SANUVOX



Solutions & Applications

Solving Indoor Air Quality Problems with Sanuvox UV Systems



About Sanuvox

Sanuvox Technologies is a global leader in UV air and surface disinfection. Our air purification systems and coil cleaners are designed to maximize effectiveness.

We offer a large selection of products that solve more than a hundred challenges commonly faced by our customers in improving air quality, reducing odors and reducing energy costs.

Founded in 1995, Sanuvox mission is to design and manufacture air and surface disinfection units that replicate the natural principles of air purification by UV rays (ultraviolet) in the Earth's upper atmosphere.



Indoor Air Quality Issues (IAQ)



Contaminated Air & Particles

Sanuvox systems are efficient against thousands of airborne contaminants inside buildings, such as viruses, allergens, bacteria, mold, fungi, and volatile organic compounds (VOCs).

Lingering Odors

Whether these odors come from restaurants, factories, warehouses, delivery trucks or garbage, Sanuvox systems help reduce them.



Energy Loss

The accumulation of mold and biofilm on the evaporator coils affects heat/cool transfer efficiency of air handler units, which increases their energy consumption.

Discover our Solutions with Sanuvox Products!

A Complete Range of Versatile Products!

Sanuvox systems meet the multiple challenges faced by building and plant managers and owners. They are customized to solve each of these problems!

For a quick overview of all our commercial products, see the summary chart on pages 16-17.

OBJECT & SURFACE DISINFECTION

IL Coil Clean COIL CLEANER





Using a patented and versatile technology, the IL Coil Clean uses high intensity UVC lamps combined with parabolic aluminum reflectors to maximize UVC output on the evaporator coils.

The ballast box is equipped with LED indicators for lamp status as well as dry contacts for any BMS remote monitoring system.

The IL Coil Clean has very low maintenance that consists of changing the UV lamps after 17,000 hours of use.

OBJECTIVE

To disinfect evaporator coils to prevent the growth of biofilms and mold.

APPLICATION

- Any building equipped with an HVAC system.
- IL Coil Clean can be installed on either side of evaporator coils.

BENEFITS

- + Uses up to 50% less UVC fixtures than the competition
- + Provides a 99% disinfection of mold in under 60 minutes
- Aluminum reflector protects lamp from fouling and cooling
- + Reduces energy consumption of the HVAC



12" to 60"



Installation Facing evaporator coils

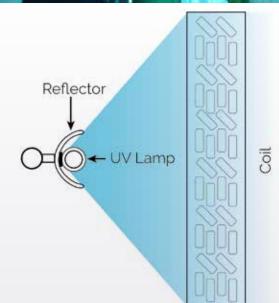


biocontaminants

Published in the Lancet Medical journal to achieve a 40% reduction in respiratory symptoms, 20% reduction in overall sickness and 99% reduction in endotoxins on the coil surface.

ASHRAE Field study showed a 10% decrease in pressure drop and 14.55% increase in heat transfer coefficient of the evaporator coils.







Multi-IL Coil Clean

SURFACE DISINFECTION & ETHYLENE PHOTO-OXIDATION UNIT





The Multi-IL Coil Clean utilizes dual UV wavelengths to disinfect mold, bacteria and virus, but also to oxidize any ethylene buildup within a walk-in or large cooler storing fruits and vegetables.

The ballast box is equipped with LED indicators for lamp status as well as dry contacts for any BMS remote monitoring system.

OBJECTIVE

To eliminate ethylene buildup within the food storage room to slow the ripening of fruits.

APPLICATION

 Any cold room equipped with a cooling system, installed on the evaporator coils.

BENEFITS

- + Reduces ethylene buildup
- Increases the lifespan of fruits and vegetables
- + Cleans the evaporator coils, reducing energy consumption
- + Makes chemical cleaning of coils unnecessary
- + Reduces biological load within food storage cooler



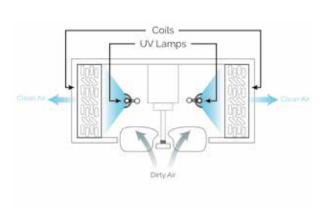
Lamps Length 12" to 60"



Installation Facing HVAC evaporator coils



Reduction of





IL Food Safe FOOD AND PACKAGING SURFACE PURIFIER





The IL Food Safe unit is designed to be implemented on a food conveyor system for the disinfection of foodborne diseases, such as E.Coli, Salmonella and Listeria on the outside of fruits, meats, breads, and food packaging.

