

# MicroClear UF Membranes

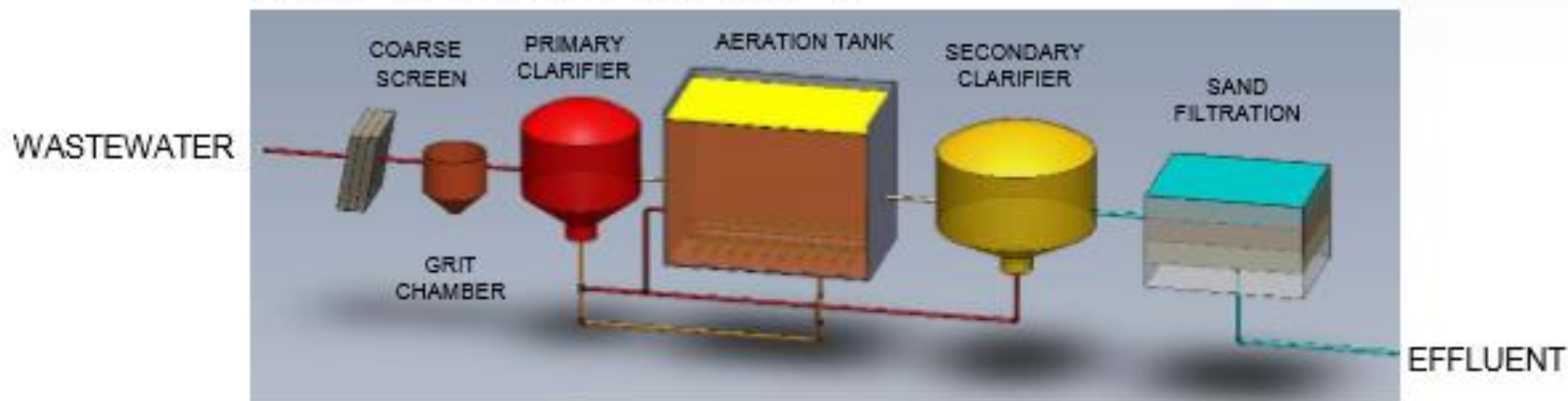
Bringing Innovation to Ultrafiltration

# THE MBR PROCESS

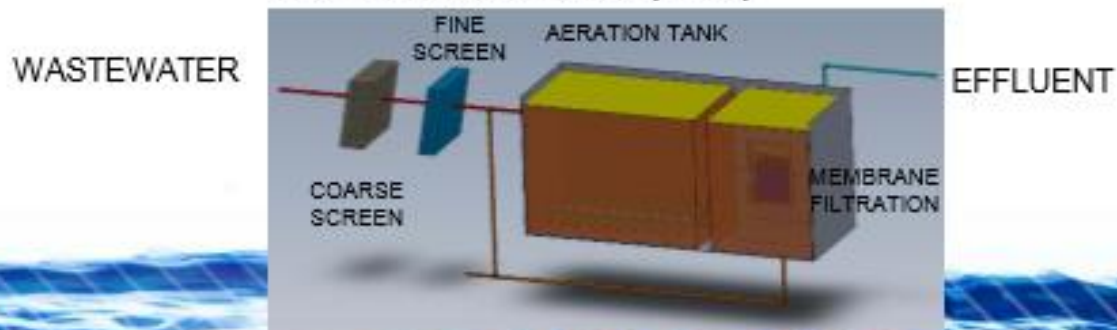
MicroClear®

CLEAR RESULTS - PURE LIFE

## Conventional Activated Sludge (CAS)



## Membrane Bioreactor (MBR)

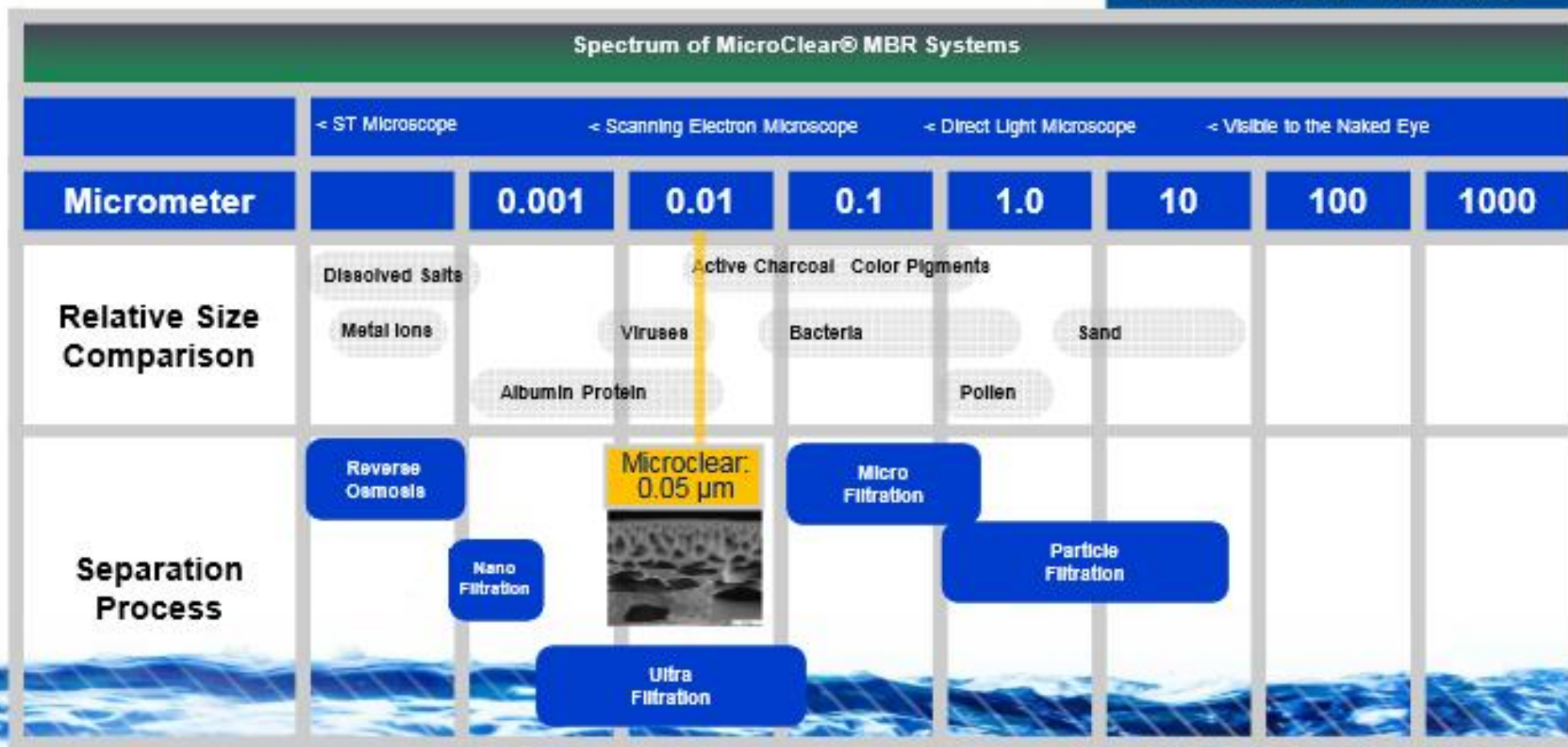


- Compact footprint (1/3 of CAS)
- Superior effluent quality
- Less sludge production (30% less than CAS)
- Simpler, more reliable process that is easy to operate

# Membranes Filtration

MicroClear®

CLEAR RESULTS - PURE LIFE





## Flat Plate Modular Building Block

### MicroClear® Membranes by the Numbers

Dimensions: 21cm W x 42cm L x 49cm H

Weight: 11.5 kg

Active Polypropylene (PP) Plates: 23

Membrane Surface Area: 8 sq. meter

Membrane Material: PES

Pore size: 0.05 um nominal (UF)

