

XEALIO



Membrane Bioreactor

Alpha **MBR**

Containerized Wastewater Treatment Unit

www.xealio.com

About Alpha MBR

Containerized Wastewater Treatment Unit

Alpha Compact mobile wwtp system is designed to achieve strong reduction or complete elimination of a variety of pollutants, including suspended solids, organics, nutrients and microorganisms.

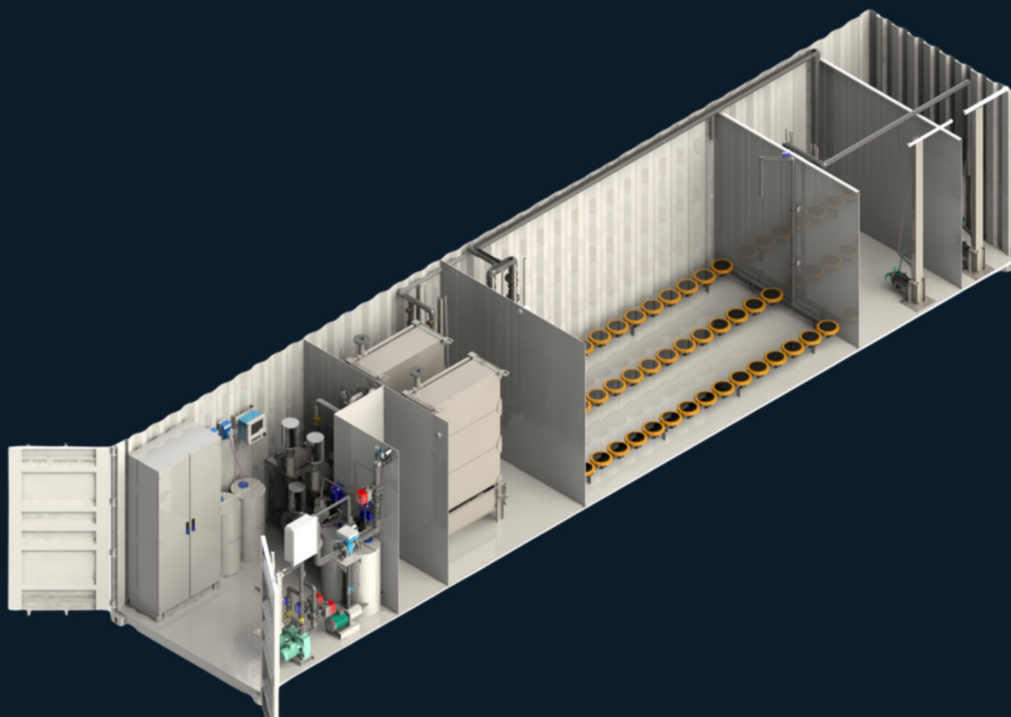
XEALIO

The benefits of using packaged plants are wide ranging. These solutions come pre-assembled, arrive on site almost ready for operation and are designed to minimize the daily attention



Advantages Of Alpha MBR

Xealio offers complete pre-assembled MBR package plants as containerized systems (ISO & Custom sizes). This facilitates easy transportation, quick availability and direct start-up of the MBR plant.



The Xealio MBR Advantage

Advanced Treatment Performance

Delivers consistently high-quality effluent suitable for strict discharge limits and water reuse applications.

Modular Scalability

Designed with a flexible modular architecture that allows seamless capacity expansion as operational demands grow.

Optimized Footprint

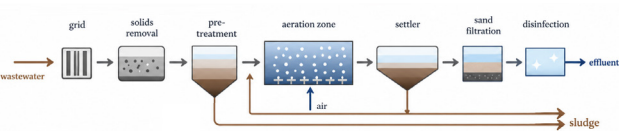
Engineered to maximize treatment efficiency within a highly compact layout, reducing land and infrastructure requirements.

Plug-and-Play Installation

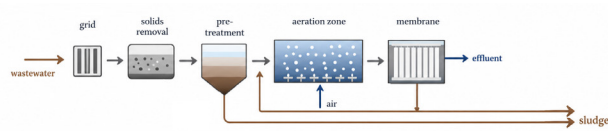
Pre-piped, pre-wired, and factory-tested systems minimize on-site construction activities, reducing installation time and project complexity.

Traditional wastewater treatment uses large settling tanks. Alpha MBR technology replaces these tanks with advanced membranes. This makes the system more efficient and takes up less space.

Alpha MBR Options



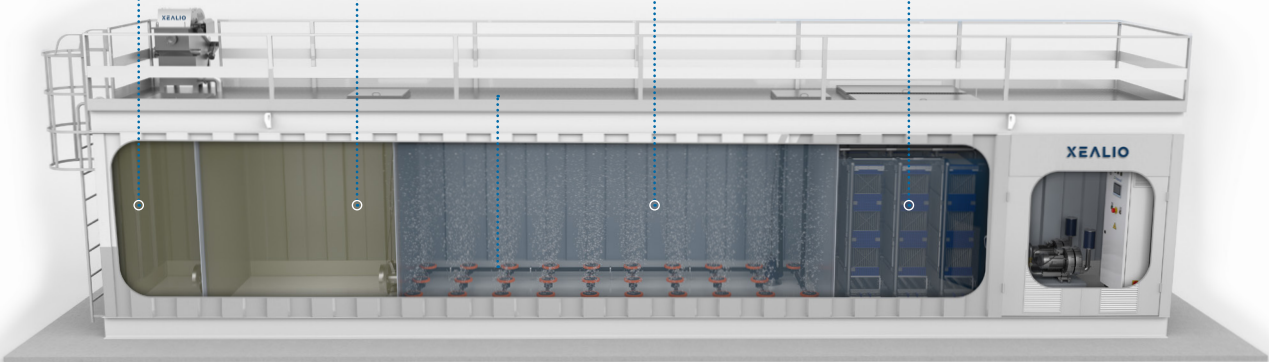
Conventional Biological Treatment



MBR Treatment

Alpha MBR Options

Anaerobic	+	Anoxic	+	Aerobic	+	MBR	Option I
		Anoxic	+	Aerobic	+	MBR	Option II
				Aerobic	+	MBR	Option III



