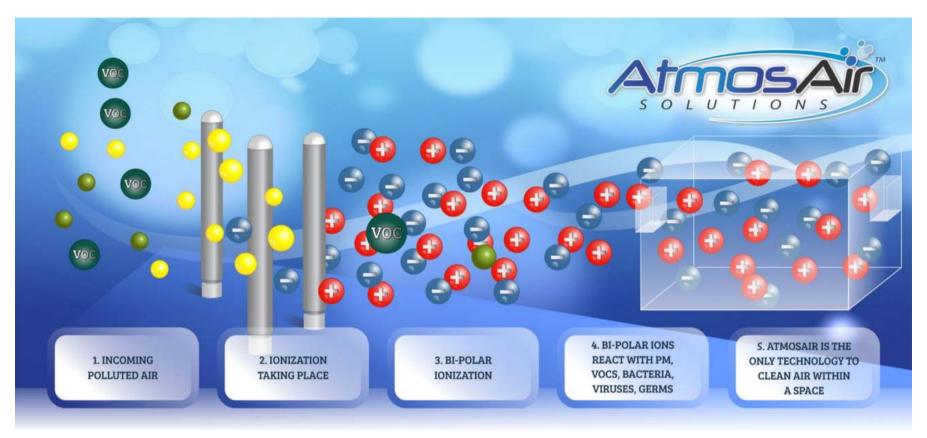
# The Choice is Simple

Here's why AtmosAir Outperforms Any Technology on the Market today

WWW.ATMOSAIR-SINGAPORE.COM

# How AtmosAir Bipolar Ionization Works

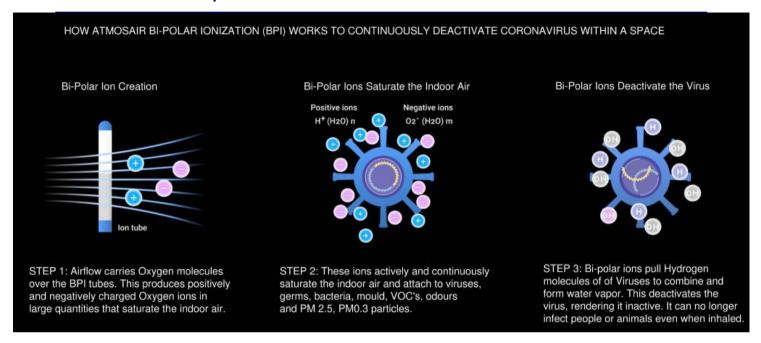


- 1. Airflow carries oxygen molecules over the AtmosAir Bi-Polar Ionisation Tubes.
- 2. The AtmosAir Bi-Polar ionization (called BPI) tubes create a power ful energy field of 12.07 Electron Volts (EV).

  This energy level is critically important to creating ions powerful enough to deactivate viruses and pathogens.

  Ions of lesser energy don't last more than a few seconds and are not powerful enough to interact with pathogens
- 3. This AtmosAir energy field produces long lasting powerful Positively and Negatively charged Oxygen ions.
- 4. These Bi-Polar lons are attracted to and bond with airborne pollutants, Viruses, Pathogens, Mould, VOC's.
- 5. Contaminant levels, viruses, pathogens are reduced substantially while producing measurably cleaner air

## How AtmosAir's Bipolar Ionization Deactivates Coronaviruses



Covid-19 and other viruses are spread through tiny aerosol droplets floating in the air that we inhale. AtmosAir Bi-Polar Ionisation (BPI) is the only technology that continuously saturates the indoor air with powerful + and -charged Oxygen ions at your breathing level and continuously decontaminates and disinfects that space. No other technology continuously decontaminates the air *inside* your room.

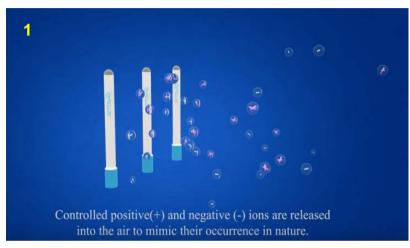
#### Here's how it works:

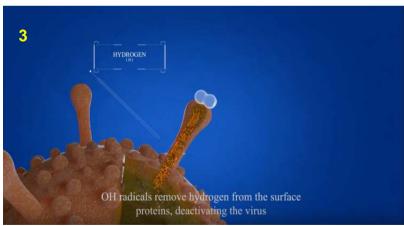
Air carries Oxygen molecules over the bi-polar ionization tubes. Our Bi-polar ionization tubes create an energy field (cold plasma corona discharge), producing highly energized (12.07ev) positively and negatively charged Oxygen ions – these are the bi-polar ions that are so highly charged they survive for up to 8 minutes in the space.

