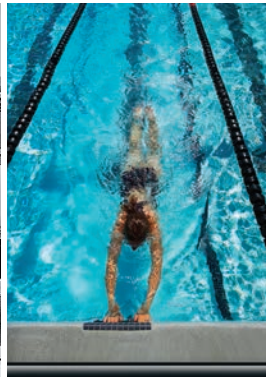




# ClearWater Tech, LLC

Ozone Systems for Water & Air Purification



PRODUCT CATALOG



CELEBRATING  
**30** YEARS  
OF OZONE  
TECHNOLOGY

## ClearWater Tech, LLC - Ozone Generators for Water & Air Purification



Kaitlyn, Cameron, Darla, Lorin

### Letter from the President

Once again it's my privilege to welcome you to another edition of the ClearWater Tech product catalog. It's been five years since the last version and as you can imagine, a lot has happened.

The ozone industry continues to develop and find new applications for this incredible molecule. For example, Boeing and Airbus recently approved the use of ozone for cleaning their onboard water tanks. We developed a mobile solution so they could use ozonated water for many different planes around the airport. A far cry from commercial airliners is your home, we have introduced two new residential products, the ActivTapp and NatureWash, both fantastic products for the home.

I could go on about the many uses for ozone, but let's just say, after 30 years of developing ozone systems, new applications still crop up all the time. The hard part is staying focused on our chosen markets.

All the best, and let's keep ozone moving forward.

Regards,

A handwritten signature in black ink, appearing to read "Cameron Tapp".

Cameron Tapp  
President, ClearWater Tech, LLC  
A Division of Aquion, Inc.

**AQUION™**



Circa 1987

“ It feels like I just started yesterday. There is such a bright future ahead. The foundation is laid, and there are so many tremendous opportunities for ClearWater Tech. We can't wait to see what the future has in store for us. ”





### COMMERCIAL LAUNDRY

The EcoTex Ozone Laundry System uses cold-water wash programs to reduce energy, water and labor, while improving laundry quality, extending linen life, and providing superior disinfection against super-bugs.



### SWIMMING POOLS, SPAS, & WATER FEATURES

ClearWater Tech provides the most powerful oxidation systems commercially available proven to enhance the overall quality and safety of pool water, providing the “Ultimate Swimming Experience” for many years.



### INDOOR AIR QUALITY (IAQ)

ClearWater Tech’s indoor air purification systems combine ozone and UV light, which uniquely provide “double-layered” protection eliminating odors, airborne microbes, and a range of organic and inorganic compounds.

### PROCESS FLUIDS

The term “process water” covers all types of industrial water applications from recycled wash water in car washes, to bacteria control in water-based metal working lubricants and parts rinsing operations.



### AQUARIUMS & ZOOS

Large municipal aquariums and zoos disinfect water with ozone to protect a variety of species from infection, water borne diseases, and improve the clarity of water.

### AQUACULTURE - FARMING, HATCHERIES & PROCESSING

Ozone disinfection plays an important role in the prevention and elimination of fish diseases in commercial aquaculture systems as well as in the ultimate processing and packaging of seafood products.

### AGRI-FOOD

Ozone sanitation systems have been widely accepted in the agrifood industry. According to the USDA and FDA, ozone was deemed GRAS, “*generally regarded as safe*”, as a disinfectant for food, including packaging fresh fruit and vegetables to processing meat, poultry, and seafood products.



### PROBLEM DRINKING WATER

The Environmental Protection Agency (EPA) has approved ozone as an effective method of treating drinking water to improve taste and safety for municipalities, small communities, and residences.

### BEVERAGE - BOTTLED WATER, SOFT DRINK, BEER & WINE

Ozone has become the technology of choice among water bottlers worldwide because of its powerful disinfectant properties, environmentally clean treatment process, and its ability to remove unwanted tastes and odors.

### CUSTOM DESIGNED ENGINEERED SOLUTIONS

ClearWater Tech is a complete manufacturing facility with the expertise to engineer, design, and build ozone specific products for original equipment manufacturers (OEM) based on their specifications.



# FULLY INTEGRATED OZONE SYSTEMS

## WALL-MOUNT

To produce high quality ozone a ClearWater Tech system integrates four primary processes:

- I. Feed gas preparation system
- II. Ozone generator
- III. A means to transfer gas into water
- IV. Process control instrumentation

The adjacent wall and floor mounted systems, illustrate the components of a typical corona discharge ozone system.

### **A** OZONE GENERATOR -

Corona discharge (CD) generators create ozone the same way lightning does – with an electrical arc. The primary difference being that CD systems are fully controllable. Generators are differentiated by ozone output typically measured in grams per hour (g/h) for mid range systems.

### **B** FEED GAS PREPARATION -

Ozone generation is enhanced when atmospheric feed gas, which is 21% oxygen, is clean and dry. Oxygen concentrators can further enhance ozone output by boosting oxygen levels in feed gas to over 90%.

### **C** ELECTRICAL CONTROLS -

Ozone systems require electrical controls to provide automation and safety.

### **D** GAUGES/METERS -

Feed gas flow rates, vacuum, and pressure are critical operating parameters that must be monitored and adjusted for optimal system performance.

### **E** VACUUM BREAK -

This is a safety mechanism to prevent water from flowing back into the ozone generator via an atmospheric break between the ozone injector and the ozone system.

### **F** MONITORING & CONTROL -

Dissolved and ambient ozone levels can be monitored and controlled with high accuracy, allowing for a real time assessment of system parameters.



### FEED GAS PREPARATION

Ozone production from corona discharge generators is enhanced when the atmospheric air (~21% oxygen) feed gas is clean and dry. Ozone production can be increased three to four fold with oxygen concentrators that boost oxygen levels, the essential component for ozone production, to more than 90% of the feed gas.

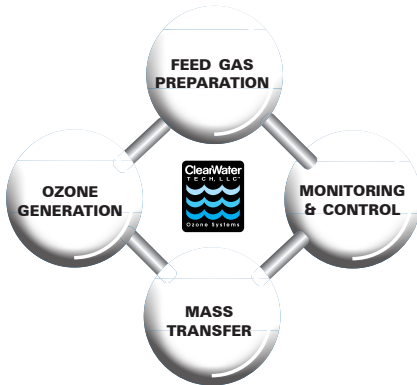
### OZONE GENERATION

CWT ozone generators utilize corona discharge generation chambers to produce high volumes of ozone gas, at high concentrations up to 170 grams per hour at 6.0% concentration by weight. Ultraviolet ozone generation, used predominantly for in-duct air purification, produces very low levels of ozone to control odor and prevent mold from forming in HVAC air systems.



