

Reducing the Spread of Disease

GPS clears the air of particles faster

Particulate matter includes pollutants, dust, allergens, mold, bacteria – and viruses. GPS' technology constantly generates a high concentration of positively and negatively charged ions. These ions travel through the air continuously seeking out and attaching to particles. Larger by virtue of combination, these particles are removed from the air more rapidly.

GPS Inactivates Pathogens

When ions come into contact with pathogens, their microbicidal effects reduce the infectivity of the virus.

GPS is Safe

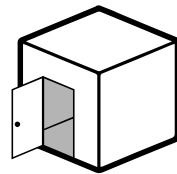
Our needlepoint bipolar ionization is OZONE free and safe to use across commercial, industrial and residential buildings. Traditional bipolar ionization systems produce harmful ozone as a byproduct.

Performance Validation*



SENSITIVITY TESTING

A petri dish containing a pathogen is placed underneath a laboratory hood, then monitored to assess the pathogen's reactivity to NPBI™ over time. This controlled environment allows for comparison across different types of pathogens.



SIMULATION TESTING

Counts of airborne pathogens are taken before and after aerosolizing them into a sealed, unoccupied laboratory environmental room installed with NPBI™ technology. The larger space more closely resembles a real-world environment.

*Global Plasma Solutions (GPS) uses multiple data points to formulate performance validation statements. GPS technology is used in a wide range of applications across diverse environmental conditions. Since locations will vary, clients should evaluate their individual application and environmental conditions when making an assessment regarding the technology's potential benefits.



SARS-CoV-2

Laboratory Name: Innovative Bioanalysis

Cap Lic No: 9501843

Date: 5/27/2020

Pathogen Tested: SARS-CoV-2

INNOVATIVE
BIOANALYSIS
creating solutions | getting results



SENSITIVITY TEST

Objective:

Aviation Clean Air commissioned testing on Global Plasma Solutions' GPS-DM48-AC model to assess its ability to neutralize SARS-CoV-2 in high-ion concentration specialty applications.

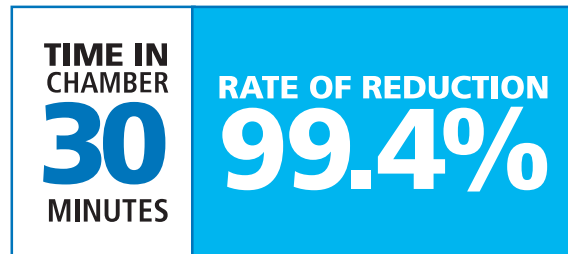
Methodology:

Single RE22 control chambers were set on a stainless steel table with pressure verification seals. The chambers had an internal working dimension of 16.5"W x 9"H x 12"D for a total cubic footage of 1.031. Under initial observation it was determined to seal the unit completely with no intake or exhaust port. Testing and control were conducted in an average ambient temperature of 72.6 degrees Fahrenheit.

A singular fan unit was set up at a 45-degree angle and affixed to the testing chamber. The initial control fan speed was measured at an average of 870 Ft/m. Under the original control section, the primary fan was set 10 inches away from ion production unit A and the average air flow speed past the ion producing nodes was 250Ft/m.

Experimental Results:

SARS-CoV-2 was exposed to needlepoint bipolar ionization for a period of 10, 15, and 30 minutes. Based on viral titrations it was determined that at 10 minutes 84.2% of the viral particles became inactive, at 15 minutes 92.6% of the viral particles became inactive, and at 30 minutes 99.4% of the viral particles became inactive.



Use of this data is not permitted without written authorization from Global Plasma Solutions, Inc.

GlobalPlasmaSolutions.com

Engineering Air for a Cleaner World™

Independent Laboratory Testing Results Summary



PATHOGEN	TIME IN CHAMBER	RATE OF REDUCTION	TESTING LAB
SARS-CoV-2	30 MINUTES	99.4%	INNOVATIVE BIOANALYSIS creating solutions getting results
Norovirus*	30 MINUTES	93.5%	ATS LABS EXCELLENCE IN ANTIMICROBIAL TESTING
Human Coronavirus**	60 MINUTES	90.0%	ALG ANALYTICAL LAB GROUP
Legionella	30 MINUTES	99.7%	EMSL
Clostridium Difficile	30 MINUTES	86.8%	EMSL
Tuberculosis	60 MINUTES	69.0%	EMSL
MRSA	30 MINUTES	96.2%	EMSL
Staphylococcus	30 MINUTES	96.2%	EMSL
E. Coli	15 MINUTES	99.6%	EMSL

* Surrogate for Norovirus, actual strain tested was Feline Calicivirus, ATCC VR-782, Strain F-9

** Surrogate for Human Coronavirus SARS-CoV-2, actual strain tested was Human Coronavirus 229E

Use of this data is not permitted without written authorization from Global Plasma Solutions, Inc.

GlobalPlasmaSolutions.com

Engineering Air for a Cleaner World™