



# MBR 3T - TAILORED TO TASK

## VERSATILE CONTAINERIZED MEMBRANE BIO REACTOR

The MBR 3T All-in-One containerized solution offers different multi-stage processes design tailored according to the required treatment to produce exactly the right effluent quality for every case.

## ONE SYSTEM, MANY APPLICATIONS

- Municipal wastewater treatment
- Industrial wastewater treatment
- Water reclamation for park irrigation and agriculture
- Residential and commercial wastewater treatment

## HOW THE PROCESS WORKS

This versatile solution offers design flexibility from total nitrogen (TN) removal and Enhanced Biological Phosphorus Removal (EBPR) to fully aerobic processes complying with BOD, ammonia and TSS limits.

**A typical nutrient removal process design consists of four stages:**

- 1. Facilitating EBPR** — allocating volume for anaerobic conditions
- 2. Denitrification** — allocating anoxic volume to which mixed liquor is circulated from a downstream stage, for denitrification combined with removal of most of the organic load
- 3. Aerobic nitrification and polishing** — treating nitrification, along with aerobic treatment of the residual organics left over from the denitrification process
- 4. Membrane Bio Reactor (MBR)** — the MBR chamber produces filtered effluent, concentrates the mixed liquor, and uses the scouring air to further polish ammonia and BOD to discharge levels. Returning sludge and nitrate for denitrification are provided by internal circulation from the MBR chamber, back to the first stage.

# MBR 3T SOLUTION

## BENEFITS



### Compact Design

Provides design convenience and leaves space for other uses



### Tailored to Task

Modular and versatile system can be customized to meet varied capacity and water feed parameters



### Plug & Play

Engineered for safe and easy installation and O&M



### Superior Effluent Quality

Smart design combined with advanced equipment to ensure compliance

## TAILORING THE PROCESS FLOW

Tailored to task means the system design varies according to the amount of pollutants and flow rate required e.g. treating more pollutants at a lower flow rate or less pollutants at a higher flow rate.



# MBR 3T SOLUTION

## STANDARD FEATURES

- 40 ft container - welded steel sheets on internal partitions reinforces water holdup; deeply galvanized internal surfaces double coated with epoxy paint resist corrosion
- Maximum capacity — 200 m<sup>3</sup>/day
- Treatment package includes: fine screening, biological phosphorus removal, nitrogen and organic matter reduction
- A variety of reliable Polymeric membranes
- Pre-MBR units — coarse screen, mixed stabilization tank, and MBR feeding unit

## OPTIONS

- Membranes — quantity is based on actual flow
- Back-up equipment — installed or stored
- Disinfection unit
- Additional treatment stages upon demand

## TYPICAL PERFORMANCE FOR SEWAGE WASTEWATER APPLICATIONS

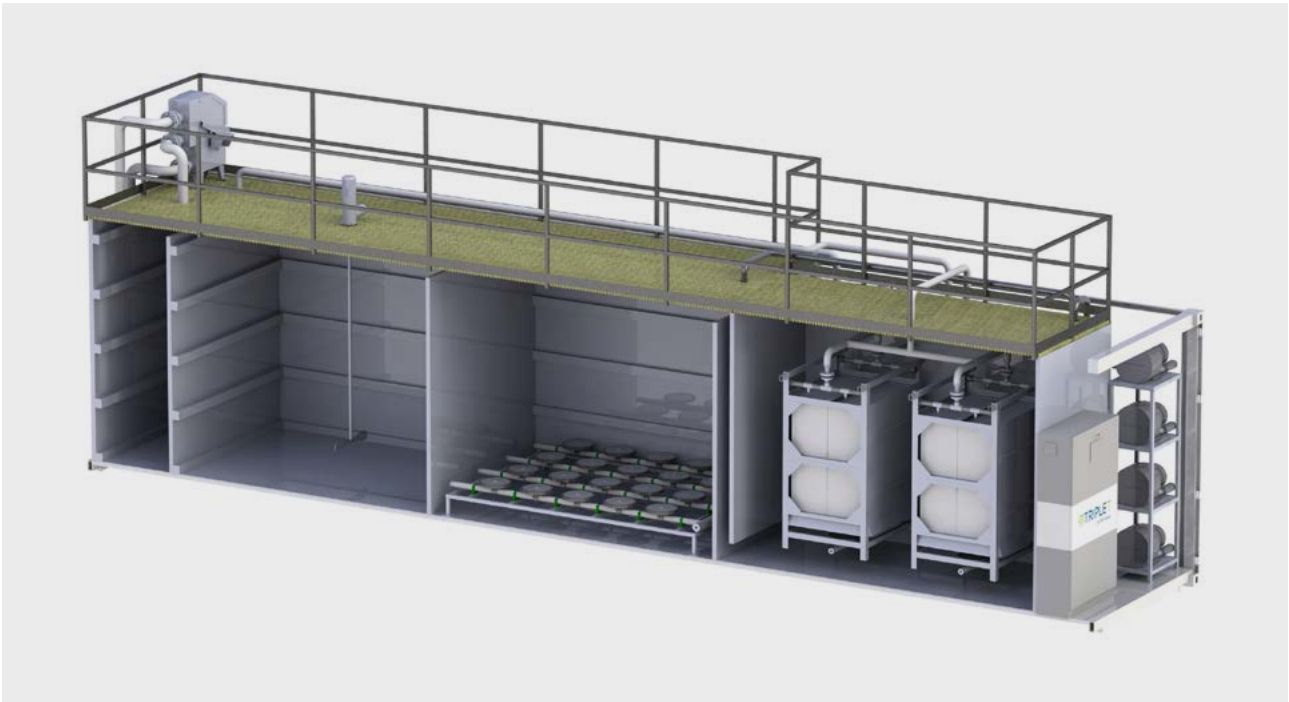
Parameter	Units	Influent Wastewater Quality	Expected Effluent Quality
TSS	mg/l	450	10
VSS	mg/l	350	N/A
BOD5	mg/l	510	10
COD	mg/l	990	70
Soluble COD	mg/l	365	N/A
Ammonia-N	mg-N/l	80	0.5
NO3-N	mg-N/l		14
TKN	mg-N/l	100	N/A
TP	mg-N/l	8.2	1
Total Alkalinity	mgCaCO3/l	285	N/A

Values shown in the table indicate possible performance

# MBR 3T SOLUTION

## VERSATILE MODELS

This versatile solution can be tailored to a wide variety of applications, meeting the highest international standards. Our experts specialize in designing the required processes in a compact containerized system to deliver the results you need.



## DRIVING GLOBAL WASTEWATER INNOVATION AUTONOMY

TRIPLE-T, a business unit of WFI, has been delivering affordable, sustainable biological wastewater treatment innovation for municipal applications across the world for the past decade. Whether you need engineering, construction, support, piloting, consulting or R&D services, or all of the above, our dedicated team of water experts is here to simplify wastewater reuse and provide everything you need to set your community for success.

LET'S CREATE MORE VALUE FROM WATER - TOGETHER  
info@wfi-water.com | +972-4-6209154 | wfi-water.com

 **TRIPLE-T**  
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