# FULLY INTEGRATED OZONE SYSTEMS

SKID-MOUNT



## MASS TRANSFER

CWT venturi injectors are designed to optimize ozone gas transfer into water, thereby maximizing ozone concentration in solution. Transfer optimization results from the proper management of the interrelationship between venturi capacity, ozone generation, volume and concentration, flow rates, the ultimate application, and the commensurate ozone dose required.

## MONITORING & CONTROL

Ozone system applications may require monitoring and control devices to optimize and regulate dissolved and ambient ozone levels. ClearWater Tech ozone generators are engineered to easily interface to these devices to maintain specific ozone levels.

## G OZONE BOOSTER PUMP -

A pump may be required to boost pressure or water flow through the ozone injector manifold to facilitate optimal vacuum at the point of ozone gas injection. The pump size is based on the ozone requirements, system pressure, and water flow rates.

## H INJECTOR MANIFOLD -

This manifold creates the vacuum (suction) to draw the ozone gas safely into the water flow and optimize mass transfer of ozone gas into the water. An injector manifold is sized based on the ozone system used, system pressures, pipe size, and water flow rates.

## I CHECK VALVE ASSEMBLY -

This assembly is another safety device used to keep water from back flowing to the ozone generator. These assemblies are sized according to the ozone generator and injector manifold used.

## J CONTACT VESSEL -

A contact vessel provides controlled contact time for ozone to mix with and sanitize water. Longer contact times provide greater oxidation and microbe kill rates and enable ozone off-gas to be vented from the water.

## K OFF-GAS VENT -

This vent allows the contact vessel to remain pressurized, while relieving oxygen and ozone gas, which has not remained dissolved in the water.

## L WATER TRAP -

The water trap is used to separate any moisture from the ozone gas flowing out of the off-gas vent. Water accumulated in the trap is released to the drain, while dry ozone gas is directed to the ozone catalytic destruct.

## M OZONE CATALYTIC DESTRUCT (OCD) -

The OCD is a heated catalyst system that destroys ozone by instantly converting it back into oxygen. Once converted, the oxygen is released back into the atmosphere.

## NOTE:

The basic layouts shown are for illustrative purposes and may vary based on the specific application requirements.

# WALL-MOUNTED

## OZONE GENERATORS



### Wall-Mounted

ClearWater Tech's family of wall-mounted ozone systems are sized to meet any water treatment demand. These units set the standard for the highest ozone output in an air-cooled unit. No other corona discharge systems are as sophisticated and reliable as these products.

Fully adjustable from 0-100% ozone output, and 4-20mA control. Built with powder coated or stainless enclosures for pharmaceutical to potable water applications. These units have been applied to the most demanding installations and been proven reliable for many years.

#### Features

- Compact, wall-mounted
- 1% to 6% by wt. concentration
- Computer grade universal power supply
- Pressurized or vacuum CD cell(s)
- Oxygen or dry air feed
- Remote 4-20 mA control
- Manual 0-100% ozone output control

#### Applications

- Commercial pools and spas
- Residential pools and spas
- Problem water
- Bottled water fill lines
- Aquariums
- Water features
- Bottle water stores
- Waste water treatment
- Cooling towers



CD15nx



CD2000P



CD1500P



CD30Nx

### Wall-Mounted Specifications

Unit	Grams Per Hour @ SCFH		Concentration By Weight @ Rated SCFH		120V/60Hz AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz AMPS	90-250V 47-63Hz AMPS	Dimensions (inches)			Wt. lbs
	Dry Air	Oxygen	Dry Air	Oxygen					H	W	D	
M-1500	2.8 @ 7	7.6 @ 7	1.00	3.00	1.60	1.00	0.80		27.00	9.25	5.50	32.00
CD1500	4.5 @ 10	10 @ 7	1.00	4.00	1.10	0.60	0.50	1.4 - 0.50	27.00	9.25	5.50	32.00
CD1500P		13.5 @ 6		6.00	1.10	0.60	0.55	1.4 - 0.50	27.00	9.25	5.50	32.00
CD15nx	8 @ 10	15 @ 7.5	2.50	5.00	1.10	0.60	0.55	1.4 - 0.50	21.00	10.20	9.80	28.00
P-2000	5.6 @ 14	14 @ 14	1.00	3.00	2.30	1.20	1.30		23.00	20.25	5.50	49.00
CD2000	9.0 @ 20	20 @ 14	1.00	4.00	2.80	1.80	1.40	3.3 - 1.4	23.00	20.25	5.50	49.00
CD2000P		27 @ 12		6.00	2.80	1.80	1.50	3.3 - 1.4	23.00	20.25	5.50	49.00
CD30nx	16 @ 20	30 @ 15	2.50	5.00	2.80	1.80	1.50	3.3 - 1.4	21.00	15.80	9.80	39.00





CD10



CD12



CD10/AD



CD12/AD

### Mini-Series

The Mini-Series from ClearWater Tech produce more ozone using less electrical energy than any other ozone generators available on the market today. With features like compact size, fully adjustable ozone output, convenient electrical interface plug, and 4-20mA control circuitry, these units are a perfect combination of versatility, economy, and solid-state reliability.

#### FEATURES

- Compact, wall-mounted
- Powder coated enclosure
- Air-cooled
- Solid state components
- LED display
- Remote 4-20 mA control
- Manual 0-100% ozone output control
- Available in stainless steel

#### APPLICATIONS

- Residential pools and spas
- Commercial pools and spas
- Residential well water
- Bottled water
- Waste water treatment
- Water features
- Aquaculture
- Zoos and aquariums



*"Our clientele base is sophisticated enough to know that a heavy, synthetically induced, high TDS chemical pool is not only uncomfortable, but unhealthy as well. We promote an organic approach to sanitation, and only use the ClearWater Tech ozone units."*

William T. Drakeley, Jr., Managing Member  
Drakeley Industries - Drakeley Pool Company