This system incorporates Teflon coated, high intensity UVC lamps designed specifically to the conveyor width, length and speed to ensure a required log disinfection is achieved.

A study by the Department of Food Science and Nutrition at Laval University shows that the exposure of strawberries to artificial ultraviolet radiation would extend their shelf life by one-third.

OBJECTIVE

To eliminate foodborne pathogens from the surface of fruits, vegetables and food packaging with no chemical residue.

APPLICATION

 Any continuous production line before packing.

BENEFITS

- + Disinfects food preparation, processing and packaging surfaces
- Increases the shelf life of food products
- + Chemical-free cleaning process of food products
- + Achieves up to 99.9999% disinfection



Lamps Length 12" to 60"

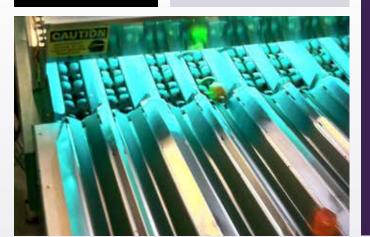


Installation Over a conveyor



Reduction of bio-contaminants





AIR DISINFECTION HVAC IN-DUCT

BioWall AIR DISINFECTION SYSTEM





The BioWall UVC air disinfection system is installed in the return or supply ducting of an HVAC system to disinfect airborne mold, virus, bacteria and carbon based odors. The system is comprised of 5 lamps, each secured in their own parabolic aluminum reflector for maximum UVC intensity. In addition, the BioWall is installed parallel to airflow to achieve the maximum amount of contact time with the airborne contaminants.

This patented system can be utilized for even the largest air handler units and is sized using Sanuvox proprietary sizing software specific to the facility.

The ballast/control box is equipped with BMS dry contacts to work with any building automation system.

JV Lamps (5)

BacteriaVirusSpores

BENEFITS

- + Complements filters by disinfecting what filters do not capture
- + Protects the occupants of the building from airborne mold, virus, and bacteria
- + Effective against SARS CoV 2 (COVID 19)
- + Designed specifically to each HVAC system
- + Helps reduce up to 99.99% of biocontaminants in the airstream

Tested by RTi Labs to achieve 93% disinfection on Anthrax spores, 99.97% on MS2 bacteria and 99% disinfection on virus on a single pass in the airstream.





Lamps Length 18" to 60"



Installation In-duct



Reduction of



Reduction of Odors & Chemical Contaminants



Quattro AIR DISINFECTION SYSTEM





The Sanuvox Quattro system is designed for the disinfection of airborne mold, virus, bacteria and common odors up to a 5-ton HVAC system.

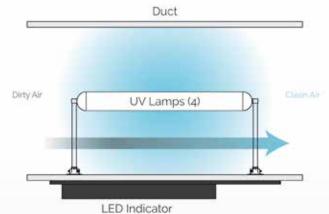
The Quattro is installed in a return or supply duct parallel to airflow for maximum exposure time and consists of 4 18" lamps, each with their own parabolic aluminum reflector.



BENEFITS

- + Complements filters by disinfecting what filters do not capture
- + Protects the occupants of the building from airborne mold, virus, and bacteria
- + Effective against SARS CoV 2 (COVID 19)
- + Designed specifically to each HVAC system
- + Helps reduce up to 99.99% of biocontaminants in the airstream







Lamps Leng



Installation



Reduction of pio-contaminants



Reduction of Odors & Chemical Contaminants

AIR DISINFECTION HVAC IN-DUCT

OBJECTIVE

 To disinfect airborne mold, virus and bacteria as well as odors recirculating through the HVAC system.

APPLICATION

Any building equipped with a HVAC system.



AIR DISINFECTION COMBINED WITH HIGH EFFICIENCY FILTRATION



Sanuvair® S300 **AIR DISINFECTION UNIT WITH HEPA FILTER**





Ideal for buildings that want to improve their air quality, such as retail spaces, classrooms, schools, offices or locker rooms.

