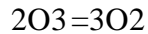


OZONE GENERATOR SPECIFICATION

QUESTION: WHAT IS OZONE?

Ozone is a molecule that consists of three oxygen atoms (O₃), with a delta negative and a delta positive electric charge. The ozone molecule is very unstable and has a short half-life. Therefore, it will decay after some time into its original form: oxygen (O₂, according reaction presented below)



In essence ozone is nothing more than oxygen (O₂), with an extra oxygen atom, formed by an electric high charge an extra oxygen atom. In nature ozone is produced by some chemical reactions. The most familiar example is of course the ozone layer, where ozone is produced from the sun's ultra-violet (UV) rays. But ozone is also produced at thunderstorms and waterfalls. The extreme high voltages attended with thunderstorms produce ozone from oxygen. The special "fresh, clean, spring rain" smell is a result from nature-produced ozone. Ozone derives from the Greek word *ozein*, which means to smell.

Ozone is only produced under extreme circumstances. This can also be created by ozone generators. Ozone generators produce ozone with extreme high voltages or with UV-light.

Ozone is the second most powerful sterilant in the world and its function is to destroy bacteria, viruses and odors.

QUESTION: HOW DOES OZONE WORK?

ANSWER: Ozone operates according the principle of oxidation. When the static loaded ozone molecule (O₃) contacts with something oxidation able, the charge of the ozone molecule will directly flow over. This is because ozone is very instable and likes to turn back in its original form (O₂). Ozone can oxidize with all kinds of materials, but also odor and microorganisms like viruses, moulds and bacteria's. The extra oxygen atom releases from the ozone molecule and binds with the other material. Eventually remains only the pure and stable oxygen molecule.

Ozone is one of the strongest oxidation agents technical available for use to oxidize solutes. The extra-added oxygen atom will bind (=oxidation) in a split second to every component that comes into contact with ozone.

Ozone can be used for a broad of area of purification. For the biggest part ozone is applied in the municipal

wastewater and potable water treatment plants (for disinfection). However ozone is used more and more in the industrial branch. In the food industry for example ozone is used for disinfection and in the paper- and textile industry it is used for the oxidation of wastewater. The main benefit of ozone is its clean character, because it only oxidizes materials, with forming almost no byproducts. Because ozone has a strong recognizable odor, very low concentrations will soon be perceived. This makes it generally safe to work with ozone.

QUESTION: *HOW IS OZONE PRODUCED?*

ANSWER: Ozone can be produced artificially according the same principle as it occurs in nature, which means by UV light (ozone layer) or via corona-discharge (high voltages, thunderstorm). In both methods the connection between the oxygen molecules is broken up. Consequently oxygen radicals are produced, which connect with the oxygen molecule to O₃ (ozone). For the production of ozone, corona discharge is used more because of the greater advantages of this method. Advantages are the lower costs for ozone production (more cost-efficient) and the greater durability of the system. For the feed inlet ambient air can be used as well as pure oxygen. For pure oxygen, oxygen generators can be used to concentrate oxygen out of air. When pure oxygen is used a higher concentration of ozone can be produced.

QUESTION: *WHAT IS THE RIGHT LEVEL OF OZONE?*

ANSWER: The right level is when all the generated ozone is being used up accomplishing its job. Initially the machine's output is set high to get rid of the problem odor as quickly as possible. As this is being accomplished less ozone is required for the diminishing odor etc., thereby leaving some residual ozone in the air. If the machine output is not turned down after awhile then more residual ozone will be in the air.

If there is a heavy smell of ozone, then there is more ozone present than is required to do the job. Simply turn the output level control down, or the unit off.

It is not necessary that you even smell the sweet smell of ozone (compared to fresh country air following a thunderstorm) for it to be effective. Even roses are an objectionable odor to some people, when in excess.

QUESTION: *HOW CAN YOU TELL THE LEVEL OF OZONE?*

ANSWER: There are a lot of measuring instruments available to measure ozone in water and air. These measuring instruments rest on different principles and can measure the concentrations from PPM (PPM = Parts Per Million) to PPB (= Parts Per Billion). The instruments can be used for monitoring and controlling the ozone generator.

