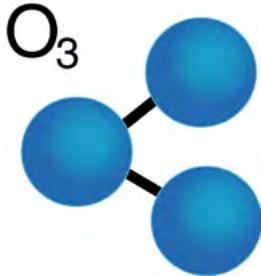


Ozone



Ozone is composed of three oxygen atoms (O₃). It is an unstable light blue gas at room temperature and under high pressure and can be easily broken down into oxygen (O₂). Its half-life is about 30 minutes. It is in 1785 that the Germans first discovered this special gas.

The ozone can be divided into 4 major areas according to its usage: water treatment, chemical oxidation, the food and drug processing and preservation, and medical treatment. To use the ozone for the treatment of drinking water and sewage in our country started in the beginning of 1980s, but the development to use it for detergency and cooling water is rather slow. But the economic feature of the ozone and its advantages of non-toxic and no secondary pollution are the decisive factors that it will become more popular as well as a wider range of application.

The ozone in the water kills micro-organisms such as bacteria, viruses at a high rate and speed. It makes a thorough cleaning of polluted organics

in water without a secondary pollution. Therefore drinking water disinfection is the most important ozone application area at present and the tap water industry is the largest market of the ozone.

It is very popular to use chlorine to disinfect water in a tap water plant. However, ozone kills bacteria at a higher and faster rate. It is very sensitive to the change of water pH value to use chlorine to disinfect water. The chlorine dosage should increase 2.5 times when pH values changes from 7.5 to 8.0 while the ozone dosage will have no change. It is the main reason why the ozone is used in water treatment instead of chlorine.

It is also the main reason why the traditional countries such as the United States of America, Japan which use chlorine as disinfection is

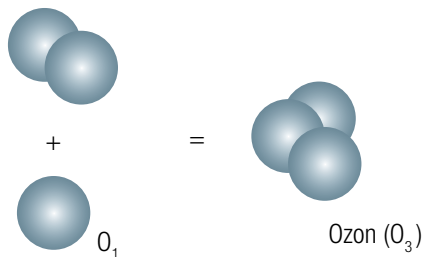


Reaction of the ozon in water

now developing rapidly and using the ozone instead of chlorine to disinfect tap water. It will produce chlorinated organics such as chloroform, bromomethylenedichloride, carbon tetrachloride (THM) with water resource polluted by matters produced by organic chemical industry, which contains cancer-causing substances while the oxidation in ozone treatment does not produce secondary pollution compounds.

Ozone has powerful removal ability of color, odor and taste. It can remove 90% of alicyclic alcohol and metabolism substance of microorganism with ozone concentration reaching 15mg/L. Generally the O₃ dosage required in water feeding treatment is only 1-3mg/L with 10-15 minutes of contact time due to rather low color, odor and taste in raw water.

Oksijen (O₂)



Ozone applications can be summarized as follows:

- Water Treatment
- Disinfection and bacteria killing
- Decomposition of organic matters
- Removal of color, odor and taste
- Sterilization of cold storage warehouse
- Sterilization and purification of food processing shops
- Space sterilization

Selection of ozone generators

- It requires a small production of ozone with simple structure and low price for household products.
- The purpose of ozone generator is for disinfection and removal of odor with ozone spreading in the air. The selection of ozone generator concentration and production amount depend on pollution degree and disinfection object. It requires generally low ozone concentration, for example, 0.5ppm (1ppm=2mg/m³) for disinfection and removal of odor in the air.
- The ozone purification device includes 2 parts: the ozone resource and the contact device. The former will provide ozone with sufficient concentration and production amount and the latter makes the ozone dissolved in water with a high efficiency to achieve a certain degree of ozone solubility.
- It may select an ozone-oxygen combined machine for large ozone equipment which requires high concentration.





Model	CH-T2G	CH-T3G	CH-T5G	CH-T6G	CH-T8G	CH-T10G
Capacity (g/h)	2	3	5	6	8	10
Cooling	Air compressor cooling					
Size (cm)	36*26*61					
Weight (kg)	12	12	12.3	13	13	13.5
Power (kw)	≤0.080	≤0.095	≤0.12	≤0.135	≤0.14	≤0.15
Voltage (v)	220					
(Hz)	50					
Concentration (mg/L)	40	45	45	47	47	48
Source: Oxygen						

Model	CH-ZTW-1G	CH-ZTW-2G	CH-ZTW-3G	CH-TZTW-5G	CH-ZTW-6G
Capacity (g/h)	1	2	3	5	6
Cooling	Air compressor cooling				
Size (cm)	40*36*18				
Weight (kg)	9.73	9.75	9.8	10	11
Power (kw)	≤0.073	≤0.080	≤0.095	≤0.12	≤0.135
Voltage (v)	220				
(Hz)	50				
Concentration (mg/L)	40	40	45	45	47
Source: Oxygen					



Model	CH-TY-10G	CH-TY-15G	CH-TY-20G
Capacity (g/h)	10	15	20
Cooling	Air compressor cooling		
Size (cm)	50*39*120		
Weight (kg)	83	88	95
Power (kw)	≤0.75	≤0.88	≤0.98
Voltage (v)	220		
(Hz)	50		
Concentration (mg/L)	50		
Oxygen Concentration (L/min)	3-4	5	5



Model	CH-T-15G	CH-T-20G
Capacity (g/h)	15	20
Cooling	Air compressor cooling	
Size (cm)	40*30*77	
Weight (kg)	20	23
Power (kw)	≤0.30	≤0.36
Voltage (v)	220	
(Hz)	50	
Concentration (mg/L)	45	43
Source: Oxygen		