

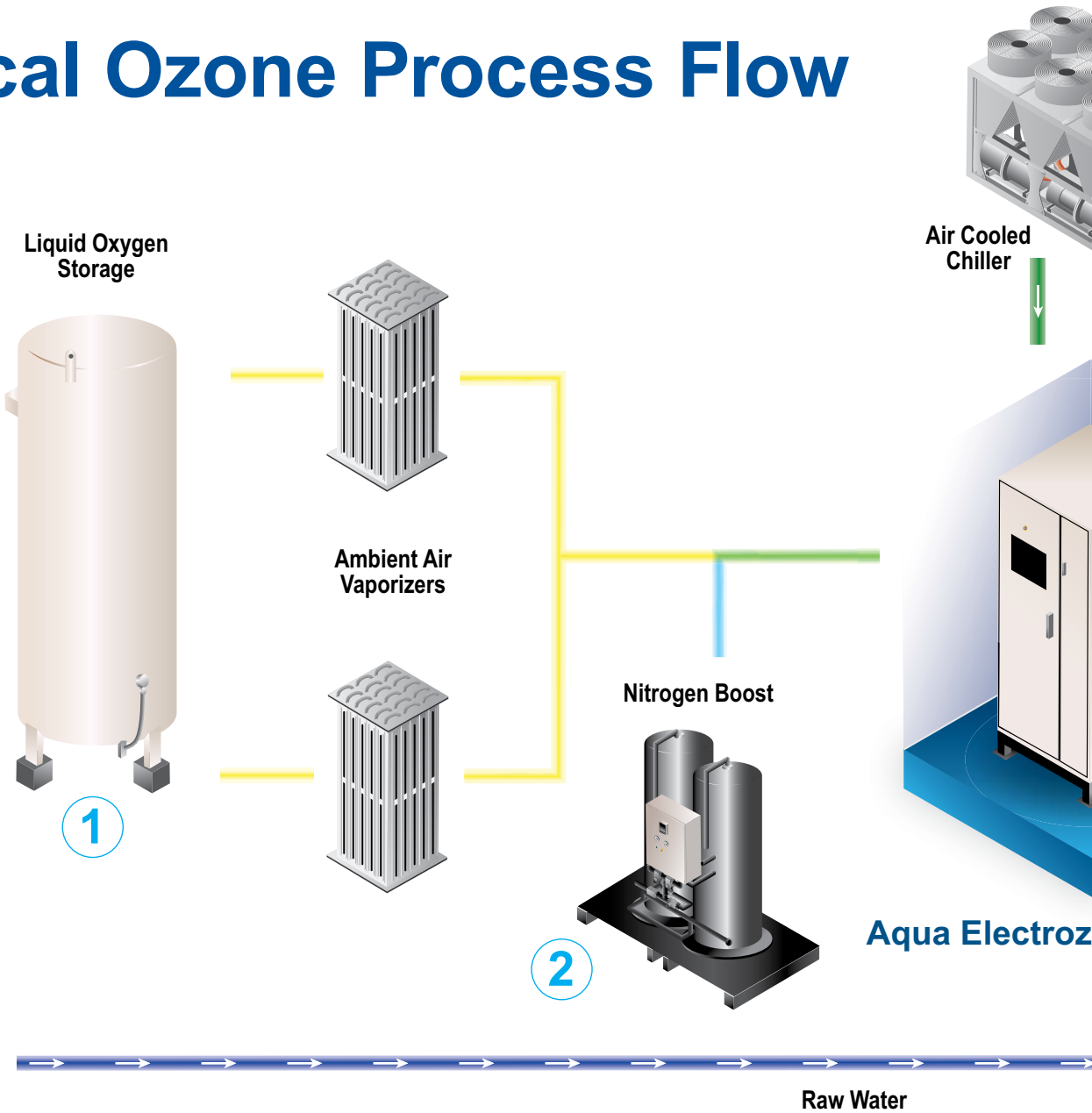
Aqua ElectrOzone®

Ozone Generation Systems



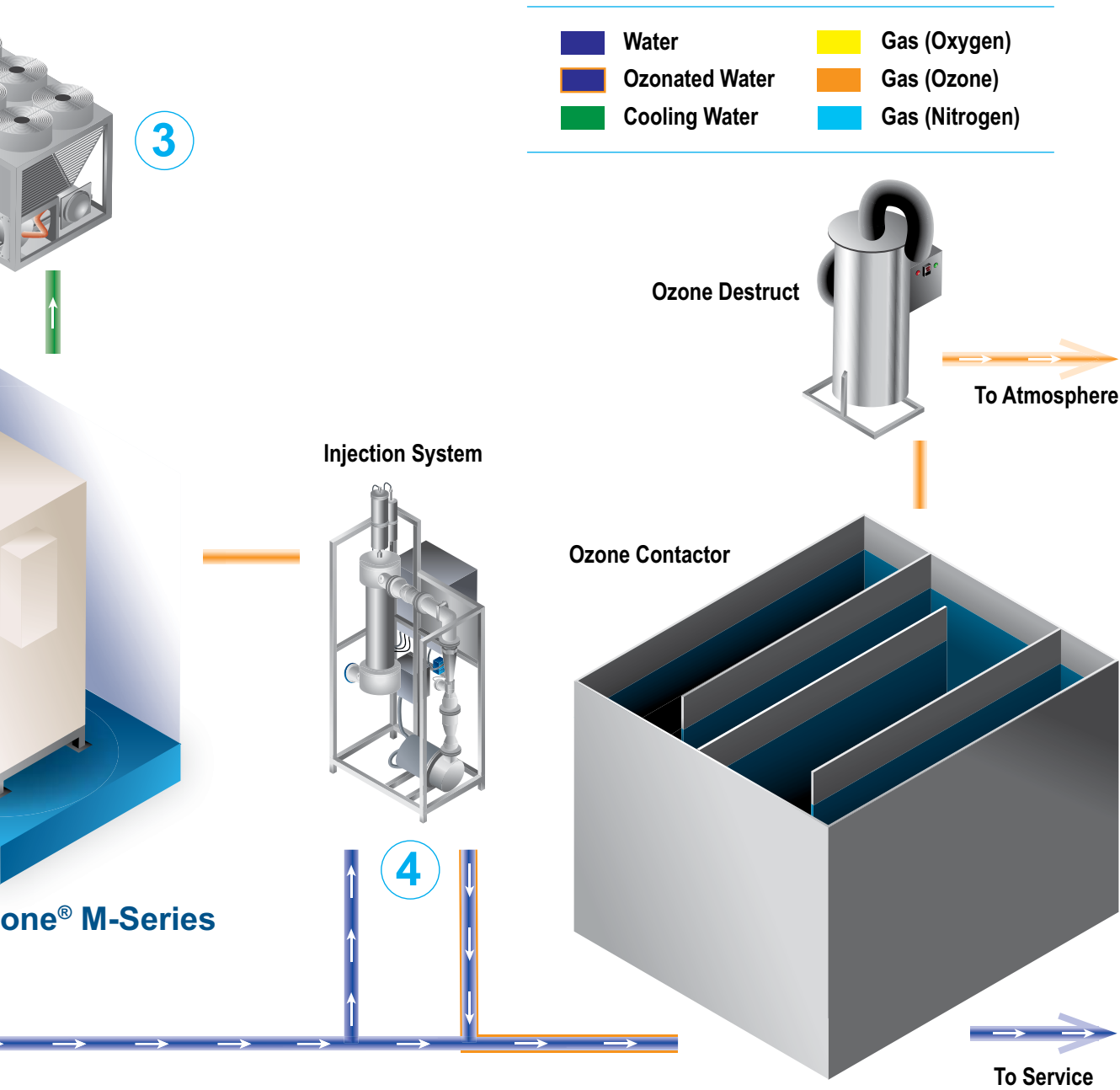
AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

Typical Ozone Process Flow



1 Cryogenic Liquid Oxygen (LOX) is commonly used as a feed gas for high concentration ozone generators like the ElectrOzone®. On-site generation technologies such as Pressure Swing Absorption (PSA) can be utilized, but may not make financial sense on larger projects.

2 All ozone generation requires some quantity of nitrogen in the feed gas. Traditional generators like the F-Series require a supplemental feed of nitrogen to maintain production efficiency.



3

Ozone generation produces a significant amount of waste heat. Maintaining an efficient process requires removing this heat with cooling water, which can either be transferred to an open loop or rejected to the atmosphere by an air cooled chiller.

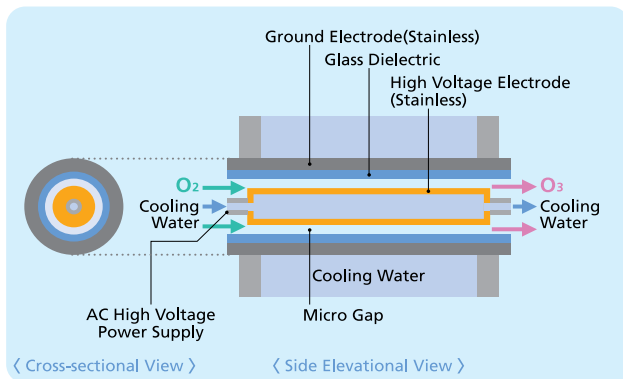
4

Once the ozone gas has been produced, it must be transferred into the water in order to provide the treatment. This can be done in a side stream approach using venturi injectors, or in a full flow approach using ceramic diffusers.