QUESTION: HOW LONG DOES THE OZONE LAST?

ANSWER: As soon as ozone is formed in the generator and dispersed in a room some of it decays back into oxygen. This step occurs by several processes including the following: Natural decay (or reversion to oxygen) due to ozone chemical instability. The natural process is speeded up by the presence of walls, carpets, furniture etc. Oxidation reaction with odor causing organic material, which removes ozone. Reactions with bacteria again consumes ozone by oxidation reactions. Additionally ozone itself has a half life which means that any extra ozone will return to oxygen within at most 30 minutes, in amounts equal to half its level.

QUESTION: WHAT IS THE HALF-LIFE OF OZONE?

ANSWER: For the purification of water and air, it's needed to produce ozone on-site. Because of its short half-life, ozone will decay soon when produced. The half life of ozone in water is about 30 minutes, which means that every half hour the ozone concentration will be reduced to half its initial concentration. For example, when you have 8 g/l, the concentration reduces every 30 minutes as follows: 8; 4; 2; 1; etc. In practice the half-life is shorter because a lot of factors can influence the half-life. Factors are temperature, pH, concentration and concentration and sort solutes. Because ozone reacts with all kinds of components, the concentration ozone will reduce quickly. When most of the components are oxidized, the residual ozone will remain, and the concentration ozone will reduce less fast.

QUESTION: IS OZONE HARMFUL AND WHAT ARE THE EFFECTS?

ANSWER: At higher concentrations ozone is harmful for human health after inhalation. Several agencies, such as the occupational safety and health agency (OSHA) have proposed MAC-values for ozone. The MAC-value is the Maximum Acceptable Concentration a human is allowed to be exposed to for a certain time and certain agent. For ozone the MAC-values is 0.06 PPM for 8 hours a day, 5 days a week (PPM = Parts Per Million). For a maximum of 15 minutes a MAC-value of 0.3 PPM is applied.

The concentrations mentioned above are much higher than the odour threshold at which ozone can be smelled, so critical concentrations will be noticed quickly.

When people are exposed to high ozone concentrations the symptoms can vary from dryness in the mouth and throat,

coughing, headache and chest restriction. Nearby the lethal limits, more acute problems will follow. When larger ozone generators are applied, ozone destructors can be used for the destruction of residual ozone.

QUESTION: HOW DOES OZONE HANDLE TOBACCO SMOKE?

ANSWER: It eliminates the irritation caused by phenol gasses, by oxidizing them. Phenol gasses are the invisible part of tobacco smoke that cause such offensive odors, and discomfort to one's eyes and nasal passages. Ozone rids any offensive odors in the environment rather than merely filtering out some of the visible particles like other "air cleaners".

OZONE GENERATORS

Clean the air and reduce the risk of bacterial, viral and other infections. Applications are quick and easy as units are portable and only require 20 minutes to treat the average room. Ozone generators Have proven to be the most effective way to to quick clean the air in any room no matter how big or small.

Even though O₃ is harmless to humans and pets, O₃ is lethal to almost all viruses, bacteria, fungi, and cancer cells. There have been numerous articles in scientific literature to prove this fact. O₃ also can eliminate Pollens that cause eye, nose, sinus infections and allergies; Carbon Monoxide that causes headache, nausea, shortness of breath and death; Formaldehyde that causes headache, nausea, shortness of breath and asthma; Chemical Gases that causes lung damage, headache, nausea and irritations; Benzene that causes brain damage, headache, nausea, irritations; Dust Mites that cause asthma attacks, allergies, infections, fatigue and depression; Mold & Mildew that causes allergies, fatigue, depression, sinus disorders and death; Cigarette Smoke that produces 4,600 chemical compounds, and much more to list.

