



## NIJHUIS BIOCTOR-MBBR

Moving bed bioreactor



### BIOCTOR-MBBR SOLUTION

**Nijhuis Industries designs and supplies a complete range of aerobic biological treatment concepts, where bacteria will remove dissolved materials from your wastewater.**

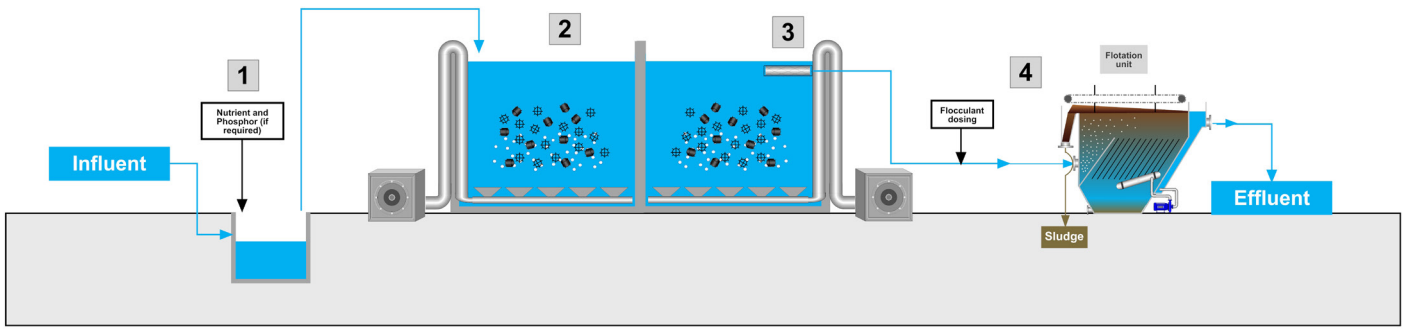
The BIOCTOR-MBBR technology includes NI-BIOCHIP carrier material which results in a more effective growth of bacteria, whereby a compacter aeration can be used. In case there is a strict suspended solids consent limit, a flocculation - flotation system will be included to remove the solids.

Depending on your wastewater capacity, composition and effluent requirements the optimum BIOCTOR-MBBR concept can be designed.

### CLIENT BENEFITS

- Small footprint
- Adapting to changes in wastewater
- Easy to maintain and operate
- Staged processes improve the effluent results
- Upgrading of existing biological treatment systems
- Flexibility towards future upgrades
- Partial to full treatment
- Growing of specialized bacteria on carriers
- Optional flocculation – flotation system for polishing





## TECHNICAL DESCRIPTION

Dissolved organic matter is removed by biological treatment. Biomass growing on the **NSI BIOCARRIERS** converts organic matter to water, carbon dioxide and new biomass.

A Nijhuis Industries BIOCTOR-MBBR design can consist of the following steps:

- (staged) MBBR tank with carriers.
- Integrated carrier filter(s).
- Denitrification stage (if applicable).
- Optional flotation system for polishing and excess sludge removal.

This aerobic biological treatment process requires input of air. The most common type of aeration is bottom aeration, which also mixes the water with the carriers.

The amount of aeration is controlled by an oxygen measurement installed in the aeration tank which will ensure optimal power consumption.

### 1. Nutrients dosing (if required)

When there is a lack of nutrients in the water, an additional dosis is required to create a healthy biomass. Additionally, phosphorus can be removed by chemical precipitation.

### 2. Aeration tank

Where biomass is growing on carriers.

### 3. Discharge screen

Internal carrier and water separator.

### 4. Flocculation – flotation system (optional)

Wastewater polishing and excess sludge removal.