Filtration Pressure: 0.1 – 0.25 bar

Mean Flux: 25 l/mh

Max. Inst. Flux: 40 l/mh

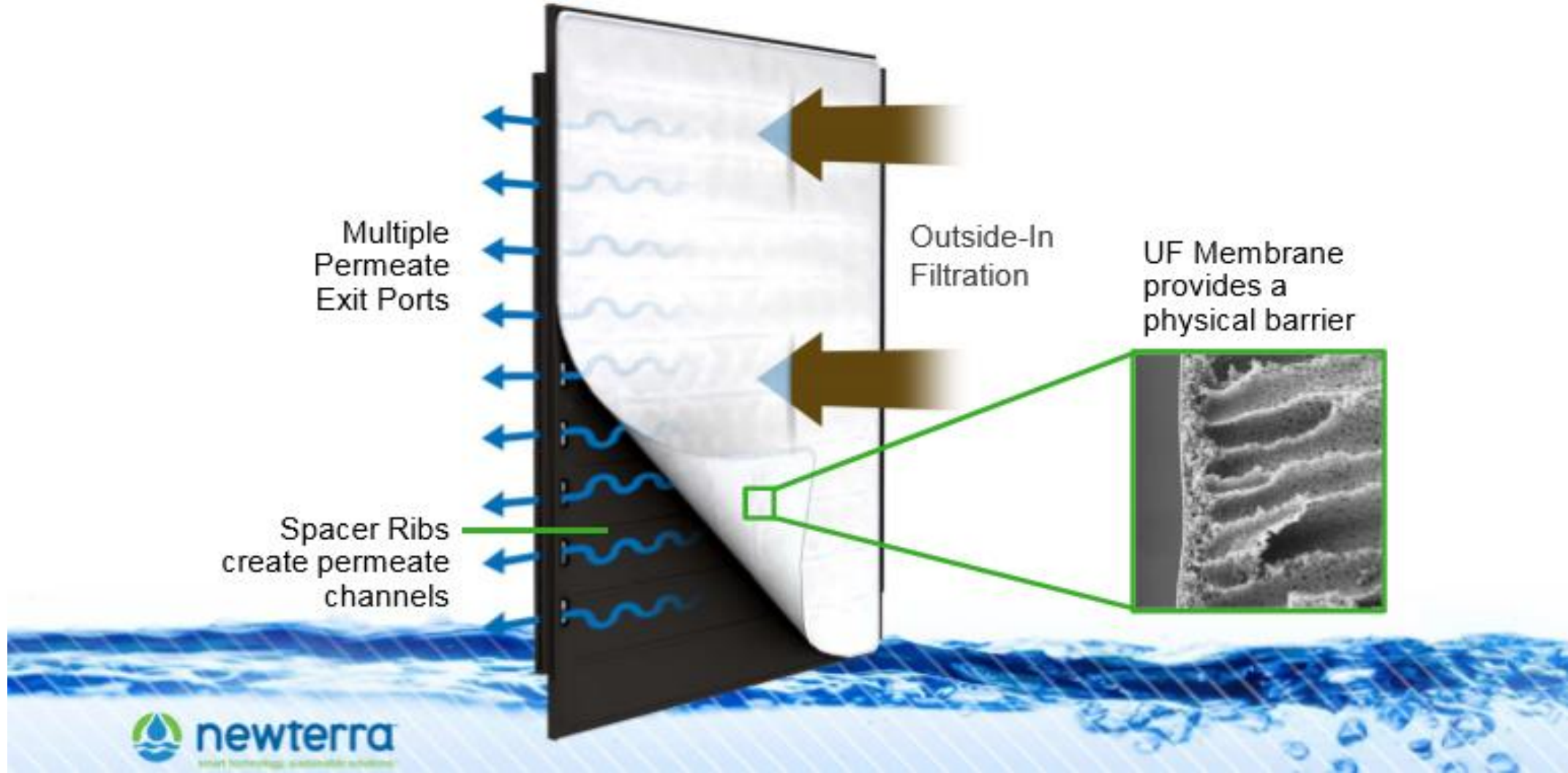
