

# Industrial

## Wastewater Treatment



AQUA-AEROBIC SYSTEMS, INC.  
A Metawater Company

# Our Industrial Experience

For more than 50 years, Aqua-Aerobic Systems has addressed the needs of its industrial customers with engineered solutions designed to achieve a desired effluent, whether for clean utilities and production, reuse or final discharge.

Innovative technology solutions include Aeration and Mixing products, Biological Processes, Cloth Media Filtration, Membrane Systems and Oxidation/Disinfection. Aqua-Aerobic has the knowledge and experience in applying a wide range of technologies for industrial wastewater treatment, in a broad spectrum of applications.

Aqua-Aerobic products and processes are capable of effectively treating high strength wastewater with elevated concentrations of Biological Oxygen Demand ( $BOD_5$ ), Fats, Oils and Grease (FOG), Nitrogen, Phosphorus and harmful constituents such as per- and polyfluoroalkyl substance (PFAS).

## Typical Industrial Applications



### Surface Water Treatment

Raw and clarified surface waters from rivers, lakes or reservoirs are supplied to industrial applications to be used in production processes and clean utilities. Pile Cloth Media Filtration and Membrane Systems effectively treat surface water typically used in pulp & paper, chemical/ petrochemical production as well as cooling tower and boiler feed pre-treatment.

### Secondary Treatment

Biological Processes including Sequencing Batch Reactors, Aerobic Granular Sludge, and Membrane Bioreactors (MBR) can provide a compact footprint, eliminate clarifiers and maximize biological nutrient removal for downstream treatment discharge. These processes can be applied in pharmaceutical, landfill leachate and food and beverage for managing FOG,  $BOD_5$ , nutrient removal and pH adjustment.

## Industrial Plant Profiles



### Food and Beverage (Vegetable Processing)

**CHALLENGE**  
Treat High Solids and Varying Flows

**SOLUTION**  
AquaSBR® System

**RESULT**  
Reduced  $BOD$ , TSS, and  $NH_3-N$  Below Permit

### Power and Energy (Cooling Tower Water)

**CHALLENGE**  
Reduce TSS and NTU of Reclaimed Wastewater

**SOLUTION**  
AquaDisk® Cloth Media Filters

**RESULT**  
Reduced TSS from 8 mg/l to 5 mg/l and NTU <2.0



## Extended Aeration

One of the most common effluent treatment processes in the pulp and paper industry is extended aeration lagoons with sufficient mixing and aeration to achieve required effluent quality. Biological Processes including Aeration, Mixing, and Membrane Bioreactors (MBR) can increase capacity, augment lagoon efficiency and reduce operational costs for industrial plants.



## Process Water and Wastewater

Biological Processes and Pile Cloth Media Filtration can produce specified quality for process water use and effluent reuse. Industries utilize these processes for effective treatment of water used for cooling towers, steam generation and in-plant production. Color removal and odor control can be accomplished with an Oxidation Process.



## Tertiary Treatment

Using Pile Cloth Media Filtration as a tertiary solution is capable of removing floatable solids and producing desired effluent including water reuse. This technology is also ideal for final polishing of secondary effluent to maximize suspended solids removal, and can reduce total nitrogen and achieve low total phosphorus levels.



## Pulp and Paper

### CHALLENGE

Meet New Stringent  $BOD_5$  Effluent

### SOLUTION

Aqua-Jet® Surface Aerators

### RESULT

Reduced  $BOD$  from 330 mg/l to 8 mg/l



## Chemical/Petrochemical (Plastic Production)

### CHALLENGE

Meet Tighter  $BOD_5$  Levels

### SOLUTION

Aqua-Aerobic MBR® Membrane Bioreactor

### RESULT

Reduced  $BOD_5$  from 3,257 mg/l to <15 mg/l

## Industries We Serve

- Food and Beverage
- Chemical/Petrochemical
- General Manufacturing
- Landfill Leachate
- Mining
- Oil and Gas
- Pharmaceutical
- Power
- Pulp and Paper
- Tannery
- Textiles
- Tobacco

# Partnering for the Future

## Our Customer Commitment



### Qualified and Experienced Engineering

Aqua-Aerobic is an applied engineering company with a talent pool of more than 30 degreed engineers in civil, environmental, mechanical, electrical and other technical disciplines. Our application engineering team listens to every customer and works side-by-side to design and apply the most advanced and cost effective solution to meet each plant's specific treatment objectives.

### Training and Education

Aqua-Aerobic has provided thousands of industry professionals with education and training through the company's highly-regarded technical seminar and on-site training programs. Our industry-known seminar is ideal for those individuals involved in the design, application, procurement and operation of industrial and municipal water and wastewater treatment plants.

### Aftermarket Programs and Lifetime Customer Service

Our Aftermarket Sales and Service team strives to support the needs of our existing customers after the sale and beyond by offering several aftermarket programs that will help keep each plant optimized and running efficiently. From replacement parts to emergency rental equipment, on-site operator training and plant wellness inspections, our customer service team is available 24/7.

# Providing TOTAL Water Management Solutions

**Aeration & Mixing  
Biological Processes  
Filtration  
Oxidation & Disinfection  
Membranes  
Controls & Monitoring Systems  
Aftermarket Products and Services**



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