



**ELTECH OZONE PVT LTD** is the group company of **ELTECH ENGINEERS PVT LTD**, established in 1992. Eltech Ozone Pvt Ltd is an ISO 9001: 2015 and CE certified Indian Company manufactures different types of Ozone Generators from 1gm/hr to 2 kg/hr.

Eltech Ozone Pvt Ltd is formally for Ozone Generators virtually applications like Waste water treatment, Sewage water treatment, Effluent water treatment, Packaged drinking water, Swimming pool, Laundry, Cooling tower water treatment and Air purification like STP Exhaust, OWC exhaust / rooms, Kitchen exhaust, etc.

We are located in Mumbai, Dahisar at Diamond Industrial Estate, Near toll plaza, Off western express highway.

We have supplied industrial Ozonators to Ion Exchange Limited, Fine chemicals Ltd, United Phosphorous Ltd, Bits Pilani – Goa (Birla Institute Of Technology), Ipca Laboratories, Indian Institute of Technology (IIT) – Powai & Madras, National Institute of Technology (NIT) – Patna, CSIR – Jammu, NIPER – Assam, Sunpharama, Cipla Ltd., Reliance Industries, BARC, DRDO, WTE, Pratap Snacks, Monginies, Taj Group of Hotels, Khar Gymkahana and Etc.

## Ozone use in seafood processing

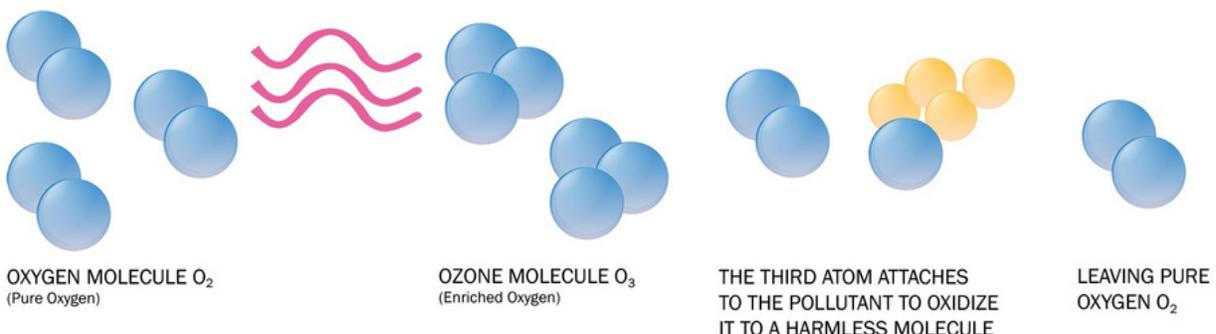


## Aquaculture and Commercial Fish Growing Facilities

Ozone applications in aquaculture and zoos has increased due to its numerous advantages over traditional water treatment methods. Disinfection of circulated water is essential to maintaining fish health. Ozone provides effective disinfection without producing harmful byproducts or chemical residuals. Eltech Ozone can help to improve key process parameters such as dissolved oxygen (DO), and reduction in ammonia. Clean drinking water is essential for animal health and reproduction. Ozone treatment lowers the number of illnesses and deaths.

## Ozone Benefits for Aquaculture and Zoos:

- Reduced water usage
- Faster growth rates
- Reduction of waterborne diseases
- Higher standard of environmental control
- Supplements other treatment processes



## Why Ozone Use is Growing in Aquaculture:

- It effectively removes organics, pesticides, discoloration and nitrates.
- Typically unconsumed ozone reverts back to oxygen, leaving no harmful residuals behind.
- Ozone oxidizes long chain molecules, which are unaffected by biofiltration.
- Ozone involves far lower risk of accidental pollution in comparison to other water treatment methods
- O<sub>3</sub> improves the effectiveness of biological and particulate filtration.

