



IPC® MEMBRANE BIOREACTOR (MBR)

ANIMAL WASTE – RENDAC NV, BELGIUM

Project Background

Rendac needed to increase the hydraulic load of their existing wastewater treatment plant. This was achieved by a hybrid system combining a settling tank and Membrane Bioreactor using IPC® double-deck membrane modules.

The modular approach of the IPC® modules led to a plant design with towers of 2 modules (double-deck modules). In the future this will be expanded by adding an additional module layer on top to increase the capacity with an additional 30%.

The customer uses innovative MBR technology already for 20 years in some of their facilities in the Benelux to reduce their water footprint and operational cost and, at the same time, to comply with the local discharge limits. As such, they gained experience with flat panel and hollow fiber membrane modules. Today, they have selected a system that uses the innovative IPC® membrane modules to achieve the objectives of high capacity per footprint and low aeration cost.

Project: FASE 1: Membrane Bioreactor (MBR) for industrial wastewater

Customer: Rendac, Denderleeuw, (B)

Application: Animal waste treatment

Capacity: 40 m³/h

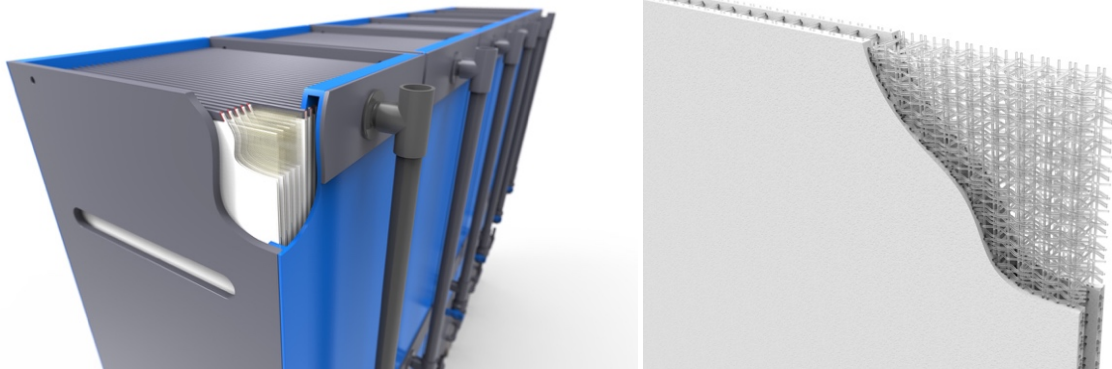
Feedwater: Wastewater originating from Animal waste and carcasses, high in FOGs and Nitrogen

Amount of IPC® membrane modules FASE 1:
16 Modules (1,280 m²)
8 Double Deck modules

Start-up: March 2019

Project was delivered by





Integrated Permeate Channel (IPC®) membrane modules

The IPC® membrane modules are flat sheet membrane modules, which are constructed by many parallel-arranged membrane envelopes with defined distances between these envelopes. The individual envelopes are comprised of a 3D spacer fabric and coated with a PVDF ultrafiltration (UF) membrane which is anchored within the spacer. This anchoring allows for the unique high pressure backwash of the IPC® membranes. As a result, these membranes are operated at a much higher flux rates than other flat panel submerged membranes. The full-scale membrane bioreactor system delivers a higher capacity per footprint at a significantly lower operational expense compared to competitors.



reducing the world's water footprint

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