

THE ATOMY OF OZONE SYSTEMS

Ozone has been around since the beginning of time. If you have ever been in a lightning storm when it is raining and smell that clean smell. That is ozone. It has a very short life. Ozone has been used to purify drinking water for decades throughout the world. It is also called tri-atomic oxygen ozone and is a molecule consisting of three atoms of oxygen, formed when oxygen molecules are broken apart and rejoined again.

The ozone molecule is a very powerful oxidizer. It destroys anything it comes in contact with 3000 times faster and more effectively than anything else available today by attacking the contaminants at the molecular level. When the oxidation is complete, or if ozone finds nothing to oxidize, it returns to molecular oxygen (2 atoms) dissipating into the atmosphere.

Ozone is produced in the stratosphere by two methods. UV radiation from the sun will break apart molecular oxygen into individual nascent oxygen atoms. These atoms quickly attach themselves to the first molecule they encounter. When they join with an oxygen molecule, tri atomic oxygen is born. Another way in which ozone is created is through lightning occurring in the stratosphere. The electricity breaks apart the molecules and rejoins them in the same manner as UV radiation. The scent you may smell after a thunderstorm is sometimes the smell of ozone.

Ozone is also produced for swimming pool and spa water in these two methods. In the UV method, air is passed over a UV bulb, and the radiation creates nascent oxygen and then ozone. The molecules are then introduced into the water where they can do their stuff. In the corona discharge method, a small lightning storm is created in an air filled and dried chamber utilizing special and expensive electronics and equipment. Swim World Pools recommend the less expensive ozone system, the UV.

Ozone is indeed a powerful oxidizer, but it is a gas. It is NOT marketed as a stand alone technology simply because of the production required to have ozone molecules visit every square inch of your pool before it is changed into something other than ozone. Ozone has a short life span (about 20 minutes), and the distribution of it. Ozone is also not very effective on algae. What is effective in is killing the "nasty's" (perspiration, urine, viruses, etc) So not as much chlorine is needed to oxidize these "nasty's". You still need a small amount of chlorine .5ppm – 1ppm to sanitize the water and to prevent algae.

Because Ozone only lasts about 20 minutes in a pool 2-speed circulation is the perfect system to use Ozone with. The 2-speed pump runs 24/7 producing Ozone all the time. This makes it possible to use a much lower than normal residual of chlorine in the pool than a pool without Ozone. A 2-speed pump is the most beneficial.

Ozone will continue to grab market share for pools. It gives water a better smell, taste and clarity than chlorine alone, and because it produces no byproducts, it doesn't contribute to TDS. Ozone removes certain dissolved metals and rids the pool of soaps, scum, oils and chloramines. Ozone has synergy with halogens, meaning that when combined, they work even better on certain micro contaminants. Ozone makes sense! It is also relatively inexpensive.