The Sanuvair® S300 has a four-step air cleaning process:

- 1. Mold, virus and bacteria are pulled past a J-shaped dual wavelength lamp parallel to airflow inside an aluminum reflection chamber, for maximum UVC disinfection of airborne contaminants.
- 2. Odors and VOCs are handled via photo-oxidation.
- 3. A MERV 8 pre-filter captures large particles.
- 4. A HEPA final filter captures 99.97% of particles of 0.3 micron and larger.

The Sanuvair® S300 is the most versatile unit Sanuvox offers with its various installation options.



Unit Dimensions: 17" x 30" x 12"

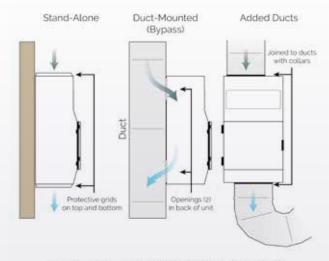
BENEFITS

Combines HEPA filtration and UVC disinfection for a complete IAQ solution in one unit

- Helps reduce unpleasant odors
- Equipped with dual speed fan capability (220 or 300 cfm)
- Offers versatile installation options



Installation (3 options)



Versatile unit that can be positioned horizontally or vertically



9,000 cu.ft.



Lamps Length . 10.5' 'J' shaped lamp

> Installation (3 options)









Reduction of



Reduction of Odors



Organic Compounds (VOCs)



Sanuvair® S1000

AIR DISINFECTION UNIT WITH MERV 15 FINAL FILTER





The Sanuvair® \$1000 is designed for larger room air cleaning where HVAC systems are not available or accessible. This unit disinfects mold, virus, bacteria and heavy odors from the air in a room up to 15,000 cubic feet.

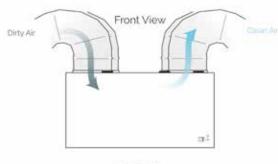
This unit is constructed of a lightweight aluminum case and has a three-stage disinfection process:

- 1. Air is pulled into two return ports through an aluminum reflection chamber that houses 1 to 4 dual frequency UV lamps for air disinfection.
- 2. A 2" MERV 8 pre-filter captures the large particles.
- 3. A 4" MERV 15 final filter captures 95% of 0.3 to 1 micron sized particles.

This unit has versatile mounting options.



Unit Dimensions: 40" x 20" x 20"



Top View



BENEFITS

- + Disinfects airborne mold, virus and bacteria
- + Offers multiple levels of odor treatment
- + Includes fan speed of 1,000 cfm under load





Сарасіту 25,000 cu.ft.



Lamps Length 16" 'J' shaped lamp



Installation Added ducts



Reduction of bio-contaminants



Reduction of Odors & Chemical Contaminants



Reduction of Volatile Organic Compounds (VOCs)



HEPA Filter
OPTIONAL

AIR DISINFECTION COMBINED WITH HIGH EFFICIENCY FILTRATION

OBJECTIVE

 To disinfect and capture airborne contaminants, odors and particles using a stand alone unit.

APPLICATION

Any facility wanting the best air quality and odor control.



AIR DISINFECTION STAND-ALONE



Sanuvair® S100 **AIR PURIFICATION UNIT**





Ideal for offices, cafeterias, doctor's offices, dentist's offices, waiting rooms, schools, daycares, hotels and elevators, the Sanuvair® S100 is a stand alone and compact unit designed for the treatment of airborne contaminants. This unit is designed for up to 500 sq.ft. and can be installed in a drop down ceiling or mounted on a wall.

The unit pulls air into an aluminum chamber across a 'J' shaped UV lamp for air disinfection.

BENEFITS

- + Improves air quality
- + Helps reduce absenteeism rate
- + Quiet and discreet

In a P3 level biological laboratory, Sanuvox has successfully tested the efficiency of the Sanuvair® S100 against a controlled highly contaminated environment of SARS-CoV-2 virus.

The test confirms the effectiveness of the Sanuvair® S100, an advanced upper room UV unit with forced air concept, and its superiority over the ancient passive upper room UV units used since 1950.











'J' shaped lamp

Installation





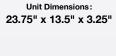




& Chemical Contaminants



Reduction of Volatile Organic Compounds (VOCs)



AIR PURIFICATION UNIT





Ideal for basements, beauty salons, daycare centers and small gyms, the P900 is a stand alone, sturdy all metal constructed unit designed for the treatment of airborne contaminants. This unit is designed for up to 900 sq.ft. and can also be mounted on a wall.