Air scour: 5 - 10 Nm<sup>3</sup>/h



# Our MicroClear™ UF Membrane

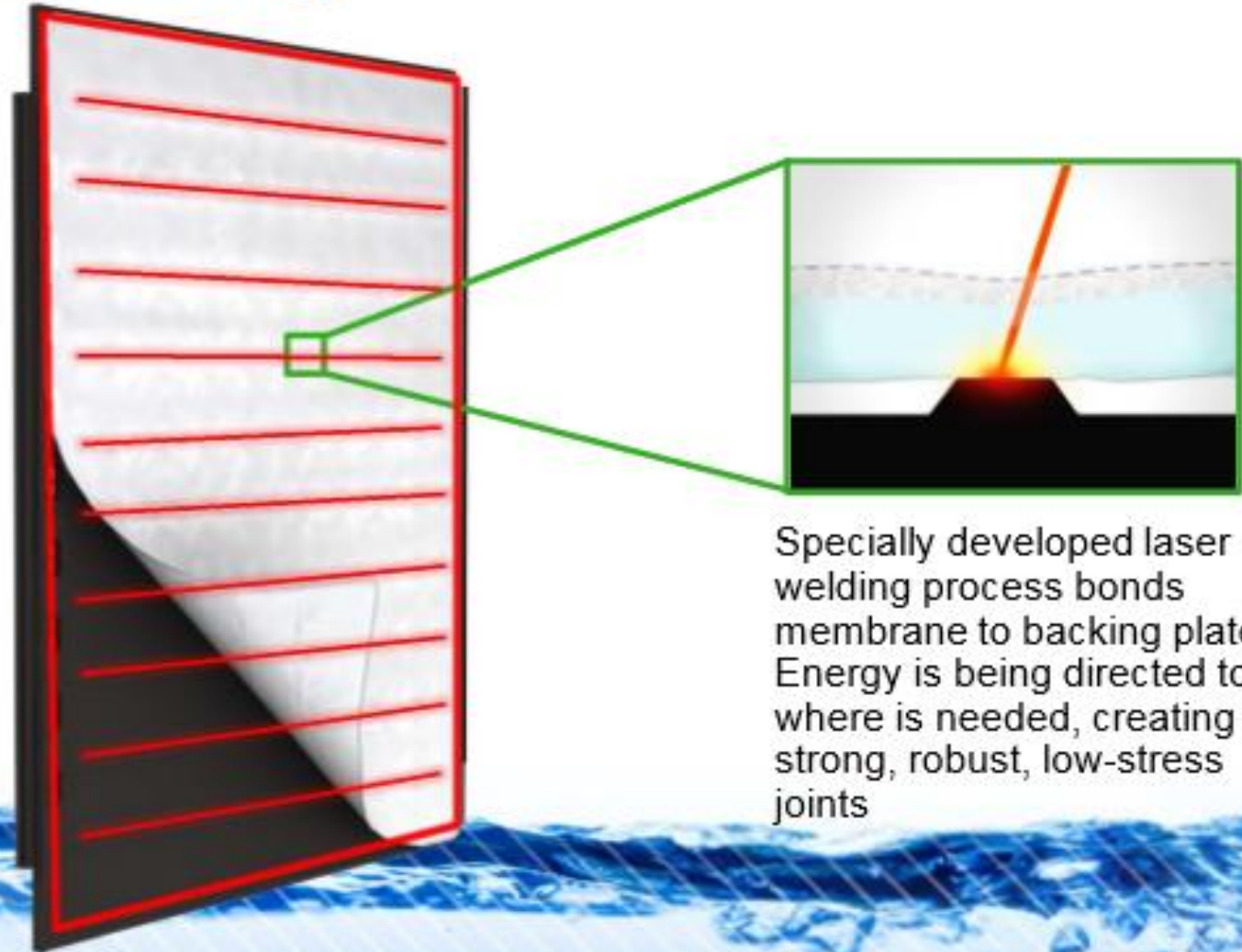
The World's Most Advanced Membrane System

