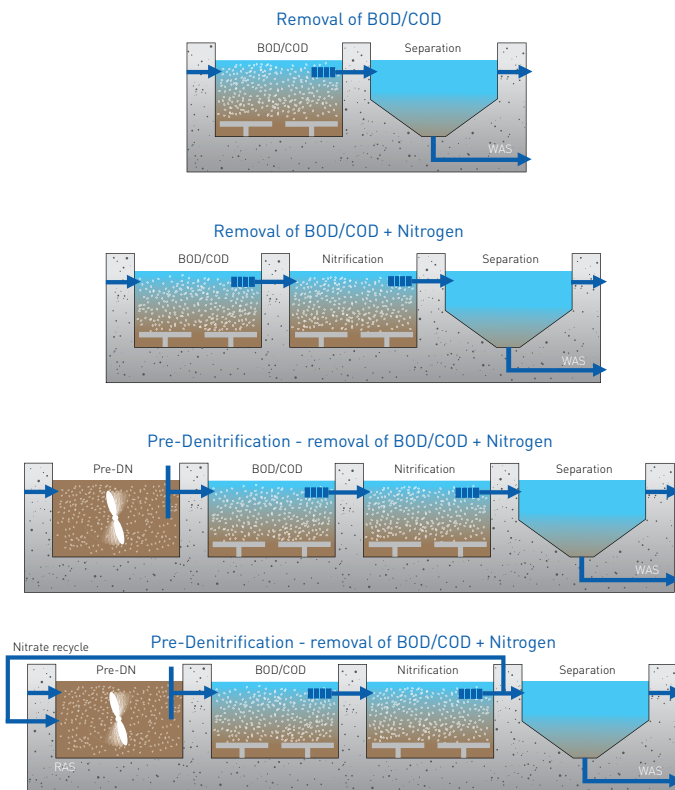
- Upgrade existing plants
- Greenfield plants
- Training/education
- Consulting
- Pilot testing
- Budgetary planning
- Energy analysis

PROCESS BENEFITS

- Compact** - The amount of biomass within a given volume can be doubled.
- Ease of Operation** - Virtually maintenance free. Essentially nutrient levels and DO levels are the only controls needed for this system.
- Flexible** - BOD and Nitrogen removal can be included. For retrofits existing tanks can be used.
- Stable** - Self regulating biofilm ensures stable treatment under variable loads.
- Sludge Production** - Efficient particle separation and sludge treatment. No sludge return and no clogging.
- Low capital costs** - The installation is based on traditional technical equipment.
- Complete System Supply** - We offer systems complete with the biofilm carriers, aeration, retention sieves, mixing, tanks as well as any tertiary treatment or additional equipment to suit the design.

CMFF® MBBR CONFIGURATION

Supply of the primary and tertiary treatment as needed for design. Settling or DAF separation can be used.



Biofilm carrier with solids.

Products from Biowater:

- CMFF** - Complete Mix Fixed Film
- CFAS** - Combined Fixed Film Activated Sludge
- CFIC** - Continuous Flow Intermittent Cleaning
- Package Plants**

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Biowater Technology is an innovative company with over 40 years of experience in the biological treatment field. Our focus is on saving energy and resource recovery, with water as our major resource.