



LAB TESTED AND PROVEN TO REDUCE CORONAVIRUS OVER 99.92% IN 30 MINUTES

OUR BIPOLEAR IONISATION UNITS CONTINUOUSLY
STERILIZE AND DISINFECT THE AIR THAT YOU BREATHE

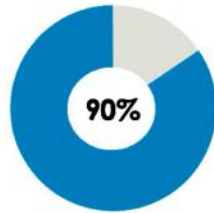
*Feel safe at work or home again... breathe fresh, clean and
pathogen free "Swiss Mountain-Top Pure" indoor air again.*

Benefits of ProMedUSA + AtmosAir Bi-Polar Ionization Technology

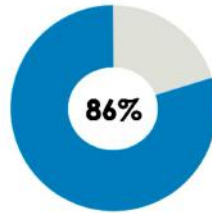
- ProMedUSA + AtmosAir products provide indoor air quality solutions that suppress airborne and surface microbials and pathogens, including coronavirus, other viruses, bacteria and mould, and reduce odours as well as unhealthy and irritating volatile organic compounds (VOCs).
- AtmosAir Solutions' tested and proven air purification technology is a continuous disinfectant, actively removing Dust, Smoke, Mould, Odours, PM10, PM2.5, and PM0.3 Particles, VOC's and Allergens from the air you breathe.
- Pathogens, especially COVID-19, are spread by tiny aerosol particles suspended in the air typically at breathing level. They are not sucked back into the AHU filtration system or into passive HEPA filters or killed by UVC Lighting inside the ducts. Only AtmosAir actively destroys them in the air within the space where you actually breathe and on the surfaces that you touch.
- In recent tests performed by Microchem Laboratory, one of the world's preeminent laboratories for testing sanitizing products registered by the EPA and FDA, ***the presence of coronavirus was reduced by 99.92% within 30 minutes of exposure to AtmosAir's BPI technology.***
- AtmosAir's technology proactively emits bi-polar ions that seek, attack and neutralize coronavirus. The Microchem test results prove that AtmosAir's public health solution is effective in stopping the spread of pathogens and contaminants.
- AtmosAir's patented bi-polar ionization (abbreviated as "**BPI**") technology compliments the existing solutions commonly used in the air conditioning and air handling industry.
- Significant Energy Savings are generally realized (often 15-30%)
- Minimal maintenance is needed just once every 2 years to replace worn bi-polar ionisation tubes.

AtmosAir Bi-Polar Ionisation

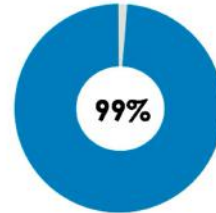
AtmosAir - Independently Tested and Verified Under Real World Conditions



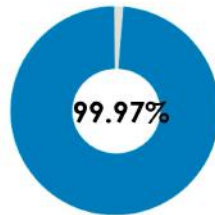
Reduction in VOC's
Source: Univ. of Syracuse 2019



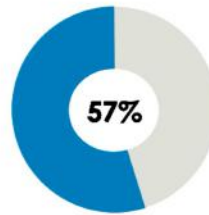
Reduction in PM0.3
Source: ETL CADR Testing



Reduction in E.Coli and MRSA
Source: ATL Labs, 2016 - 45 Minute Exposure



Reduction in Human Coronavirus Strain 229E, ATCC VR-740 in 30 Minutes
Source: Microchem Laboratory June 2020