O₃ is 5,000 times more powerful as a germicide than chlorine, yet it is much safer. When O₃ is made by corona high voltage discharge it produces negative ions as a byproduct. Negative Ions transport the O₃ molecule to the air borne contaminant. Purifying on the attack, it also neutralizes the positive charged piece of dust causing it to be destroyed or fall to the floor. what is Ozone water? the Ozone dissolved at water easily, the ordinary water keeps fixed the ozone of consistency reasonably is ozone water, it is called "life-force water" by people. "life-force water" is the natrue water which haven't been polluted and contain the various mineral substances that are favour of the human body, it is flowing and admitted as the most ideal, safety, pure and nourished "drinking water"

APPLICATION

ozone is combining by three atoms, the third atom explain out constantly to make many organic matters occur the chemical reaction has following function:

- (1)Decomposition harmful gas purification air , like the second_handed smoke of decomposition and factory and automobile is placed in proper order waste gas
- (2)Perishes the large intestine fungus , the red dysentery fungus , the bacterias such as minute fungus etc that existe in the atmosphere or water.
- (3)Decompose remnants' pesticide that sticks to in vegetables fruit.
- (4)keep the flesh of fish fresh degree makes more lasting longly.
- (5)Decomposite the chlorine in the running water
- (6)With ozone water have a bath to possess to bleach and the effect such as cosmetology and health protection etc.
- (7)Take offs the smell of the kitchen or the toilet.
- (8)Purify waste water
- (9)Protect the body of people from the radiation of the television and computer.

Furthermore,acording to the research of United States scientist,it found that the cancer cell growth speed retards clealy it can restrain the cancel cell exactly,means that the foreground of the ozone function for our life is vast.

OUR OZONE GENERATOR



Model	Name	package	Ozone	Dimension	Purified area	Power supply	Weight	Power
HY T-00 1	Household Ozone generator	Carton	2-15g/h	310*250*520 mm	60m2 100m2	220V 50-60HZ	10-18Kg	80-240W

FUNCTION

- 1) Formaldehyde treatment after house fitment
Peculiar smell removing, bleaching, decolorizing of restroom (toilet)
- 2) Peculiar smell elimination for cabinet, refrigeratory, lampblack, rubbish
- 3) Poisonous gas decomposing such as toluene, ethanol, carbon monoxide, sulfur dioxide.
- 4) Deodorization of chifforobe, shoes cabinet
- 5) Pesticide excess elimination of vegetable & melon and fruit
- 6) With ozone water have a bath to possess to bleach and the effect such as
cosmetology and health protection

Usage: House, Water treatment, Swimming pool



Model	Name	package	Ozone	Dimension	Purified area	Power supply	Weight	Power
HY T-00 2	Fruit& vegetable detoxification Ozone generator	Carton	2-8g/h	230*180*410 mm	10m2 60m2	220V/50Hz	8-12Kg	70-160W

FUNCTION

- 1) Ozone can sterilize foodstuff
- 2) Ozone can eliminate remnant pesticide, fertilizer, at the same time ozone can decompose external ethylene of fruit and vegetable. So it can make foodstuff and vegetable not mouldy, fresh

Usage: Enterprise, government, school, kindergarten, foods supplying center, hotel, noshery, hospital and so on



Model	Name	package	Ozone	Dimension	Purified area	Power supply	Weight	Power
HY T-00 3	Animal breeding detoxification Ozone generator	Carton	10-50g/h	400*300*910 mm	200m2 400m2	220V 50-60HZ	22-38Kg	200-650W

FUNCTION

1. Its function is to destroy bacteria, viruses in the water, and high effect and fast speed. It can get rid of organic compound with second pollution.
2. It can prevent disease, purify air and get rid of odour, So the raiser can avoided to inject drug such as antibiotic. It is good to people health in the farm

Usage: Farm, animal breeding place



Model	Name	package	Ozone	Dimension	Purified area	Power supply	Weight	Power
HY T-00 4	Movable hotel air purification Ozone generator	Carton	4-15g/h	320*250*820 mm	80m2 120m2	220V 50-60HZ	15-20Kg	160-240W