### Mini-Series Specifications

Unit	Grams Per Hour @ SCFH		Concentration By Weight @ Rated SCFH		120V/60Hz, AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz, AMPS	90-250V 47-63Hz AMPS	Dimensions (inches)			Wt. lbs
	Dry Air	Oxygen	Dry Air	Oxygen					H	W	D	
CD10	1.3 @ 4	4 @ 4	1.00	3.00	0.90	0.62	0.57	1.2 - 0.56	19.00	9.00	5.00	9.50
CD10/AD	1.3 @ 4		1.00		2.00	1.20	0.10	2.5 - 1.0	19.50	11.50	5.00	14.50
CD12	2.6 @ 8	8 @ 8	1.00	3.00	1.10	0.68	0.63	1.5 - 0.6	21.50	9.25	5.00	14.50
CD12/AD	2.6 @ 8		1.00		2.30	1.50	1.30	3.0 - 1.2	19.50	15.25	7.50	34.00

# MICROZONE | ULTRAVIOLET

## OZONE GENERATORS



Microzone 100



Microzone 300



Microzone 300P



Microzone 500



PRO400



### Corona Discharge Microzone Series (CD)

Superior ozone performance in a compact size, the corona discharge Microzone Series is easy to install and delivers tremendous value with minimal complexity.

#### Features

- 0 - 100% ozone output
- Main power indicator
- Low power consumption
- No air preparation required
- Compact

#### Applications

- Residential spas
- Ornamental water features
- Odor and mold control

#### Microzone Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	MAX GPM	120V/60Hz AMPS	220/50Hz, AMPS, Single	Dimensions (inches)			Wt. lbs
	Ambient Air	Ambient Air				H	W	D	
Micro 100	0.1 @ 3	0.10		0.25 (12VDC)		3.100	3.100	1.540	0.50
Micro 300	0.3 @ 6	0.20		0.25	0.14	5.875	5.375	2.000	2.00
Micro 300P	0.3 @ 6.5	0.20		0.30	0.16	9.750	5.250	3.500	2.25
Micro 500	0.5 @ 5	0.20		0.50	0.28	6.250	9.375	3.500	3.00
PRO400	0.4 @ 8	0.10	5.00	1.50	1.00	20.00	12.75	5.000	4.00

### Ultraviolet Ozone Generators (UV)

ClearWater Tech's family of UV ozone systems are the finest grade generators on the market. Built with high efficiency and low power requirements. Stainless steel construction and ultra efficient electronic ballasts provide a simple, and inexpensive method for water purification.

#### Features

- Low power consumption
- Stainless steel construction
- UL approved
- Capable of pressurization

#### Applications

- Residential pools and spas
- Ornamental water features
- Small aquariums
- Odor and mold control

#### Ultraviolet Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	120V/60Hz AMPS	220V/50Hz AMPS, Single	Dimensions (inches)			Wt lbs
	Ambient Air	Ambient Air			H	W	D	
MZ-250	0.10 @ 10	0.05	0.45		10.00	4.50	4.50	6.00
UV-275	0.10 @ 10	0.05	0.50		10.00	7.50	5.50	7.00
S-1200	0.25 @ 20	0.05	0.80	0.47	20.00	7.50	4.50	9.00
PR-1300	0.25 @ 20	0.05	0.88	0.52	20.00	9.00	4.00	21.0
CS-1400	0.50 @ 30	0.05	0.80	0.47	32.00	7.50	4.50	15.0
UV-2800	1.00 @ 60	0.05	1.60	0.94	33.00	8.50	3.50	25.0



MZ-250



UV-2800



S-1200



PR-1300



## Apex Series

We took our most popular ozonators and combined them with all the ancillary components that make up the perfect installation. The Apex series is designed to make ordering the properly sized and designed package as simple as possible.

### Features

- Ozone generator
- Air preparation
- Gauges/meters
- Electrical controls
- Back flow prevention
- Injection manifold

### Applications

- Residential swimming pools and spas
- Commercial swimming pools and spas
- Residential well water
- Bottled water
- Waste water
- Water features
- Aquaculture
- Zoos and aquariums



## Apex Series Specifications

Unit	Grams Per Hour @ SCFH		Concentration By Weight @ Rated SCFH		120/60Hz AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz, AMPS	90-250V 47-63Hz Amps	Dimensions (inches)			Wt. lbs
	Dry Air	Oxygen	Dry Air	Oxygen					H	W	D	
Apex I	1.0 @ 60		0.10		1.60	0.94	0.80		33.0	8.50	3.50	25.0
Apex II	1.3 @ 4		1.00		1.70	0.90	0.84	2.2-0.8	19.5	11.5	5.00	15.0
Apex III	2.6 @ 7		1.00		2.60	1.52	1.30	2.6-1.0	19.5	15.25	7.50	34.0
Apex IV	4.0 @ 4		3.00		3.90	2.22	2.20		19.0	9.00	5.00	9.50
Apex V	5.6 @ 14		1.00		3.80	2.10	2.00		23.0	20.25	5.50	49.0
Apex VI		8.0 @ 8		3.00	4.10	2.30	2.23		21.5	11.5	5.50	15.0
Apex VII		15 @ 7.5		5.00	5.00	2.75	2.50		21.0	10.2	9.80	28.0
Apex VIII		30 @ 15		5.00	6.60	3.90	3.60		23.0	20.25	5.50	39.0

## Apex Ae Series

This is the most advanced fully integrated ozone package ever designed. With a built-in oxygen concentrator, backflow prevention and automatic controls, you won't find a more reliable system anywhere. The Ae series is available in stainless steel or powder coated construction to meet all job site requirements.

### Features

- Ozone generator
- Oxygen concentrator
- Automated control
- Back flow prevention
- Powder coated or stainless steel

### Applications

- Ponds
- Water features
- Residential swimming pools
- Commercial swimming pools and spas



Apex IV



Apex A4e

## Apex Ae Series Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	120/60Hz AMPS	220V/50Hz AMPS, Single Hot Leg	Dimensions (inches)			Wt. lbs
	Oxygen	Oxygen			H	W	D	
A4e	4 @ 4	3.00	6.50	3.50	32.5	28.0	22.0	130.0
A8e	8 @ 8	3.00	7.00	3.70	32.5	28.0	22.0	130.0
A15e	15 @ 7.5	5.00	7.00	3.70	32.5	28.0	22.0	145.0



M-15/O2, pump optional



POE10



CD20/O2, pump optional

### Skid-Mounted

These fully integrated systems provide an ozone output range of 1.3 to 20 grams per hour and can handle the toughest water treatment applications. Designed and engineered as complete turnkey solutions, they come pre-wired, pre-plumbed and mounted on a powder-coated frame ready for installation.