This 12.07EV energy level is essential to cause the electrons in the oxygen atoms outer orbit to become "excited" to the next orbital level. This produces the + and – Oxygen ions with sufficient energy to deactivate viruses.

Only AtmosAir MultiCore Composite Ionization Tubes have the power to produce ions with the energy to pull the Hydrogen molecule from the Virus and quickly deactivate it. Other technologies do not produce sufficient energy to do so and their ions die quickly and cannot last long enough to deactivate viruses.

# Here is how AtmosAir deactivates Covid-19 in images:









# Why AtmosAir Proprietary Bi-Polar Ionization Multi-Core Composite Tubes are Superior to Other Competitor's Generic Glass Tubes

#### (MCC = Multi-Core Composite)

- AtmosAir MCC Tube design is protected by multiple US and International Patents
  - Latest US Patent: 9,597,424 B2)
  - Only AtmosAir has MCC Tubes
- AtmosAir MCC tubes are made exclusively in the USA for AtmosAir from proprietary advanced composite materials.
- AtmosAir MCC tubes are virtually indestructible. They cannot be damaged by accidental dropping or vibration. They will not crack or shatter.
- AtmosAir MCC tubes carry UL's VO flammability rating, UL867 and UL2998 certification
- AtmosAir MCC tubes are not subject to the internal galvanic corrosion of glass tubes.
- AtmosAir MCC tubes are specifically designed to produce a balanced amount of Negative and Positive ions. This will produce better virus and contaminant removal.
- AtmosAir MCC Tubes produce Oxygen ions with a much higher energy level of 12.07 Electron Volts (12.07EV), compared to Glass Tubes.
- AtmosAir MCC Tubes produce ions that last up to 8 minutes in a space. Competitor's ions last only seconds.
- AtmosAir MCC Tubes are much more effective at deactivating SARS-CoV-2 because of their higher energy level (12.07EV)
- AtmosAir MCC Tubes produce ions that are more efficient at agglomerating particles (causing them
  to clump together) due to their higher energy level (12.07EV), dropping virus carrying particles quickly
  from your breathing range

- AtmosAir MCC tubes are guaranteed for 2 years (17,600 hours) vs 1 year for glass tubes.
- AtmosAir 2-year MCC tubes have a 35% maintenance cost savings vs. 1-year glass tubes.
- AtmosAir MCC tubes are moisture-proof and can be cleaned by simple immersion in warm soapy water.
- AtmosAir MCC Tubes produce ionization at constant, full capacity for 2 years (17,600 hours). Glass tube efficiency drops off considerably after 6 months, declining rapidly by 60-70%.
- AtmosAir MCC tubes require 50% less current than a glass tube, when measured at the same ion output level.
- AtmosAir MCC tubes continuously produce up to 50% more lons per cm<sup>3</sup> than a glass tube.
- AtmosAir MCC tubes have very high temperature ranges (up to 95° C) and they have no lowtemperature limits

#### Additionally, Competitor's Glass Tubes:

- Competitor's Glass tubes can and will shatter with rough handling.
- Competitor's Glass tubes are subject to cracking and pitting.
- Competitor's Glass tubes are generally recommended to be replaced every year or 8800 hours.
- Competitor's Glass tubes performance falls off noticeably, as its core materials corrode faster and diminish in ion output by 60-70%

2

- Competitor's Glass tubes require higher and higher driving current as they get older, causing shorter transformer life.
- Competitor's Glass tubes cannot consistently attain the high energy level (12.07EV) necessary to deactivate the SARS-CoV-2 virus, and agglomerate the particles that the virus attaches to, meaning that a substantial viral load remains in your breathing range.

V2.0-1021

### AtmosAir Is A Continuous, Active Disinfection Solution

Viral particles have been conclusively proven to float in the air and not get sucked back into the return of your aircon system - this is why only AtmosAir actively and continuously destroys viruses in your breathing space

#### **Passive Technologies**

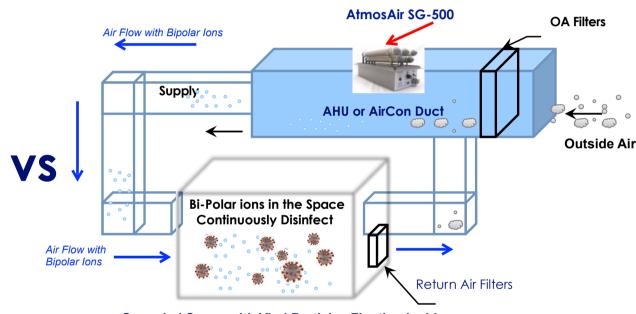




In-Duct PCO, UVC or Ozone



# Active Continuous Ozone Free 24/7 Disinfection UL2998 Certification



Occupied Space with Viral Particles Floating inside

Only AtmosAir's Bi-Polar Ionisation technology works continuously inside the space to disinfect and decontaminate your indoor air that you breathe and the surfaces that you touch within that space.