FUNCTION

- 1) Ozone by this machine is of stronger oxidation and catalysis. It can make protein denaturalization, reduce nucleic acid and enzymatic activation, so it can kill bacteria and virus.
- 2) Ozone belongs to broad-spectrum sterilization. It has strong sterilization to all kinds of bacteria and viruses.
- 3) Ozone can decompose and oxidate poisonous gas such as formaldehyde, carbon dioxide, dimethylbenzene, and it generates innocuous byproduct. So it can avoid the second pollution
- 4) Making use Ozone gas to sterilize, reduce organic exhaust gas, get rid of peculiar smell, purify air is advanced high technology. Environmental science is one of four technology in 21st century.
- 5) Timing function for air purification Ozone generator, without any people guard
- 6) For hotel: Deep treatment of tap water; pesticide elimination of vegetable & fruit; disinfection & sterilization of kitchen, dining room, tools, refrigerator, dish frame, breed aquatics place, foods room, bedroom; cleaning of bedding, bedsheet
- 7) Ozone can lustrate small animal and hexapod such as mouse, blackbeetle because of Ozone unique smell.
- 8) For health :Ozone is very instable and likes to turn back in its original form (O₂),so it can add the oxygen concentration to expedite cell activation, improve blood cycle and metabolism, and prevent disease
- 9) Movable and Convenient, it can sterilize and purify different rooms

Usage: Hotel, guest room, hospital, dining room, KTV, public place,supermarket.

Component

Generator unit, SS 304 housing, Quartz sleeve, Amperometer, Fan, Gas flowmeter, Ozone adjustment button and so

on. Wind cooling for 1 to 32 g/h Ozone generator, but water cooling beyond 40g/h Ozone generator



Model	Name	package	Ozone	Dimension	Purified area	Power supply	Weight	Power
HY T-00 5	Foods disinfection Ozone generator	Carton	4-25g/h	330*260*590 mm	80m2 200m2	220V 50-60HZ	12-20Kg	160-350W

FUNCTION

Ozone can turn back to oxygen within 30 mins, without leftover and pollution matter. It can kill bacteria propagation, sporangium, epiphyte and other pathogeny microbe quickly. So it can sterilize and purify foods process and package workshop, improve foods sanitation quality, increase foods effect. It also meet National sanitation requirement of without leftover, and decompose remnant pesticide and fertilizer that sticks to in vegetables fruit.

Usage: foods processing workshop, foods producing equipment, freezing warehouse, production workshop, vegetable fruit processing, Mineral water production and so on



Model	Name	package	Ozone	Dimension	Purified area	Power Supply	Weight	Power
HY T-00 6	High concentrate Ozone generator	Carton	5-25g/h	360*260*630 mm	100m2 200m2	220V 50-60HZ	12-20Kg	180-300W

FUNCTION

It can kill bacteria propagation, sporangium, epiphyte, spore and many microbes quickly. So it can keep foods fresh and innocuous

It can destroy toxin and prevent limberneck.

It has stronger eliminating mildew, smell, odour function

Usage: Lab, pure water & mineral water factory, freezing warehouse, medicine workshop, foods processing workshop, foods producing equipment, bathroom, vegetable fruit room



Model	Name	package	Ozone	Dimension	Purified area	Power Supply	Weight	Power
HY T-00 7	Air purification Ozone generator	Carton	5-25g/h	330*260*620mm	100 m2 160m2	220V 50-60HZ	12-15Kg	160-240W

FUNCTION

1. Be of air purification,sterilization,disinfection,mildew elimination,
Tobacco odors elimination,smell elimination function
2. It can restrain pathogeny of all kinds of viruses,bacterias,microbes,prevent
disease,destroy bacteria propagation,and decompose poisonous gas and create fresh air

Usage: Hotel, house, KTV, night club, club, bar, net bar, bus station, marketplace and so on