## Patented Backing Plate





## Laser Welding Technology



Specially developed laser welding process bonds membrane to backing plate. Energy is being directed to where is needed, creating strong, robust, low-stress joints

**Membranes submerged in mixed liquor**

**Full Surface Distribution™ (FSD)**

**Pressure is evenly distributed over full surface of the membranes minimizing fouling and eliminating cake development between the membrane sheets**

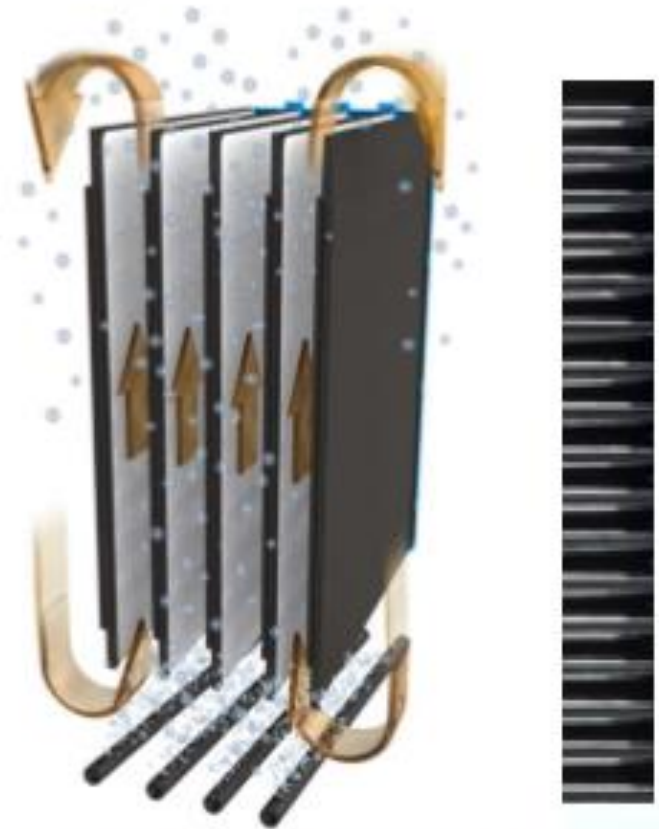
Multiple  
Permeate  
Exit Ports





# Uniform Plate Spacing

Optimized Flow-Through & Air Scouring



## Efficient Air Scouring

Medium air bubbles are optimally sized for efficient membrane scouring



Relaxation cycle cause membranes to swell slightly, increasing scouring effectiveness

# MicroClear<sup>®</sup> MBR Systems

Proven Performance. Trouble-Free Operation.



# Exceptional Permeate Quality

Meets & Exceeds Regulatory Requirements



## Meets Global Reuse Standards

### World Health Organization

Guidelines for Use of Wastewater  
in Agriculture & Aquaculture

### United Nations

International Maritime Organization  
Bacteriological Limits MEPC.159(55)

### European Union

Bathing Water Directive (2006/7/EC)