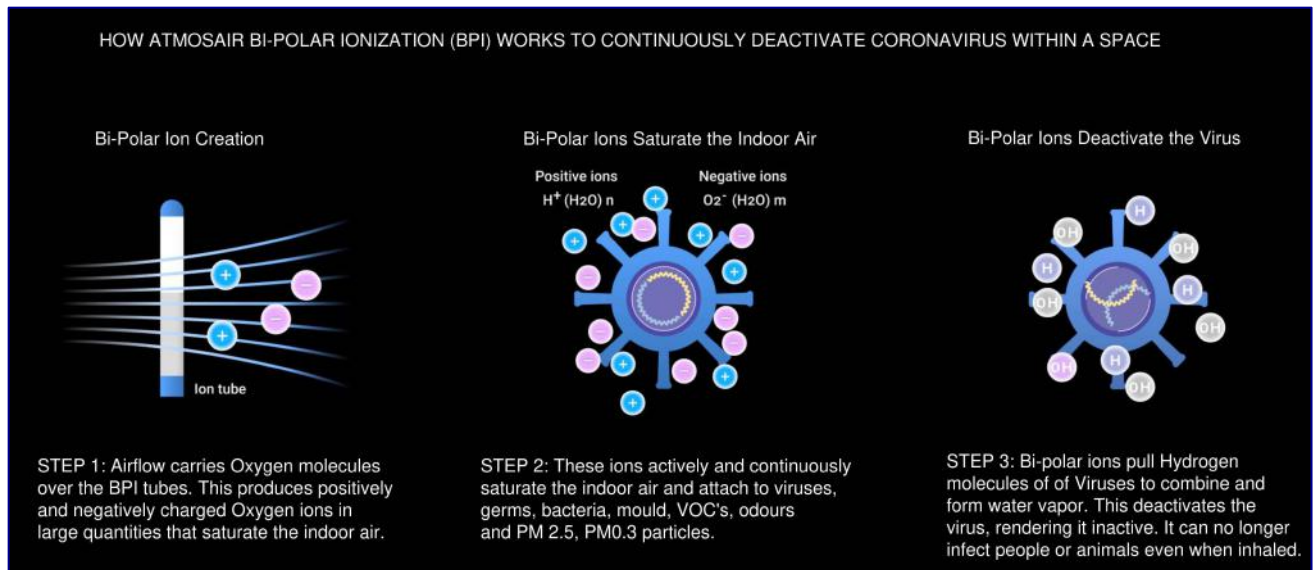
Reduction in C.Diff
Source: ATL Labs, 2016 - 6 Hr exposure

Certifications:

- US EPA US Energy Star Certification
- Underwriters Laboratories UL 867
- Underwriters Laboratories UL 1995
- Underwriters Laboratories UL 2998
- EU Standard EN 60335-2-40:2003
- EU Standard EN 61000-6-3:2001
- EU Standard EN 61000-6-1:2001
- EU Standard EN 60204-1:2006
- OPA 2807-10
- OPA2808-10
- ANSI / AHAM AC-1 2002
- ASHRAE 62.1 IAQ Procedure Compliant
- 125 DUST CADR
- 190 MOULD CADR



How ProMedUSA + AtmosAir Bi-Polar Ionisation Works



Covid-19 and other viruses are spread through aerosol droplets floating in the air that we inhale. AtmosAir bi-polar ionisation continuously saturates that indoor air at the level where we breathe and continuously decontaminates and disinfects both your breathing space and the surfaces within that space.

Here's how:

- Air carries Oxygen molecules over the bi-polar ionization tubes. Our Bi-polar ionization tubes create an energy field (cold plasma corona discharge).
- This energy field produces positively and negatively highly charged Oxygen ions – these are the bi-polar ions
- The bi-polar ions are attracted to and bond with airborne pathogens and pollutants – Viruses, Bacteria, Mould, Dust, Smoke, VOC's, Odours and PM 2.5, and PM 0.3 particles.
- Viruses (including Coronavirus), bacteria, germs, mould spores, odours and VOC's are quickly deactivated or destroyed
- Particulate matter like haze, smoke, dust, PM10, PM2.5, and PM0.3 clump together and drop to floor or get filtered out.

Explanation of Coronavirus and Application of Bi-Polar Ionization to Disinfect Air and Surfaces

Coronaviruses were first identified in the 1960s. Coronaviruses are enveloped RNA viral particles. The symptoms of most ordinary coronaviruses are similar to any other upper-respiratory infection, including runny nose, coughing, sore throat, and varying fever. In most cases you won't know whether you have a coronavirus, or a different cold-causing virus such as a rhinovirus. These ordinary strains are easily treated by over-the-counter medication.

In some of the more serious strains, the coronavirus causes an infection that can spread to the lower respiratory tract and cause pneumonia, especially in older people, people with heart disease, or people with weakened immune systems. Sometimes, but not often, animal coronavirus can jump species & infect humans. Such is the case with the novel coronavirus COVID-19, originally isolated from patients from Wuhan, China and currently causing a global Pandemic. According to the World Health Organization, it likely originated from an animal and passed to humans by contact at a live animal market in Wuhan. There is clearly person-to-person transmission as well as airborne spread (the virus has been reported in the air up to 3 hours). It has also been shown to contaminate hard non-porous surfaces like stainless steel and plastics for up to 3 days. COVID-19 virus infections will likely increase with time. This strain can cause severe respiratory disease, pneumonia, and death in some people especially the elderly and the immunosuppressed.

