



subre

SUBMERGED MABR SOLUTION

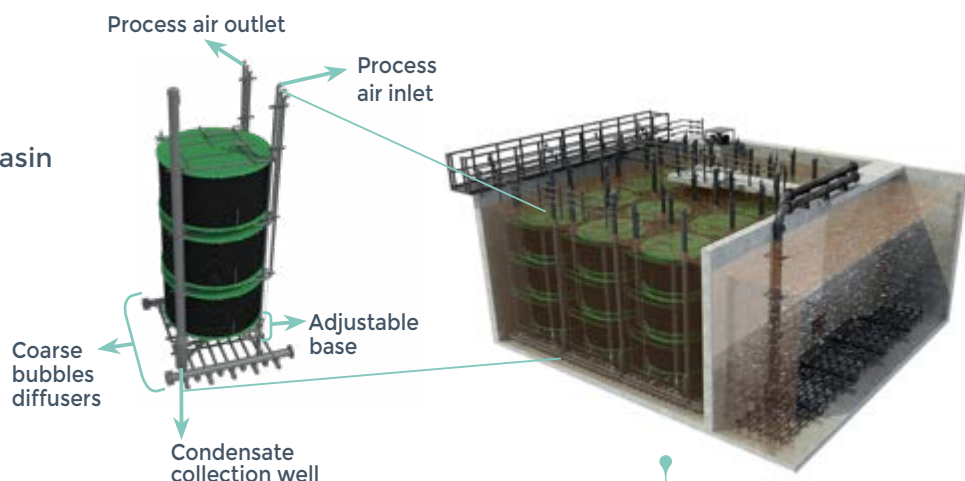


Retrofit and expansion of wastewater treatment plants Enhanced biological nutrient removal with low OpEx and zero footprint

SUBRE is a highly effective upgrade solution for wastewater treatment plants. SUBRE intensifies the biological nutrient removal process and increases plant's capacity with no added footprint and reduced energy requirements. SUBRE utilizes Fluence's Membrane Aerated Biofilm Reactor (MABR) technology to achieve a stable and high quality effluent.

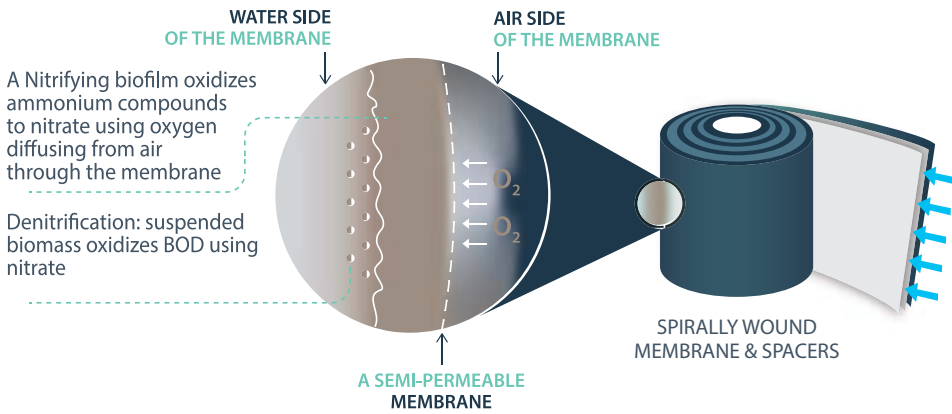
Upgrade Project Includes

- Retrofit of capacity ranging from 2,000-100,000 m³/day
- Installation in an existing anoxic basin (if necessary, a separation baffle will be built)
- Utilizes existing aeration system
- Eliminates internal nitrates circulation
- Fast and easy installation with immediate results



fluence

SUBRE • Submerged MABR Solution



Fluence's MABR is a patented, well-validated technology for treating municipal wastewater.

MABR is a spirally-wound self-respiring membrane that supports the formation of an aerobic biofilm in an anoxic environment, resulting in simultaneous nitrification-denitrification.