#### Features

- Turn-key, pre-plumbed, and pre-wired
- Built-in air preparation
- Powder coated steel frame
- Electrical controls
- Ozone injection system\*
- Booster pump\*
- Recirculation loop\*
- Off-delay timer\*
- Back flow prevention\*
- Contact tank\*

#### Applications

- Large residential swimming pools
- Residential well water (POE specific)
- Commercial swimming pools
- Bottled water
- Small community drinking water
- Agriculture
- Commercial aquariums
- Cooling towers
- Greenhouses & hydroponics
- Zoos and aquariums

\*These features are standard on the POE systems only



### Skid-Mounted Specifications

Unit	Grams Per Hour @ SCFH		Concentration By Weight @ Rated SCFH		120V/60Hz, AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz, AMPS	Dimensions (inches)			Wt. lbs
	Dry Air	Oxygen	Dry Air	Oxygen				H	W	D	
M-15/O2		7.6 @ 7		3.00		3.90	3.60	72.0	26.0	29.0	210.0
CD15/O2		10 @ 7		4.00		3.90	3.60	72.0	26.0	29.0	210.0
P-20/O2		14 @ 14		3.00		4.90	4.70	72.0	26.0	29.0	225.0
CD20/O2		20 @ 14		4.00		4.90	4.70	72.0	26.0	29.0	225.0
POE10	1.3 @ 4		1.00		8.60	4.60	4.30	68.0	29.0	29.0	200.0
POE12	2.6 @ 8		1.00		13.62	7.43	6.81	68.0	29.0	29.0	200.0



## ActivTapp - Activated Oxygen Faucets

A new kind of residential kitchen faucet, ActivTapp brings nature's most powerful cleaning agent to your home. It's patented technology delivers activated-oxygen directly from the home's water supply through the faucet producing a naturally safe and powerful sanitizer. ActivTapp reduces bacteria, pesticides, and viruses, found on fruits, vegetables, seafood, poultry, and virtually anything you rinse keeping food fresh, retaining quality, color, and flavor longer. ActivTapp also disinfects and oxidizes multi-food surfaces, reducing mold, and mildew.

### Applications

- Kitchen sink
- Utility sink
- Fruits, vegetables
- Meat, fish, poultry
- Cutting boards
- Sponges, wash cloths
- Water bottles
- Cut flowers

### Features

- Faucet
- Ozone generator with power supply
- Hoses
- Installation hardware
- Brushed nickel



## ActivTapp Specifications

Unit	Electrical	Water Pressure	Water Temperature	Dimensions Faucet	Dimensions Ozone
3-Way Faucet	120/240V 50/60Hz @ 6.0W	35 to 70 PSI	39° F - 175° F	8.5"l x 16.75" h x 1.75"ø	7.5"l x 5.0" h x 1.75"ø
Side Spray Faucet	120/240V 50/60Hz @ 6.0W	35 to 70 PSI	39° F - 175° F	5.0"l x 7.375" h x 2.0"ø	7.5"l x 5.0" h x 1.75"ø



3- Way Faucet

Side Sprayer Faucet



## HDO<sub>3</sub> - High Dissolved Ozone

The HDO<sub>3</sub> series of clean-in-place (CIP) sanitation systems for surface cleaning and disinfection represent the pinnacle in ozone mass transfer and efficiency. The HDO<sub>3</sub> systems achieve over 99% mass transfer of ozone into solution. The integrated PPM controller adjusts the output in real-time for precise applications. This system has it all including complete wet-end for dissolved ozone delivery, oxygen air prep, controls and instruments, and the highest ozone output available.

### Features

- Turnkey and pre-plumbed
- Integrated dissolved ozone monitor
- Adjustable ozone output
- Stainless steel or powder-coated construction
- Easy-to-read instrumentation panel
- Air-cooled stainless steel ozone reaction chambers

*"The U.S has a zero tolerance for Listeria which is ubiquitous in nature and difficult to control in the fish processing plants. We installed a CWT ozone system and the ozone destroyed the Listeria in seconds."*

Kevin Murphy, Bristol Seafoods, Portland, ME

### Applications

- Hard surface cleaning
- Clean-in-place systems
- Fruit and vegetable rinse systems
- Bottled water plants
- Water stores
- Dairies
- Fishing vessels and packing plants

## HDO<sub>3</sub> Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	PPM @ GPM	Max GPM @ PSI	120/60Hz, AMPS	220/50Hz, AMPS, Single Hot Leg	Dimensions (inches)			Wt.
	Oxygen	Oxygen					H	W	D	lbs
HDO3-I	8 @ 8	3.00	4.3 @ 8 (1)	8 @ 20 (2)	20.0	11.0	66.0	20.0	29.0	280.0
HDO3-II	20 @ 14	4.00	6.7 @ 13 (1)	13 @ 20 (2)	20.0	11.0	66.0	20.0	29.0	300.0
HDO3-III	27 @ 12	6.00	9.0 @ 13 (1)	13 @ 20 (2)	20.0	11.0	66.0	20.0	29.0	300.0

### NOTES:

- 1 - Anticipated results obtained at 7.5 pH, 70°F municipal water. PPM is stated at 100% mass-transfer
- 2 - Required flow rate through system for anticipated results. Higher flow rates require a sidestream to system

## EcoTex Advanced Laundry Oxidation System

EcoTex technology provides superior disinfection along with major utility cost reductions with the benefits of a cold water wash. Linens come out cleaner, softer, and fresher, saving money on linen replacement, while reaping huge savings on energy and water. A laundry facility using two 85-lb. washers can save as much as \$20,000 per year.

With the ability to integrate to existing washers, EcoTex is designed to simultaneously support multiple washers. Most importantly the system enables laundry professionals to replace expensive multi-step hot water wash programs with a cold-water alternative.