Keep in mind that COVID-19 virus is among several other serious disease-causing strains of the virus. For example, more than 475 people have died from the MERS coronavirus (Middle East Respiratory Syndrome). The MERS strain originated in Jordan and then Saudi Arabia in 2012 before spreading to other countries in Middle East, Africa, Asia, and Europe. In May of 2015 there was an outbreak of MERS in Korea, the largest outbreak recorded. In 2003, another severe respiratory Coronavirus killed many people and caused several cases of the acute respiratory disease known as SARS (severe acute respiratory syndrome). COVID-19 virus has thus far has caused over 350,000 infections and over 15,000 deaths globally.

In general, most coronaviruses spread in the same manner as other cold-causing viruses: via **aerosols directly** (infected people coughing, sneezing or touching an infected person's hands or face) or **indirect contact** (touching fomites like doorknobs, elevator buttons, elevator buttons, etc. then touching your nose, eyes, or mouth, the conduits of entry into the body). Since the virus is spread via direct and indirect contact, the **continuous application** of Bi-Polar Ions 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 bi-polar ionization air cleaning system as a step to combat the spread of illness.

Dr. Philip M. Tierno, Jr

Professor of Microbiology & Pathology

New York University School of Medicine



Testing date 10 June 2020

AtmosAir™

*Proven to Neutralize Coronavirus
by More than **99.9%***

NEW RESULTS ANNOUNCED JUNE 2020

From bogus vaccines to fake testing sites, there's no shortage of products flooding the market erroneously promising to defend against COVID-19. But AtmosAir Solutions is proud to share that our bi-polar ionization technology is now verified by one of the preeminent laboratories for testing EPA and FDA registered sanitizing products.

RESEARCH

The purpose of the study was to determine the effectiveness of the AtmosAir Matterhorn Series device against Human Coronavirus Strain 229E at contact times of 30 minutes, 60 minutes, and 120 minutes. The researchers observed the viruses activity on a controlled surface and on a surface treated with the AtmosAir Matterhorn Series at varying temperatures.

OF THE FINDINGS

President and CEO of AtmosAir Solutions, Steve Levine, said "We are delivering a cost-effective, environmentally and socially sustainable public health product that can deliver results so that we can start coming together again safely."

"This result further validates how beneficial the active continuous disinfection with AtmosAir bi-polar ionization can be to neutralize Coronavirus," said Tony Abate, Vice President and Chief Technical Officer at AtmosAir Solutions.

**IN A STUDY LAST WEEK,
MICROCHEM LABORATORY,
FOUND THAT:**

*The presence of
coronavirus was reduced
by **99.92%** within 30
minutes of exposure to
AtmosAir's bi-polar
ionization technology*

ATMOSAIR IS THE LEADER IN BI-POLAR IONIZATION TECHNOLOGY AND...

- AtmosAir is over 99.9 percent effective in reducing the coronavirus on surfaces.
- AtmosAir's technology proactively emits bi-polar ions that attack and neutralize coronavirus in a continuous way.
- Unlike many unverified products, AtmosAir Solutions is backed by science.
- AtmosAir has been installed in 7,500 other commercial and residential buildings, sports facilities, airports, hotels, hospitals and casinos.

TEST RESULTS FROM MICROCHEM LABORATORY

HUMAN CORONAVIRUS STRAIN 229E ATCC VR-740

Table 2: Test Results at 30 minutes

		Test Results Replicate 1 30 minutes	Test Results Replicate 2 30 minutes	Test Results Replicate 3 30 minutes
Cell Control		0 0 0 0	0 0 0 0	0 0 0 0
Dilution	10 ⁻¹	0 0 0 +	0 0 0 +	0 0 0 0
	10 ⁻²	0 0 0 0	0 0 0 0	0 0 0 0
	10 ⁻³	0 0 0 0	0 0 0 0	0 0 0 0
	10 ⁻⁴	0 0 0 0	0 0 0 0	0 0 0 0
	10 ⁻⁵	0 0 0 0	0 0 0 0	0 0 0 0
TCID ₅₀ per 0.1 ml		0.75 Log ₁₀	0.75 Log ₁₀	≤0.50 Log ₁₀
TCID ₅₀ per Carrier		1.05 Log ₁₀	1.05 Log ₁₀	≤0.80 Log ₁₀
Average Log ₁₀ Reduction		2.78 Log ₁₀		
Average Percent Reduction		99.92%		

Key: + = Virus recovered; 0 = Virus not recovered and/or no cytotoxicity observed;
T = Cytotoxicity observed; [†]Taking cytotoxicity and neutralization controls into account.