Anaerobic Tank :

In the anaerobic reactor phosphate accumulating organisms assimilate the necessary pre-cursor chemicals to allow for removal of soluble phosphates downstream in the aerobic reactor.

Aerobic Tank :

After anoxic zone, the denitrified wastewater enters into the aerobic tank. Process air blowers feed fine bubble diffusers installed at the bottom of the aerobic tanks to provide oxygen for biomass in the aerobic zone. Air is dissolved and used by biomass under aerobic reactions.

Anoxic Tank :

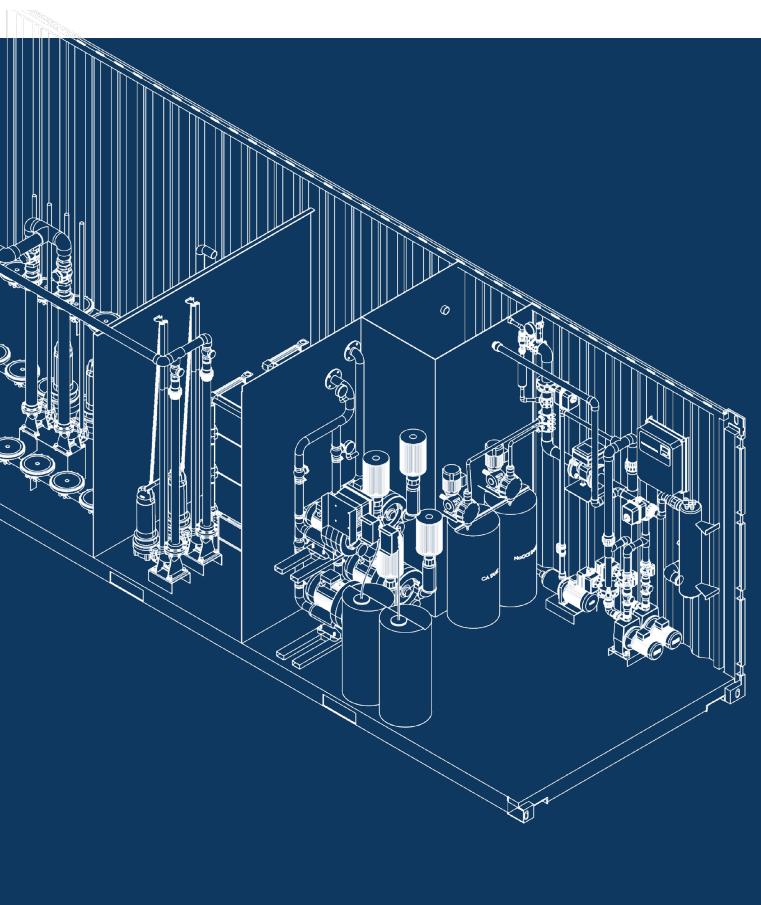
Primary function of the anoxic process is de-nitrification or nitrate reduction. In the absence of dissolved oxygen, the biomass oxidizes organics using available oxygen molecules from nitrate (NO_3^-).

Membrane Tank:

The Alpha MBR reactor uses submerged semi-permeable membrane technology to physically separate suspended solids, pathogens, and other contaminants from the water, resulting in high-quality effluent.

System Design & Engineering

At Xealio, our experienced engineers design and deliver advanced wastewater treatment solutions worldwide, combining innovation, reliability, and practical expertise to meet the unique requirements of every project.



Factory Tested

Every unit pre-commissioned before leaving our facility

Commissioning & Training

Our experienced field engineers provide on-site commissioning and comprehensive operator training

Remote Support

Cloud diagnostics and live operator assistance

Spare Parts

Fast access to critical components, minimizing downtime and ensuring operational continuity.



Smart Operation

Alpha Mbr units are designed to operate fully automatically. Remote control module can be added optionally. The remote control access allows immediate support and troubleshooting, periodical unit check-up, report and software modification.

This innovative interface empowers you to take complete control of your Membrane Bioreactor (MBR)

- Access from PC, smartphone or tablet to the HMI via Internet
- Access protection via password security protocol
- Real time data and trend check-up

Application Areas



Containerized



Scaleable



**Plug
& Play**



**Smart
Operation**

Built For Any Environment

Xealio delivers consistently high-quality effluent suitable for strict discharge limits and water reuse applications.

From remote mining camps and oil & gas facilities to municipalities, hospitals, military bases, and humanitarian operations, our containerized systems provide consistent treatment performance wherever needed.

Designed for rapid deployment, simple operation, and long-term reliability,

Xealio solutions help organizations meet environmental regulations while minimizing infrastructure requirements.



OIL RIG SITES



MUNICIPALITIES



**MINING CAMPS
AND OPERATIONS**



MILITARY BASES



REFUGEE CAMPS



HOSPITALS

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