The unit pulls air into an aluminum chamber across a 'J' shaped dual wavelength UV lamp for air and odor disinfection.

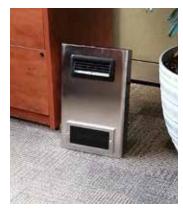


Unit Dimensions: 18.75" x 11.75" x 4"

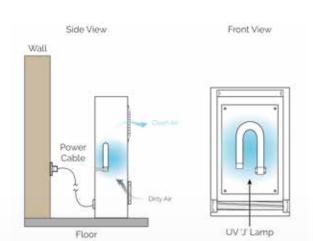
BENEFITS

- + Disinfects the air
- + Helps reduce the risk of transmission of airborne microorganisms

Effective in reducing airborne viable bacteria (turberculosis) by close to 90% and reduced bacterial concentrations at a rate equivalent to approximately 6 air changes per hour, in the McGill Sputum study.









900 sq.ft.



'J' shaped lamp

Installation (2 options)





Wall-mounted



bio-contaminants



Reduction of Odors Contaminants



Organic Compounds (VOCs)

AIR DISINFECTION STAND-ALONE

OBJECTIVE

 To improve air quality and reduce odors using a portable unit.

APPLICATION

Any home, commercial building or factory that needs portable air treatment.



ODOR REDUCTION

Sanuvair® S600 GARBAGE ROOM ODOR REMOVAL UNIT





Ideal for buildings that struggle with unpleasant odors produced in garbage rooms.

The hydroxyl technology by UV photolysis helps drastically reduce odors associated with garbage, and thus reduces the presence of insects and flies in the room.

Compact and efficient, the Sanuvair® S600 can be installed in less than 30 minutes.

OBJECTIVE

To eliminate garbage, recycling, and compost odors.

APPLICATION

Any building with a trash, recycling or compost room.

BENEFITS

- + Reduces heavy trash and compost odors
- + Increases comfort of workers
- + Equipped with a large 600 cfm fan
- + Reduces insects and flies in the garbage room
- + Helps reduce mold, virus, bacteria



7,000 cu.ft.







Reduction of bio-contaminants



Reduction of Odors & Chemical Contaminants





Unit Dimensions: 23" x 27" x 13"





Sanuvair® S300 OZD & Sanuvair® S1000 OZD GARBAGE ROOM AUTOMATED ODOR REMOVAL UNITS





Ideal for buildings that struggle with unpleasant and lingering odors produced in garbage rooms.

The Sanuvair® S300 OZD and Sanuvair® S1000 OZD are designed to continuously reduce odors by pulling air through a UV chamber for photo-oxidation thus, preventing the proliferation of harmful bacteria and neutralizing offensive odors emanating from putrefaction. The controllers automatically cycle a secondary lamp on and off to actively treat the build up or reduction of these odors.

OBJECTIVE

To eliminate strong and lingering odors.

APPLICATION

Any building where odors are constant issues.

BENEFITS

Installation (2 options)

UV purification unit for an effective solution against odors

Added Ducts

Joined to ducts

with collars

- + Helps recude strong and lingering odors
- + Improves air quality



s300 | 3,000 cu.ft. S1000 | 10,000 cu.ft.



S300 | 10.5 **S1000** | 16" 'J' shaped lamp



Installation S1000



Added ducts



bio-contaminants



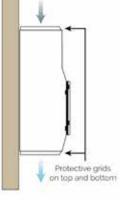
& Chemical Contaminants

Stand-Alone Sanuvair®

S300 OZD Purifies up to 300 cu.ft. per minute



Photo-oxidation Controller



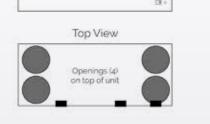
Versatile unit that can be positioned horizontally or vertically



ATTENTION: Name had do all jump



Unit Dimensions: 40" x 20" x 20"



Front View

Sanuvair® S1000 OZD Purifies up to 992 cu.ft. per minute



Photo-oxidation Controller

DOMESTIC SMOKE REDUCTION



Sanuvair® S300 VOC & Sanuvair® S1000 VOC SMOKE REMOVAL UNITS

Sanuvair®

S300 VOC Purifies up to 300 cu.ft. per minute

VOC Controller





Ideal for bars, smoking rooms, casinos, game rooms, cannabis smoke shops, and cigar rooms.

