



SILENTAIRE™
Comprehensive Disinfection Solutions

Active Plasma Treatment Technology

At ETI we are dedicated to developing innovative products that put your health and safety front and center. We're pioneering the introduction of Plasma Technology within lighting solutions, so we can create spaces that continuously disinfect while occupied.



The Problem

with HEPA and face masks

HEPA filters have been employed by medical facilities since the post-World War II era and are known to capture airborne pathogens. But as effective as HEPA filters are, they are limited to capturing particulate matter and pathogens that are above 0.3 microns or (0.3µm) in size. Some pathogens are even smaller, for example, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, is only 0.125 microns in diameter. Most pathogens are known to “hitch-a-ride” on other particles in the air making them larger than this and allowing HEPA filters and filters in masks to catch them. These filters only collect the pathogens.

When pathogens are only collected and not inactivated, they are susceptible to regrowth. HEPA filters or masks left to sit in humidity may retain enough moisture to enable bacteria or mold to grow (Seong et. al., 2014).

What is less clear is whether these filters would catch the virus prior to the point of inhalation. If you're next to someone who has COVID-19, a filter purifier on the far side of the room is unlikely to protect you adequately. This raises the question about how effective that filter purifier can be. Most HEPA filters also are victim to a process known as “re-entertainment” (Jankowska et. Al, 1999). Where this environment that only catches pathogens, and can let more bacteria and mold grow, is being recirculated back into the air before you clean the filter.



Are they still enough?



The Solution

Power Of Plasma Technology

At ETi Solid State Lighting, we knew there was a better way to protect ourselves. A solution with more coverage.

Our second generation of SilentAire luminaires utilize non-thermal “cold” plasma with an internal circulation system to push and disperse plasma from our patent-pending plasma generator filling the space with positive and negative ions that neutralize harmful pathogens and pollutants.

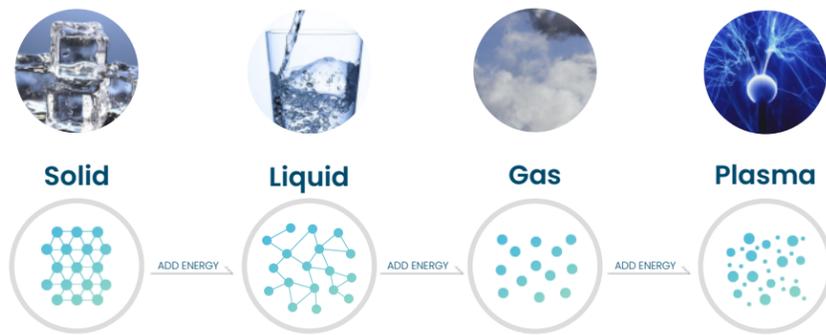
ETi's plasma technology continually and proactively treats the air in occupied spaces at the source of contamination. Effectively destroying pathogen cell walls and killing germs through a chemical reaction, instead of just capturing them.

*“...plasma can be utilized as an eco-friendly treatment for the inactivation of different viruses in assorted matrices... plasma application as an antiviral agent could significantly affect recent viral outbreaks (such as SARS-CoV-2) and could aid in alleviating the sanitization problems caused by forthcoming outbreaks.”**

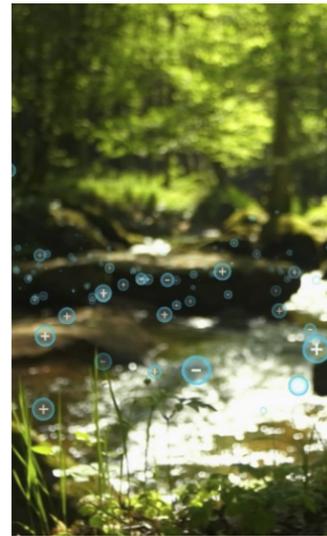
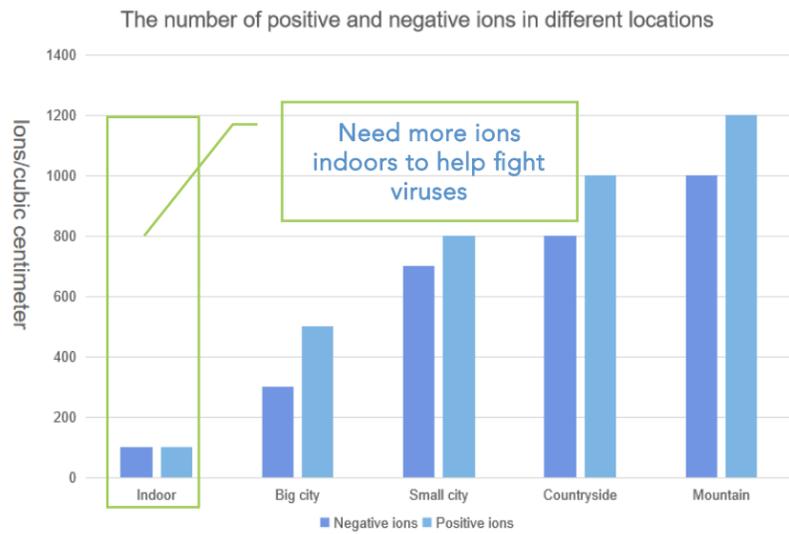
*N. Kaushik, S. Mitra, Eun Jung Baek et al., The inactivation and destruction of viruses by reactive oxygen species generated through physical and cold atmospheric plasma techniques: Current status and perspectives, Journal of Advanced Research, <https://doi.org/10.1016/j.jare.2022.03.002>

