

Advanced Oxidation Process(AOP)

Advanced Oxidation and Disinfecting Equipment LASWIM AOP

This is an advanced oxidation and disinfection equipment which combines disinfection with ozone and organic violet (UV) rates together, causing ozone to be catalysed by ultraviolet light until the creation of various free radicals including hydroxyl radical (OH)

Advanced Oxidation Processes (AOPs) are a combination of processes used to remove contaminants in water and treat wastewater through the use of robust oxidation methods aimed at to separate contaminants that are difficult to treat from water through reactions caused by oxidants such as ozone (O₃), and UV light, as well as the generation of free radicals especially free hydroxyl(-OH) radical has very high oxidizing power.

AOPs working process

The working process of AOPs is to enable the free hydroxyl radical (OH) to penetrate into contaminants and effectively react with contaminants that are difficult to treat, by causing the breakdown into harmless substances or substances that are easier to treat better. This process reduces the concentration of contaminants and makes the water cleaner.

Features of AOPs

Combining Ozone with UV light (O₃/UV) when combining Ozone with UV rays. It will increase the efficiency of creating free hydroxyl radicals. This improves the ability to treat contaminants better



Benefits of AOP systems in the swimming pools

1. The AOP system is a combination of UV+OZONE. The result is OH, which is a disinfectant. Can destroy bacteria, viruses, fungi, and small organisms. Various contaminants, carcinogens, and dangerous residual chlorine. Including bacteria that cause diarrhea that chlorine cannot remove, but OH can remove, such as Cryptosporidium, Giardia Lamblia} Legionella. This is considered a high level of confidence in the cleanliness of the water if there is OH in the swimming pool. To give ourselves and those we love Happy swimming in the pool
2. AOP can reduce the use of chemicals in swimming pools by up to 80% while still keeping the water clean and safe. And such safety is still at a higher level than any water treatment system.
3. AOP is besides being a water treatment system for swimming pools and is good for our health. It is also environmentally friendly. by the water obtained after the treatment process Can be used to water plants or can be proudly released into public water sources because it does not have a harmful effect on nature and ecosystem
4. Water that has undergone treatment from the AOP system does not contain carcinogenic substances. The AOP system also helps destroy carcinogens in the water.
5. Water that has gone through the treatment process from the AOP system reduces the use of chemicals. Therefore, the water obtained is beautiful, clear, sparkling, and has no pungent odor as found in pools that use a chlorine system or salt system. The water that passes through the AOP system is closest to natural water.
6. Hydroxyl(OH), OZONE, UV when eliminating various germs until the end of the process won't leave any residue, Therefore making the water clear, clean and safe. This is therefore the advanced oxidation that is worth having in our swimming pools for treatment. Even though the cost price for this system is higher than any other system But it is worth investing in our health. To solve the problem of toxic substances and non-degradable contaminants in water sources. The way other systems can't do it But with advanced technology and excellent germicidal ability like this, This makes AOP's advanced oxidation sterilizer now an advanced swimming pool water disinfection and treatment system. It is also an ideal choice for high-end swimming pool disinfection truly for everyone



AOP-Advanced Oxidation Process
LASWIM

AOP has 2 model as details

Model	AOP 100	AOP 200
Water volume	100m ³	200m ³
Ozone output	10g/h	20g/h
Power supply	220V/50Hz	220V/50Hz
Rated power	1.1 kW	1.8 kW
Lx Wx H	70*60*172cm	80*70*172cm

AOP and OH

How did it happen?

How does it work?

A BACTERIA DESTROYING SUPER HERO



THE COMBINATION OF OZONE AND UV LIGHT CREATES THE AOP SYSTEM

UV

O₃

·OH

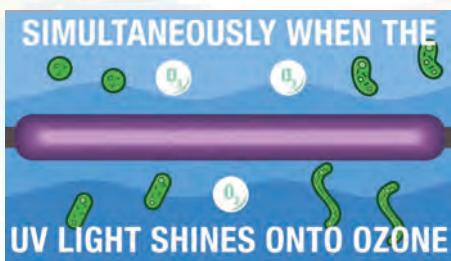
ULTRAVIOLET LIGHT

OZONE

HYDROXYL RADICALS

2. UV generator

UV is indispensable in the working process of AOP to generate OH. In the process of irradiating UV light to ozone, the UV light must be bright enough to cause a complete reaction.



4. Start eliminating bacteria.



OH is able to destroy the bacteria's protective barrier and faster than other types of disinfectants

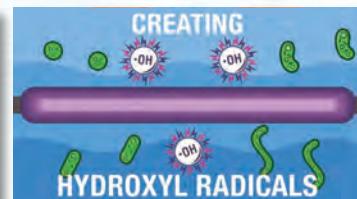
All bacteria are eliminated, including Cryptosporidium Giardia Lamblia Legionella, germs that cause diarrhea that chlorine cannot destroy.



1. Ozone generator

Ozone that will be used in the AOP system must be Ozone that is generated by an oxygen generator. This will result in a sufficient amount of ozone for the system, and ozone obtained from this oxygen production device. It will remain in good condition and will not decompose quickly, allowing it to be used in the treatment system for a longer time. Ozone is a precursor to the formation of OH(hydroxyl). Ozone can kill germs well but it is still inferior to OH after producing ozone. The ozone is passed to the UV generator system in the next step.

3. Generation of Hydroxyl OH



Hydroxyl(OH) is formed from O₃ + UV = OH, which is a disinfectant that can best remove contaminants

- Has the ability to kill germs in the way chlorine And ozone can't do that.
- Eliminates all types of bacteria
- Eliminate viruses
- Eliminate mold
- Eliminate algae and moss
- Eliminate contaminants
- Eliminate carcinogenic substances
- Eliminate residual chlorine



*** 99.9% guaranteed to eliminate germs.



THE AOP SYSTEM
STERILIZES UP TO
99%
OF BACTERIA IN
YOUR SPA WATER



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