

AnoxKaldnes™ Industrial MBBR

The first MBBR™ biofilm process for municipal wastewater treatment was put into operation in Norway in the early 1990s. Today, with more than 1000 installations worldwide, it is one of the most well documented biological solutions for treatment of municipal and industrial wastewater.

In the AnoxKaldnes™ MBBR biofilm technology, the biofilm grows protected within engineered plastic carriers. These biofilm carriers are suspended in the water using aeration or mechanical mixing. With this technology, it is possible to handle varied and high load conditions without risk of clogging, and to treat industrial and municipal wastewater with a relatively small footprint compared to conventional treatment methods.

Based on AnoxKaldnes' very flexible and versatile MBBR biofilm technology, the MBBR process can be designed for different applications and levels of treatment. As an example, BOD removal can be achieved in a simple high-rate MBBR process in one or two stages, while far reaching nitrogen removal can be performed in multi-reactor systems comprising stages for pre-denitrification, BOD-removal, nitrification and post-denitrification.

Utilization of different MBBRs with specialized and highly active microorganisms is the key to the high efficiency and compact nature of the MBBR process. This unique microflora, developed in each step, enables the MBBR to remove both, easy and more difficult to degrade organic matter, in the different reactors.



As the MBBR biofilm process is operated without sludge recycle, only excess biomass formed in the process has to be separated in the subsequent separation unit. This advantage allows the customer a choice when selecting their separation system. Many types of separation systems have been used following MBBR technology but for the ultimate compact solution, Actiflo™, Hydrotech™ Discfilter or dissolved air flotation are the technologies of choice.

Highlights

- » Compact
- » Easy to operate
- » Flexible
- » Efficient
- » Robust and stable
- » No risk for clogging
- » Retrofit possibilities
- » Ease of expansion
- » Wide ranging applications

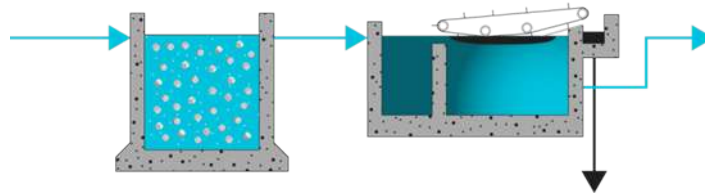


Applications for treatment of industrial wastewater

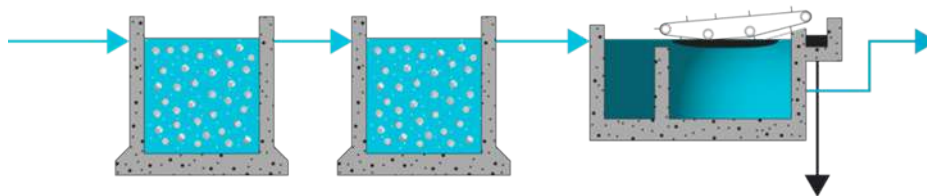
- » BOD-removal
- » Nitrification
- » Pre-denitrification
- » Post-denitrification

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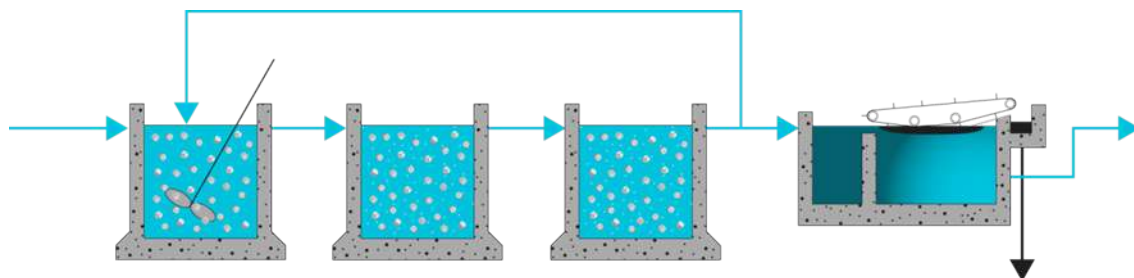
BOD-removal process



BOD-removal and nitrification process



Pre-denitrification process



Post-denitrification

