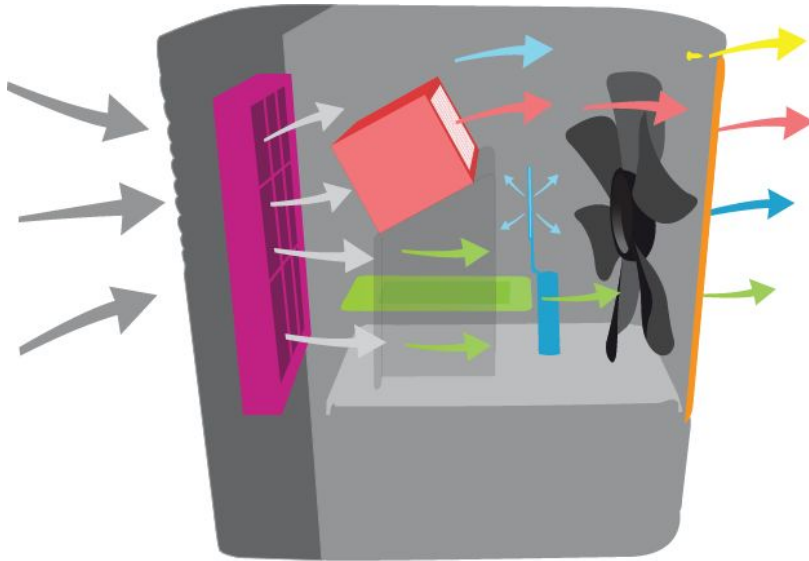




pureAir

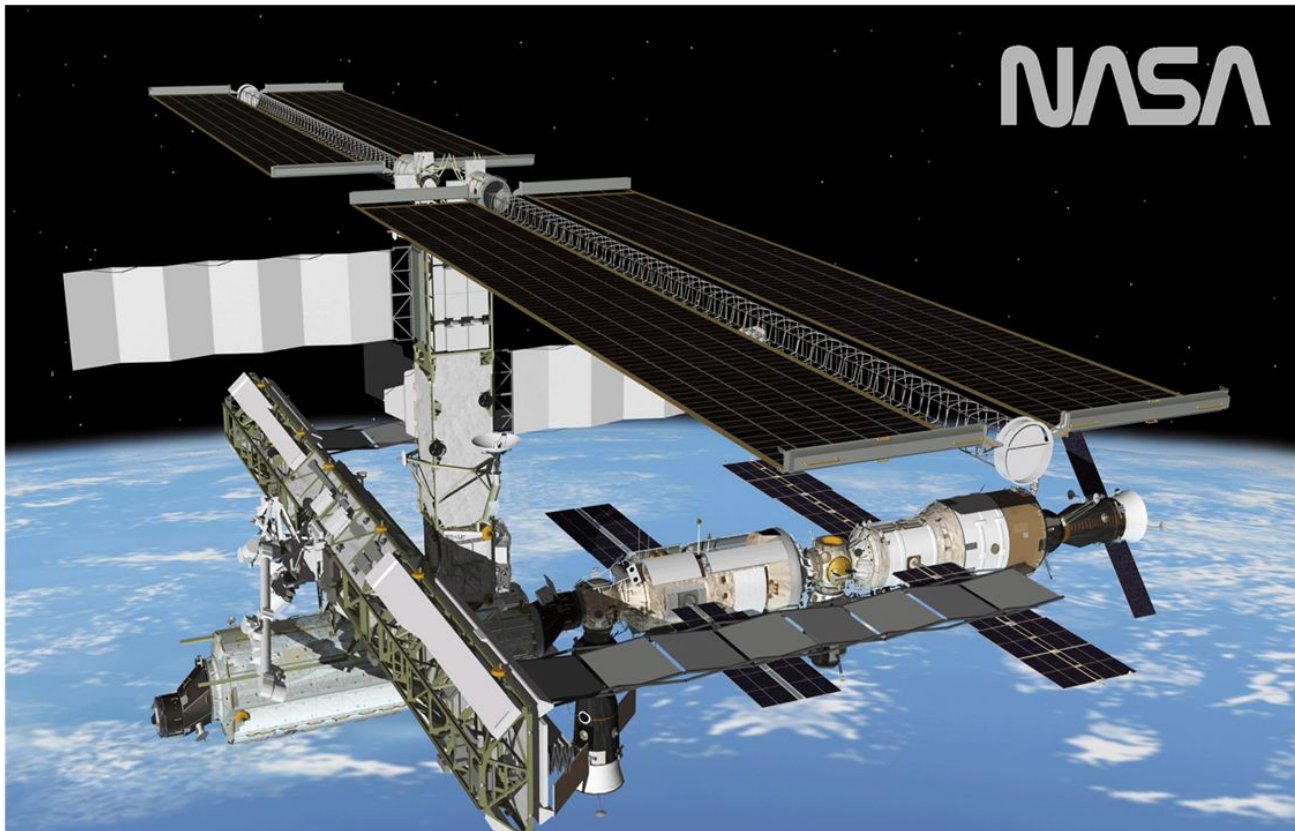
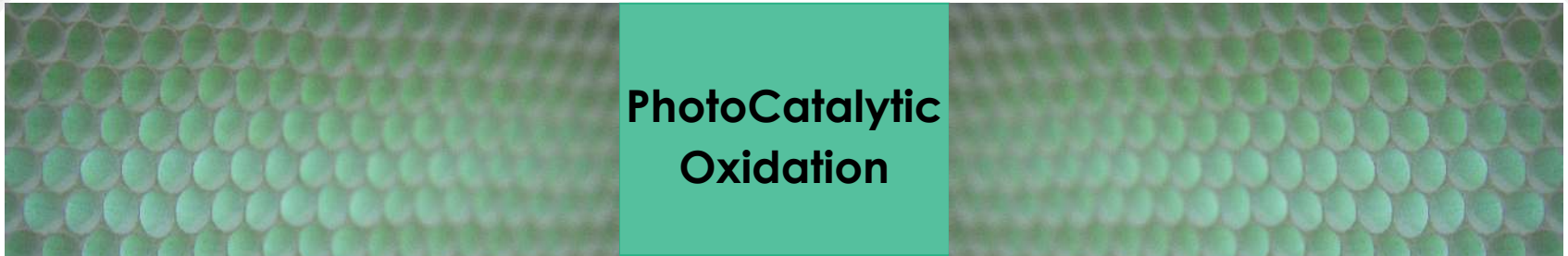
BY  GREENTECH

