

The Facts About OZONE & UV STERILIZATION

OZONE (O₃)

- Kills cryptosporidium & microorganisms
- Reduces chlorine consumption
- Is the strongest oxidizer available
- Provides some residual oxidation
- Is a clarifier in cloudy water
- Won't destroy free available chlorine (FAC)

O₃ Operation

Properly designed pool ozone systems require a sidestream of water around the heater of a pool. In that sidestream, vacuum is created by means of an injector, pulling ozone gas into the water stream. This is the exact point where oxidation takes place.

Ozone gas mixes and dissolves into the water, resulting in crystal clear pool water. That sidestream of ozonated water can either be sent back to the pool through a dedicated return line, or more commonly, it blends back into the main return line downstream of the pool's heater.

Depending on the size of the ozone generator used, a small residual of ozonated water could return to the pool. However, algae spores flowing through the ozone injection point will be destroyed.

For this reason, ClearWater Tech recommends some other technology (chlorine, copper silver ionization, etc) in conjunction with ozone to create *The Ultimate Water Experience™*.

UV (254 nm)

- Inactivates cryptosporidium
- Inactivates microorganisms
- Increases chlorine consumption
- Is a very effective sterilizer
- Is a line-of-sight sterilizer
- Is only effective in clear water
- Can break down FAC
- Increases stabilizer use

UV Sterilization Operation

UV technology for pools requires the full flow of water to physically enter the UV chamber. The UV lamp casts an aura of radiation that will effectively inactivate contaminants in the pool water. This is considered sterilization, not oxidation. These UV systems require regular cleaning of the quartz sleeve in order for sterilization to occur.

More Facts...

- 1 Ozone oxidizes the organics and chloramines, eliminating their production.
- 2 Ozone's reaction with combine chlorine is very slow, and in a pool, will not affect the FAC levels, only chloramine destruction.
- 3 Ozone destroys biofilm, whereas UV has no effect on biofilm.
- 4 Ozone increases Oxidation Reduction Potential (ORP), the measurement of sanitation for pools, while UV has no effect on ORP.
- 5 Ozone oxidizes organics and inorganics that potentially could create chloramines, while UV breaks down the chloramines that have already been created.



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