### Features

- Compact, wall-mounted
- Stainless steel enclosure
- 0-100% ozone output
- Ozone safety controls
- Continuous ozone injection
- Oxygen feed gas system
- Expandable design

### Benefits

- Eradicates soil and microbes
- Less rinsing, less drying
- Whiter, fresher, softer linen
- Extended linen life
- Reduced effluent waste

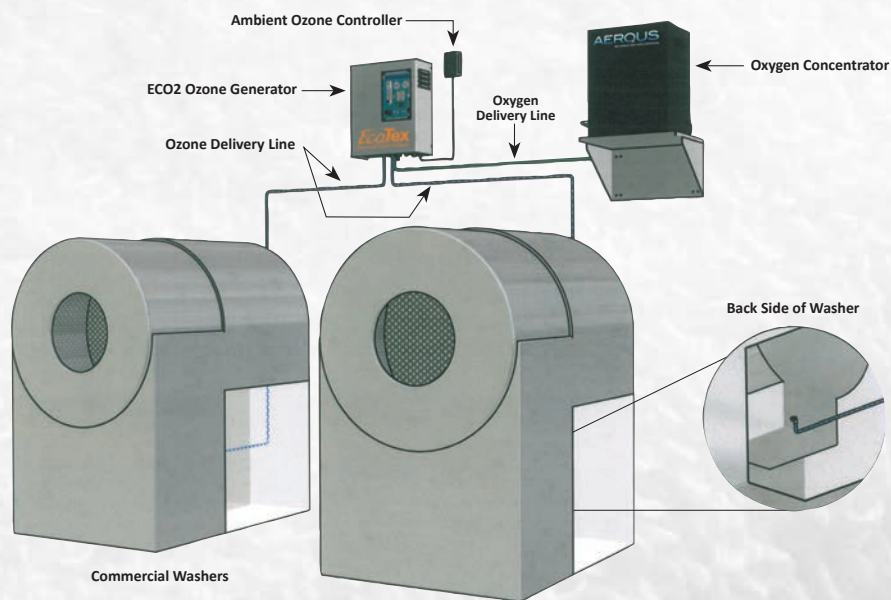
### Applications

- Hospitality
- Senior care
- Hospitals
- Correctional



*"Usually going green means there are some costs associated or rebates which must be budgeted or waited for. The most amazing part of installing an EcoTex Laundry System, was that there was no upfront cost. With this program, your savings pay for the equipment and once that is paid off, the savings are 100% yours. It's a win-win situation for everyone."*

Amar Sohi, General Manager  
Holiday Inn Express & Suites, Atascadero, CA



### Hot Water Energy

85%

### Total Water

35%

### Electricity

30%

### Labor Efficiency

20%

### Linen

11%

## EcoTex Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	120V/60Hz AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz, AMPS	90-250V 47-63 Hz, AMPS	Dimensions (inches)			Wt. lbs
	Oxygen	Oxygen					H	W	D	
ECO1	4 @ 4	3.00	1.00	0.65	0.60	1.20-0.56	20.50	12.75	5.50	21.0
ECO2	8 @ 8	3.00	1.70	1.10	1.00	2.20-0.90	20.50	16.00	7.50	30.0
ECO3	15 @ 6	6.00	1.20	0.65	0.60	1.60-0.60	19.50	15.75	6.50	38.0
ECO4	27 @ 12	6.00	2.10	1.20	1.00	2.80-1.00	19.50	20.75	9.00	55.0



Visit our You Tube Channel  
to watch our EcoTex Video

# NatureWash

## Residential Ozone Laundry System

### NatureWash - Residential Ozone Laundry System

NatureWash technology provides an eco-friendly, cold-wash laundry system that improves the quality and cleanliness of your in home laundry. By oxidizing normal tap water, NatureWash turns cold water into activated oxygen, nature's safest, most effective, disinfecting agent. NatureWash reduces energy consumption, water use, cycle times, drying times, detergent use, chemical use, and extends fabric life.

Additionally, NatureWash leaves linens softer to the skin, cleaner, and smelling fresher. With less chemicals, and a laundry cycle that is more efficient and cost effective, NatureWash is a true green product.

#### Features

- Aluminum enclosure with white powder coated finish
- Washer hose type connections on inlet and outlet
- Custom designed PCB to control ozone, indicator lamps, LEDs and track time to service
- Flow switch controlled
- Leak detection with audible alarm and service light
- Service light illuminates after predetermined hours of operation
- LED on front cover for Power On (green), Ozone On (blue), Service Required (red)
- Two keyhole-type holes on back of enclosure for wall mounting
- Visual water flow is backlit with blue LED



#### Benefits

- Anti-bacterial control
- Cold water wash reduces energy
- Less detergent, less rinsing, less drying
- Whiter, fresher, softer linen
- Extended linen life
- Reduced effluent waste
- Eco-friendly
- Designed and manufactured in the U.S.A



### NatureWash Specifications

Unit	Grams Per Hour	120V/60Hz, AMPS	240/60Hz, AMPS	Dimensions (inches)			Wt. lbs
				H	W	D	
NatureWash	200 mg/hr	0.5	0.3	10.55	17.12	2.57	6



## The Ozone Laundry Handbook

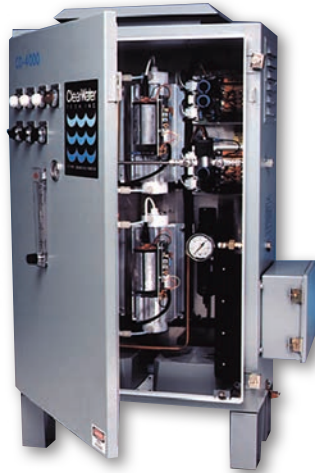
*"A Comprehensive Guide To The Proper Application of Ozone in the Commercial Laundry Industry"*

Written by Dr. Rip Rice, PhD, and Marc DeBrum

The "go-to" source for true and accurate information on the uses of ozone for commercial laundries. ClearWater Tech has teamed with laundry industry professionals and ozone scientists from around the world to compile the foremost publication regarding ozone in the laundry industry.

For more details go to [www.ozonelaundryhandbook.com](http://www.ozonelaundryhandbook.com). If you would like to order a copy, please send inquiries to [sales@cwtozone.com](mailto:sales@cwtozone.com), or purchase directly at [www.amazon.com](http://www.amazon.com) or [www.lulu.com](http://www.lulu.com).





CD-4000



CD8000



CD12000P

### Cabinets

The corona discharge cabinets are designed for larger commercial applications. Providing an ozone output range from 28 to 170 grams per hour, these industrial strength ozone generators deliver tremendous value, high performance, and output capability in the most demanding conditions.