# AtmosAir vs. Other IAQ Technologies

	Ation Salion	Media (HEPA)Filtration	UV	Photo- Catalytic Oxidation (PCO)	Needlepoint Ionization	Carbon Filters	Electronic Air Cleaners
Active or Passive Technology	Active	Passive	Passive	Passive	Passive	Passive	Passive
Deactivates Contaminants / Pathogens in the room itself	Yes	No	No	Yes	No	No	No
Reduces Odours	Yes	No	No	No	No	Yes	No
Reduces VOC's	Yes	No	No	No	Yes	Yes	No
Reduces Particles	Yes	Yes	No	No	No	Yes	Yes
Effective on Viruses, Bacteria and Germs	Yes	No	Yes	Yes	Yes	No	No
Produces Ozone	No	No	Yes	Yes	No	No	Yes
Low Pressure Drop	Yes	No	Yes	Yes	Yes	No	Yes
Maintenance	Every 2 Years	Quarterly	Yearly tube replacement frequent tube cleaning required	Yearly	6 months - 2 years	Monthly	Monthly
Re-engineering of HVAC system needed	No	Yes	No	No	No	Yes	Yes
New Design and Retro-Fit Applications	Yes	No	Yes	Yes	Yes	No	No
Reduces Energy Costs	Yes	No	Yes	Yes	Yes	No	No
Produces Chemicals or Bi-Products	NO	NO	NO	YES - OZONE	YES - OZONE	NO	NO
Tested Contaminant Reductions in Occupied Space	Yes	No	No	No	No	No	No
Published and Peer Reviewed Research	Yes	Yes	Yes	Yes	No	Yes	Yes
"Smart" System Available (Integrated with sensors & monitors)	) Yes	No	No	No	No	No	No

# Dr. Philip Tierno, Jr.

## Professor of Microbiology and Pathology New York University School of Medicine

NYU School of Medicine Professor Philip Tierno Jr., 'Dr. Germ,' Completes Paper on AtmosAir Technology

April 22, 2017 / in AtmosAir in The News / by Administer



Dr. Philip M. Tierno Jr., Professor of Microbiology & Pathology at New York University and NYU Langone Medical Center reviewed published research and testing on AtmosAir purification technology and concluded in his recent paper:

"There is only one technology that satisfies all of the tenants for providing clean indoor air quality for an entire building, which uses low energy, is effective against bacteria, viruses, and mold fungi (whether in air or on surfaces), neutralizes particulates, breaks down VOCs (Volatile Organic Compounds), eliminates unpleasant odors, eliminates static electricity, and produces no chemical or harmful by-products (including NO ozone production) and this is accomplished by the production of positive and negative ions (bipolar ionization). That system is AtmosAir Bipolar Ionization."

#### Read the full paper - HERE.

#### About the author

Dr. Tierno is Professor of Microbiology and Pathology at NYU School of Medicine and NYU Langone Medical Center. He also serves on the Global Hygiene Council. Dr. Tierno is the author of the book, The Secret Life of Germs, and has authored or co-authored several other publications. Dr. Tierno has served on the New York City Mayor's Task Force on Bio Terrorism.

Dr. Tierno, Jr: 23 March 2020

"AtmosAir Bipolar Ionization causes production of clusters of bi-polar ions and hydroxyl radicals which attach to the surface of microbes removing hydrogen from the microbe's cell wall, thereby killing them. It can reduce 99.99% of microbes in a matter of minutes. Ions work in a continuous fashion to disinfect the air."

"Since the virus is spread via direct and indirect contact, the **continuous application** of Bi-Polar lons emitted to ambient air by the AtmosAir System continuously disinfect both the breathing space and surfaces. It is the most effective system for continuously cleaning and decontaminating indoor air.

As mentioned above, the possibility of aerosolized spread of COVID-19 and the ability of particles to hang in the air for extended periods of time, would make the consideration of an active air cleaning strategy even more prudent.

Also, because Coronaviruses are enveloped viruses, they are easier to kill compared to naked viruses like Noroviruses. AtmosAir has shown significant reduction of bacteria and viruses in both laboratory and in situ testing. Spaces like airport terminals where travelers from affected regions may carry and spread this virus could implement the AtmosAir bipolar ionization air cleaning system as a step to combat the spread of illness."



# We are your local authorized AtmosAir<sup>TM</sup> dealer

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