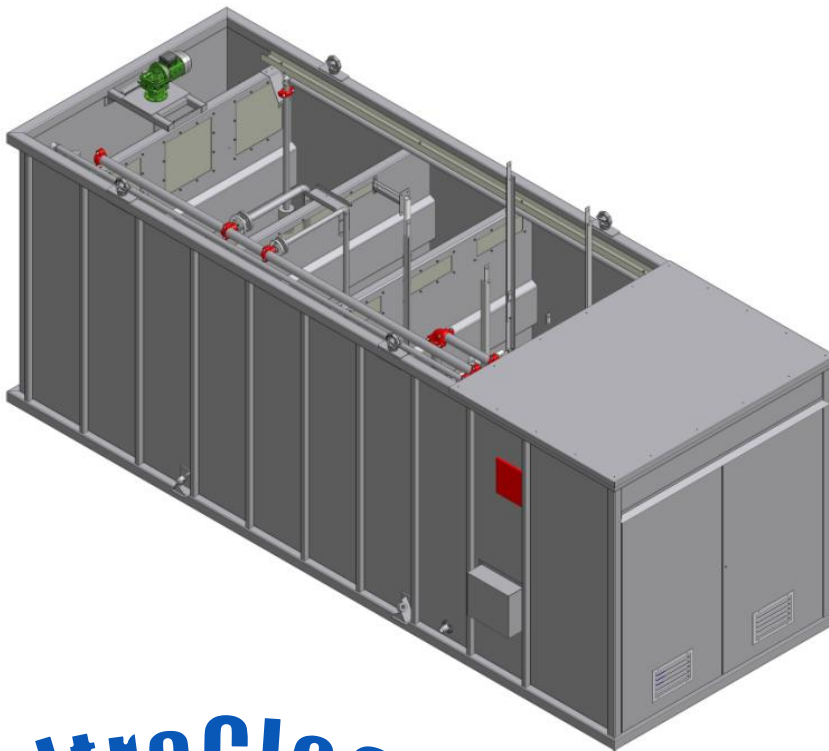




## TERTIARY WASTEWATER TREATMENT PACKAGE PLANTS *I`fU7`YUf Bio*



**UltraClear**

### Features

Compact plant with integrated tertiary membrane treatment

High effluent quality suitable for reuse

Innovative method combining MBBR & SBR technologies

Lower energy consumption than conventional MBRs

Smaller footprint than conventional MBRs

High performance and reliable operation

Quick installation and start-up

Fully automated operation and remote monitoring ability

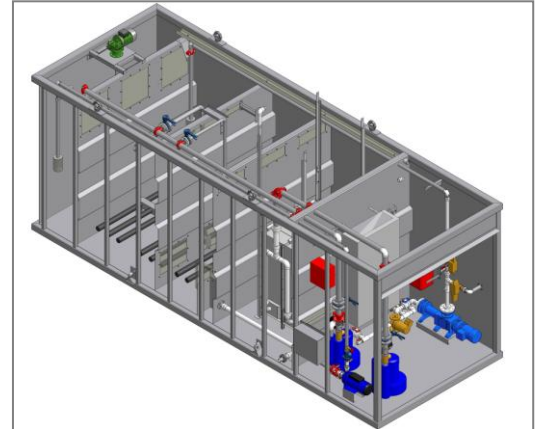
**NEW SYSTEMS FROM WIE  
BASED ON MBBR - sMBR TECHNOLOGY  
FOR WASTEWATER TREATMENT,  
RECOVERY AND REUSE**



## GENERAL DESCRIPTION OF THE WASTEWATER TREATMENT PLANTS UltraClear™ BioPlant

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The **UltraClear BioPlant** systems, designed by Water & Industrial Engineering offer a novel and dependable solution for wastewater treatment, recovery and reuse when a non-potable water quality is required, e.g. for field irrigation, industrial use, wash-water, flush water, aquifer recharge etc. The prefabricated **UltraClear** compact systems are completely autonomous and provide a very high level of treatment (biological treatment + ultrafiltration + disinfection). These systems combine the recently developed **MBBR** (Moving Bed Biofilm Reactor) and **sMBR** (submerged Membrane Bio-Reactor) technologies.



Having had extensive experience in the design of over 2,000 compact package plants, WIE applied the most up to date technologies for wastewater treatment. With the **UltraClear BioPlant** systems, WIE successfully managed to balance the need for an easy-to-operate, compact and dependable wastewater treatment unit with the need for a high effluent quality.

The **UltraClear** system utilizes flat sheet ultrafiltration (UF) membranes with a mean pore size of 0.05 µm. The membranes are supplied by a ISO certified US manufacturer and can produce high flux rates without suffering from severe fouling. **WIE** offers a number of standard models ranging from 30 to 1300 m<sup>3</sup>/day. These models are divided into two basic series, the **MBMR-3** series for high-rate biodegradation without total nitrogen removal, and the **MBMR-4/5** series for extensive organic carbon removal along with complete nitrification/denitrification.

UltraClear BioPlant Effluent Quality Class A+		
BOD <sub>5</sub> ≤	5,0	mg/l
COD ≤	50,0	mg/l
TSS ≤	1,0	mg/l
TKN ≤	5,0	mg/l
Turbidity ≤	1,0	NTU
E-coli	0,0	X/100 ml
Virus retention	log6	

