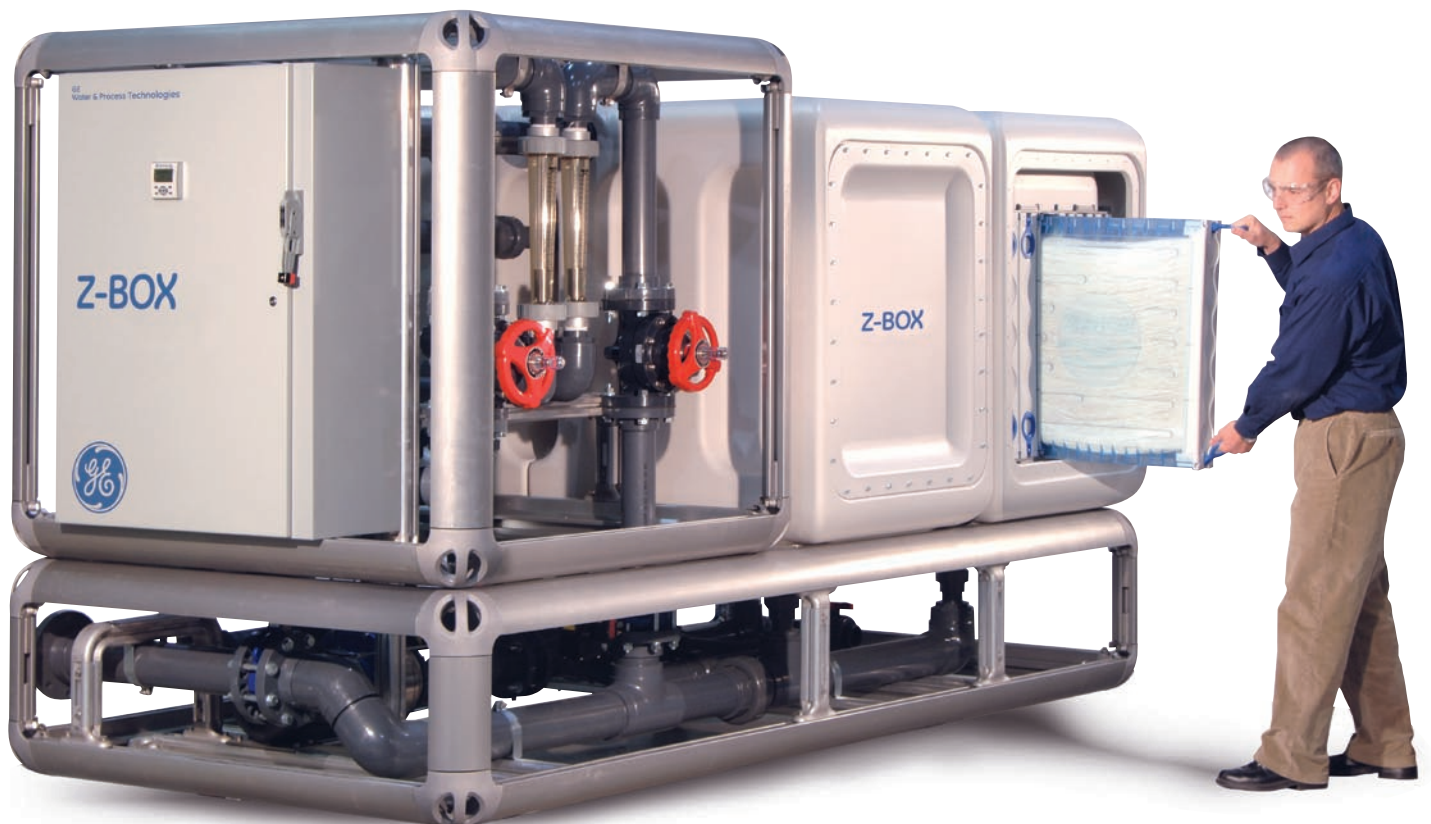


GE
Water & Process Technologies
ZENON Membrane Solutions

Packaged Plants for Water and Wastewater Treatment



ZeeWeed packaged plants provide large-scale performance in a compact pre-assembled system

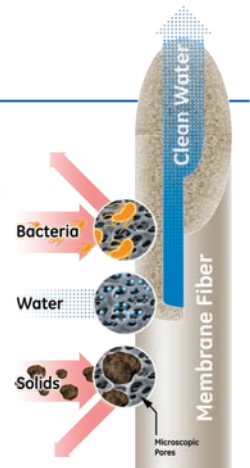
Incorporating a simple and expandable building-block design, ZENON packaged plants can be quickly set up in virtually any location and feature scalable treatment capacity that can be increased as demand grows. These highly automated, plug-and-play UF systems outperform conventional treatment alternatives in all categories, offering superior treated water quality that meets or exceeds regulatory requirements, reduced operating costs, smaller plant footprints, and highly reliable performance—at a price that is comparable to conventional systems.