Technical



- ▶ All pureAir units have **Active Air Purification** that goes out into the room rather than the air to pass through a filter
- ▶ Up to 4 distinct technologies:
 - **IONIZATION**: acts like a magnet to free radicals in the treated space causing them to clump together and fall to the floor
 - **PCO** (PhotoCatalytic Oxidation): Produces a purifying plasma that breaks down bacteria and mold spores (the fundamental technology used in the International Space Shuttle)
 - **OZONE**: Breaks down chemicals and microbials and is especially adept at eliminating offensive odors
 - Ozone is often referred to as “activated oxygen,” or O_3 and is a naturally occurring oxidizer found everywhere outdoors, never more than after a thunderstorm
 - **ELECTROSTATIC FILTRATION**: Advanced electrostatic filtration (pureAir 3000 only)
 - Unlike expensive HEPA filters, the electrostatic filter is washable and can be used for the lifetime of your pureAir 3000

The Technologies



The Technologies



PhotoCatalytic Oxidation (PCO) technology generates two key purifying technologies:

1. a plasma of positive and negative charges (H^+ and O_2^-)
2. advanced Oxidation Products (AOP's), a combination of hydrogen and oxygen compounds such as vaporized hydrogen peroxide (H_2O_2), Hydroxides (OH^-), superoxides (O_2^-).

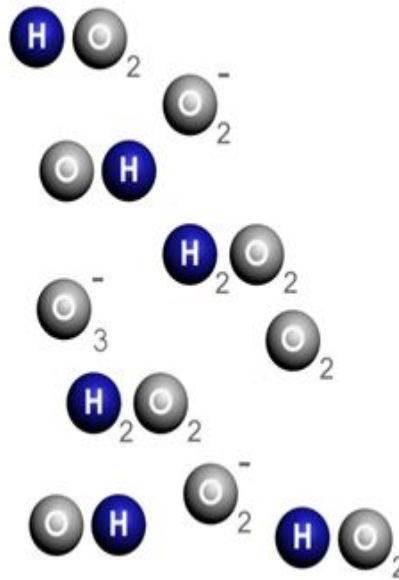
This replicates nature's purifying process of using ultraviolet energy to activate a multi-metal catalyst and convert water vapor into peroxide and hydroxyls. These powerful oxidizers penetrate the cell wall and inactivate the microbe through the process of cell lysing, thus changing the molecular structure and rendering the contaminant harmless. The result is the destruction of odors, Volatile Organic Compounds (VOCs), mold, bacteria, and viruses.