### California Title 22-4

Code of Regulations

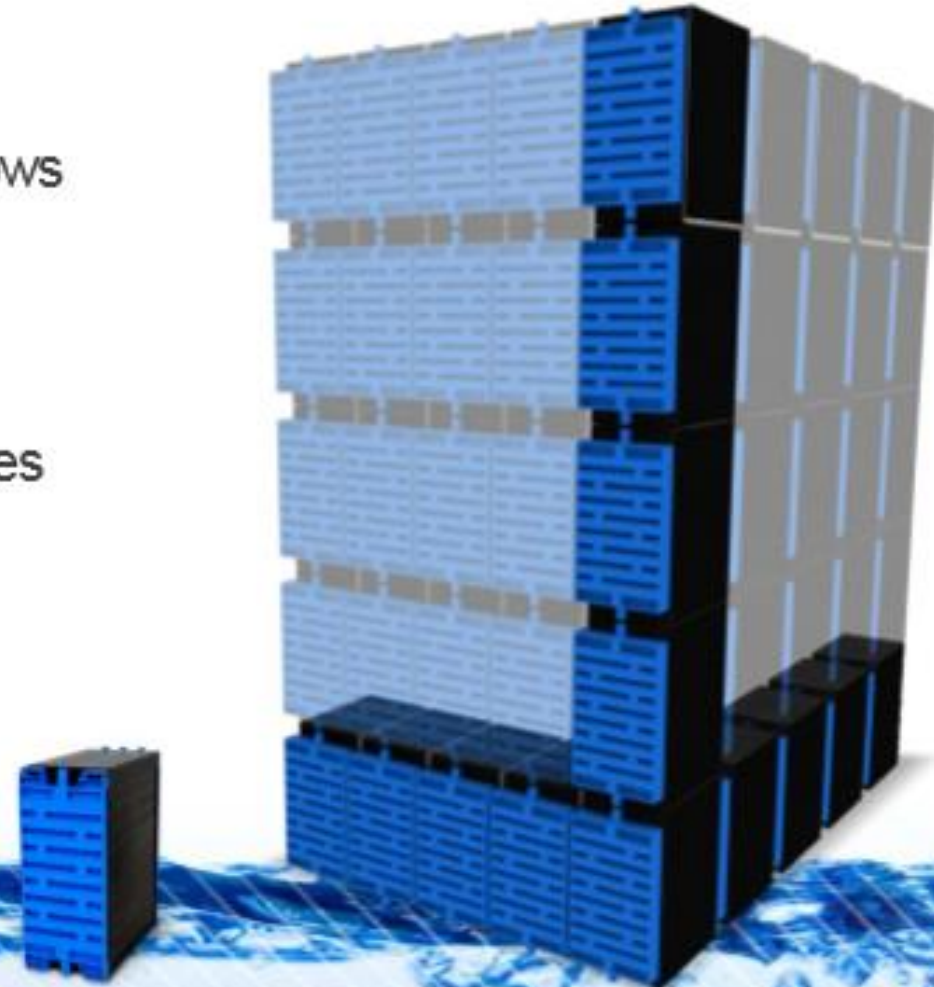




## Modular Design for Unparalleled Scalability

### An Infinite Range of Configurations

- Modular building block design allows tremendous flexibility & efficiency
- Simplifies future increases in system capacity
- Framed modules allow membranes to be raised & lowered into tanks
- No need for double stacking





# MicroClear® Families – Proven Solutions for Plant of All Sizes MB2-x to MB5-x



Cassette  
8 m<sup>2</sup>

Module MB2  
80 m<sup>2</sup>

Module MB3  
120 m<sup>2</sup>

Module MB4  
160 m<sup>2</sup>

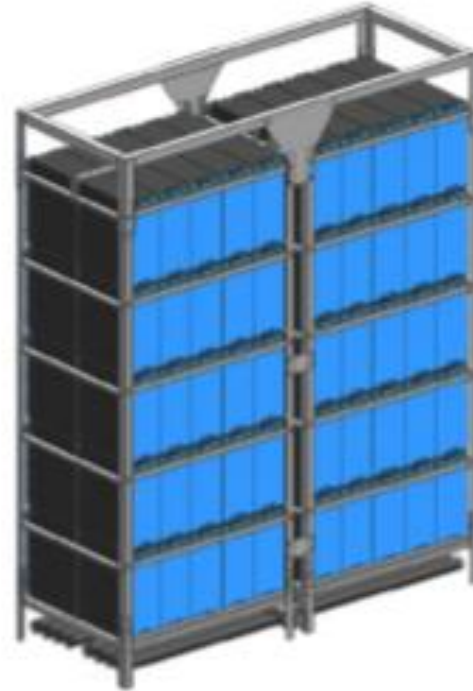
Module MB5  
200 m<sup>2</sup>

## MX series

11148212

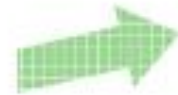


Module MX-500C  
432 m<sup>2</sup>

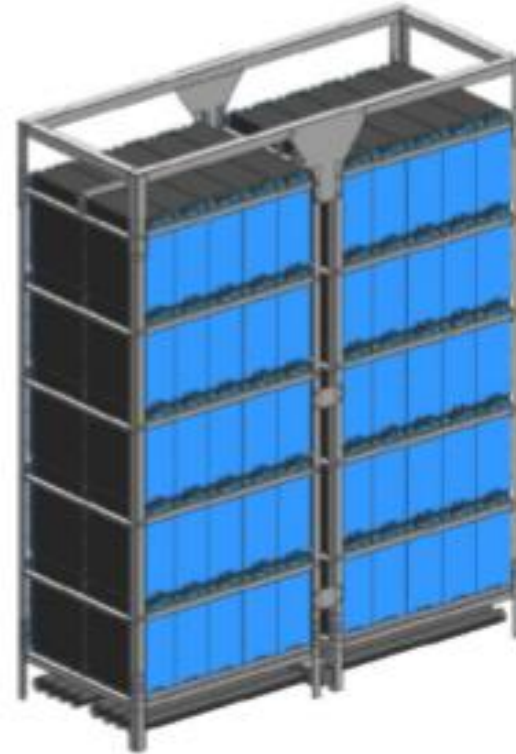


Module MX-500E  
800 m<sup>2</sup>

MX500E - 10x2x5  
100 Filter-cassettes  
800m<sup>2</sup> membrane surface  
2374 x 918 x 2720 (LxBxH)



