



**Ozone Generator**

**User Manual**

# Ozone Generator User Manual

## I . Overview

Ozone is a strong oxidant, disinfectant, refining agent, catalyst. France has used ozone to sterilize drinking water from the beginning of this century. Since then, it is more and more widely used.

Ozone generator is a new product developed after five years of research. Compared with other ordinary ozone generators, it has a higher attempt and a more stable operation. At present, it has been widely used in food, beverage, hospital, swimming pool, aquaculture, sewage treatment, family, and public places.

This product is a new in the series of industrial ozonators, It has the characteristics of convenient installation, simple use, convenient operation, stable operation and large ozone concentration. Its unique technology comes from thousands of applications and practices.

1. The discharge plate is made of ceramic material with high electrical strength as dielectric; 304 stainless steel material is used as internal and external discharge electrode; poly four atmosphere material and high-purity silica gel as seal; special internal electrode screw connection and plexiglass screw fixation greatly improve the insulation, safety and electrical strength of the discharge board, so that the life of the discharge module is long and the working efficiency is high.

2. Air cooling and water cooling ozone generators. Air cooling adopts special circulating circuit board to control the discharge module and high-voltage package; water cooling adopts external or softened water filtration to cool the discharge pipe, air cooling the pipe and pressure cycling the built-in micro water pump.

3. According to the customers, we can provide some ozone mixing products such as jet, gas water mixer, air distribution plate, check valve and aeration tower.

## II . Application Range

Food, dairy, pharmaceutical; cosmetics; planting; beverage; storage; breeding; electronics family.

Typical applications:

Sterilization and maintenance of purified water, mineral water, mountain spring water, beverage factory, wine factory sterilizer; sterilization of edible fungus cultivation and breeding factory; decolorization and bleaching of pulp, syrup and textiles; sewage treatment aeration; iron and ferocity removal; circulation sterilization of food waste water, chemical pharmacy and swimming pool; disinfection and sterilization of hospital infectious diseases; fresh air sterilization of entertainment places and public toilets; enterprises, schools and families vegetable degradation toxin and tableware disinfection.

### **III. Suitable Range**

Food processing: disinfection of production water, production workshop, packaging room, dressing room, sterile room, production equipment and tools.

Beverage processing: disinfection of purified water, mineral water, production water for various beverages, production workshop, packaging room, dressing room, sterile room equipment and tools production.

Fruit and vegetable processing: disinfection of fruit and vegetable storage, preservation, water processing and production, production workshop, packaging room, dressing room, sterile room, equipment and tools production.

Cold storage preservation: preservative preservation and extended storage of fruits and vegetables, grains, eggs, meat and aquatic products.

Pharmaceutical industry: production water, central air conditioning system, workshop, dressing room, sterile room, etc.

Breeding and planting industry: sterilization, disinfection, deodorization and air purification of chicken, fish and vegetable greenhouses.

Drinking water: deep well water, municipal water supply, secondary pressurized water supply, rural drinking water, etc.

Public places: air purification of cross infection prevention of hotels, restaurants, schools, Internet cafes, waiting halls, etc.

In addition, it can be used in water and air purification of dry water, sewage, waste water, waste gas, swimming pool and natatorium.

## **IV. Household Ozone**

### **1. Food Purification**

From the outside to the inside, it can degrade the toxic substances such as chemical fertilizer and pesticide left in fruits, vegetables and grains, eliminate the harmful substances such as antibiotics, chemical additives and hormones in meat and eggs, kill the halophilic bacteria that are easy to cause poisoning in seafood, and prevent the disease from entering the mouth.

### **2. Drinking Water Purification**

Ozone-treated tap water is a kind of high quality raw drinking water. Each litre of water only needs to be put in for 2 minutes to remove the residual chlorine in the water, sterilize, disinfect, deodorize and remove heavy metals, prevent the formation of the carcinogen trichloromethane, increase the oxygen content in the water: self-made ideal pure drinking water.

### **3. Sterilization**

Put the cleaned catering utensils into the cabinet and pass them into the cabinet for 20 minutes, which can remove the residue of detergent, kill bacteria and viruses, replacing the electronic disinfection cabinet, and avoiding the infectious diseases of catering utensils. It can also disinfect and remove odor in clothes towel, dishcloth, socks, etc.

### **4. Air Purification**

Hang the ozone exhaust pipe above 1.5m, discharge 20~30 minutes. It can effectively remove the peculiar smell of indoor or decoration materials, reduce dust and sterilize, increase the oxygen content in the air, and clean the air, so that you can enjoy the fresh air like forest after rain at home (also for smoke removal, dust removal, detoxification and odor removal of families, offices, meeting rooms and entertainment places).

### **5. Fruit and Vegetable Preservation and Mildew Prevention**

The fresh-keeping period of domestic fruits and vegetables can be extended for 7 days only by passing it 2 minutes into the bagged fruits and vegetables. It can also be used for the mould proof of vegetable kiln and the transportation of fruits and vegetables.

## **6. Bath, Beauty and Health Care**

Ozone bath has become a fashion in foreign countries. It has been used to treat diseases for many years, which is another magic effect of the mine. Regular ozone bath can eliminate toxins in the body, activate epidermal cells, eliminate sores, whiten the skin, and has a good effect on rheumatism, dermatosis, gynecopathy, diabetes and onychomycosis.