Features

- Ideal for CAS/AxO plants
- Improves effluent quality
- Increases plant capacity
- Enhanced Nitrogen removal
- Enhanced Bio-Phosphorous removal
- Robust attached growth biofilm treatment
- Backwash is not required

Key Benefits

- Stable effluent quality complies with stringent regulations
- Up to 20% OpEx reduction
- Reduces chemicals required by up to 30%
- Reduces aeration energy by up to 30%
- Full technical support and membrane warranty
- Zero footprint - no additional construction
- Simple to operate

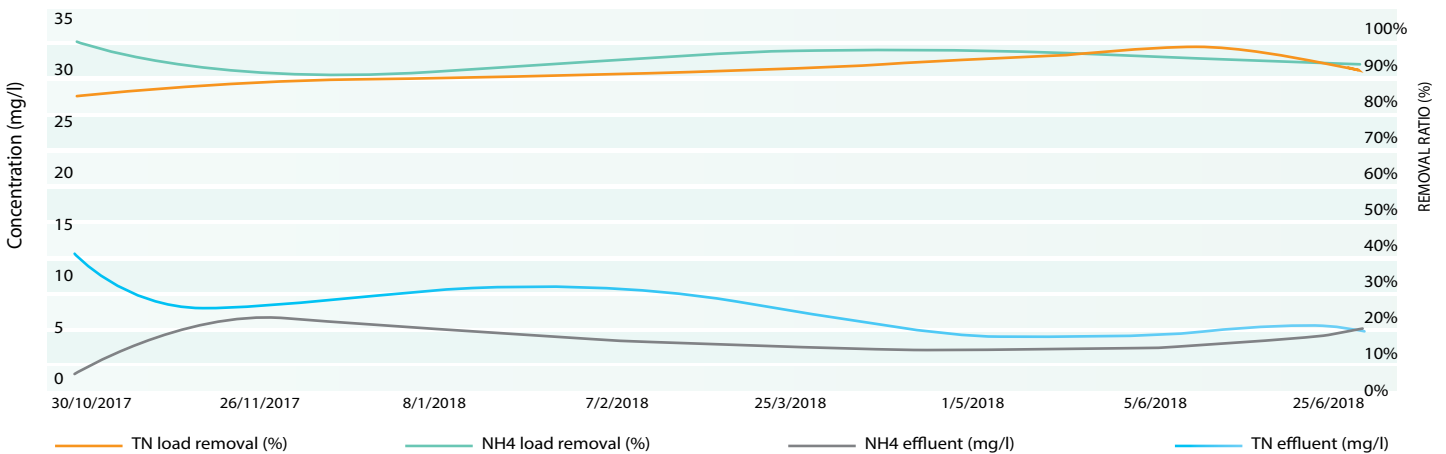


Fig 1- MABR NH4 and TN removal rate and effluent values along 8 months of operation

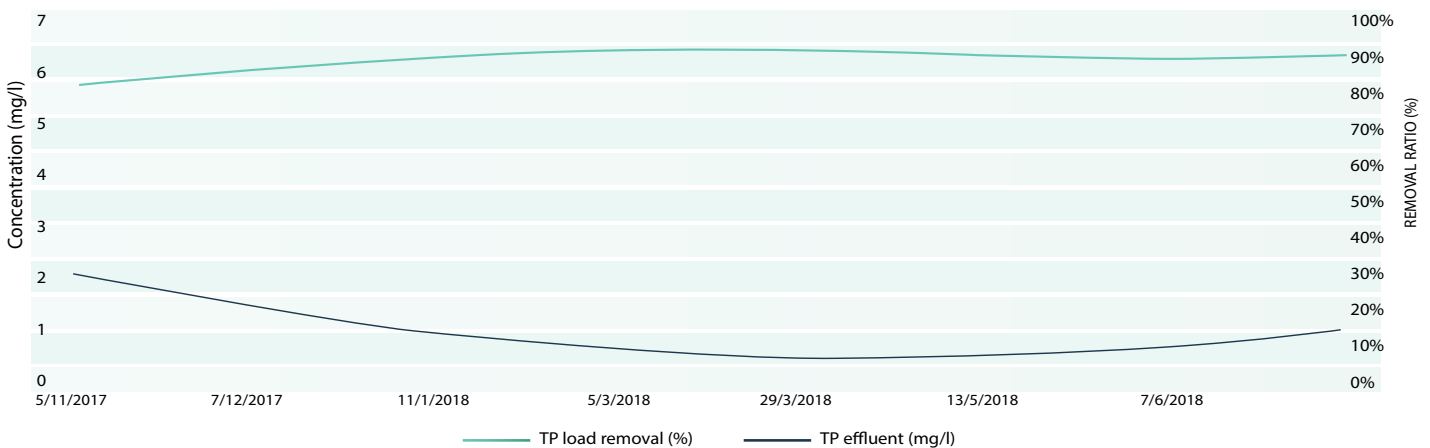


Fig 2- MABR phosphorous removal rate and effluent values along 8 months of operation