The Technologies

PhotoCatalytic Oxidation

Oxidative Power

1. Hydroxyls (HO) - 2.80 V
2. Ozone (O_3) -2.80 V
3. Hydrogen Peroxide
(H_2O_2) -1.78 V
4. Chlorine (CL) -1.36 V



Non- Thermal Plasma

Hydroxyl Radicals OH^\cdot

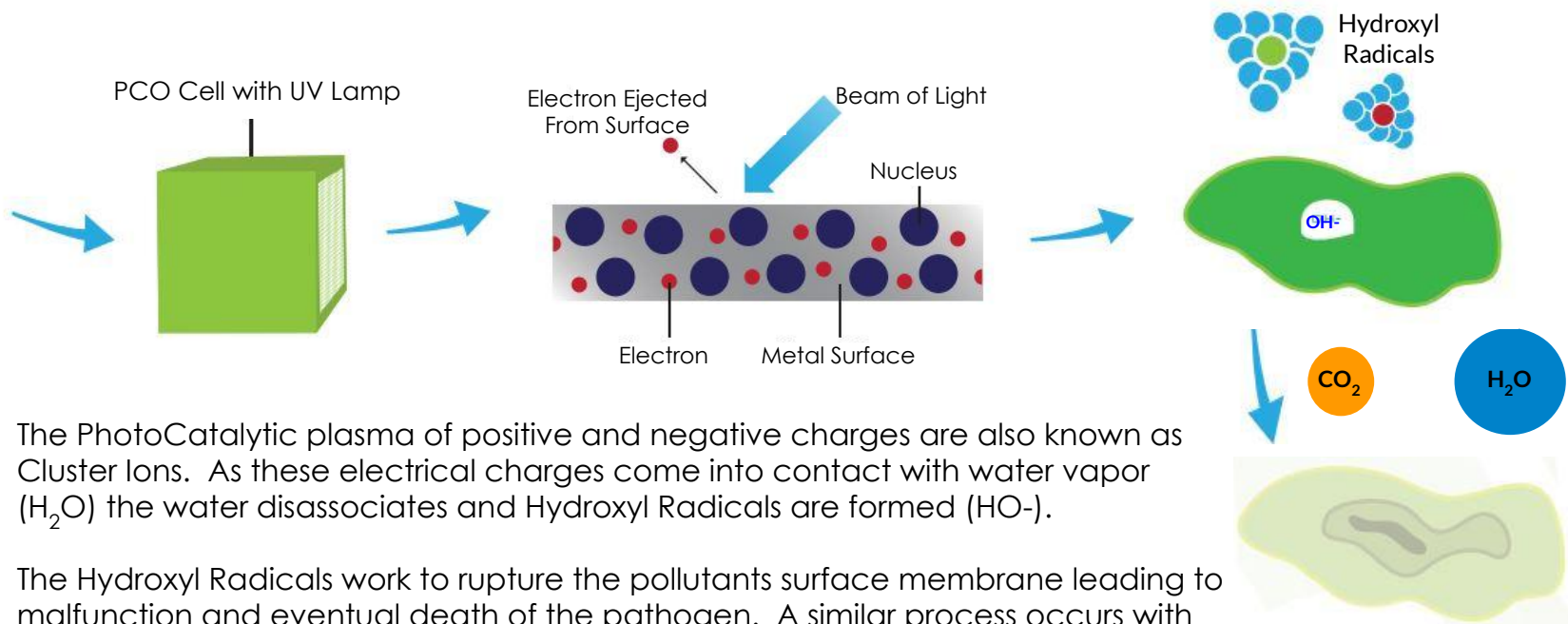
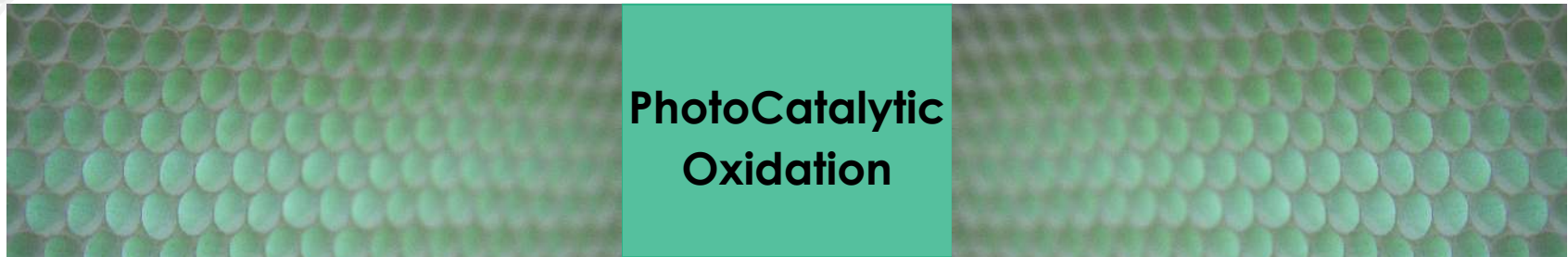
Hydroperoxyl Radicals HO_2^\cdot

Superoxide Ions O_2^\cdot

Hydroperoxides H_2O_2

Ozonide Ions O_3^\cdot

The Technologies

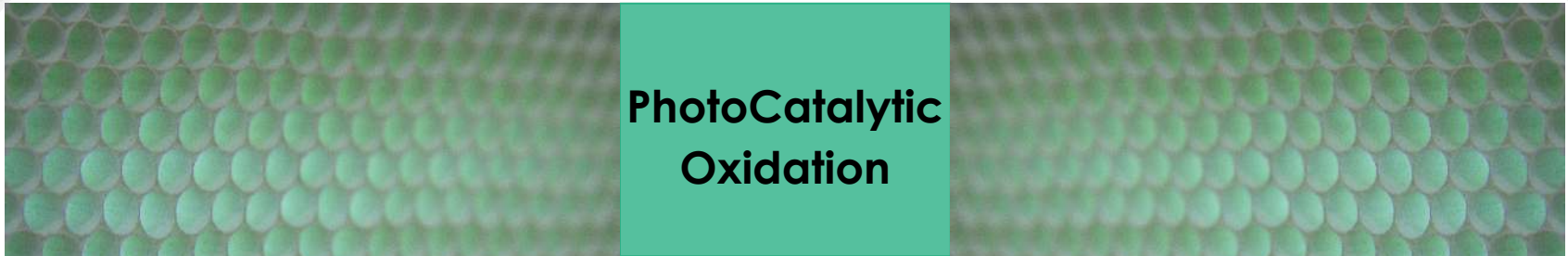


The PhotoCatalytic plasma of positive and negative charges are also known as Cluster Ions. As these electrical charges come into contact with water vapor (H₂O) the water disassociates and Hydroxyl Radicals are formed (HO⁻).