## Ozone Cleaning of Sea Food

Ozone use in seafood processing applications has proven to be a great tool in the quest for food safety as it has in many other food processing industries. Traditional methods for sanitation in the seafood industry have been a wide use of chlorine dissolved in rinse and wash waters. Chlorine has been the most widely used sanitizer in the seafood industry despite the limited effect it has on killing bacteria on seafood surfaces (Augusto Goncalves). Due to the potential off flavor and negative health effects of chlorine by-products, improved sanitation methods have been sought. Since the acceptance of ozone use in food production and the GRAS approval granted in 2001, many uses for ozone have been researched and implemented in the commercial seafood processing industries.

## Ozonated Ice and Fresh Fish Storage

Ozonated Ice and Fresh Fish Storage Ozone can be dissolved into water that is then frozen in ice production. This process will essentially store the ozone within the ice creating what is commonly referred to as ozonated ice. This ozonated ice can be used in the storage of fish to prolong shelf-life and maintain a fresher, better looking product to the end user. Much of the fish that we consume is harvested in the ocean by large fishing vessels that may stay out at sea for weeks at a time. To maintain high quality fish products for market, ozonated ice is commonly used on these vessels for the fish that are harvested early in the voyage and stored. Ozonated ice has gained popularity in seafood storage for many land based operations and fish farms

## Antimicrobial Intervention in Fillet Machines and Cut Fillets

After ozone was granted GRAS approval by both the USDA and FDA for direct contact with food, interest in antimicrobial intervention directly on food products has dominated the discussions of ozone use in food processing. Fish and seafood processing has not been immune from this shift. Ozone can be dissolved into water to provide an aqueous ozone solution that is stable, safe and easy to control. This water containing ozone can replace chlorine as an antimicrobial agent, or be used to supplement existing water rinses and achieve improved antimicrobial intervention.

- Aqueous ozone used for processing of dressed whole fish showed a reduction of bacterial cell counts of <5,000 without ozone to <932 with ozone, and a reduction of <5,000 without ozone to <120 with ozone on fillets.
- When fillets were cut from the whole ozonated fish they resulted in low cell counts of 120-190. In this cutting of the whole ozonated fish, no ozonated spray was done on the fillet machines, or ozonated pretreatment, or ozonated ice for packing was done. Fillets without ozone treatment (but with conventional treatment) ranged from 7,500 – 5,000 cell count.
- Catfish fillets produced from implementing aqueous ozone spraying on the fillet machine showed a reduction in total plate counts of 14,906 – 2,975

## Surface Sanitation of Processing Equipment, Tables, etc.

Ozone dissolved into water can be used throughout a seafood processing plant for surface sanitation. This is a common application to sanitize fillet machines, cutting tables, knives and all equipment that may be used in the seafood processing areas. Ozone is used throughout the food processing industry for surface sanitation of shipment. Many processing plants already use ozone-in-water or aqueous ozone for antimicrobial intervention steps directly on the surface of food products. Due to the FDA and USDA giving ozone GRAS (Generally Recognized as Safe) approval for use directly on the surface of all food products, the use of ozone has spread dramatically in the last 10 years. Ozone use for surface sanitation is just one more cost saving method that can be implemented by plants already using ozone, or for plants that would like lower cost and have a more effective method for surface sanitation.

# Eltech Ozone Pvt Ltd

## Odor Control in Offal Rooms and Other Processing Areas

Seafood processing can create foul odors in certain processes. The offal processing can create a foul odor that is less than ideal for the employees working within that specific room. In some applications seafood is dried to create a final product. The drying process releases the moisture and odor to the outdoors. Foul odors from this process or other processes can cause potential odor issues surrounding a seafood processing plant, causing complaints from neighbors in the community. Ozone is commonly used in industrial odor control for many applications. There are a variety of methods to implement ozone safely. The main goal being to maintain worker safety, while improving indoor and outdoor air quality.

## Ozone Advantages,

- Ozone has a fast reaction
- No Harmful by-products (Ozone is a green tech)
- Ozone is safe
- Automated operation
- Improved Air Quality and Work Environment
- Eliminate Odor Complaints



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