#### Features

- Automated operation
- Minimal maintenance
- Designed for ease of service
- Computer grade power supply
- Remote 4-20mA control
- Manual 0-100% ozone output control
- Air-cooled stainless steel ozone reaction chambers
- Powder coated steel enclosure
- System interface controls
- Gauges and meters

#### Applications

- Commercial swimming pools
- Small community potable water systems
- Waste water
- Aquatic life support
- Bottling plants
- Food processing
- Beverage processing
- Zoos and aquariums
- Cooling towers



### Commercial Cabinets Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	220V/50Hz AMPS, Single Hot Leg	240V/60Hz AMPS	208-240V 47-63 Hz, AMPS	Dimensions (inches)			Wt.
	Oxygen	Oxygen				H	W	D	lbs
CD-4000	28 @ 28	3.00	3.50	3.20		42.0	28.5	14.0	149.0
CD4000HO	40 @ 28	4.00	3.50	3.20	3.7 - 3.2	42.0	28.5	14.0	149.0
CD4000P	56 @ 24	6.00	3.50	3.20	3.7 - 3.2	42.0	28.5	14.0	149.0
CD-6000	37 @ 42	3.00	4.70	4.30		52.0	40.5	18.0	264.0
CD6000HO	60 @ 42	4.00	4.70	4.30	5.0 - 4.3	52.0	40.5	18.0	264.0
CD-6000P	84 @ 36	6.00	4.70	4.30	5.0 - 4.3	52.0	40.5	18.0	264.0
CD-8000	52 @ 56	3.00	5.30	4.50		52.0	40.5	18.0	314.0
CD8000HO	80 @ 56	4.00	5.30	4.50	5.6 - 4.5	52.0	40.5	18.0	314.0
CD8000P	112 @ 48	6.00	5.30	4.50	5.6 - 4.5	52.0	40.5	18.0	314.0
CD-12000	81 @ 84	3.00	7.00	6.50		70.0	40.5	18.0	421.0
CD12000HO	120 @ 84	4.00	8.00	7.40	8.5 - 7.4	70.0	40.5	18.0	421.0
CD12000P	170 @ 72	6.00	8.00	7.40	8.5 - 7.4	70.0	40.5	18.0	421.0



Hose and wash gun not included

## C-Series Mobile Disinfection Cart

The C-Series Mobile Disinfection Cart delivers ozone-enriched cold water for food and beverage applications. Powerful, effective, well-designed, safe for the environment, and easy to maneuver, the cart replaces traditional hot water and harsh chemical surface sanitation and provides safe sanitation on contact. Wash down floors, walls, process equipment, rinse barrels, tanks, doors, and any surfaces with the push of a button.

### Features

- Microprocessor controlled ozone system with built-in soft start and self-diagnostics
- Rotary vane booster pump – boosts low pressure water supplies for better coverage
- Separately controlled ozone and oxygen gas outlet - User programmable
- ¾ FNPT inlet (optional front or back location) and outlet
- Welded stainless steel tubing frame and water safe stainless exterior
- Built-in tool basket
- Designed for easy service access or maintenance
- Critical parts are fully-contained for water safe operation
- Designed with low center of gravity, well-balanced, and a small footprint
- Ozone/oxygen gas flow meter



Visit our You Tube Channel to watch our Cart Video

## C-Series Mobile Disinfection Cart Specifications

Unit	Grams Per Hour @ SCFH	Concentration By Weight @ Rated SCFH	PPM @ GPM	120V/60Hz, AMPS	220V/50Hz AMPS, Single Hot Leg	Dimensions (inches)			Wt. lbs
						H	W	D	
C1 Cart	18 @ 12	4.00	8 @ 10	12.0	-	54.30	20.60	26.30	160.0
C2 Cart	18 @ 12	4.00	8 @ 10	-	7.0				

### Applications

- Seafood processing
- Wineries
- Breweries
- Bottled beverages
- Floors/walls
- Dairies
- Meat processing
- Poultry processing
- Food processing

## Clean-In-Place (CIP) Series

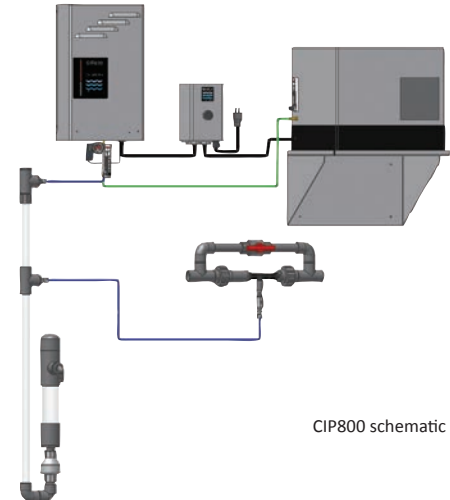
The CIP packages are wall-mounted ozone systems providing ozone enriched water for clean-in-place and surface cleaning applications. Use to sanitize floors, walls, tanks, barrels, transfer lines and any other disinfection needs at your facility.

### Features

- Ozone generator
- Oxygen concentrator
- Safety - vacuum switch operated
- Backflow prevention
- Efficient mass-transfer injection manifold
- Wall-mounted, no floor space required

### Applications

- Surface sanitation
- Wineries/breweries
- Bottled beverages
- Seafood cases
- Butcher blocks
- Food processing
- Fishing vessels
- Fish storage
- Dairy cases
- Odor control
- Process water purification



CIP800 schematic

## CIP Series Specifications

System	Grams Per Hour	Feed Gas	Water Inlet/Outlet (inches)	Water Flow Range		PPM@GPM	Inlet Pressure (PSI)	Amperage Draw	
				GPM	LPM			120VAC 60HZ	220VAC 50/60HZ
CIP20	0.2	Ambient	0.75" MPT	1.3 - 5	3.7 - 18.9	0.7 @ 1.0	20 - 100	0.50	0.25
CIP260	2.6	Dry	1.0" Socket	5.0 - 15	18 - 57	2.3 @ 5.0	60	2.60	1.52
CIP800	8.0	Oxygen	1.0" Socket	5.0 - 15	18 - 57	7.0 @ 5.0	60	5.40	3.00
CIP1500	15.0	Oxygen	1.5" Socket	15 - 40	57 - 151	4.4 @ 15.0	60	4.20	2.25
CIP3000	30.0	Oxygen	2.0" Socket	30 - 80	58 - 151	4.4 @ 30.0	60	7.50	3.30

NOTE - Anticipated results obtained at 7.5 pH, 70°F municipal water. PPM is stated at 100% mass-transfer



### AirWaves™ - Residential Indoor Quality Air

A unique whole-home air purifying system that eliminates household odors and airborne microbes, AirWaves utilizes two of nature's strongest purifiers, ozone and ultraviolet light. It operates silently, and automatically inside the ventilation system. Each unit services up to 3,000 square feet of living space.