The Hydroxyl Radicals work to rupture the pollutants surface membrane leading to malfunction and eventual death of the pathogen. A similar process occurs with the dissociation of VOC's, with only Carbon Dioxide and Water Vapor remaining.

There are a number of PhotoCatalytic products on the market called Hydroxyl Generators, typically 385nm and TiO₂ products.

The Technologies

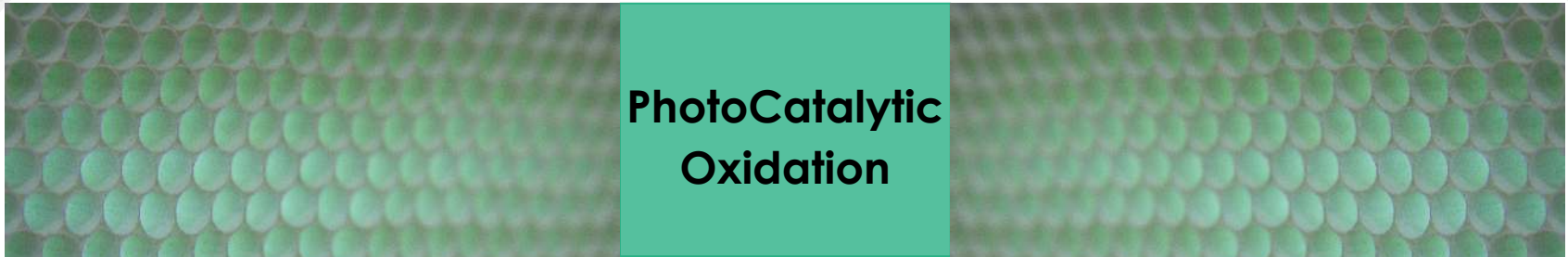


From “*Considerations for IAQ-Sensitive Engineering Designs*”

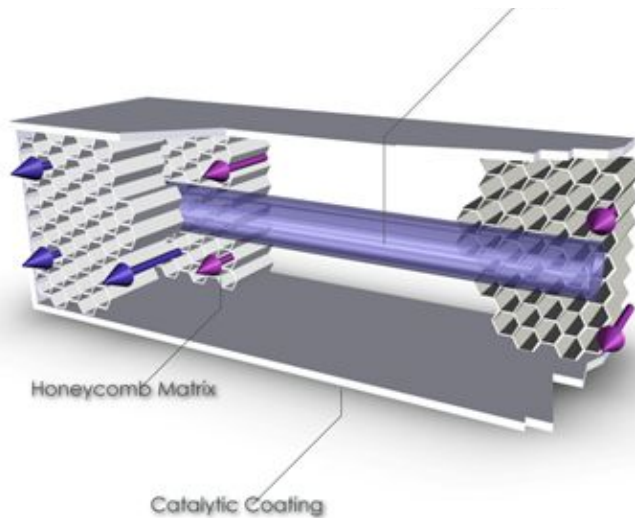
by: **David J. Branson, P.E.**, who serves on several technical committees for **ASHRAE** (American Society of Heating, Refrigerating and Air-Conditioning Engineers)

“Photocatalytic Oxidation (PCO) is an emerging technology for treating the indoor environment and has proven to improve indoor air quality (IAQ). In addition to IAQ benefits, it has the added potential for limiting the introduction of unconditioned air to the building space, thereby providing energy savings over typical designs.”

The Technologies



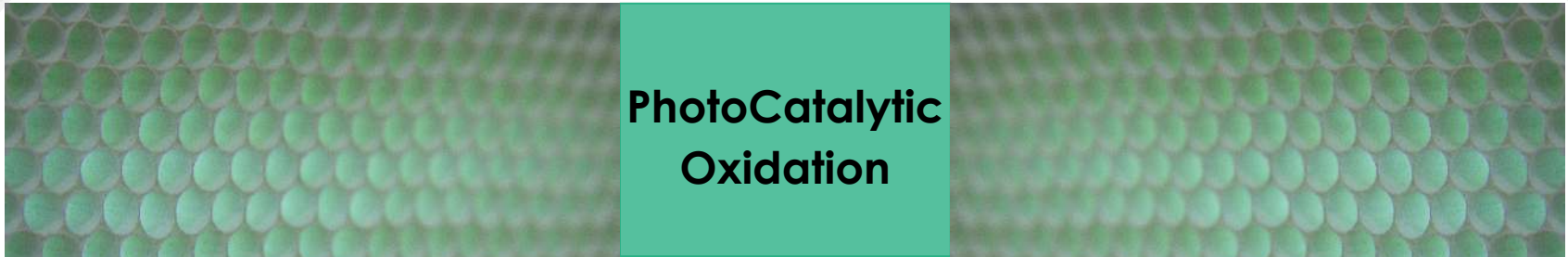
A Unique PCO System



What makes the GreenTech photocatalytic technology superior:

