

The MBR wastewater treatment plant for the agri-food industry

The following document summarizes the key factors that lead to the choice of a biological membrane treatment system.

Most of the industrial wastewater from the agri-food sector (warehouses, meat, horticultural, canning, dairy, ...) are **biodegradable waters**, which need a **biological wastewater treatment**.

The MBR, membrane bioreactor, is a biological purification system where the final clarification is performed by ultrafiltration membranes, providing a set of advantages over other separation mechanisms such as decanting or flotation.



The MBR is the best biological wastewater treatment option:

- **Guarantee of quality and safety of treated water.** The 0.02 μm pore cut of our MBRable membranes ensures an ultrafiltered water discharge, with no risk of escape of solids / microorganisms and free of pathogenic bacteria.
- **No need for a tertiary stage.** The MBR is the only system that combines in a single step the treatment and regeneration of wastewater for its subsequent reuse, among others, to irrigation (Spanish R.D. 1620/2007)
- **Wastewater treatment plant with a high degree of automation.** With our MBRable Train ultrafiltration units, the MBR waste water treatment plant will have a high degree of automation, without the need for highly qualified personnel for its operation and maintenance.
- **Lower volume of sludge to be managed, lower management cost.** The amount of sludge to be purged from an MBR is lower than in other systems, minimizing the volume of sludge to be managed, sometimes avoiding the installation of a sludge treatment line or minimizing the cost of dehydration and, in case of need, sludge conditioning for its management
- **Lower operational cost.** No need for tertiary stage, no need or minimization of the stage of dehydration of sludge, minimal consumption of chemicals, less amount of human resources in its management.
- **Ideal for seasonal situations,** such as wineries, canneries, horticultural, ... The membranes can hibernate during the low activity period and allow rapid adaptation during periods of high activity.
- **Greater performance in nitrogen elimination.** It is widely known and disclosed that the MBR configuration optimizes the nitrification / denitrification processes for the biological elimination of nitrogen.
- **Greater performance in phosphorus elimination.** The ultrafiltration by MBR prevents the escape of phosphorus in the form of inorganic precipitate or in organic form of the microorganisms.
- **Biological treatment of complex waters: higher sludge age, greater efficiency in elimination of organic matter.** The purification of waters with complex nature, with toxins, inhibitors, etc ..., requires highly specialized bacteria. The MBR, thanks to its high retention capacity of microorganisms, facilitates the adaptation of biomass to treat complex waters, such as wastewater with pesticides.

"At Europe Membrane we have extensive experience in MBR wastewater treatment for the agri-food industry"
Contact us