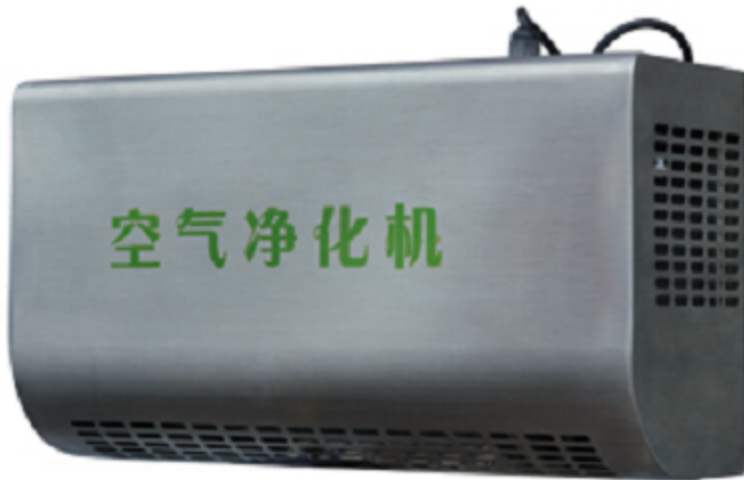
Model	Name	package	Ozone	Dimension	Purified area	Power Supply	Weight	Power
HY T-00 8	Cabinet Ozone generator	Carton	5g 10g	1000*500*1200m m	100 m ³ 200 m ³	220V 50-60HZ	30Kg 38Kg	180W 300W

Function

- 1) Ozone by this machine is of stronger oxidation and catalysis. It can make protein denaturalization, reduce nucleic acid and enzymatic activation, so it can kill bacteria and virus.
- 2) Ozone belongs to broad-spectrum sterilization. It has strong sterilization to all kinds of bacterias and viruses.
- 3) Ozone can decompose and oxidate poisonous gas such as formaldehyde, carbon dioxide, dimethylbenzene, and it generates innocuous byproduct. So it can avoid the second pollution
- 4) Making use Ozone gas to sterilize, reduce organic exhaust gas, get rid of peculiar smell, purify air is advanced high technology. Environmental science is one of four technology in 21st century.

Feature: Sculpt beauty, designing novelty, operation convenience, running credibility.

Usage: Cosmetic factory, lab, disinfection room, foodstuff factory



Model	Name	package	Ozone	Dimension	Purified area	Power Supply	Weight	Power
HY T-009	Air purification Ozone generator	Carton	2-5g/h	330*140*180mm	40m2 80m2	220V 50-60HZ	4-5Kg	120-140W

FUNCTION

1. It can sterilize poisonous bacteria, mildew, pathogen, epiphyte propagation in the air.
2. It can decompose tobacco odor, alcohol odor, ammonia odor, mildew, smell, formaldehyde, toluene, carbon monoxide gas. So it can purify air, improve air quality, keep air natural and fresh.
3. Health: Ozone is very instable and likes to turn back in its original form (O₂), so it can add the oxygen concentration to expedite cell activation, improve blood cycle and metabolism, and prevent disease

USAGE

1. Public place: file room, library, hotel, restaurant, restroom, enterprise, house
2. Hospital & pharmacy factory: bathhouse, lab, operating room, sickroom, instruments, asepsis workshop
3. Foodstuff and beverage enterprise: workshop, asepsis room, bathroom, warehouse. It can purify air and sterilize foods.
4. Breed aquatics: feeding chicken indoor, animal breeding, asepsis inoculation, air purification
5. Warehouse: foodstuff, birds & eggs, herbal medicine, fruit, vegetable, meat foods, aquatic product disinfection.
6. Others: Air purification, peculiar smell elimination for other industry.

COMPONENT

Generator unit, quartz sleeve, SS housing, 60L air compressor



Model	Name	package	Negative ion	Dimension	Purified area	Power Supply	Weight	Power
HY T-010	Negative ion health Ozone generator	Carton	3 million	390*200*200mm	10m ² 60m ²	220V 50-60HZ	2Kg	60W

FUNCTION

Negative ion is vitamin of air, it can eliminate tiredness, promote sleeping, increase appetite. With strong sterilization, vegetable fruit disinfection, air purification,

sleeping improvement, peculiar smell elimination, beauty care, skin disease prevention, meat hormone elimination function

Usage: House, office, beauty parlor, hotel, guest room, hospital, kindergarten, school, KTV room, Lab

Above items: 500mg/h - 120g/h available