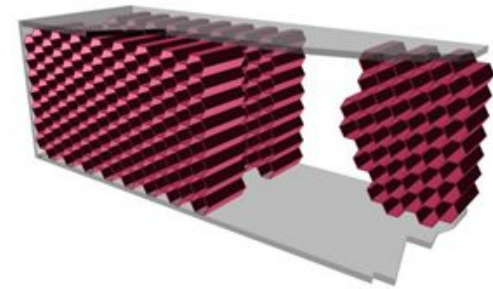
1. USA made broad-spectrum UV lamp – not just 254 nm
2. Hydrated Coating
3. Proprietary Quad Metallic catalyst formula
4. Maximum surface area – 16.4 times greater than competitors

The Technologies



GreenTech's Proprietary Catalyst

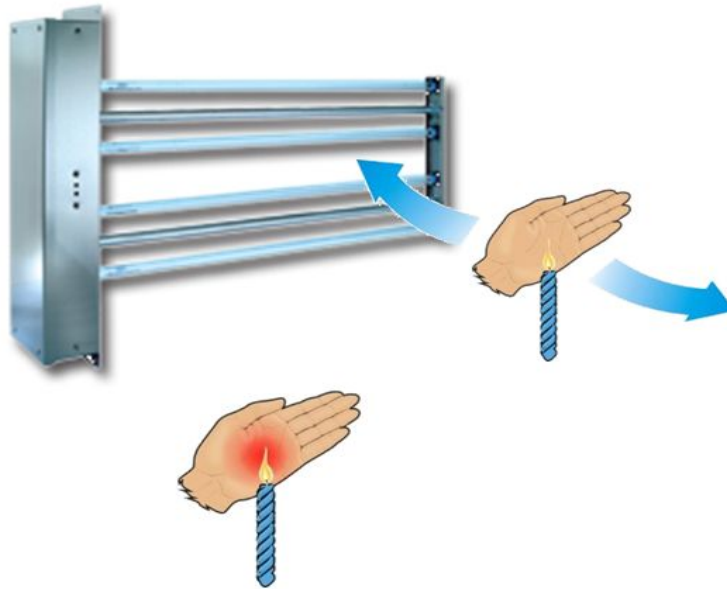
- **Rhodium** – Converts Nitric Oxide to Nitrogen and Oxygen
- **Titanium** – *“when TiO_2 is exposed to UV light of a wavelength below 385 nanometers in the presence of water vapor, two highly reactive substances are formed: hydroxyl radicals $[OH]$ and a superoxide ion $[O_2^{-1}]$.”*
- **Silver & Copper** – Speeds up the reaction process