#### Features

- Adjustable output
- In-duct installation and operation
- Combined strength of O<sub>3</sub> and UV
- Automated operation with HVAC system
- No moving parts

#### Benefits

- Whole-home coverage
- Eliminates odors and freshens air
- Safe, quiet, energy efficient
- Operates automatically with HVAC fan
- Out-of-site inside the ventilation system
- More efficient than a 60-watt bulb
- Easy to maintain

### AirWaves Specifications

Unit	Total Power	Voltage	Minimum Duct Depth	Exposed Size (Outside of Duct)			Dimensions (inches)			Wt.
			Inches	H	W	D	H	W	D	lbs
AirWaves	47 W at Maximum Output Setting	120VAC/60Hz, 220VAC/50Hz Power Supply: UL & CE Listed	14.00	9.00	4.25	2.50	9.0	4.25	15.50	2.6

\* AirWaves has a UL approved power supply, is registered with the EPA, and meets all EPA and OSHA regulations. Laboratory results show that AirWaves eliminates virtually 100% of *Serratia Marcescens* within minutes.

### ComAir 20T™ - Commercial Indoor Quality Air

The ComAir 20T Air Treatment System is the most advanced commercial grade HVAC sterilization system available on the market. With the germicidal killing power of 300 microwatts and 0-100% variable ozone output, this system effectively eliminates bacteria, viruses, and various odors.

The ComAir 20T provides germicidal and odor protection inside the centralized HVAC system with two specially designed ultraviolet lamps.

#### Features

- Adjustable output
- In-duct installation and operation
- Combined strength of O<sub>3</sub> and UV
- Automated operation with HVAC system
- No moving parts
- Universal power input
- Timed boost mode
- Microprocessor controlled

#### Benefits

- Whole-building coverage
- Eliminates odors and freshens air
- Safe, quiet, energy efficient
- Operates automatically with HVAC fan
- Out-of-site inside the ventilation system
- Easy to maintain

#### Accessories

- Automated ozone control sensor
- Manual remote ozone controller



PATENTED TECHNOLOGY

### Applications Occupied Spaces - (occupied by people, plants or animals)

- Pet hospitals
- Commercial retail
- Casinos
- Health facilities
- Restaurants/bars
- Office buildings
- Factories
- Hospitals
- Food processors
- Schools

### ComAir™ Specifications

Unit	Total Power	Voltage	Minimum Duct Depth	Exposed Size (Outside of Duct)			Dimensions (inches)			Wt.
			Inches	H	W	D	H	W	D	lbs
ComAir 20T	150W at Maximum Output Setting	90VAC-270VAC 50/60HZ	18.00	15.00	6.00	4.00	15.00	6.00	20.00	10.0



## AEROUS™

The AEROUS™ oxygen concentrators are designed for commercial applications that require high levels of oxygen, up to 93%. The oxygen is created on-site via the pressure swing adsorption (PSA) process. Oxygen concentrators can provide a constant flow of oxygen without storage or handling of oxygen cylinders, making them the perfect choice for many applications.

### Aerous Specifications

	AEROUS-8	AEROUS-15
Oxygen Output	8 SCFH (4 LPM) @ 10 PSIG	15 SCFH (7 LPM) @ 10 PSIG
Oxygen Purity	93% + / - 3%	93% + / - 3%
Sound Level	50 dB(A)	50 dB(A)
Dimensions	19.75" h x 11.89" w x 13.75" d - (501 x 302 x 350mm)	20.50" h x 12.64" w x 15.10" d - (521 x 321 x 384mm)
Weight	68 lbs (31 kg)	75 lbs (34 kg)
Power Requirements	120VAC 60 HZ, 3.0 AMP, 1 Phase 220-240VAC 50/60 HZ, 1.6 AMP, 1 Phase	120VAC 60 HZ, 3.8 AMP, 1 Phase 220-240VAC 50/60 HZ, 2.1 AMP, 1 Phase
Operating Conditions	Specifications listed are based on the following atmospheric operating conditions: temperature -22°F to 104°F (-30°C to 40°C). *Relative humidity < 85% - System must be adequately ventilated	

\*High humidity systems available



### Features

- Twin sieve bed design
- Low maintenance
- Externally mounted intake filter
- Flow meter/pressure regulator
- Hour meter
- Silent operation

### Applications

- Ozone generation
- DAF systems
- Glass blowing
- Aquaculture
- Veterinary
- Waste water
- Industrial gas supply



### AD40 - Heat Regenerative Air Dryer

Accurate air preparation is important for efficient ozone production and to the longevity of corona discharge ozone generators. The AD40 is an automatic, heat regenerative desiccant air dryer designed to accompany the CD10, CD12, M-1500, CD1500, P2000, and the Apex V ozone systems. It is rated for use in environments with up to 75% relative humidity.

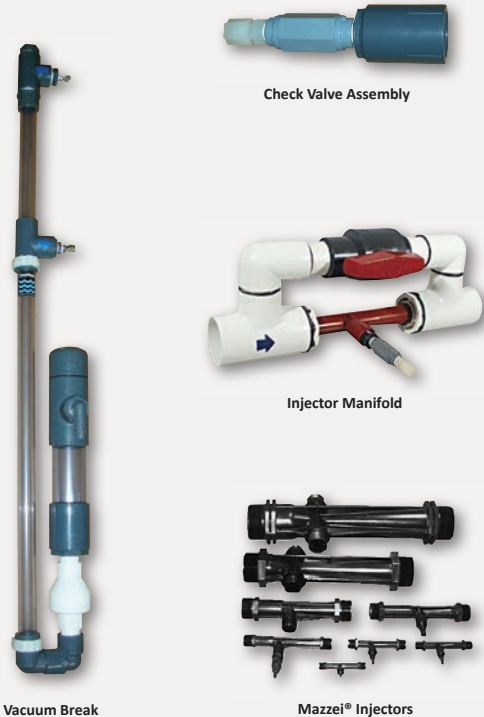
### Rack-Mounted Oxygen Systems

ClearWater Tech offers multiple, rack mounted, oxygen concentration systems. Available in five configurations and designed specifically for the commercial ozone cabinets.