Surface test on 10 June 2020

99.92% reduction in 30 minute test

Table 2: Test Results- Grey Fabric

		Test Sample for Grey Fabric - 15 minutes	Test Sample for Grey Fabric - 30 minutes
Cell Control		0 0 0 0	0 0 0 0
Dilution	10 ^{-1.30}	0 0 0 0	0 0 0 0
	10 ^{-2.30}	0 0 0 0	0 0 0 0
	10 ^{-3.30}	0 0 0 0	0 0 0 0
	10 ^{-4.30}	0 0 0 0	0 0 0 0
	10 ^{-5.30}	0 0 0 0	0 0 0 0
	10 ^{-6.30}	0 0 0 0	0 0 0 0
TCID ₅₀ per 0.1 ml		≤ 0.80 Log ₁₀	≤ 0.80 Log ₁₀
Log Reduction		≥2.25 Log ₁₀	≥2.25 Log ₁₀
Percent Reduction		≥99.44%	≥99.44%

Key: + = Virus recovered; 0 = Virus not recovered and/or no cytotoxicity observed;
T = Cytotoxicity observed;

Surface test on fabric mask 11 Sept 2020

Over 99.44% reduction in 30 minute test

Results of the Study: Test Run

Microorganism	Test Device	Initial Numbers Control (CFU/m ³)	Sampling Time Point	Recovery (CFU/m ³)		Percent Reduction vs. Normalized Numbers Control	Log Reduction vs. Normalized Numbers Control
				Normalized Numbers Control	Test Data		
<i>S. saprophyticus</i> ATCC 35552	Matterhorn	4.14E+08	15 Minutes	3.39E+07	2.31E+05	99.32%	2.17
			45 Minutes	4.48E+06	<2.27E+01	99.9995%	5.29

Note: The Limit of Detection (LOD) for this germ is 22.7 CFU/m³. Values below the LOD are represented as <2.27E+01 in the chart above and 0 in the graph below.

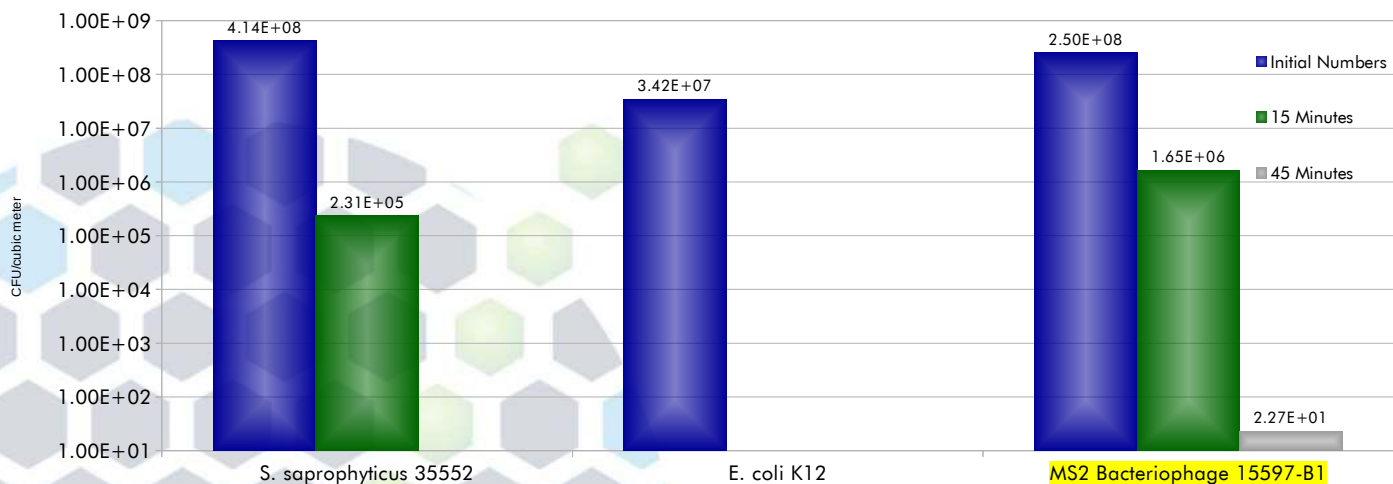
Microorganism	Test Device	Initial Numbers Control (CFU/m ³)	Sampling Time Point	Recovery (CFU/m ³)		Percent Reduction vs. Normalized Numbers Control	Log Reduction vs. Normalized Numbers Control
				Normalized Numbers Control	Test Data		
<i>E. coli</i> K12	Matterhorn	3.42E+07	15 Minutes	1.18E+06	<7.68E+02	>99.94%	3.19
			45 Minutes	1.61E+05	<2.27E+01	>99.986%	>3.85

