

Ozone

Ozone is an unstable gas that is comprised of 3 attached oxygen molecules, chemically represented as O₃. Oxygen itself is most stable and commonly found in 2 atom combinations, or O₂. When ozone is created, a third oxygen atom is attached to the 2-atom molecule, and the resulting chemical has 3 atoms and is unstable. The third oxygen molecule wants to leave. It is this instability or desire to leave that affords the oxidation that is beneficial. It is the act of transferring the extra oxygen molecule from the ozone to another molecule that causes the oxidation that is desired.

Ozone is an oxidizer, not to be confused with a sanitizer. Chlorine is a sanitizer. A sanitizer (chlorine) does the sanitizing and destruction of the impurities in the water, while the oxidizer (ozone) oxidizes the contaminants and helps to rejuvenate the sanitizer.

In the leisure water industry as well as the drinking water industry, ozone is used to help purify the water. What ozone does is oxidize any organic or inorganic compounds in the water, as well as bacterial disinfection and viral inactivation. Additionally, ozone helps aid the sanitizer (chlorine). Ozone will oxidize the combined chlorine or chloramine compounds back into free chlorine and an oxidized contaminant.

In the Softub application, the ozone will be introduced into the tub through the air system of the plumbing. A pneumatic line will be configured into the existing air system. This additional facet will be controlled with a solenoid system (patent pending). Through programming of the circuit board, the solenoid and ozonator will be turned on and off in concert, allowing ozone to be introduced into the tub. Since a solenoid is being employed, the integrity of the air control system will be maintained, allowing the system to be completely shut off.

The ozone will be introduced in the following manner. The ozone system will run:

- 1) during all filter cycles, should they be deemed necessary by the control
- 2) during the first 15 minutes of most heat calls***
- 3) for 1 hour during the heat call immediately following usage of the tub (manual activation of the jet button constitutes usage)

*** If the tub is being used (the unit has been manually activated), if a heat call occurs while the unit is running, the ozone system will not run until the next heat call. It will then run for 1 hour. This prevents the tub user from being exposed directly to ozone gas, which may or may not irritate them.

No other tub or spa manufacturer employs a system like this. The ozone will actually be contacting the water in the air lines as well as being reintroduced to the water at the jet itself. The ozone will be exposed to the water in the millions of bubbles that exit the jets.