Smoke (from cigarettes, cigars, or even cannabis) is usually composed of ash, nicotine droplets, and volatile compounds suspended in the air.

The Sanuvair® S300 VOC and the Sanuvair® S1000 VOC are designed to reduce smoke build up by continuously pulling air through a UV chamber for photo-oxidation. The controllers automatically cycle a secondary lamp on and off to actively treat the build up or reduction of smoke.

The ash will be captured on the filters, the nicotine droplets will be dried by UV and the volatile compounds will be broken down and rendered harmless during the process.



Unit Dimensions: 17" x 30" x 12"

OBJECTIVE

 To eliminate cigarette smoke, cigar smoke, and cannabis smoke.

APPLICATION

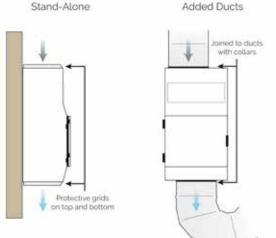
 Any building or room where a reduction of smoke is required or recommended.

BENEFITS

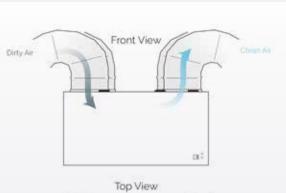
UV purification unit for an effective solution against smoke

- + Helps reduce smoke and offensive odors
- + Improves air quality

Installation (2 options)



Versatile unit that can be positioned horizontally or vertically







40" x 20" x 20"





Canacity

S300 | 3,000 cu.ft. S1000 | 10,000 cu.ft.



Lamps Length \$300 | 10.5" \$1000 | 16" 'J' shaped lamp



Stand-alone



Installation S1000



Added ducts



Reduction of bio-contaminants



Reduction of Odors & Chemical Contaminants



Reduction of Volatile Organic Compounds (VOCs)



Sanuvair® S300 CRO & Sanuvair® S1000 CRO AIR PURIFICATION UNITS WITH HEPA FILTER & 2 GERMICIDAL LAMPS





The Sanuvair® S300 CRO and Sanuvair® S1000 CRO are designed to provide the highest level of air disinfection and particulate capture of any stand-alone or wall-mounted unit available. Designed for chemical and testing labs, white rooms, production facilities, or cold room storage, each unit is equipped with high intensity UVC lamps enclosed in an aluminum chamber for the highest air disinfection possible, combined with a HEPA final filter to capture the smallest particulates.

These units have various mounting possibilities.

OBJECTIVE

To provide the highest level of air disinfection and particulate capture possible.

APPLICATION

Any facility requiring the highest level of microbial air disinfection.

BENEFITS

Combined HEPA filtration system with UVC purification for a complete IAQ solution in one unit

+ Improves air quality



s300 | 9,000 cu.ft. S1000 | 25,000 cu.ft.



S1000 | 16" 'J' shaped lamp

Installation S300 (3 options)





Duct-mounted



Added ducts

Installation S1000



Added ducts



Reduction of bio-contaminants



Installation (3 options) Duct-Mounted Added Ducts

Stand-Alone (Bypass) oined to ducts with collars Duct Protective grids n top and bottom n back of unit

Versatile unit that can be positioned horizontally or vertically



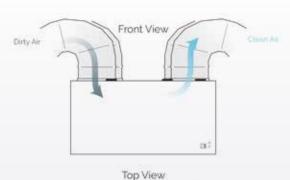
Unit Dimensions: 17" x 30" x 12"



Unit Dimensions: 40" x 20" x 20"

Sanuvair® S1000 CRO Purifies up to

992 cu.ft. per minute



Openings (4)