The Technologies



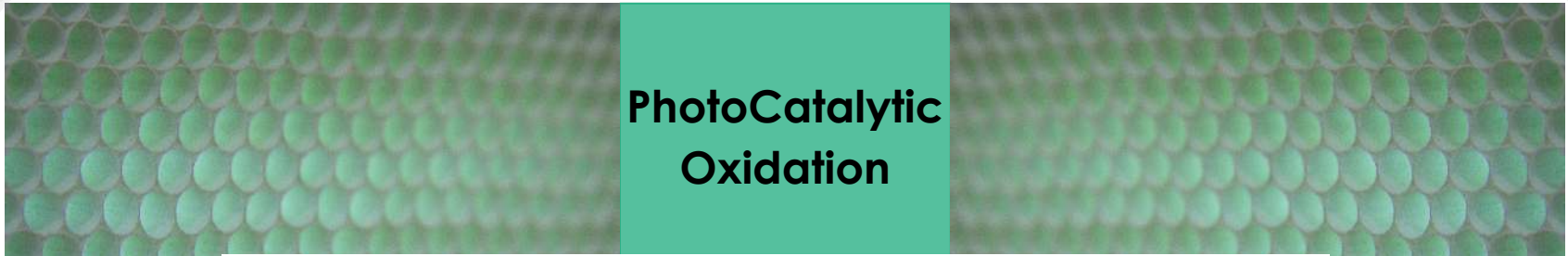
PASSIVE Germicidal UV Lights



**We are NOT PASSIVE Germicidal
UV Technology**

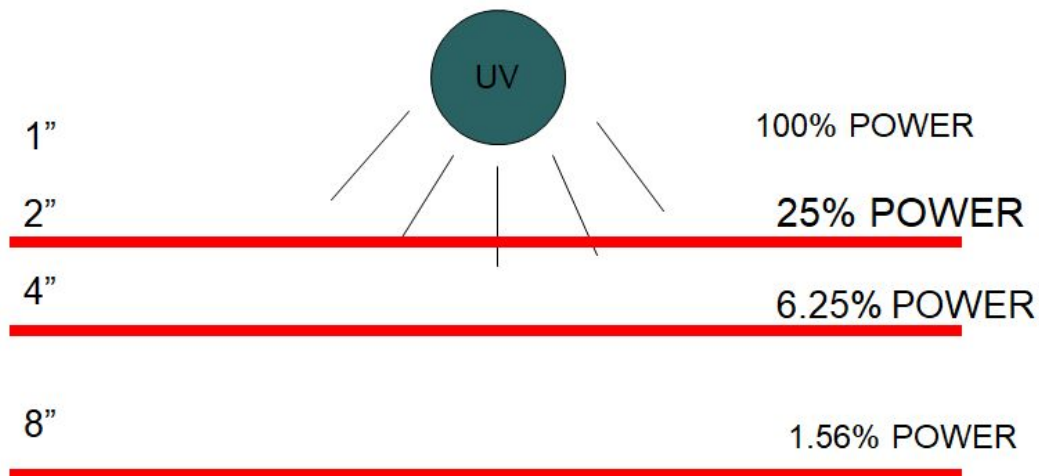
- The goal is to get bacteria and viruses to the UV light. However, there are many **IF'S** influencing Germicidal UV effectiveness.
- **IF** you can get the pollutant to the UV light...
- **IF** the time exposure is long enough, there is Questionable Effectiveness.

The Technologies



Germicidal Ultra Violet Light

Inverse Square Law



The Technologies



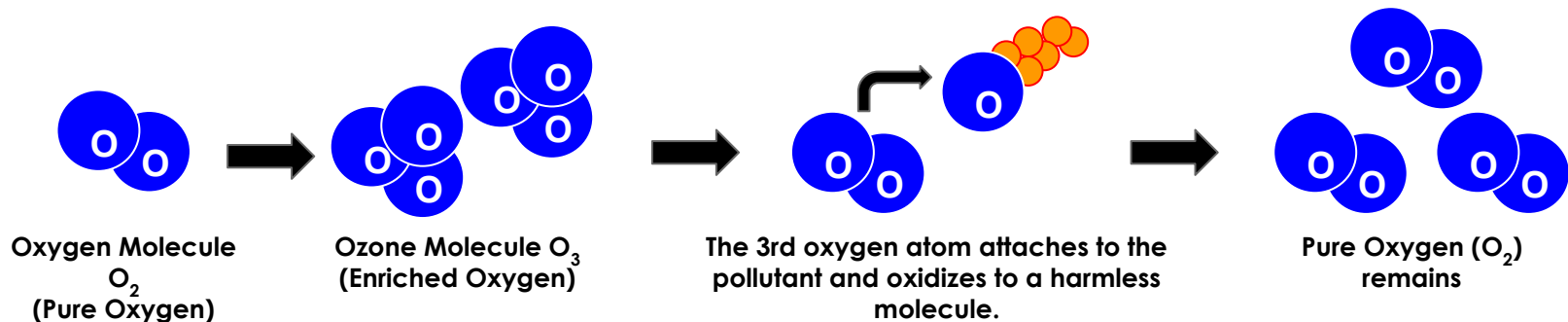
Ozone, (O_3), sometimes called "activated oxygen", contains three atoms of oxygen rather than the two atoms we normally breathe. Ozone is the second most powerful sterilant in the world and can be used to destroy bacteria, viruses and odors. Interestingly ozone occurs quite readily in nature, most often as a result of lightning that occur during thunderstorms.

While ozone is very powerful, it has a very short life-cycle. When contaminants such as odors, bacteria or viruses make contact with ozone, they are destroyed completely by oxidation. In so doing, that extra atom of oxygen is consumed and only breathable oxygen remains. Ozone has a $\frac{1}{2}$ life of 20 minutes.

The Technologies



Ozone is produced via ultraviolet light or corona discharge. Corona discharge creates ozone by applying high voltage to a metallic grid sandwiched between two dielectrics. The high voltage jumps through the dielectric to a grounded screen and in the process, creates ozone from oxygen present in the chamber. Ultraviolet (UV) light creates ozone when a wavelength at 185-254 nm (nanometers) hits an oxygen atom. The O_2 molecule splits into two oxygen atoms, which combine with another O_2 molecule to form ozone (O_3).