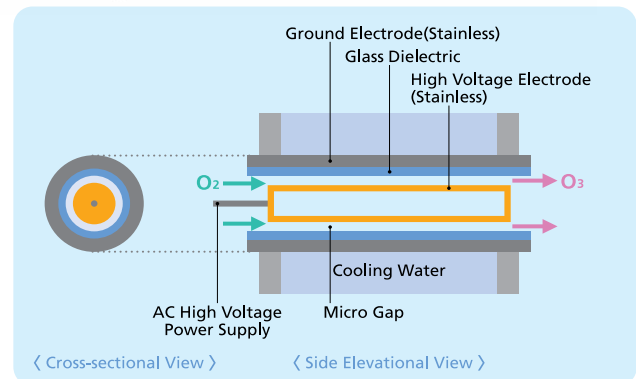
Aqua ElectrOzone® F-Series Ozone Generation System

Ozone Dielectric Assemblies

The horizontal tube design, featuring a stainless steel dielectric assembly, including the borosilicate glass dielectric is among the core innovations at the heart of the Aqua ElectrOzone® F-Series generation system. This technology provides safe, consistent, high-quality drinking water to millions of people around the world, every day.



Glass-lined Dielectric Assembly (Double Cooling System)



Glass-lined Dielectric Assembly (Single Cooling System)

Operational Data

	OSD38	OSD51	OSD59	OSD67	OSD93
Maximum Capacity ¹ (ppd)	910	1,530	2,330	3,200	6,280
Feed Gas Requirement ¹ (scfm)	76.1	127.9	194.8	267.6	525.1
Feed Gas Purity (%)	99	99	99	99	99
Feed Gas Pressure (psig)	12-15	12-15	12-15	12-15	12-15
Feed Gas Dew Point (°F)	-75	-75	-75	-75	-75
Maximum Feed Gas THC ² (ppm)	40	40	40	40	40
Oxygen Connection (inches)	2.5	3	4	4	6
Ozone Connection (inches)	2.5	3	4	4	6
Cooling Water Requirement (gpm)	196.9	328.1	498.8	682.5	1,338.8
Cooling Water Connection (inches)	2	4	4	4	6
Dimensions (inches)	150x100x85-1/8	164x114x103-1/4	164x126x109-1/8	177x127x121	209-1/4x149-15/16x164-3/16
Shipping Weight (pounds)	8,500	10,500	14,000	15,000	27,000

¹ Calculated at 10% ozone concentration by weight, 65° F maximum closed loop cooling water temperature

² Total Hydrocarbon Content

All ancillary ozone system equipment required for a complete and functioning system, including feed gas preparation and storage, ozone gas dissolution, cooling water, and ozone destruct systems are also available.

System Features and Advantages

Advanced Power Supply Technology

- Pulse Width Modulation – lowest native harmonics available without external filters.
- High frequency – operates between 6.5 and 10 kHz via pulse density modulation, reducing coronal hot spots and eliminating dielectric failure.

Practical, Serviceable Generator Design

- One high-voltage electrode per ground tube and plentiful viewports permit visualization of each coronal field, providing easy identification and location of non-powered tubes.
- Closed loop cooling water pump and heat exchanger are located on the generator skid, eliminating the need for separate cooling water equipment while also providing footprint savings.
- Generator skid design is optimized for servicing all skid-mounted instrumentation, valves, and mechanical equipment, eliminating tight spaces or impossible angles.



Power Supply Units

Unique, Unbreakable Dielectrics

- Dielectric assembly is fabricated completely of stainless steel and borosilicate glass, rather than more fragile materials.
- Dielectric assembly is completely removable and replaceable, including the ground electrode. No more capping off damaged tubes!
- Features MicroGap™ Core Technology, an 0.3mm discharge gap, contributing to even coronal generation and steady operation.
- Fused design protects dielectrics from power surges, eliminating breakage.
- Unique double-cooled design permits both generator shell cooling and high-voltage electrode cooling, preventing hot spots and contributing to dielectric durability.
- More ozone production per tube than any other available generator, with excellent production efficiency.
- Longest dielectric life with zero failures and backed by a 10 year, non-prorated warranty.

Committed to Service

- 20+ experienced service technicians based nationwide, with quick response times and outstanding technical skills.
- 24/7/365 customer service line with ozone system experts available at all times.
- Ozone demand/decay analysis, dosage determination, and other lab services available upon request.
- Ozone piloting services available – inquire for more information.
- Extended warranty periods and custom maintenance/service agreements available upon request.



Advanced Double-Cooled Dielectric Design



PWM Power =
Lowest Harmonics



Practical Design, Maximum Serviceability

Since 1969, Aqua-Aerobic Systems, Inc. has led the industry by providing advanced solutions in water and wastewater treatment. As an applied engineering company serving both municipal and industrial customers, we work collaboratively with consulting engineers, owners, plant managers, and operators to design and manufacture the best treatment solution with the lowest lifecycle cost.

PROTECTING THE WORLD'S WATER.

Aeration and Mixing

Biological Processes

Filtration

PFAS Solutions

Ozone Systems

Membranes

Aftermarket Products and Services

Rental Programs

Aqua ElectrOzone® Ozone Generation Systems



Visit our website at www.aqua-aerobic.com to learn more about the Aqua ElectrOzone® Ozone Generation Systems and our complete line of 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.