## GE Zeeweed 500 Series Direct Replacement



MX500E - 10x2x5

100 Filter-cassettes

800m<sup>2</sup> membrane surface

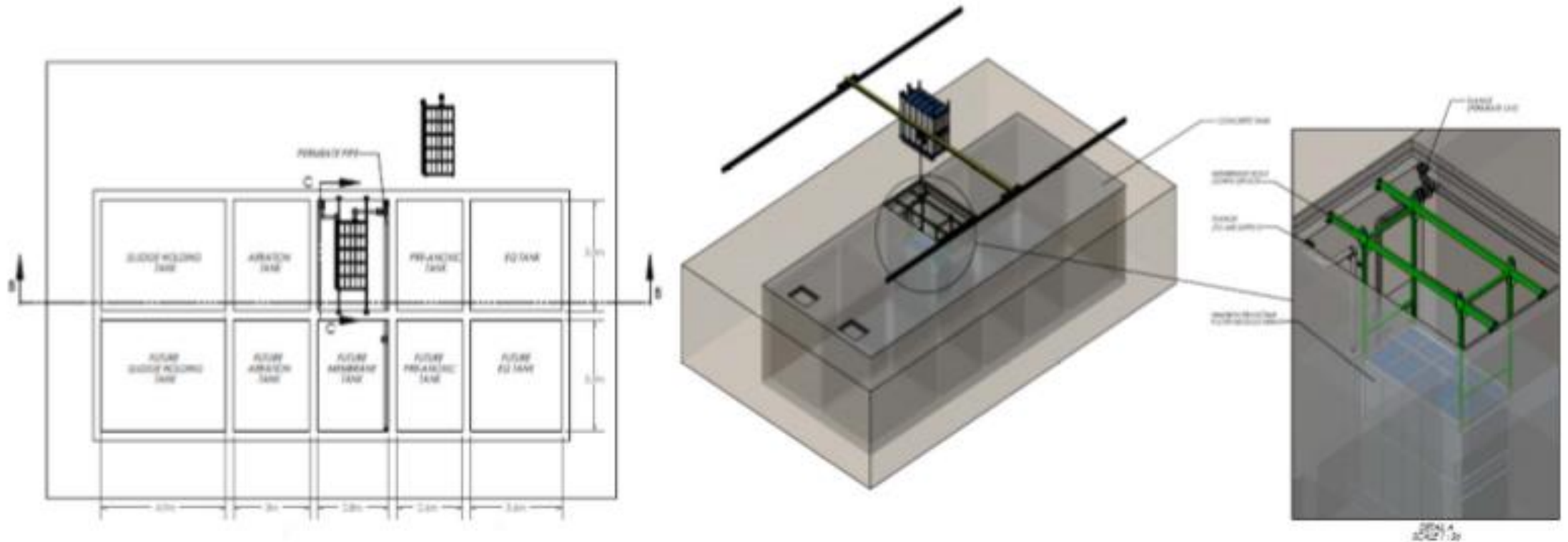
2374 x 918 x 2720 (LxBxH)



Department of National Defense, Camp Aldershot, Nova Scotia, Canada  
(300 m<sup>3</sup>/d system)