The Technologies



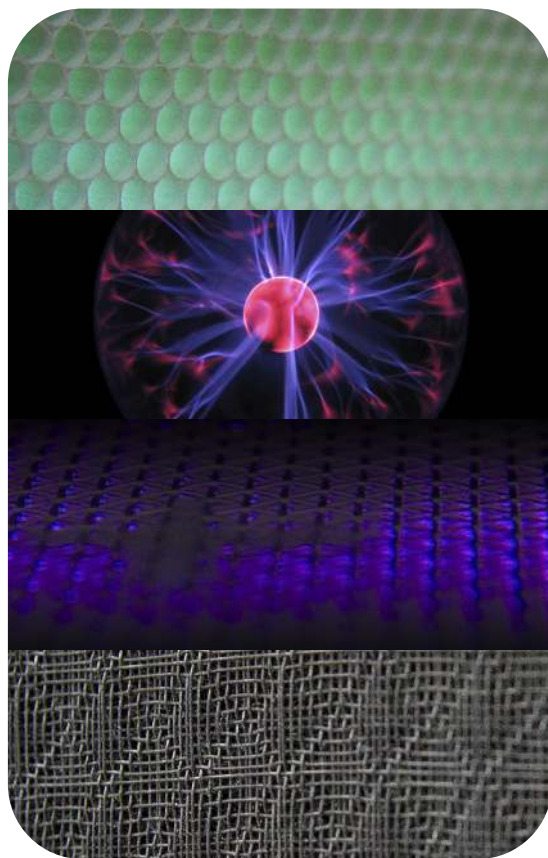
- Ozone is one of nature's most powerful oxidizers and is in ALL outdoor environments
- Ozone reduces odors and VOC's including mold, bacteria & virus
- Just like Oxygen & other naturally occurring elements Ozone can be Dangerous at High Levels
- The last 40 years has shown that too low a level of ozone is also proving to be dangerous
- Ozone is proven to be effective even at low levels

The Technologies



- Ions = charged particles which travel out into the environment, charging particulate in the air, which then attracts oppositely charged particles, allowing them to gain sufficient mass to be filtered or fall to the ground.
- Precipitates micro-fine particles
- GreenTech Air technology incorporates 2 forms of Ionization:
 - Needlepoint - 2M ions/cu cm
 - “RF Ionizer Effect” produced by an electromagnetic pulse to excite particles inducing a charge and reducing particles in the air.

Features



- ▶ All units are easily maintained
- ▶ Solutions for every room
- ▶ Each unit runs on less energy than a 40W light bulb (3W for the pureAir 50 to 38W for the pureAir 3000 operating on the highest setting)
- ▶ Sleep mode
- ▶ Scalable ozone output

Benefits



- ▶ Cleaner air
- ▶ Cleaner surfaces
- ▶ Dramatically less allergens
- ▶ More comfortable living
- ▶ HEALTHIER LIVING

Plug-in Air Purifier



90 Day Limited
Warranty

Features

- ▶ Two technologies:
 - Ozone
 - Ionization
- ▶ Plugs directly into wall outlet
- ▶ Adjustable purifier control
- ▶ Low energy consumption
- ▶ Variable fan speed (and thereby ozone output)
- ▶ Night light
- ▶ Power usage: 25W

Benefits

- ▶ Eliminates odors
- ▶ Sanitizes the air
- ▶ Simple and straightforward for small rooms
- ▶ Remediates a bathroom quickly and without scents or chemicals
- ▶ Great for closets and travel
- ▶ Low energy consumption

How to Sell It

- ▶ Live demo for customers to see, touch and smell

Air & Surface Purifier



1 Year Limited
Warranty

Features

- ▶ Three technologies:
 - Bipolar ionization (+/-)
 - Uses BOTH positive and negative ionization simultaneously, creating a purifying plasma which converts humidity into a power oxidizer that breaks down contaminants and kills bacteria, mold, and viruses.
 - Ozone
 - Filtration
- ▶ High/low purification settings
- ▶ High/low fan settings
- ▶ Washable rear filter to protect the unit
- ▶ Power usage: 3W

Benefits

- ▶ Eliminates from air & surfaces:
 - Odors, Bacteria, Allergens, Viruses and Other Harmful Particulate
- ▶ Simple and straightforward for small to medium sized rooms
- ▶ Great for bedrooms and offices
- ▶ Lowest energy consumption available

Room Air Purifier



1 Year Limited
Warranty

Features

- ▶ Three technologies:
 - Ionization
 - Ozone
 - Dual filtration
 - HEPA Type
 - Carbon
- ▶ Automatically timed bursts of purification

Benefits

- ▶ Eliminates from air & surfaces:
 - Odors
 - Bacteria
 - Allergens
 - Viruses
 - Other harmful particulates
- ▶ Attractive, quiet solution for medium to larger spaces
- ▶ Use in multiple environments and situations
 - Great for new mattress odor

Home Air Purifier



1 Year Limited
Warranty

Features

- ▶ Four technologies:
 - PCO ○ Ozone
 - Ionization ○ Filtration
- ▶ Three fan speeds with quiet operation
- ▶ Adjustable purifier control (4 settings)
- ▶ Replaceable PCO cell & purification plate
- ▶ Away mode (shuts off after 2 hours)
- ▶ Washable rear filter
- ▶ Remote control
- ▶ Power usage: 30W

Benefits

- ▶ Eliminates from air & surfaces:
 - Odors ○ Viruses
 - Bacteria ○ Other harmful
 - Allergens particulates
- ▶ Noticeable pollution eliminated in little as 15 minutes, and the most difficult pollution in as few as 24 hours
- ▶ Very effective at killing bacteria and mold while controlling allergens and remediating odors in larger spaces
- ▶ Low energy consumption

