

What is ozone?

Ozone, otherwise known as Activated Oxygen is a naturally occurring molecular compound consisting of three atoms of Oxygen and is notated as O₃. In nature the O₃ molecule is created during a lightning strike and as a byproduct of the sun's ultraviolet rays penetration of earth's atmosphere.

What does ozone do?

Ozone is a natural oxidizer that acts as a molecular sanitizer in a kamikaze fashion. The O₃ molecule is unstable and therefore seeks to release the third atom of oxygen as quickly as possible. When the release occurs, that third atom oxidizes the compound that it "attaches" to. When O₃ is injected into water (H₂O), they blend and form a gaseous mixture of H₂O₂, H₂O, and some free O₃.

How does EcoWasher use ozone?

Apart from nature, ozone can be created by high voltage electrical discharge. This occurs in copier machines, arc welding, plasma cutting, etc. We can also generate ozone using a corona discharge generator, which is what is inside EcoWasher. This generator produces O₃ gas which is immediately siphoned into the water stream by the natural vacuum created by the venturi that is located mid stream. This turbulence performs most of the mixing of the gas and water and the process is completed as the mixture passes through the static mixer.

What is a Hydroxyl Radical?

Hydroxyl Radicals occur in nature and is often referred to as the "detergent" of the troposphere.

What does the HR do?

Like ozone, the HR (otherwise notated as OH⁻ and HO⁻) is highly reactive and is often the first step in the natural purification process of atmospheric pollutants. When in water, the HR acts as a natural purifier as it breaks down pollutants and other harmful compounds.

How does EcoWasher use the HR?

Utilizing a small UVC lamp encased in a small housing coated with titanium dioxide (TiO₂), we are able to mimic the sun's rays passing through the atmosphere. The natural reaction between the UVC and the TiO₂ yields the HR molecule. This too is then immediately siphoned into the water stream by the natural vacuum created by the venturi that is located mid stream and mixed with the water.