GE Water & Process Technologies

Packaged Plants for water and wastewater treatment

a product of
ecomagination

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

Incorporating a simple and expandable building-block design, GE 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 cost, 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. Application of pressure outside or a slight vacuum inside is all that is required to draw water into the membrane 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.

Package plant water treatment system with enhanced coagulation for filtration of surface water.
Big Canoe, Georgia, United States – 1.0 MGD (3,785m^3/d)
Z-BOX

Municipal Wastewater Treatment
Huntsville, TN – 300,000 gpd (1,136m^3/d) ADF†
Packaged Equipment Skids Z-MOD L

Decentralized Treatment
Office Park, Oakville, ON – 17,500 gpd (66m^3/d) ADF†
Z – MOD S

† Average Daily Flow

Water Treatment & Tertiary Systems

Z- BOX S

Up to 400,000 gpd (1,514 m^3/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 m^3/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 3.25MGD (12,300 m^3/d)

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

Z-PAK

Up to 720,000 gpd (2,725m^3/d)

- ZeeWeed fiber in a pressurized module
- Fully integrated skid-mounted system with compact footprint

Typical Treated Water Results

Turbidity ..... <0.1NTU
Bacteria ..... > 4-log removal
Giardia ..... >4-log removal
Cryptosporidium ..... >4-log removal
Virus – ZeeWeed 500 ..... >2.0-log removal
Virus – ZeeWeed 1000/1500 ..... > 3.5-log removal
Iron ..... < 0.05 mg/L[§]
Manganese ..... < 0.02mg/L[§]
TSS ..... < 1mg/L
TOC ..... 50 – 90% removal[§†]
Arsenic ..... < 5µg/L
Colour ..... < 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 m^3/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 m^3/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 (3.785m^3/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 ..... < 2mg/L
TSS ..... < 1mg/L
NH_3-N ..... < 0.5mg/L
Total Nitrogen ..... < 3mg/L[††]
Total Phosphorous ..... <0.05mg/L[††]
Fecal Coliform ..... <2.2 CFU/100ml[§§]
SDI ..... <2

†† with appropriate biological design and/or chemical addition

§§ after disinfection