Note: The Limit of Detection (LOD) for this germ are 768 CFU/m³ and 22.7 CFU/m³ for 15 and 45 minutes, respectively. Values below the LOD are represented as <7.68E+02 and <2.27E+01 in the chart above and 0 in the graph below.

Microorganism	Test Device	Initial Numbers Control (CFU/m ³)	Sampling Time Point	Recovery (CFU/m ³)		Percent Reduction vs. Normalized Numbers Control	Log Reduction vs. Normalized Numbers Control
				Normalized Numbers Control	Test Data		
MS2 Bacteriophage ATCC 15597-B1	Matterhorn	2.50E+08	15 Minutes	8.84E+07	1.65E+06	98.13%	1.73
			45 Minutes	3.32E+07	2.27E+01	99.99993%	6.17

Note: The Limit of Detection (LOD) for this germ is 22.7 CFU/m³. Values below the LOD are represented as <2.27E+01 in the chart above and 0 in the graph below.

Relative Performance of ProMedUSA+AtmosAir Model 882 when Tested Against Bioaerosolized Microorganisms



The results of this study apply to the tested substances(s) only. Extrapolation of findings to related materials is the responsibility of the Sponsor.

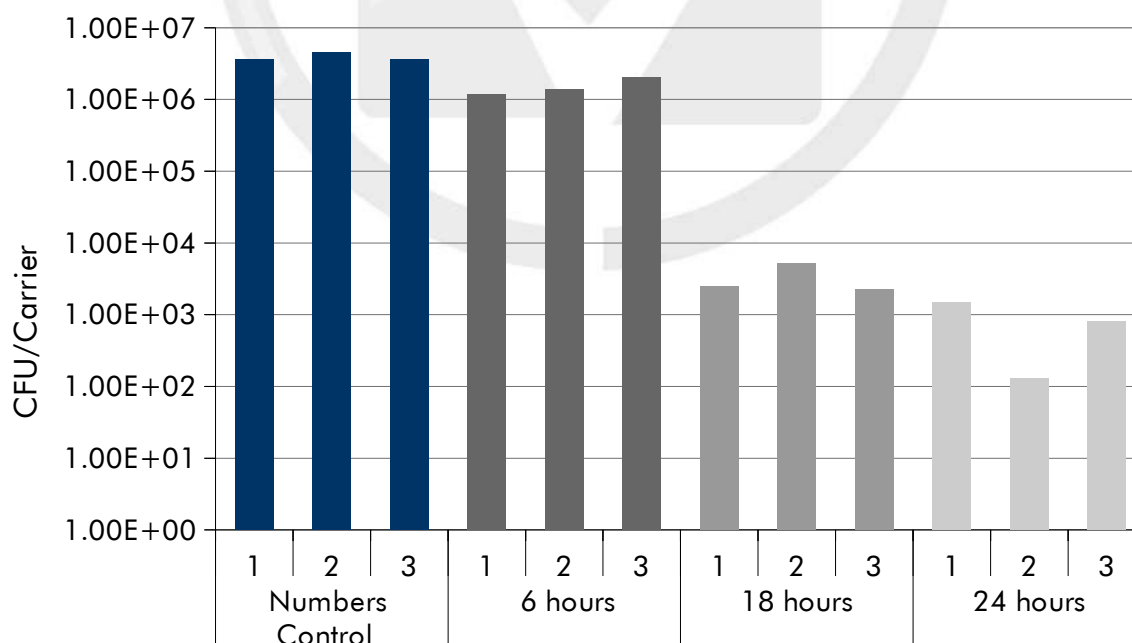
Copyright © Antimicrobial Test Laboratories, 2015. Reproduction and ordinary use of this study report by the entity listed as "Sponsor" is permitted. Other copying and reproduction of all or part of this document by other entities is expressly prohibited, unless prior permission is granted in writing by Antimicrobial Test Laboratories.