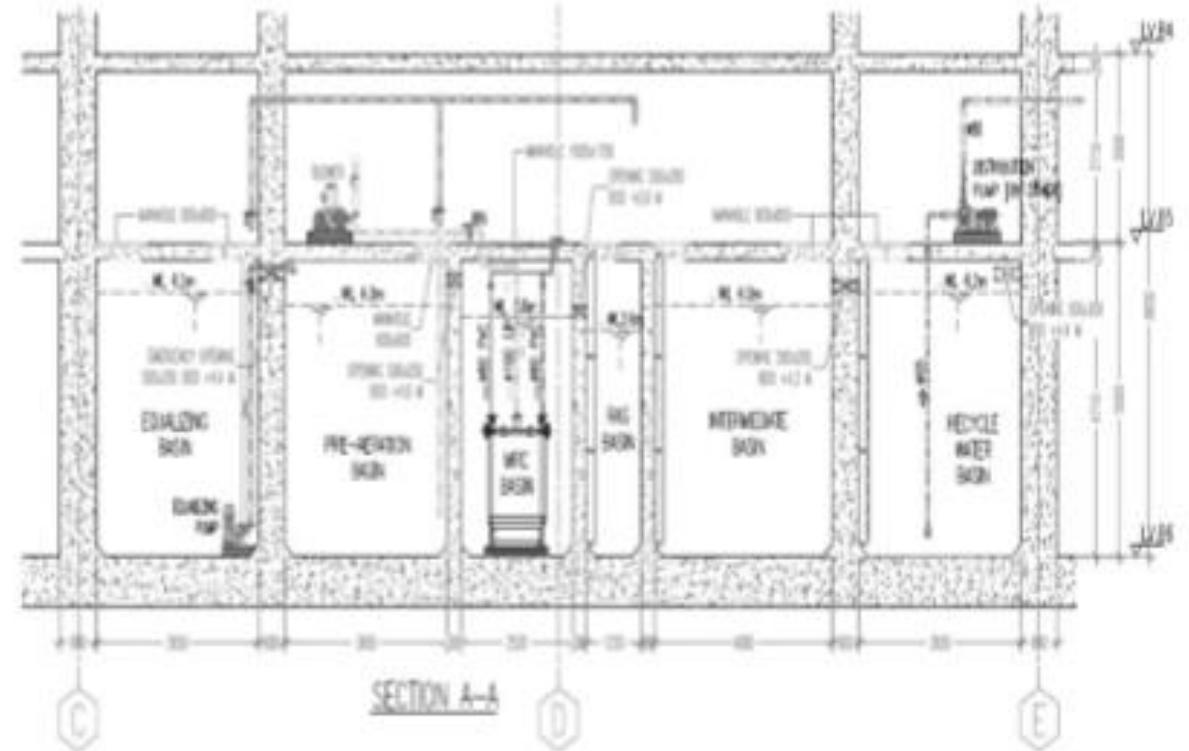
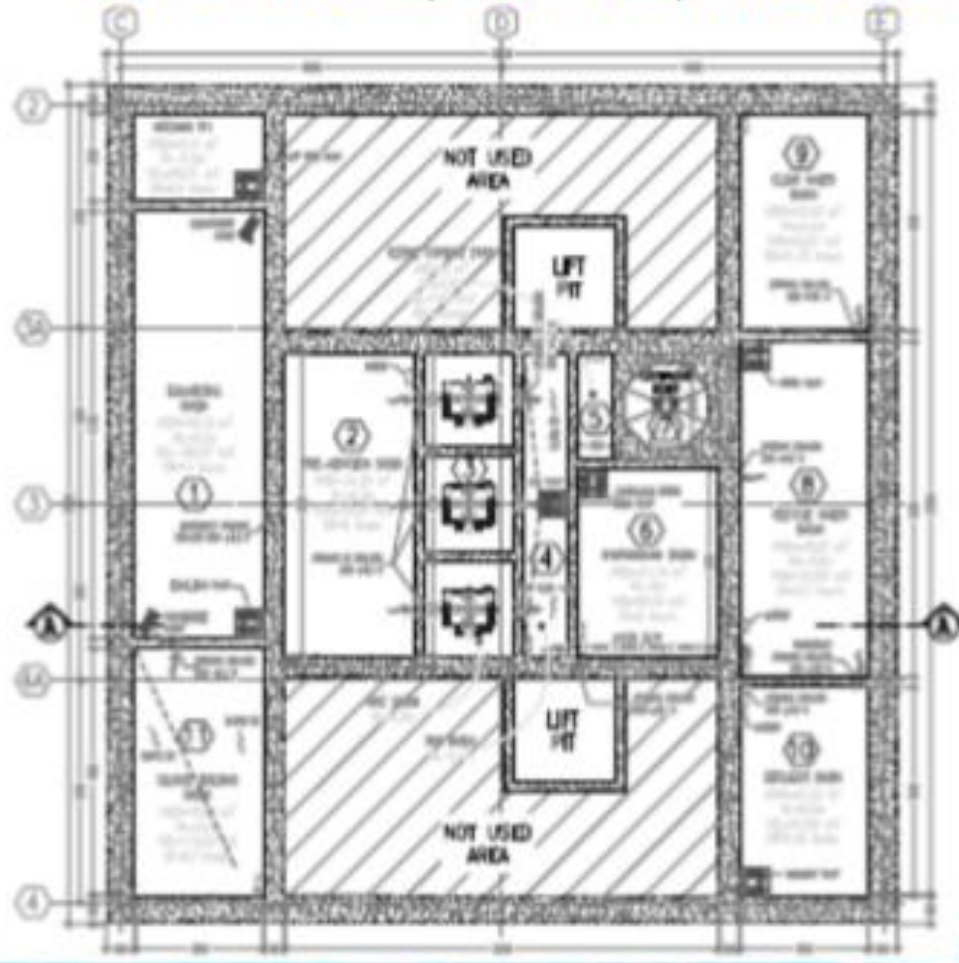


