



ULTRA-CLEAR™ BIOPANT Innovative Package MBR Plants

The ULTRA-CLEAR™ BioPlants incorporate the most up to date wastewater treatment technology, namely that of submerged Membrane Biological Reactor (**MBR**). These "Package Bio Plants" offer a smart solution that surpasses other conventional ones of similar capacities, both in terms of compactness and performance.

These units are completely autonomous and provide high level of treatment, combining Biological Treatment + Ultrafiltration (UF) + Disinfection. They are produced in compact units of ISO-container dimensions for easy shipment & installation and are suitable for decentralized treatment facilities with high effluent requirements.

The DEVISE ULTRA-CLEAR™ BioPlant design philosophy can also be used for bigger capacity installations where the biological reactors can be built locally either in concrete or modular steel. The Membrane Operating System (membrane cell & machine room) is of packaged form, thus offering all the benefits of a smart prefabricated solution.

The ULTRA-CLEAR™ systems for the small packaged plants (i.e. up to 200 m³/d), incorporate flat sheet UF membranes of high packing density and for packaged units with capacities ranging from 300 up to 5,000 m³/d they incorporate reinforced hollow fiber UF membranes.

Smart Design - Heavy Duty and Efficient System

The ULTRA-CLEAR™ Units are exceptionally compact and can be dispatched to any location around the world, virtually ready to "plug & play". DEVISE designs these Bio Plants so as to cater for all environments either being extreme hot or very cold.

These plants are engineered to the highest specifications and incorporate all necessary features for an automatic operation, providing optimum performance at the lowest possible maintenance.

The membrane modules are supplied by first class manufacturers with proven performance and worldwide service. The modules are designed and operated as to produce high flux rates without suffering from rapid fouling growth, consequently providing a reliable long life operation.

The DEVISE ULTRA-CLEAR™ BioPlants can treat Municipal Sewage as well as Industrial Wastewater offering effluent quality as shown in the following table:



ULTRA-CLEAR™ BioPlant Effluent Quality
BOD ₅ < 5 mg/L
COD < 50 mg/L
TSS < 3 mg/L
TKN < 10 mg/L (with denitrification)
Turbidity < 1 NTU
Total Coliforms ≤ 100 CFU/100 mL (without residual disinfection)
Virus rejection 3log

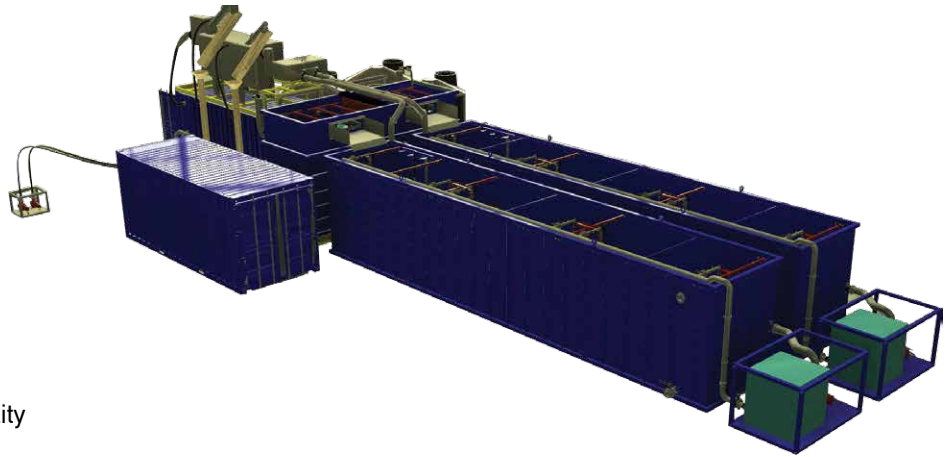
Advantages

Smart Design

- Integrated tertiary treatment
- Fully tested before dispatch
- Ready to plug & play
- Modular design
- Space saving – Small footprint
- Quick installation and start-up
- High effluent quality suitable for reuse

Easy & Reliable Operation

- Fully automatic
- Controlled by PLC
- User friendly interface (touch screen HMI)
- Remote monitoring
- Excellent performance with process stability
- First-class membrane material
- High quality & consistent permeate production
- Easy & low maintenance



Technical Data

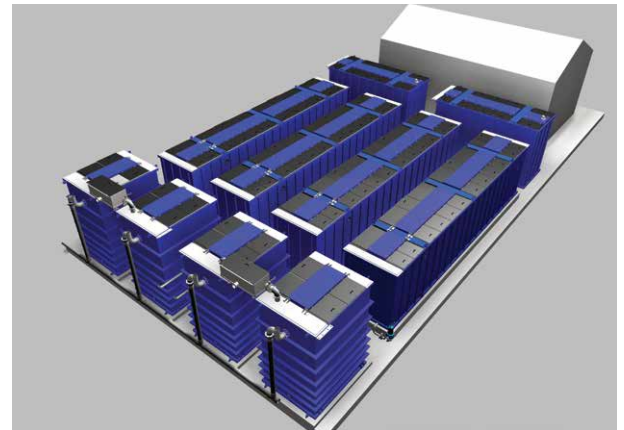
The standard models of the packaged plants are designed and constructed in two main types, namely the Portable MBR Series [P-MBR] consisting of easily deployable containerized units, and the Modular MBR Series [M-MBR] consisting of a combination of "site-erected" tanks and prefabricated units with a view to provide a Packaged Solution that offers a quick and cost effective project implementation. The standard designs and models for the Municipal Sewage Treatment Plants are indicated below for the two main MBR Series:

Portable Type [P-MBR]

Model	Max. Capacity (m ³ /day)
P-MBR/100	100
P-MBR/150	150
P-MBR/200	200
P-MBR/300	300
P-MBR/500	500
P-MBR/750	750
P-MBR/1000	1000

Modular Type [M-MBR]

Models	Max. Capacity (m ³ /day)
M-MBR/500	500
M-MBR/750	750
M-MBR/1000	1000
M-MBR/1250	1250
M-MBR/1500	1500
M-MBR/2000	2000
M-MBR/2500	2500
M-MBR/3000	3000
M-MBR/3500	3500
M-MBR/4000	4000
M-MBR/4500	4500
M-MBR/5000	5000



Advanced Engineering



Easy to Transport



Plug & Play



Modular Design



Prefabricated Units



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