Model Type		Capacity	Lamps Length	Installation	
IL Coil Clean (p. 4)	Coil Cleaner	N/A	12", 18", 24", 30", 40", 50" and 60"	Facing evaporator coils	
Multi-IL Coil Clean (p. 5)	Surface Disinfection	N/A	12", 18", 24", 30", 40", 50" and 60"	Facing HVAC evaporator coils	
IL Food Safe (p. 5)	Surface Disinfection	N/A	12", 18", 24", 30", 40", 50" and 60"	Over a conveyor	
BioWall (p. 6)	Air Disinfection & Odor Reduction	N/A	18", 24", 30", 40", 50" and 60"	In-duct	
Quattro (p. 7)	Air Disinfection & Odor Reduction	N/A	18"	In-duct	
Sanuvair® S300 (p. 8)	Air Disinfection with Filtration	9,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone, duct-mounted (bypass) or added ducts	
Sanuvair [®] S1000 (p. 9)	Air Disinfection with Filtration	25,000 cu.ft.	16" 'J' shaped lamp	Added ducts	
Sanuvair® S100 (p. 10)	Air Disinfection	500 sq.ft.	6.5" 'J' shaped lamp	Ceiling-mounted or wall-mounted	
P900 (p. 11)	Air Disinfection	900 sq.ft.	6.5" 'J' shaped lamp	Portable or wall-mounted	
Sanuvair® S600 (p. 12)	Odor Reduction	7,000 cu.ft.	6.5" 'U' shaped lamp	Stand-alone	
Sanuvair® S300 OZD (p. 13)	Odor Reduction	3,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone or added ducts	
Sanuvair [®] S1000 OZD (p. 13)	Odor Reduction	10,000 cu.ft.	16" 'J' shaped lamp	Added ducts	
Sanuvair [®] S300 VOC (p. 14)	Smoke Reduction	3,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone or added ducts	
Sanuvair® S1000 VOC (p. 14)	Smoke Reduction	10,000 cu.ft.	16" 'J' shaped lamp	Added ducts	
Sanuvair [®] S300 CRO (p. 15)	Room Disinfection	9,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone, duct-mounted (bypass) or added ducts	
Sanuvair® S1000 CRO (p. 15)	Room Disinfection	25,000 cu.ft.	16" 'J' shaped lamp	Added ducts	

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	Reduction of biocontaminants	Reduction of Odors & Chemical Contaminants	Reduction of Volatile Organic Compounds (VOCs)	HEPA Filter	Solutions for	Applications	
IL Coil Clean	\checkmark				Contaminated coil Restoring HVAC efficiency	Buildings equipped with air conditioning systems.	
Multi-IL Coil Clean	√				Reducing ethylene Contaminated surfaces	Cold rooms equipped with cooling systems.	
IL Food Safe	√				Reducing ethylene Contaminated surfaces	Food preparation and packaging facilities.	Heart
BioWall	√	√			Contaminated air Lingering odors	Buildings equipped with HVAC systems.	
Quattro	√	√			Contaminated air Lingering odors	Buildings equipped with HVAC systems.	
Sanuvair® S300	√	√	√	√	Contaminated air Particles reduction Lingering odors	Buildings with poor air quality and odor issues.	-
Sanuvair® S1000	√	√	√	√ <i>Optional</i>	Contaminated air Particles reduction Lingering odors	Buildings with poor air quality and odor issues.	-
Sanuvair® S100	√	√	√		Contaminated air Lingering odors* Not in California	Offices, meeting rooms or classrooms.	I
006d	\checkmark	√	√		Contaminated air Lingering odors	Office buildings or rooms.	
Sanuvair® S600	√	√	√		Strong odors	Waste rooms, waste dumps, sewers or other buildings with strong odor issues.	
Sanuvair® S300 OZD	√	√			Strong odors Lingering odors	Waste rooms, waste dumps, sewers or other buildings with strong odor issues.	
Sanuvair® S1000 OZD	\checkmark	√			Strong odors Lingering odors	Waste rooms, waste dumps, sewers or other buildings with strong odor issues.	.0
Sanuvair® S300 VOC	√				Smoke and associated odors	Buildings with smoke issues.	
Sanuvair [®] S1000 VOC	√				Smoke and associated odors	Buildings with smoke issues.	7
Sanuvair® S300 CRO	√			√	Contaminated air Particles reduction	Chemical and testing labs, white rooms, production facilities or cold room storage.	2 107
Sanuvair* S1000 CRO	√			√	Contaminated air Particles reduction	Chemical and testing labs, white rooms, production facilities or cold room storage.	