## StoneCrest Development, Ontario, Canada (1,200 m<sup>3</sup>/d system)





## MNC Media, Jakarta, Indonesia (400 m<sup>3</sup>/d system)

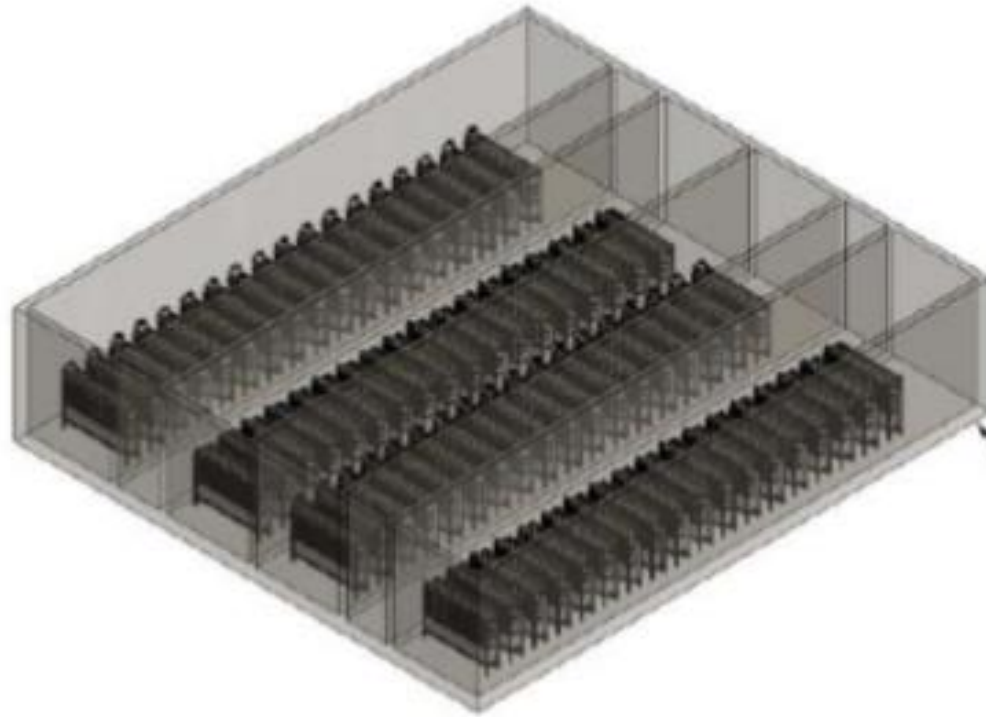




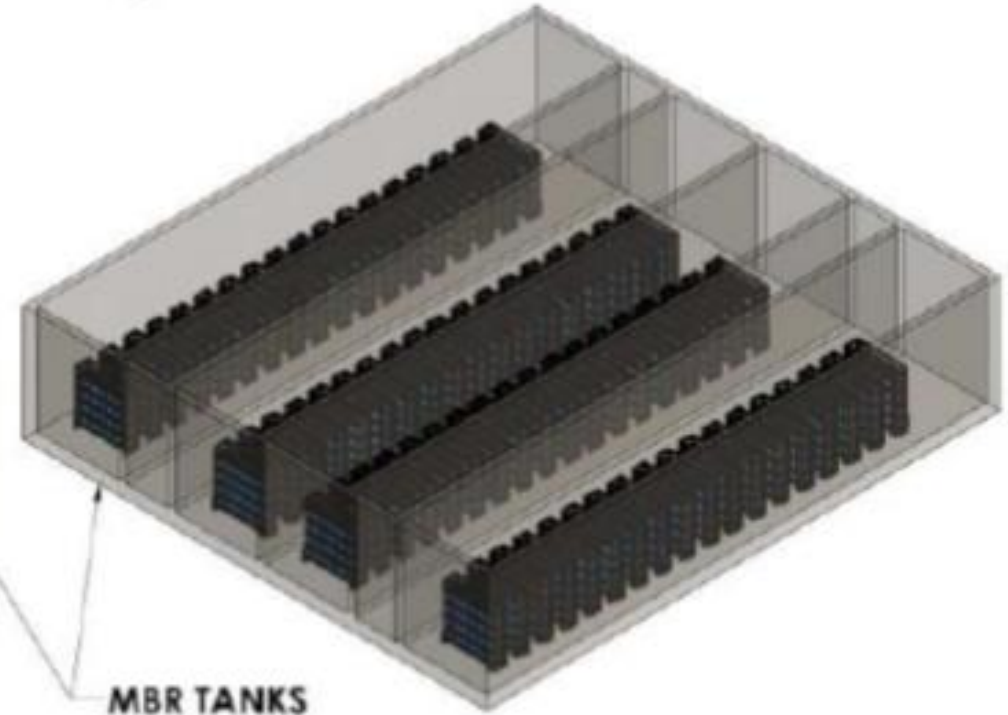
McFarland WWTP, Ohio, USA. (13,700 to 18,000 m<sup>3</sup>/d)



**KUBOTA FILTER  
MODULES ES-200  
(TOTAL 72)**



**newterra MICROCLEAR  
FILTER MODULES MX200-40  
(TOTAL 72)**



**MBR TANKS**



# MicroClear<sup>®</sup> MBR Systems

The Right Solution for your Applications!



## Benefits of newterra MicroClear®

### Summary

- Membranes manufacturer – 100% Engineered and Manufactured in GERMANY
- Optimized air scouring – reduced chemicals cleaning
- Low energy membranes air scouring cost
- No backpulse required – simple operation with reduced downtime
- Modular & scalable design high packing density – can replace any FP or HF membranes
- Experienced people in the membrane industry and committed to your success.
- Strong local partner with technical know-how and 24/7 technical support.
- 





Thank You !



# MicroClear<sup>®</sup> Membrane

*“MicroClear<sup>®</sup> is possibly the best immersed plate membrane on the market today.”*

**- Dr. Pierre Cote, former CTO, ZENON Environmental**