

IPC® Membrane Bioreactor (MBR)
Martens Brewery, Belgium

Project Background

Martens Brewery has a 260 years history and currently has a brewing capacity of 3 Million hL/year. Since April 2017 it operates an industrial MBR installation that uses IPC®-membrane modules.

The installation is a retrofitted Unitank system that was reconfigured by the OEM to a low strength and high strength compartment. The MBR installation was installed on this last section

The wastewater influent from the brewing operation contains roughly 20 mg/L of total phosphorus. Therefore, in order to comply with discharge limits, FeCl₃ is added on a frequent basis. The ability to vigorously backwash these membrane modules makes this operation sustainable and a real success.

During the peak production season, this installation runs at a net operational flux of 35 LMH. Other advantages of this technology are;

- Capacity/footprint = 7 m³perm/m²module footprint
- Specific Aeration Demand per hour and permeate volume produced, SADp = 10 Nm³ Air scour/h.m³ permeate.

Project: Membrane Bioreactor (MBR) for industrial wastewater

Customer: Martens Brewery, Bocholt, (B)

Application: Brewery wastewater

Capacity: 30 m³/h

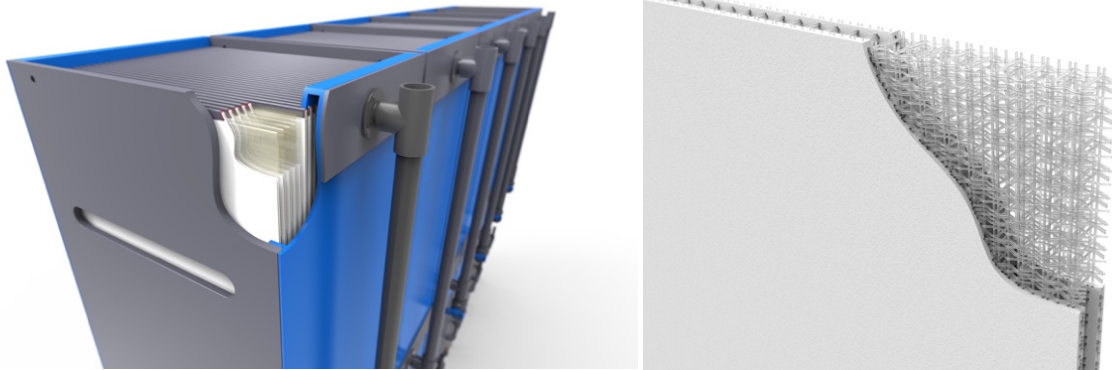
Feedwater: Wastewater originating from beer Industry – Brewing. High in Total Phosphor content.

Amount of IPC® membrane modules:
10 modules (800 m²)

Energy Consumption
0,4 – 0,6 kWh/m³

Start-up: April 2017





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

Patrick Vanschoubroek

Tel: + 32 492 58 55 79

pvs@bluefootmembranes.com

Info@bluefootmembranes.com

Blue Foot Membranes NV

Gerard Mercatorstraat 31

3920 Lommel – Belgium

Ulrich Brüß / Steffen Richter

Tel: +49 175 59 59 664 / +49 170 63 88 812

ubruess@bluefootmembranes.com

srichter@bluefootmembranes.com

Blue Foot Membranes GmbH

Benzstrasse 5

48369 Saerbeck – Germany

www.bluefootmembranes.com