### Air Preparation Specifications

Unit	Packaged With	Max SCFH @ Oxygen 90% (+3%/-5%)	120V/60Hz, AMPS	220V/50Hz AMPS, Single Hot Leg	240/60Hz, AMPS	Dimensions (inches)			Wt. lbs
						H	W	D	
AD40	CD10, CD12, M1500, CD1500, P2000, CD2000, APEX V	20	1.0	0.6	0.5	25.0	12.5	12.5	10.0
RMS30	CD4000, CD4000HO, CD4000P	30	6.6	3.4	3.1	49.0	19.0	23.0	190.0
RMS45	CD6000, CD6000HO, CD6000P	45		5.1	4.7	60.0	42.0	19.0	284.0
RMS60	CD8000, CD8000HO, CD8000P	60		6.8	6.2	60.0	42.0	19.0	359.0
RMS75	CD12000P	75		8.5	7.8	60.0	42.0	19.0	434.0
RMS90	CD12000, CD12000HO	90		10.2	9.3	81.5	42.0	19.0	509.0



### Vacuum Break

The vacuum break, or j-break, provides a positive atmospheric “break” between the ozone injector manifold and the ozone generator, preventing water from flowing back into the ozone generator should the venturi check valve fail. It is used with all ClearWater Tech corona discharge ozone systems.

### Check-Valve Assembly

The ozone check-valves are an important component in preventing damage to the ozone generator. Valve assemblies are designed to be used in conjunction with the ozone injection manifolds to avoid back flow.

### Ozone Injector Manifold

ClearWater Tech injection systems use only Mazzei® injectors for maximum mass transfer efficiency. The injector produces a cavitation effect, enabling the ozone gas to join the water stream in the form of extremely tiny bubbles. These bubbles must be as small as possible in order to increase the ratio of bubble surface area to the amount of ozone entering the water.

### Mazzei® Injectors

Mazzei® Injectors are high-efficiency, venturi-type, differential pressure injectors with internal mixing vanes. When a sufficient pressure difference exists between the inlet and outlet sides of the injector, a vacuum is created inside the injector body, which initiates suction of gas through the suction port.

### Contact Vessels

To maximize the effectiveness of ozone, it must be thoroughly mixed and have adequate time to react with the contaminants in the water before returning to usage or further processing. ClearWater Tech contact vessels are designed to achieve maximum ozone contact efficiency. All tanks are approved by NSF International and come in a variety of sizes from 30 to 850 gallons depending on the application.

### Ozone Catalytic Destruct System (OCD)

The ClearWater Tech ozone off-gas destruct system consists of two components – the ozone destruct unit (a heated chamber filled with manganese dioxide and copper oxide), and a water trap. The two-stage system is designed for convenient installation on a vertical surface adjacent to the contact vessel. Used in conjunction with the off-gas vent, this ozone destruct system is an efficient way to properly vent the contact vessel for indoor applications.

### Gaseous Ozone Sensor

Ozone levels can be measured with high accuracy and functionality with the use of ambient ozone controllers and monitors. ClearWater Tech offers a full range of controllers capable of measuring ozone, including AeroQual controllers.



ClearWater Tech Ozone Sensor



AeroQual Ozone Sensor

### Dissolved Ozone Analyzer

The Rosemount analytical controller measures dissolved ozone in parts per million (ppm). This panel, or wall mount controller, is equipped with easy to read LCD display of ozone ppm, water temperature, and 4-20mA output range.



Dissolved Ozone Analyzer

### Electrical Interlock Control Boxes

ClearWater Tech manufactures electrical control products that can be used to interface the main components of an ozone system with the applications processing equipment. These control products feature meters and gauges, back flow prevention, and motor control interlocks.



Electrical Interlock Box

### PRO Series - Circulation Pump Systems

The PRO Series circulation pump system integrates a 5 gallon per minute (gpm) magnetic drive pump with a Mazzei® venturi to provide efficient ozone mass-transfer for small water circulation applications. The systems are equipped with a multi set-point 24-hour timer, and electrical interface connections for an ozone generator.



PRO10

### OAS Series - Air Compressor Systems

The OAS Series systems are designed for small diffusion or gaseous ozone applications. Incorporating a compressor, multi set-point 24-hour timer, and electrical connections for an ozone generator, the OAS provides simplicity in the control and interface of the ozone application.



OAS-7

For complete specifications of our peripheral equipment please call our offices at 800.262.0203 or visit our website at [www.cwtozone.com](http://www.cwtozone.com).





**Environmental Protection Agency**  
Disease control lab test on seawater

**San Diego Zoo**  
Polar Bear and Hippopotamus Exhibit

**Nike World Campus, Redmond, OR**  
320,000 gallon main pool and 8,500 gallon children's pool

**Culligan Water**  
Bottling sterilization system

**Sheraton Hotel, Park Lane, London**  
Commercial laundry

**Sierra Nevada Brewing Company, Chico, CA**  
Clean-In-Place (CIP) surface sanitation

**The Pentagon, Washington, DC**  
Recreational pool and spa

**Sea World, Orlando, FL**  
Marine recovery and quarantine pools

**CaroMont Health, Gastonia, NC**  
Commercial laundry

**Subaru, Cherry Hill, NJ**  
80,000 gallon DI storage

**Coquitlam Recreation Complex, BC**  
Community swimming pools

**Ready Foods, Denver, CO**  
Microbial control in chilling water

**Crystal Fresh, Canada**  
Bottling sterilization system

**City Center, Las Vegas, NV**  
Multiple water features

**Marina Bay Sands Hotel, Singapore** - 380,000 gallon  
Sky Park vanishing edge pool

**Slade Gorton, Boston, MA**  
CIP surface sanitation

**United Nations Headquarters, NY**  
Memorial fountain

**Legoland, Carlsbad, CA**  
250,000 gallon, two-story aquarium

**Pier Fish Company, New Bedford, MA**  
Surface water disinfection

**Coca Cola, Istanbul, Turkey**  
Product water sterilization

**NASA Johnson Space Center, Houston, TX**  
Training pool

**Modelo Beer, Mexico**  
Beer lines

**Marion Correctional Institution, Marion, OH**  
Commercial laundry

**General Dynamics, Scranton, PA**  
Metal working coolant bactericide

**Nestle, UK**  
Bottling water systems

**Grand Hyatt, Kauai**  
Salt water swim lagoon, activity fresh water pond feature

**Hyatt Regency, Waikiki**  
Hotel swimming pool



*ClearWater Tech markets globally and has  
over 200,000 installations on six continents*



## ClearWater Tech, LLC

Ozone Systems for Water and Air Purification

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