

## SECONDARY TREATMENT THROUGH MEMBRANE BIOLOGICAL REACTOR (MBR), WITH NITROGEN ELIMINATION BY BIOLOGICAL WAY (OPTIONAL) (NITRIFICATION – DENITRIFICATION)

REF: CHC – OXI – MBR

### Applications:

- Organic matters, suspended solids and ammonia removal.
- System suitable for reuse waste water.

### Characteristics:

- Technology: membrane bioreactor. Biological treatment with clarify water biomass separation through ultrafiltration membrane by atmospheric pressure
- Salher brand, compact, modular, high efficiency, simple installation and easy start.
- Manufactured in Glass Fiber Reinforced Polyester (GFRP), certificated by external organism, with strict quality control during the manufacture process.
- Membranes in the ultrafiltration range (pore nominal diameter < 0.1  $\mu\text{m}$ ).
- System suitable for reuse waste water in accordance with the RD1620/2007 norm.
- Superior treatment performance is achieved due to efficient solid/liquid phase separation.
- TREATMENT PERFORMANCE: BOD5: 99%; QOD: 95%; N-NH4+ : 82%; SST: 99%; FAECAL COLIFORMS: 99.9%

### Advantages:

- High quality of the effluent. Water quality for reuse in accordance with the RD1620/2007 norm. Effluent free of virus, bacteria and other pathogens
- Reduction of the surface necessary for traditional technologies: 65 – 75%.
- Removal of the secondary settling tank and reduction of the biological reactor capacity.
- The secondary settling tank will be replaced by ultrafiltration membranes. Technology with perfect separation of clarified water and sludge.
- Problems' elimination associated to the sludge settling.
- High flexibility of the system to face peak flow and contaminant charges.
- Odourless. There is no problem of stagnation.
- Smaller sludge production and higher sludge stabilisation. Increase of sludge age and decrease of mass charges.
- High degree of automation.

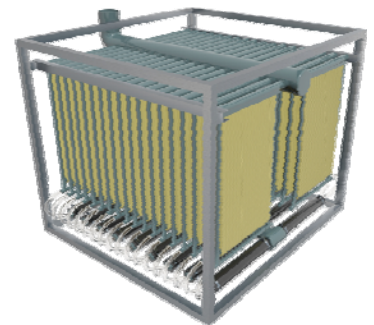


**INCLUDED:**

- MBR:
  - Ultrafiltration module placed in structure with diffusers grid and outlet collector.
  - 2 suction pumps (1+1):
  - MBR Instrumentation:
    - Hydrostatic tester.
    - Pipe pressure transmitter.
    - Gauges.
    - Electromagnetic flowmeter.
    - Rotameter.
  - 2 (1+1) Rotary piston blower with soundproof cabin.
  - Membrane cleaning system:
    - Reactive tank.
    - Dilution system.
    - Impulse pump.
  - Vertical/horizontal MBR tank, Salher brand, manufactured in GFRP.
- Biological reactor:
  - 2 (1+1) Rotary piston blower with soundproof cabin
  - Diffusers grid.
  - Power supply pump to MBR – recirculation.
  - Sludge extraction pump.
  - Biological instrumentation:
    - Dissolved oxygen probe.
    - Hydrostatic tester.
    - pH probe.
    - Electromagnetic flowmeter.
  - Vertical/horizontal MBR tank, brand Salher, manufactured in GFRP.
- Panel board + automaton.
- Installation and start supervision in the nacional territory (for international, consult us).
- Documentation: plans, manuals, certificates.

**Optional:**

- Ultraviolet disinfection.
- Valve.
- Power supply and sludge extraction pump valve.
- MBR AND BIOLOGICAL REACTOR blower valve.
- Frequency variators.
- Frequency variators of power supply and sludge extraction pump.
- Frequency variators of MBR AND BIOLOGICAL REACTOR blower.
- Mounting frame pumps, blower, electrical valve and peripheral.



## TREATMENT THROUGH MEMBRANES BIOREACTORS (MBR), FOR CIVIL WORKS. EQUIPMENT ACCORDING TO PROJECTS REF: OXI – MBR

### Applications:

- High efficiency of organic matter, solids in suspension and other pathogen removal.
- System suitable for reuse waste water.

### Characteristics:

- Technology: membrane bioreactor. Biological treatment with clarify water biomass separation through ultrafiltration membrane by atmospheric pressure.
- Salher brand, compact, modular, high efficiency, simple installation and easy start.
- Membranes in the ultrafiltration range (pore nominal diameter < 0.1 µm).
- System suitable for reuse waste water according the RD1620/2007 norm.
- Superior treatment performance is achieved due to efficient solid/liquid phase separation.
- TREATMENT PERFORMANCE: BOD5: 99%; QOD: 95%; N-NH4+ : 82%; SST: 99%; FAECAL COLIFORMS: 99.9%

### Services included:

- Design and necessary civil works project.
- Technical advice on site, works direction in option.
- Starting and equipment adjustment.
- For international, consult us.