What is Plasma?

The 4th state of matter



Plasma is everywhere



How plasma works

How is plasma made?

High-energy Plasma Technology Through high-frequency and high-pressure excitation of high-energy ion tubes, a large number of highly active substances including positive and negative ions in the excited state can be generated.



Low-energy Plasma Technology Electrons are released using a negative voltage of DC, and a material with superconducting properties is used as an electron release electrode to release a large amount of positive and negative ions.

Once our patent-pending plasma generator fills the space with positive and negative ions these millions of plasma ions emitted into the air react with membranes and protein shells of pathogens (virus, bacteria, etc) and ultimately destroy the pathogens.

Plasma ions use electrostatic attraction to stick to particulate matter for cleaning. Non-thermal plasma is similar to a flame but doesn't have the high temperature. Our Lab results prove non-thermal "cold" plasma kills SARS-CoV-2 and other viruses and bacteria by destruction of their cell walls.

57 Million plasma ions

57,000 ions per cubic centimeter generated per second.*
*Lab results for the 12" Flush Mount

The Benefits

What can your lights do for you?

Only ETi Solid State Lighting has high output LED lighting with plasma technology that allows you to seamlessly integrate air purification and disinfection into every home, office, or indoor space.

Many of these places are troubled with harmful germs that float through the air, like the flu and pneumonia. These can be rendered harmless through air disinfection. These illnesses that are easily transmitted via the air can be minimized and the overall air quality can be improved with ETi's SilentAire solutions.

Our fixtures can clean and recirculate treated air back into your space.

- Advanced LED light fixture with built-in plasma disinfection technology proven to kill and inactivate viruses and bacteria including SARS-CoV-2
- Easy Maintenance Plug and play
- CCT Field Adjustable
- Green light indicator shows disinfection is working
- Natural Eco-Friendly disinfection safe for living things

Plasma Air Disinfection 8" Canless Downlight

Model # 559011020
Part # SADL-DMJB-PL-LB3-9-CP5-MV-D-WH



LED Lighting

Size	Lumens	Watts	Color Temperature	CRI	Voltage	Dimming	Rated Life	CFM
8"/8" Canless	900/1600/2000LM	23W	2700/3000/3500/4000/5000K	90min	120-277V	TRAC only at 120V	50,000hrs	25

Recommended Disinfection Guide

Technology	Plasma
Coverage - ft ³	1,500
Coverage - ft ²	188
Mounting Height	8ft
Application Recommendations	2 pcs in a 400ft ² area SA: General = 1:2 based on 30 fc avg. Commercial Residential

Tested by Intertek against Influenza A Virus H1N1. Tested by ILAC against Staphylococcus albus 8032 bacteria. Removed 99.9% of the virus and bacteria from the air within 2 hours.

Plasma Air Disinfection 12" Flush Mount

Model # 559031110
Part # SAFM-R12-PL-1000LM-9-CP5-MV-D-WH



LED Lighting

Size	Lumens	Watts	Color Temperature	CRI	Voltage	Dimming	Rated Life	CFM
12" Dia	1000LM	17W	2700/3000/3500/4000/5000K	90min	120-277V	TRAC only at 120V	50,000hrs	25

Recommended Disinfection Guide

Technology	Plasma
Coverage - ft ³	1,500
Coverage - ft ²	188
Mounting Height	8ft
Application Recommendations	2 pcs in a 400ft ² area SA: General = 1:2 based on 30 fc avg. Commercial Residential

Tested by Innovative Bioanalysis in 8"x8"x10" Biosafety level 3 chamber with two Plasma Air Disinfection 12" Flush Mounts. Removes 9.27x10⁵ TCID50/mL of SARS-CoV-2 to 4.03x10² TCID50/mL after 2 hours of operation, 99.998% virus gross reduction achieved. Tested by ILAC against Staphylococcus albus 8032 bacteria. Removed 99.9% of the bacteria from the air within 2 hours.

