



PROSIMED

Soluciones integrales del agua

PROYECTOS Y SISTEMAS MEDIOAMBIENTALES S.L.

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COMPACT PLANT MBR-PRO

Introduction

PROSIMED S.L is a water engineering company specialising in treatment, purification, regeneration and reuse of all types of industrial and municipal water discharges. The company also has its own production workshop to produce the various items of equipment required for the purpose.

At PROSIMED we are committed to a sustainable development model that ensures environmental protection and proper management of natural resources. We work together with our customers, in line with our policies and practices, to contribute to achieving a more sustainable world that respects our environment.

MBR-PRO COMPACT WWTP

Our compact, modular MBR PRO treatment plant ensures a significant reduction in the contaminant loading present in wastewater – suspended matter, COD, BOD5, nutrients and microorganisms – by combining biological treatment and effective ultrafiltration using 0.1 µm membranes. The result is high quality, clean water, complying with the provisions of the regulations on the public water domain as expressed in Spanish Royal Decree 1620 of 2007 for water reuse.

MBR technology is ideal for areas where water is scarce. The water obtained in this way can be disinfected and reused in a variety of applications.

PROSIMED offers compact, prefabricated, tested, transportable facilities that are easy to assemble in the field, with very limited need for civil works.

This allows for quick installation and operation of our compact MBR WWTPs. The membrane filtration system is easy to clean.

MBR systems make it possible to work with high levels of sludge, significantly reducing the volume of excess sludge to be handled.

APPLICATION SECTORS

- Hotels, residential complexes, villages
- Holiday resorts, camp sites, leisure centres, life-support facilities
- Hospitals, airports, administrative offices
- Small and medium-sized communities
- Industry:
 - Wineries
 - Food industry: abattoirs, food, beverage, dairy and egg product processing, etc.
 - Pharmaceutical
 - Petrochemical
 - Textile
 - Others

TECHNICAL SERVICE

PROSIMED offers a complete service covering installation, commissioning, monitoring system, telephone support, remote management and on-site maintenance.

TECHNICAL SPECIFICATIONS

MBR-PRO COMPACT MEMBRANE PLANTS

MODEL	MBR-PRO 100	MBR-PRO 200	MBR-PRO 300	MBR-PRO 400	MBR-PRO 500
Width (m)	2	2,5	2,5	2,5	3
Length (m)	5	7	10	12	11
Height (m)	2,5	2,5	2,5	2,5	3
No. of membrane chambers	1	2	2	2	2
Treatment flow rate (m3/day)	18	32	54	72	90

Prosimed: Proyectos y Sistemas Medioambientales S.L.

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SYSTEM COMPONENTS

1. Steel tank: The steel tank is the main structure that houses all the MBR plant components. It is made of corrosion-resistant steel to ensure durability and longevity.

2. Aeration system: This system introduces air into the tank to provide oxygen for the microorganisms that decompose the contaminants present in the wastewater. We use fine bubble diffusers to maximise oxygen transfer, so optimising energy consumption.

3. Recirculation pump: The recirculation pump is responsible for moving water between the various treatment process stages. This flow facilitates proper mixing of water and microorganisms and allows for recirculation of the nitrates generated to the denitrification chamber for subsequent disposal.

4. Biological reactors: These reactors house the community of microorganisms responsible for decomposing the contaminants in the water. The microorganisms use the oxygen supplied by the aeration system to perform the biodegradation process.

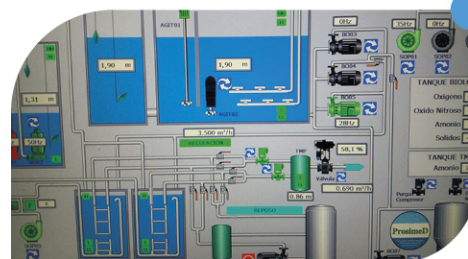
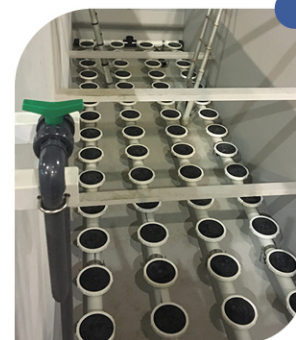
5. Filtration membranes: These are a crucial part of an MBR system. They are composed of semi-permeable materials that allow contaminant-free water to pass through while retaining suspended solids and microorganisms. This gives a high-quality effluent. Our compact plant system does not require back-washing. It is a very robust system.

6. Permeate collection system: The permeate is the treated water that passes through the membranes. A permeate collection system receives this clean water and directs it to the next process or to storage.

7. Sludge purge system: Biological sludge is generated in the treatment process. This sludge contains microorganisms and decomposed organic matter. A sludge collection system enables its removal from the system.

8. Control and automation system: This system monitors and regulates the processes within the MBR plant. The system may include sensors, controllers and software to ensure that the plant operates optimally, enabling remote access to the plant (integrated remote management and video surveillance system).

9. Disinfection system (optional): An additional disinfection system may be included in some cases to meet parameters established according to current legislation.



10. Quality monitoring and control system: This system provides the ability to monitor various parameters in real time, such as flow, water quality and oxygen concentration, among others, to ensure effective operation and to comply with environmental regulations.



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COMPREHENSIVE WATER TREATMENT