



Aquarium Water Treatment

Using **PIE Ozonation** has significant advantages in fish hatcheries. Ozone is a gas generated from air or pure oxygen. As ozone is easily decompose to oxygen, the dissolved oxygen level in the fish tank could be increased. In addition, using ozone to replace chlorine for disinfection, fishes will not be exposed to the by-product of chlorination. **PIE Ozonation** kill the germs and bacteria from the water as well as maintain a good water quality at the same time. UV-Light has a great limitation in water treatment. It can be blocked by small particles inside water. Ozone can maintain disinfections capability even the water is highly polluted and turbid. It can also disinfect the fish surface and fish's drops. In addition, ozone can reduce scaling by oxidizing the biological film that forms a substrate at water tank's surface. This would reduce the workload in frequent tank's cleansing and ensure a clean appearance.

Comparison between Ozone, UV and Chlorine (Chemical) in fish tank treatment

	Ozone	UV-Light	Chlorine
Reliability in Bacteria Elimination	Can be applied at highly polluted and turbid water. Water, fish surface and fish's drops can be disinfected. Faster bacteria killing ability than UV-Light and Chlorine.	UV-Light can be blocked by small particles in water that reduce its effectiveness of disinfection. Fish's surface and fish's drops cannot be disinfected.	Effective in bacteria killing in high concentration. However, carcinogenic by-products may be produced after chlorination
Cost Expense	High capital cost but the lowest running expense. Use electricity in operation only.	Medium capital cost and running cost. Electricity consumption for UV is higher than ozone generation.	Low capital cost but high in running cost.
Draw Backs	Ozone is easily decomposed and should be generated on-site.	Need to clean the UV lamp frequently to maintain the lamp's effectiveness. Not suitable for turbid water.	Suspected carcinogenic by-products are formed after chlorination.

Overview of **PIE Ozonation System**

As a R&D and main manufacturer of water & wastewater treatment system in Hong Kong, Prominent manufacturers ozone disinfections system. Our brand name, **PIE Ozonation**, representing high performance, good reliability and cooperative work. Prominent production processes are subjected to comply with ISO9001 quality assurance system. Product quality is guaranteed. Safe and high performance products together with supportive service are our major objectives.



Various model of PIE Ozonation system fits for different applications and situations



Water disinfection using ozone



Bacteria analysis by our laboratory



Our laboratory works for water and air analysis



Introduction of Ozone Disinfection

Ozone is an extremely reactive gas that kills bacteria 3,000 times faster than chlorine to use. It is widely applied in water and air disinfection as well as odor removal. Many European countries are encouraging ozone in replacement of chlorine or detergents for disinfections. Since ozone is a highly reactive gas, it can self-decompose into oxygen gas, which is no harm to human health. Beside air and water disinfections, it can be used to remove odor and volatile organic carbon, which usually exists in new furniture and leather.

Competitive Price

One set of PIE Ozonation System for aquarium treatment costs HKD1,800. (an ozone generation basic unit) It is very simple in installation. 15-minute can complete the installation on-site.

Our offer

- We offer 7 days trail total money back guarantee
- Optional monthly laboratory analysis of bacteria count in water to verify the performance of a **PIE Ozonation** System
- 1-year on-site product's quality warranty including all parts and labors

Low Operating Expense (Low Product Lifecycle cost)

The running expense for a **PIE Ozonation** System is electricity consumption only. For one aquarium for treatment, a **PIE Ozonation** System consumes around 80W at 220VAC. There is no consumable & no parts for replacement under normal operation.

Water Disinfections and Treatment

Ozone has been used in water disinfections and treatment for over 50 years. Since the main consumption is electricity only, the running cost is the lowest among the other disinfection / methods / treatment. Ozone is widely applied at the following situations.

- ◆ Disinfections
- ◆ Color removal
- ◆ Elimination of taste and odor from water
- ◆ Oxidation of heavy metal such as iron, manganese and copper etc...
- ◆ Reduction of organic chemical
- ◆ Particle reduction

Cooling Towers water treatment – Ozone treatment in cooling tower is very popular at USA, Japan and European countries. It can remove bio-film and scale in order to maintain a good heat transfer condition for the operation of the cooling towers.

Swimming Pools and Spa -- Chlorination can form hazardous organic by-products (e.g. trihalomethane, THN), which poses a threat to swimmers. On the other hand, any ozone will not produce any harmful by-products and it is a strong disinfectant but also decompose oxidizer which could hazardous organic chemicals.

Drinking Water Treatment -- Almost all developed countries are using ozone for treating drinking water. As a strong oxidant, ozone can effectively remove color, taste and odor. Ozone can effectively destroy bacteria and inactivate virus more rapidly than other disinfectant chemicals.



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