Whole Home Air Purifier



1 Year Limited
Warranty

Features

- ▶ Four technologies:
 - PCO
 - Dual ionization
 - Ozone
 - Filtration
- ▶ Five fan speeds with quiet operation
- ▶ Electrostatic washable rear filter
- ▶ Adjustable purifier control (up to 3000 ft²)
- ▶ Away mode timer (2, 4, 6, or 8 hours)
- ▶ Replaceable PCO cell & purification plate
- ▶ Intelligent maintenance reminders
- ▶ Remote control

Benefits

- ▶ Eliminates from air & surfaces:
 - Odors
 - Bacteria
 - Allergens
 - Viruses
 - Other harmful particulates
- ▶ Transforms stale indoor air into healthy air
- ▶ Smell of freshness without expensive and toxic fragrances
- ▶ Easy to set up, easy to use

Vehicle Air Purifier



1 Year Limited
Warranty



Features

- ▶ One technology:
 - Bipolar ionization (+/-)
 - Uses BOTH positive and negative ionization simultaneously, creating a purifying plasma which converts humidity into a power oxidizer that breaks down contaminants and kills bacteria, mold, and viruses
- ▶ Variable purification settings
- ▶ Finish Options
 - Black Pearl
 - Champagne
 - Rubberized black
- ▶ Shaped to fit in most car cup holders
- ▶ Plugs into the car 12V

Benefits

- ▶ Eliminates:
 - Odors (works on cigarette smoke!), bacteria, allergens, viruses and other harmful particulates
- ▶ No more overbearing car freshener scents
- ▶ No more musty car smell

PERSONAL Space Air Purifier



90 Day
Manufacturer
Warranty

Market Opportunity

- ▶ Surgical mask sales are rapidly growing

Features

- ▶ Ionization technology
- ▶ Solid platinum ionization generator
 - 20,000 hour life
- ▶ Highest ion wind output in the smallest unit size
- ▶ Ultra-Light, 1.5 oz.

Benefits

- ▶ Eliminates from your breathing zone:
 - Odors
 - Bacteria
 - Allergens
 - Viruses
- ▶ Other harmful particulates
- ▶ Great for travelers
- ▶ Great for pet lovers who struggle allergies from pet dander
- ▶ Great for salespeople who are exposed to the public



Product Comparison

Features	pureAir 3000	pureAir 1500	pureAir 500	pureAir 250	pureAir 50	pureAir MOTION	pureAir PERSONAL
Power (Maximum)	38 W	30 W	10 W	3 W	25 W	2.3 W	N/A
Photocatalytic Oxidation	●	●	○	○	○	○	○
Ionization (Unipolar)	●	●	●	○	●	○	●
Ionization (Bipolar)	○	○	○	●	○	●	○
Scalable Ozone	●	●	●	●	●	○	○
Electrostatic Filtration	●	○	○	○	○	○	○
Coverage (in ft ²)	Up to 3000	Up to 1500	Up to 850	50-250	Up to 50	Vehicle	On Person
Room Suggestion	Living	Living	Kitchen	Bedroom	Bathroom	Vehicle	On Person



Frequent Consumer Objections

Q. Isn't ozone supposed to be harmful to people and bad for the environment?

- A. Ozone is something we have lived with our entire lives and never understood its power. Created by lightning in a thunderstorm, it is nature's way of cleaning the air we breathe. We create ozone in our purifiers using the same process. Ozone has incredible sanitizing and cleaning capabilities and, like anything else, it must be used properly. Too much oxygen, pharmaceutical drugs, or electricity handled improperly can be dangerous but the benefits far outway the risk. Through proper knowledge of the product, ozone is the same way. All of our units have scalable ozone that can be used according to the size of the room. The health benefits achieved from proper use of ozone are amazing: Reduced mold, mildew, bacteria and allergens.

Q. If ozone is ok, how come I hear on the news that the ozone index is high, so stay indoors?

- A. Let me give you our fire truck story, which is a good analogy to answer the question. As you know, we see fire trucks at the scene of every fire, if you didn't understand the purpose of a fire truck you could easily assume that fire trucks are associated with making fires. When in reality, we know that they are not the cause of the fire but are there to put out the fire. Ozone is much the same. Ozone attacks the pollution in the air and so wherever you find pollution you will find ozone. Ozone is the fire truck and the pollution is the fire. As pollution increases the demand for ozone increases to purify the air.

Q. Isn't it expensive to keep buying filters for an air purifier?

- A. Our air purifier units have washable filters that maintained properly can last the life of the unit.

Q. The air in my home doesn't seem bad to me, why do I need a purifier?

- A. We try to make our homes as airtight as possible to save on heating costs with energy efficient windows, doors and weather stripping all air leaks. This is great for our budgets, but not so great for indoor air quality. The air inside our homes is stale, recirculated air and fresh air is introduced only when we open and close the door to go outside. If you do not have any type of air filtration you become the filter using your own lungs. We have an entire line of purifiers that can do the job for you, from a small room all the way up to a whole house. They clean and sanitize the air the same way that nature cleans the outside air using ozone and ions.