

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.

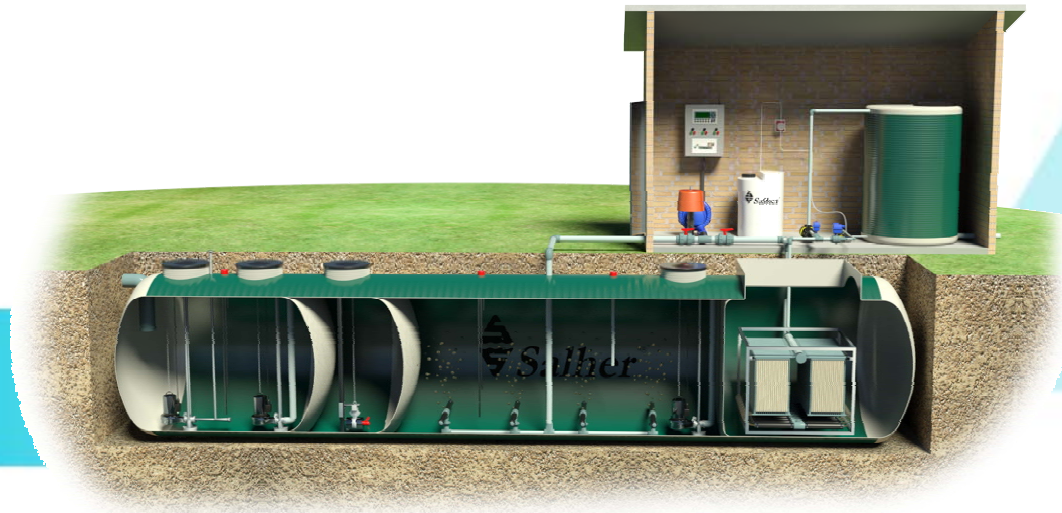
Characteristics:

- 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 <math>< 0.1 \mu\text{m}</math>).
- 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.



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Q (M ³ /DAY)	N° SKID	N° MEMBRANES / SKID	V TANK MBR [m ³]	Ø TANK MBR [mm]	H TANK MBR [mm]	L TANK MBR [mm]	V BIOLOGICAL REACTOR [m ³]	Ø TANK MBR [mm]	L TANK MBR [mm]
25,00	1	5	5,00	1.400	3.000		12,50	2.000	4.375
50,00	2	5	10,25	2.250		2.870	25,00	2.500	5.590
50,00	1	10	5,00	1.400	3.000		25,00	2.500	5.590
75,00	3	5	13,65	2.250		3.720	35,00	2.500	7.610
100,00	4	5	17,00	2.250		4.570	45,00	2.500	9.660
100,00	2	10	10,25	2.250		2.870	45,00	2.500	9.660
100,00	1	20	7,00	1.700	3.000		45,00	2.500	9.660
125,00	5	5	20,40	2.250		5.420	55,00	2.500	11.700
150,00	3	10	13,65	2.250		3.720	60,00	2.500	12.710
150,00	6	5	23,75	2.250		6.270	60,00	2.500	12.710
175,00	7	5	27,15	2.250		7.120	70,00	3.000	10.500
200,00	1	40	10,00	2.000	3.000		75,00	3.000	11.200
200,00	2	20	19,15	2.500		4.310	75,00	3.000	11.200
200,00	4	10	17,00	2.250		4.570	75,00	3.000	11.200
200,00	8	5	30,50	2.250		8.000	75,00	3.000	11.200
225,00	9	5	34,00	2.250		8.820	85,00	3.000	12.550
250,00	5	10	20,40	2.250		5.420	95,00	3.500	10.500
250,00	10	5	37,25	2.250		9.670	95,00	3.500	10.500
300,00	3	20	26,40	2.500		5.780	110,00	3.500	12.120
300,00	6	10	23,75	2.250		6.270	110,00	3.500	12.120
350,00	7	10	27,15	2.250		7.120	130,00	3.500	14.200
400,00	2	40	28,70	3.000		4.570	140,00	3.500	15.240
400,00	4	20	33,60	2.500		7.250	140,00	3.500	15.240
400,00	8	10	30,53	2.250		8.000	140,00	3.500	15.240
450,00	9	10	33,90	2.250		8.800	155,00	4.000	13.050
500,00	5	20	40,80	2.500		8.720	170,00	4.000	14.250
500,00	10	10	37,30	2.250		9.670	170,00	4.000	14.250
600,00	3	40	39,00	3.000		6.040	200,00	4.000	16.600
600,00	6	20	48,00	2.500		10.190	200,00	4.000	16.600
700,00	7	20	55,00	2.500		11.660	2 X 120,00	3.500	13.160
800,00	4	40	49,50	3.000		7.500	2 x 135,00	3.500	14.700
800,00	8	20	62,50	2.500		13.130	2 x 135,00	3.500	14.700
900,00	9	20	70,00	2.500		14.600	2 x 150,00	4.000	12.650
1.000,00	5	40	60,00	3.000		9.000	2 X 165,00	4.000	13.850
1.000,00	10	20	77,00	2.500		16.000	2 X 165,00	4.000	13.850

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.