Plasma Air Disinfection 12" Universal Ceiling Mount System

Model # 559051000
Part # SAFM-UCM-R12-PL-MV-WH



Specifications

Size	Watts	Compatible light fixtures	Max Hold Weight	Voltage	Rated Life	CFM
12" Dia	5W	Any standard fitting 35/4" J-Box	22lbs	120-277V	50,000hrs	18

Recommended Disinfection Guide

Technology	Plasma
Coverage - ft ³	1,080
Coverage - ft ²	135
Mounting Height	8ft
Application Recommendations	3 pcs in a 400ft ² area Commercial Residential

Tested by Intertek against Influenza A Virus H1N1. Tested by ILAC against Staphylococcus albus 8032 bacteria. Removed 99.9% of the virus and bacteria from the air within 2 hours.

UVC with Plasma Air Disinfection 2'x4' Flat Panel

Model # 559041110

Part # SAFP-24-PLUV-LB4-8-CP4-MV-LVD



Recommended Disinfection Guide

Technology	Plasma
Coverage - ft ³	1,680
Coverage - ft ²	168
Mounting Height	10ft
Application Recommendations	10 pcs in a 3,500ft ² area
	SA: General = 1:2 based on 30 fc avg.
	Commercial

LED Lighting

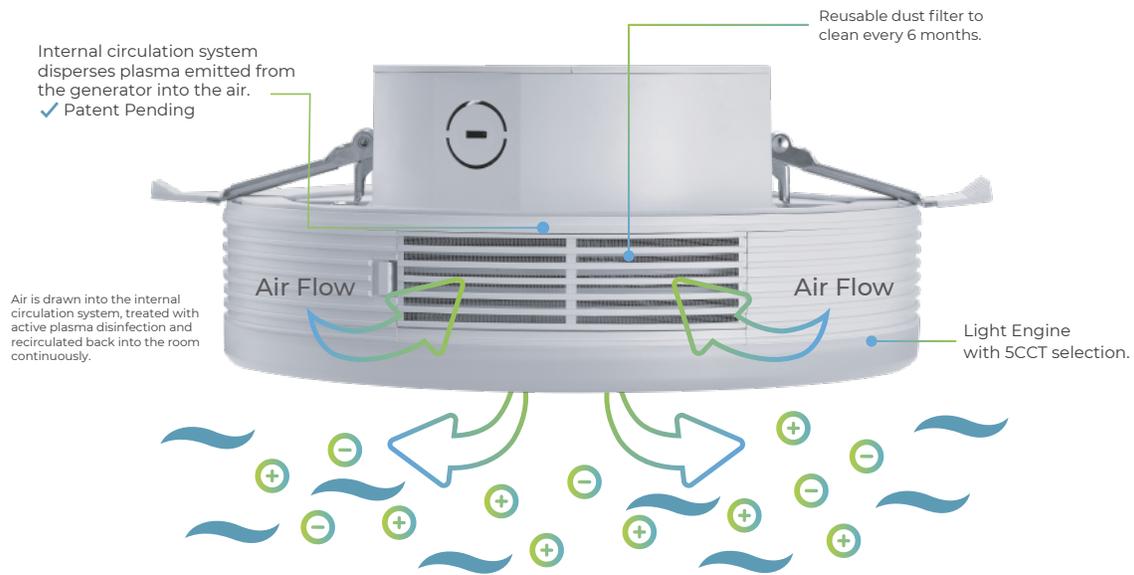
Size	Lumens	Watts	Color Temperature	CRI	Voltage	Dimming	Rated Life	CFM
2'x4'	4375/5000/5825/6250LM	260W	3000/3500/4000/5000K	80min	120-277V	0-10V	50,000hrs	28



Tested by Innovative Bioanalysis in 8'x8'x10' Biosafety level 3 chamber with a UVC with Plasma Air Disinfection 2'x4' Flat Panel. Removes 8.49x10⁸ TCID50/mL of SARS-CoV-2 to 1.68x10² TCID50/mL after 2 hours of operation, 99.998% virus gross reduction achieved. Tested by ILAC against Staphylococcus albus 8032 bacteria. Removed 99.9% of the bacteria from the air within 2 hours.

The Features

All our plasma products utilize the same technology with 2 working modes



Two working modes to meet your needs
Flip wall switch On/Off/On within 3 seconds to change mode

Lighting + Disinfection

Disinfection Only



Green indicator light shows disinfection is working

For More Information on Disinfectant Lighting Products from ETi Solid State Lighting

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