Pre-assembled and factory tested systems offer:

- Reduced on-site construction costs with less interconnecting requirements;
- Quick delivery with complete engineering package already completed;
- Cost-effective solutions for virtually all water and wastewater treatment applications;
- Comprehensive cleaning capability for peak system performance;

How Membranes Work

Membranes are based on filtration methods found throughout nature. ZeeWeed membranes are hollow polymer fibers with billions of microscopic pores on the surface. The pores are much smaller in size than common contaminants, bacteria and viruses. This physical barrier only allows clean water to pass through while rejecting impurities—guaranteeing an exceptional water quality and clarity on a continuous basis. A slight vacuum is all that is required to draw water into the membrane fiber and filter out impurities.



- Simple and highly automated operation and in-situ membrane cleaning;
- Modular building-block design;
- Simplified start up with minimal installation time;
- Compact footprint with flexible layout options;
- Greenfield or retrofit solutions.



Municipal Drinking Water

Township of Tay, ON - 70,000 gpd (265 m³/d)
Z-BOX M



Municipal Wastewater Treatment

Huntsville, TN - 300,000 gpd (1,136 m³/d) ADF*
Packaged Equipment Skids Z-MOD L



Decentralized Treatment

Office Park, Oakville, ON - 17,500 gpd (66 m³/d) ADF*
Z-MOD S

Water Treatment & Tertiary Systems

Z-BOX S

up to 400,000 gpd (1,514 m³/d)

- Fully integrated process and control components
- Less than 6-foot (1.8-meter) tall system readily fits into any building
- Side-loading membrane door for easy access



Z-BOX M

up to 350,000 gpd (1,325 m³/d)

- Equipped with rugged reinforced membranes to withstand the harshest environments and the most difficult-to-treat water sources
- Fully-integrated, skid-mounted system



Z-BOX L

up to 3.25 MGD (12,300 m³/d)

- Easily fits beneath a 9-foot (2.7-meter) ceiling
- Side loading membrane door for easy access



Typical Treated Water Results

Turbidity	< 0.1 NTU
Bacteria	> 4-log removal
<i>Giardia</i>	> 4-log removal
<i>Cryptosporidium</i>	> 4-log removal
Virus - ZeeWeed 500	> 2.0-log removal
Virus - ZeeWeed 1000	> 3.5-log removal
Iron	< 0.05 mg/L [‡]
Manganese	< 0.02 mg/L [‡]
TSS	< 1 mg/L
TOC	50 - 90% removal ^{††}
Arsenic	< 5 µg/L
Color	< 5 PCU ^{††}

[‡] pre-treatment required
^{††} dependent on raw water quality

* Average Daily Flow

Wastewater Treatment Systems

Z-MOD S

up to 80,000 gpd (303 m³/d)*

- Fully integrated wastewater treatment plant
- Can be buried or installed above ground (smaller flows available for below ground systems)
- Complete plug-and-play design with all components in a single tank
- Can operate at MLSS concentrations between 3,000 and 15,000 mg/L



Z-MOD M

up to 110,000 gpd (416 m³/d)*

- Fully integrated skid-mounted system
- Can operate at MLSS concentrations between 3,000 and 15,000 mg/L



Z-MOD L

up to 1 MGD (3,785 m³/d)*

- Containerized or skid-mounted components
- Dual-train systems
- Can operate at MLSS concentrations between 3,000 and 15,000 mg/L



Z-MOD X

up to 4.0 MGD (15,142 m³/d)*

- Equipment skid comes complete with permeate pump, process blower, RAS pump, PLC, MCC, piping and wiring
- Can operate at MLSS concentrations between 3,000 and 15,000 mg/L



Achievable MBR Effluent

Turbidity	< 0.1 NTU
BOD ₅	< 2 mg/L
TSS	< 1 mg/L
NH ₃ -N	< 0.5 mg/L
Total Nitrogen	< 3 mg/L*
Total Phosphorous	< 0.05 mg/L*
Fecal Coliform	< 2.2 CFU/100 ml [†]
SDI	< 2

* with appropriate biological design and/or chemical addition
[†] after disinfection

Australia, Perth
Australia, Ingleburn
Barbados, St. Michael
China, Beijing
Germany, Hilden
Hungary, Oroszlány
Hungary, Tatabánya
India, Mumbai
Israel, Kefar Saba
Italy, Melzo, Milan
Netherlands, Duiven
Poland, Tychy
Sao Paulo, Jundiai
Singapore, Singapore
Spain, Madrid
United Arab Emirates,
Sharjah
United Kingdom,
Sheffield

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Burlington, Ontario
Edmonton, Alberta
Oakville, Ontario

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