Kill Rate of C. Diff exposed to AtmosAir Bi-Polar Ionization

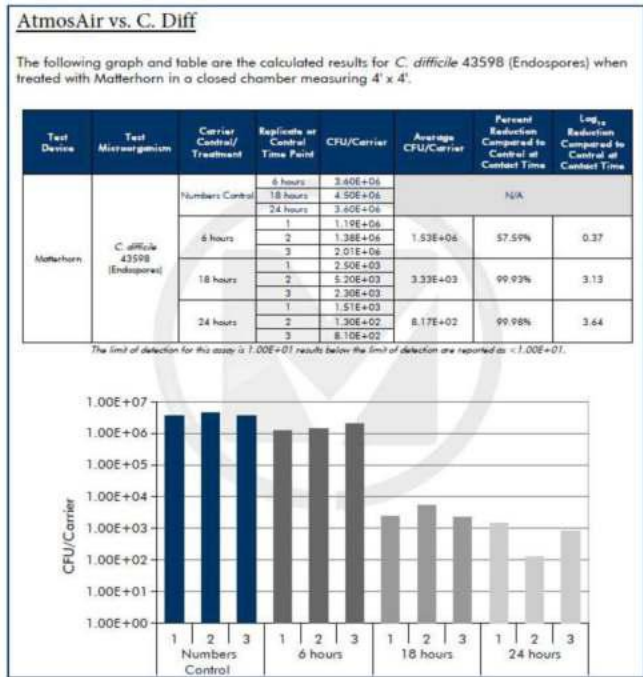
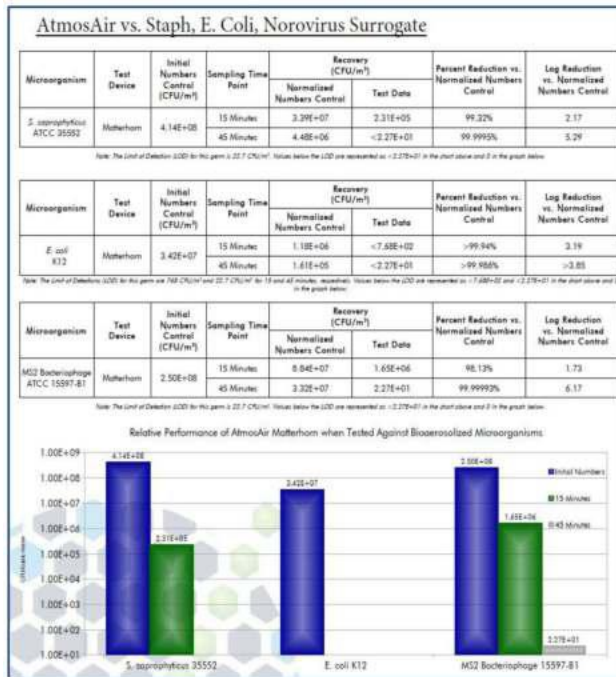
The following graph and table are the calculated results for C. difficile 43598 (Endospores) when treated with a Model SGMH-882 in a closed chamber measuring 4' x 4'.

Test Device	Test Microorganism	Carrier Control/Treatment	Replicate or Control Time Point	CFU/Carrier	Average CFU/Carrier	Percent Reduction Compared to Control at Contact Time	Log ₁₀ Reduction Compared to Control at Contact Time
Matterhorn	C. difficile 43598 (Endospores)	Numbers Control	6 hours	3.60E+06	N/A		
			18 hours	4.50E+06			
			24 hours	3.60E+06			
		6 hours	1	1.19E+06	1.53E+06	57.59%	0.37
			2	1.38E+06			
			3	2.01E+06			
		18 hours	1	2.50E+03	3.33E+03	99.93%	3.13
			2	5.20E+03			
			3	2.30E+03			
		24 hours	1	1.51E+03	8.17E+02	99.98%	3.64
			2	1.30E+02			
			3	8.10E+02			

The limit of detection for this assay is 1.00E+01 results below the limit of detection are reported as <1.00E+01.