## **7. Fish Farming and Flower Watering**

Watering flowers and greenhouse vegetables can avoid pests and reduce the use of pesticides. For fish and aquaculture, ozone enters the water to release primary ecological oxygen, eliminate bacteria and bacteria, oxidize impurities, preventing water quality from deteriorating and increasing water nutrients.

## **8. Deodorization**

Because ozone has a strong oxidation and decomposition ability, it can quickly and thoroughly eliminate all kinds of peculiar smell in the air and water.

## **V. Sterilization Mechanism and Characteristics of Ozone**

Ozone has a strong oxygen function, and the redox potential in water is 0.07V, only second to alert (2.87V), with higher oxidation capacity than chlorine (1.5V). Therefore, it has a strong killing effect on bacteria, molds and viruses. Its mechanism has two main aspects as follows:

1. Ozone is easily associated with phosphorus in the cell walls to react with membranes, lipids and proteins of bacteria, destroying cell walls and cells (so-called bacteriolysis). The permeability of the cell membrane is enhanced, and the substance in the cell flows out to make it lose its vitality.

2. Ozone destroys and decomposes the cell wall, spreads rapidly into the cell and oxidizes the enzyme or RNA and DNA in the cell, thus causing the death of mycoplasma.

Ozone dissolves in water to get ozone water. Ozone is stable in water, and it will reduce to produce very active mono atom (O) and radical (OH) with strong oxidation. The redox potential of radical is higher than that of ozone, which is 2.8V. Therefore, ozone water not only has a strong killing effect on bacteria and microorganisms in water, but also has a strong decomposition effect on the right substances in water.

Ozone sterilization is characterized by high efficiency, safety, reliability and convenience. The sterilization of general disinfectants is progressive and cumulative. Ozone or ozone water sterilization is rapid. There is a threshold value. When the ozone concentration reaches the threshold value of sterilization, the sterilization effect occurs instantaneously. When the ozone degree of clean water is 0.04-0.5ppm, the inactivation rate of HBV in 1 min was 100%. In the same sterilization (e.g. killing 99% of escherichia coli), the dosage of ozone water is only a few ten thousandths of chlorine. The efficiency of sterilization is obvious. The decomposition product of ozone is oxygen, which will not produce residual or secondary pollution. The pervasion of ozone gas and the fluidity of ozone water avoid the angle which is hard to clean in the process of disinfection and sterilization. It is safe and reliable. The infrared rays of chemical agents are incomparable with it.

### 3.Features

Air cooling;

The generator unit has a long working life;

Antioxidant check valve;

Stainless steel shell

### 4. Composition

Generator unit; timer, pin socket; grounding wire; fuse; stainless steel shell; 120 fan (for water treatment type); 1.5m conveying pipe; bubble stone

## VI. Precautions

Warning: do not open the enclosure if it is not a professional or in power on state, so as to avoid high-voltage injury!

Intermittent use is recommended to ensure the service life of the machine!

1. when air source is used, the air pipe is connected as shown in the figure:

When the generator has entered a large amount of air with moisture, it will lead to the decline of ozone production or the generator can not work normally. Place the generator in a dry environment for about 2 hours to see if it can work normally. If it can not work normally, it needs to be repaired.

When the air source is used, connect the output port and the

input port with silica gel gas pipe and install a steam water separator. Turn on the power switch and the air compressor switch at the same time.

2. When it is used for pure water sterilization, please use oxygen in oxygen bottle to get good sterilization effect. When the oxygen in the oxygen bottle is used, the oxygen can be connected with the oxygen input port. Close the valve of air compressor and turn on the power switch.

3. In order to ensure the stability and long-term service life of the product, the following items shall be noted for installation:

A: The water treatment type ozone generator must be installed outside the water making workshop and filling workshop (it is strictly prohibited to install it in the narrow and humid water making or filling workshop). Keep the working environment of the generator ventilated and the air dry, and the space must be installed with exhaust fan.

B: The installation position of the generator shall be 1.2m higher than the ground; 1-2m higher than the water storage tank if possible; 1-2m higher than the water tank for ozone transmission pipeline.

Procedure:

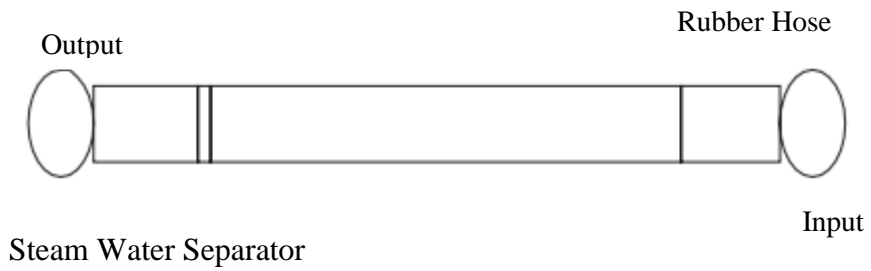
a: Turn on the machine: first turn on the switch, then turn on the timer;

b: Turn on the machine: turn off the timer and then the switch.

Warning: the oxygen source of oxygen cylinder shall be designed and operated in accordance with national regulations and Oxygen safety standards. Please use medical pressure reducing valve when using oxygen cylinder. NO industrial pressure reducing valve.

As the gas pressure of oxygen cylinder is 18Mpa high pressure, in order to prevent the dangerous accident of oxygen explosion, it is necessary to install detector in the gas supply pipeline as the detection alarm instrument.

Product warranty: six months warranty except generator module. After the maintenance period, only the replacement parts and transportation costs are required (The generator is consumables with no warranty).



Date:  
Inspector :