SANUVOX The Leader in Air Purification & UV Disinfection

Our patented, high-end and affordable systems maximize the time of contact with the UV lamps to disinfect 99.99% of surfaces or air in one pass. They have been studied and tested with succes by agencies, laboratories and universities.







THE LANCET

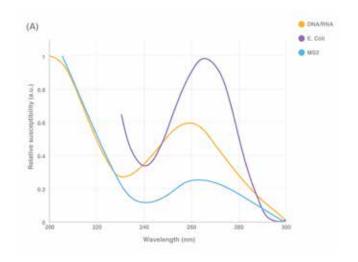
RTi Labs for National Homeland Securities Penn State University

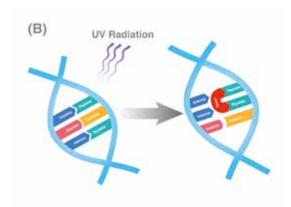
McGill University

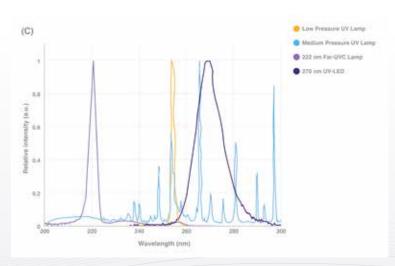
The Lancet, medical journal

Scientific Evidence of the Effectiveness of UV Technology

The science of ultraviolet disinfection has been established and validated for more than fifty years. Below is a graphical summary of how it works as published in ACS-Photonics*. Chart A shows the relative absorption of DNA/RNA, E.coli bacteria, and MS2 bacteriophage virus as a function of UV light wavelength. Illustration B shows how the UV photons interact with DNA or RNA to dimerize nucleotides that leads to inactivation of the replication capability of the microorganisms. Graph C displays the wavelength spectrum of various UV sources.





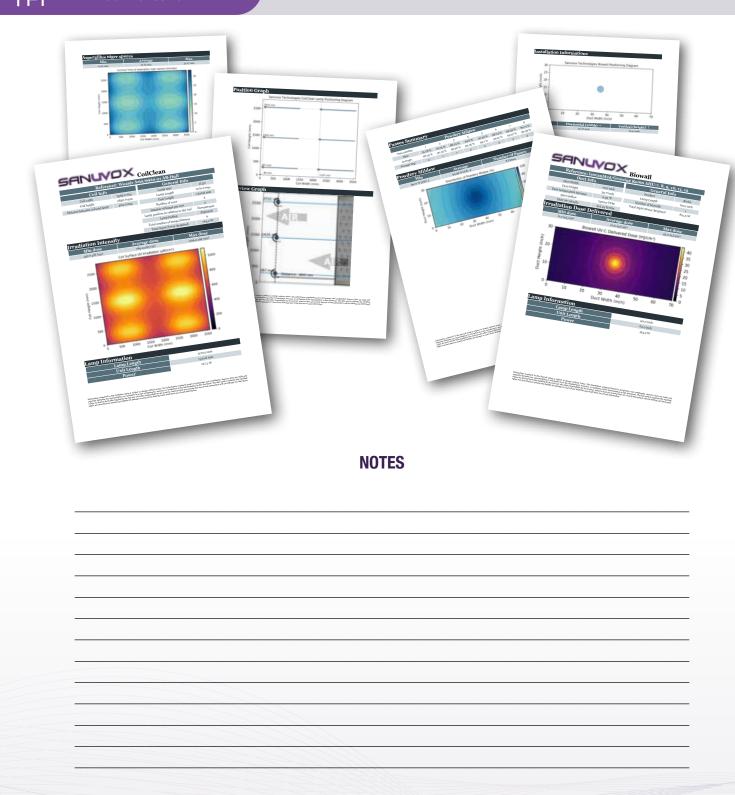


^{*}These charts and illustration are a reproduction of the graphics presented in the following article:

A Critical Review on Ultraviolet Disinfection Systems against COVID-19 Outbreak: Applicability, Validation, and Safety Considerations Milad Raeiszadeh and Babak Adeli
ACS Photonics 2020 7 (11), 2941-2951
DOI: 10.1021/acsphotonics.0c01245



Our calculation software gives you the best solution to your indoor air quality problems!





SANUVOX

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www.sanuvox.com