>95% Reduction in Staph, MRSA, E.Coli, Norovirus, C. Diff



VOC and Odour Reduction

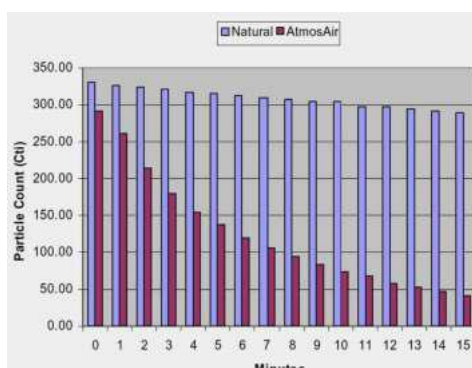
LOCATION	PERCENTAGE REDUCTION
Hyatt Hotel, New York City	95%
Staples Center, Los Angeles	90%
University of Southern California	97%
Santa Ana California School District	97%
Rivers Casino, Pittsburg, Pennsylvania	90%

Staples Center, Los Angeles – Energy Savings



Full Arena Energy Savings			
	AtmosAir OFF	AtmosAir ON	Energy Savings
Total Energy Used (kWh)	583.59 kWh	456.56 kWh	21%
Reduction in Outside Air			
Staples Center Total Supply Air	Outside Air CFM AtmosAir OFF	Outside Air CFM AtmosAir ON	Percentage Reduction
689,050 CFM	339,640 CFM	172,465 CFM	51%

Ultrafine Particle Reduction



- This chart illustrates the decay rate for ultrafine particles (0.3 micron) with AtmosAir turned OFF in blue, and with AtmosAir turned ON in red.
- Without AtmosAir only 12.8% of the particles were removed.
- With AtmosAir turned on, 85.8% were removed.

CASE STUDY: EMPIRE STATE REALTY TRUST



The Empire State Realty Trust (owners of the iconic Empire State Building in New York) have installed AtmosAir in 7 ESRT Buildings: One Grand Central Place, 250 West 57th Street, 1400 Broadway, 1350 Broadway, 501 7th Avenue, and 111 West 33rd Street and throughout the entire Empire State Building, including the Observation Deck, Offices, Retail outlets and Restaurants.

The Empire State Realty Trust (ESRT) installed AtmosAir's Bi-Polar Ionisation systems to continuously disinfect the indoor air and to protect tourists, employees and tenant's from Covid-19, germs, bacteria, dust and pollutant particles (PM10, PM2.5, PM0.3), and VOC's.

ESRT also wanted lower overall energy costs to help achieve ENERGY STAR® certification, which they achieved with AtmosAir's technology.

Mr. TONY MALKIN, CEO, Empire State Realty Trust, CNBC June 2020:

"We have utilized AtmosAir in our offices. We were an early adopter. We have rolled AtmosAir out throughout a number of buildings including Empire State Building and it is a part of our Indoor Air Quality specifications."

LAX

Los Angeles International Airport



Passengers, Crew Members, and Employees at the Los Angeles International Airport (LAX) were complaining of Jet Fuel Odours (VOC's) inside the terminals, Food and Beverage Outlet Odours, Odours from Retail Outlets, and generally poor Indoor Air Quality (IAQ) causing eye, throat and nose irritation. Being located near a waste water treatment plant added to the odour problems.

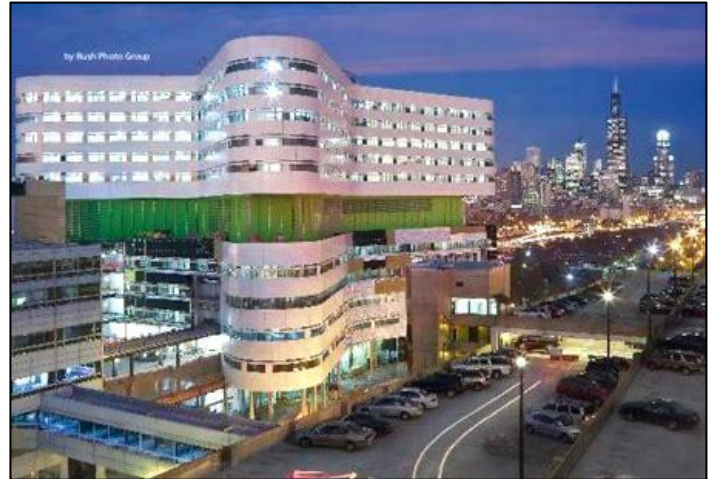
AtmosAir's bi-polar ionisation air purification system was first installed at the Tom Bradley International Terminal. Within a short time, the complaints reduced and the indoor air quality was substantially improved.

Today, AtmosAir has been installed in over 200+ AHU's in the Midfield Terminal, and Terminals 1,3,4,5 and 7.

"AtmosAir's Bi-Polar ionisation technology, from what we have found, works well to combat jet fume odours to improve air quality here at LAX. We have all the terminals with AtmosAir systems in place and they require very little maintenance and have worked for us as intended – to purify the air and also clean and purify the HVAC system. We have been very satisfied with this technology".

