



AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company



Aqua ElectrOzoneTM

Ozone Generation System

Featuring Metawater MicroGapTM Core Technology

Aqua ElectrOzone™

Ozone Generation System

Ozone treatment for water and wastewater has been utilized successfully for several decades and continues to be a viable disinfection solution for both municipal and industrial plants, worldwide.

Aqua-Aerobic Systems is pleased to partner with Metawater, Co., Ltd., a leading ozone provider and developer of MicroGap™ glass-lined dielectric core technology with more than 800 installed systems, worldwide. This partnership allows Aqua-Aerobic to build on the company's expertise and experience in ozone treatment while providing our customers with another quality product solution, the Aqua ElectrOzone™ Ozone Generation System.

Designed for safe operation and effective treatment, the Aqua ElectrOzone System is a reliable treatment solution with a proven track record. The system's high efficiency is based on advanced technology including the Metawater MicroGap™ Core Technology which provides the longest life for current dielectric designs.

Markets Served

- Potable Water Treatment
- Wastewater/ Water Reuse
- Industrial Applications

Applications

- **Taste and Odor Control**
Oxidation and decomposition of dissolved components into tasteless and odorless soluble substances.
- **Bleaching/Color Removal**
Coloring components such as pigments and humic substance are decomposed and bleached.
- **Oxidation**
Effective for decomposition of harmful substances and various types of cleansing.
- **Disinfection**
Virus, bacteria and fungi are disinfected and made inert.

How It Works

PRINCIPLE OF OZONE GENERATION

High voltage alternating current (A.C.) is applied to two electrodes creating a corona discharge that converts oxygen into ozone molecules as shown in Steps 1, 2 and 3 below.

STEP.1

Oxygen (O_2) gas passes between two electrodes under a high voltage environment.

Oxygen Feed



STEP.2

Under a high voltage condition, oxygen molecules are converted into oxygen radicals (single $O\cdot$).

Dissociated O and O_2



STEP.3

Oxygen radicals ($O\cdot$) react with other oxygen molecules to form ozone.

O_3 generated from reactions between O and O_2



Metawater MicroGap™ Core Technology

The exclusive Metawater MicroGap glass-lined dielectric is the core technology within the Aqua ElectrOzone System. These elements are precision engineered for high dimensional accuracy on the ozone generation tubes allowing for consistent ozone generation, extremely low failure rates, and efficient cooling.

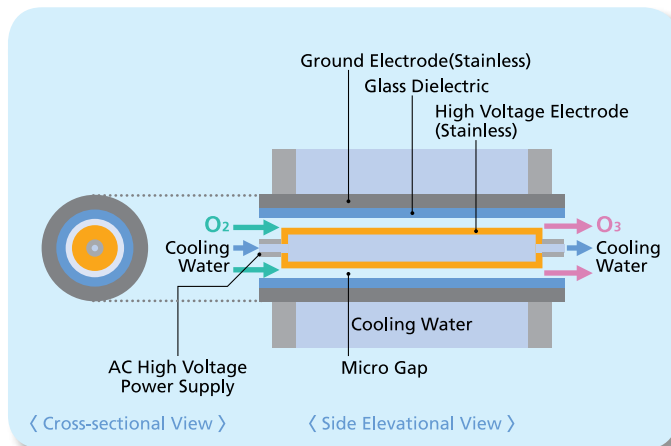
The double cooling option allows for increased forced water cooling of each electrode ensuring the system remains capable of meeting the original ozone production specifications after years of reliable operation.

Additional Advantages of MicroGap Technology:

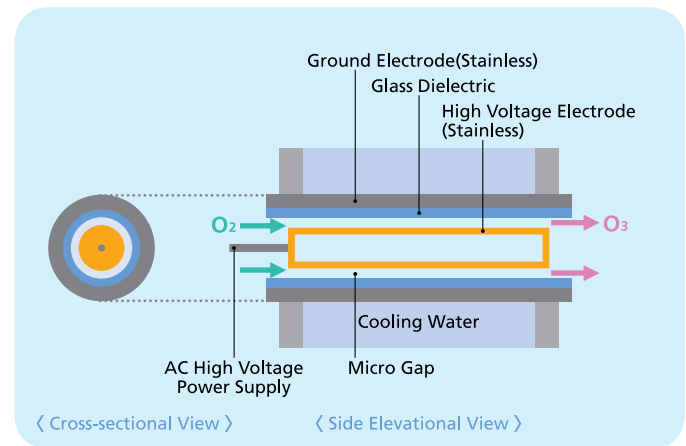
- Robust design with low breakage
- Reduced discharge gap results in power savings
- Solid state pulse width modulation power
- Low harmonics

Ozone Dielectric Assembly

Glass-lined Dielectric Assembly (Double Cooling System)



Glass-lined Dielectric Assembly (Single Cooling System)



Plant Profile

DRINKING WATER

Increasing global health concerns continue to drive ozone technology with several municipalities upgrading from traditional chlorine-based disinfection to ozone technology for reducing taste and odor compounds and disinfection byproducts.

The Wylie Water Treatment Plant in Wylie, Texas realized this vital need to serve its 1.6 million customers in north Texas with the ultimate in safe drinking water by installing a 900 MGD ozone facility. The new ozone plant consists of eleven, 3900 PPD ozone generators, sidestream injection system and ozone quenching.

The system went online in 2014 and has consistently met the stringent treatment objectives while also gaining its recognition as the largest drinking water plant in the world utilizing ozone treatment.



3900 PPD (12%) Generators at Wylie, TX

Providing **TOTAL** Water Management Solutions

Visit our website at www.aqua-aerobic.com to learn more about Aqua-Aerobic
Ozone Systems and our complete line of products and services:

Aeration & Mixing

Biological Processes

Filtration

Disinfection

Membranes

Controls & Monitoring Systems

Aftermarket Products and Services



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The information contained herein relative to data, dimensions and recommendations as to size, power and assembly are for purpose of estimation only. These values should not be assumed to be universally applicable to specific design problems. Particular designs, installations and plants may call for specific requirements. Consult Aqua-Aerobic Systems, Inc. for exact recommendations or specific needs. Patents Apply.