

IFAS MABR Solutions (OxyFAS)

Integrated Fixed-Film Activated Sludge Design with MABR can transform overloaded, inefficient wastewater treatment plants into high efficiency facilities capable of handling larger loads.

The OxyFas Module delivers treatment capacity of 4kg of Ammonia removal or 15kg of COD removal per day. OxyFAS leverages the concept of IFAS with the power of MABR. With OxyFAS you can immediately transform your wastewater treatment plants into high efficiency facilities capable of servicing much higher population equivalents in a matter of weeks.

Incremental Expansion with MABR

As plants move towards the end of their working life it often means wastewater is not being treated to the required discharge levels. These installations are operating well beyond their intended lifespan and beyond their intended capacity. These issues all contribute to an inefficient and unsustainable demand for energy. The MABR can be deployed in a matter of days to supplement the biological treatment capacity of an existing Activated Sludge process and increase the treatment capacity by 50% allowing for either treatment capacity or higher effluent quality.

The OxyMem MABR can be retrofitted within a wastewater treatment plant of almost any size often without emptying the tank / basin.

Additional 50% capacity model plant size	PE	5000	
	flow	750	m3/day
	MGD	1.98	-
	COD	500	mg/l
	TKN	50	mg/l
		AS	MABR
Bioreactor volume	m3	750	250
Anoxic volume	m3	150	x
Aerobic tank surface	m2	125	52
Settler volume	m3	250	x
Settler area	m2	62.5	x
TOTAL FOOTPRINT	m2	187.5	0
TOTAL VOLUME	m3	1000	250
FACTOR			No additional footprint!
Total energy	kWh/d	245.2	52.1
Energy cost	€/kWh	0.1	
Yearly energy cost	€	8,950	1,901
Saving	€		7,048

- An uplift on the original capacity in existing tanks (50%+)
- Incremental capacity increase with modular MABR allowing expandable design and enabling a more dynamic asset strategy. Plug and play installation with short start-up period (4-6 weeks)
- An automated solution which operates in parallel with existing processes
- Capital saving
- No additional tanks needed for expansion
- Energy savings, a minimum 7x saving on energy costs over CAS
- 50% reduction in sludge production (compared to CAS)



Example of IFAS Advantages

The Benefits of 'Sweating the Assets'

- Deliver 50% additional treatment capacity in a matter of weeks without draining the tanks adding 50% more capacity to the WWTP by retrofitting a conventional AS system is costly, time-consuming and requires 187.5 m² available space to be built on (Table).
- OxyMem MABR module gives a unique possibility to instantly increase the capacity of the existing AS WWTP without creating any additional footprint.
- Operational advantages of adding OxyMem MABR as a retrofit. Increasing the capacity of the existing WWTP by 50% corresponds to 50% rise in the energy costs increase when upgrading with AS system. In the case of retrofitting with OxyMem MABR, operational energy expenditure for a year

is

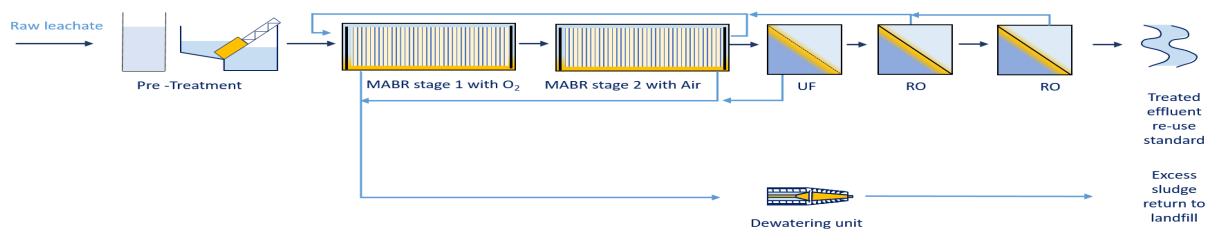


Figure: Configuration of a Conventional Activated Sludge Municipal WWTP with a Drop-In MABR IFAS

Download the IFAS Datasheet from the OxyMem Website

Our data sheets provide technical personnel with in-depth insights into product performance. This includes:

Concentration rates
Denitrification performance
Oxygen Transfer rates
Effluent Discharge