Rich Yakel, Manager, Los Angeles World Airports, HVAC and Maintenance

Rush University Medical Center, Chicago



In 2019, the Rush University Medical Center was ranked #1 out of 93 major academic medical centers in the United States for delivering the highest quality of care.

After installing AtmosAir Bi-polar ionization, the bacterial level was tested and had dropped to “ND” or Not Detectable.

Here are the actual bacteria sampling results from the Rush University Medical Center in Chicago Illinois.

Bacteria Type	Pre AtmosAir AtmosAir CFU/M3	Post AtmosAir AtmosAir	% Difference
Bacillus Flexus	14	ND	-100%
Bacillus Marisflavi	7	ND	-100%
Kocuria Rosea	28	ND	-100%
Micrococcus Luteus	49	ND	-100%
Staphylococcus Lugdunensis	140	ND	-100%
Total	238	ND	-100%

RIYADH METRO SYSTEM

Kingdom of Saudi Arabia



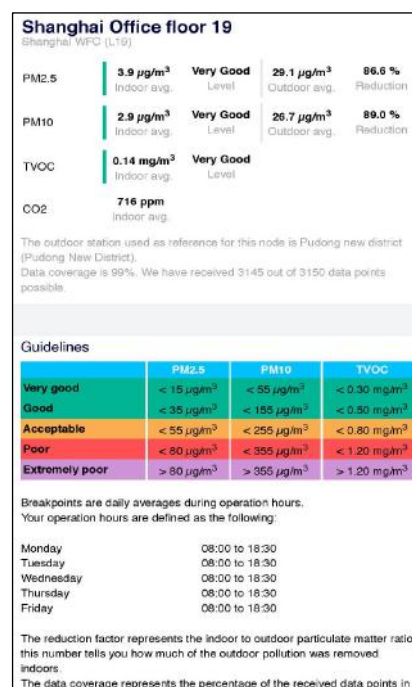
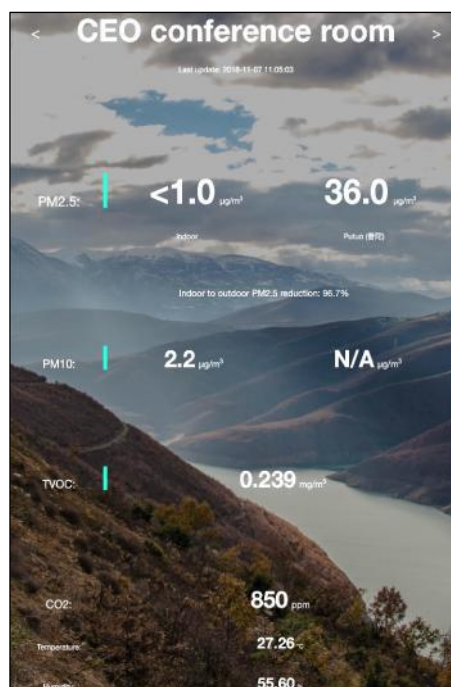
The Riyadh Metro is a rapid transit system under construction in the city of Riyadh, the capital of Saudi Arabia. It will consist of six metro lines spanning a total length of 176 kilometres, with 85 stations. The project will cost \$22.5 billion to build.

AtmosAir Bipolar Ionisation Systems have been installed in the ANM Line 3 and the BACS Lines 1 & 2 which is a total of about 35 stations

AtmosAware WiFi Enabled IAQ Sensors



AtmosAware Sensors



Customized Data Displays

The AtmosAware System makes it simple to monitor your indoor air IAQ in real time on your mobile phone, tablet or laptop. It is WiFi enabled and backed up by cloud storage.

The AtmosAware System includes sensors, a web platform (subscription based) and a mobile app that enables you to check CO₂, PM2.5, PM10, Total Volatile Organic Compounds (TVOC Levels), Temperature and Humidity on your mobile device of choice.

Data can be analyzed on a daily, weekly or monthly basis and also view historical levels for comparison making report generation simple.



Breathe crisp, clean, and disinfected
“Mountain-Fresh” Indoor air again

CONTACT US:

ProMedUSA Pte Ltd

111 North Bridge Road

#08-27 Peninsula Plaza

Singapore 179098

Tel: (65) 6836-9665 Fax: (65) 6836-6887

sales@promedusa.us

www.atmosair-singapore.com