



Solutions & Applications

Solving Indoor Air Quality Problems with Sanuvox UV Systems



About Sanuvox

Sanuvox Technologies is a global leader in 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, eliminating 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 eliminate 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 eliminate 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 system



12" to 60"



Installation
Facing evaporator coils

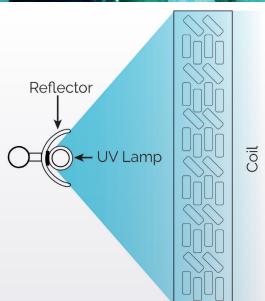


Bio-Sterilization

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
- + Eliminates the chemical cleaning of coils
- + Reduces biological load within food storage cooler



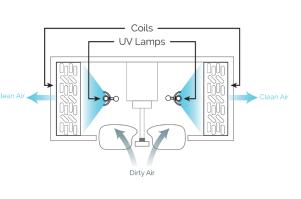
Lamps Length
12" to 60"



Installation Facing HVAC evaporator coils



Bio-Sterilizati





IL Food Safe FOOD AND PACKAGING SURFACE PURIFIER

WARRANTY
15
YEARS
ON BALLASTS



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
- Achieves up to 99.9999% disinfection



Lamps Length 12" to 60"

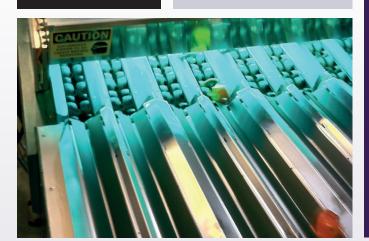


Installation Over a conveyor



Bio-Sterilization





AIR DISINFECTION HVAC IN-DUCT

BioWall AIR DISINFECTION SYSTEM



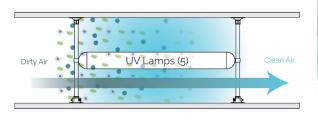


The BioWall UVC air disinfection system is installed in the return or supply ducting of an HVAC system to disinfect airborne mold, virus, bacteria and carbon based odors. The system is comprised of 5 lamps, each secured in their own parabolic aluminum reflector for maximum UVC intensity. In addition,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

Duct



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
- + Destroys up to 99.99% of bio-contaminants in the airstream

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





18" to 60"



Installation



Bio-Sterilization



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.

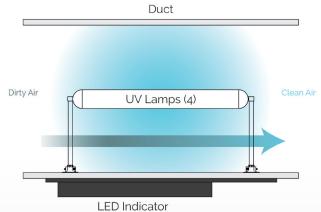
The Quattro is installed in a return or supply duct parallel to airflow for maximum exposure time and consists of 4 18" lamps, each with their own parabolic aluminum reflector.



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
- + Destroys up to 99.99% of bio-contaminants in the airstream







Lamps Lengt



Installation



Bio-Sterilization



Reduction of Odors & Chemica 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 eliminated 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"

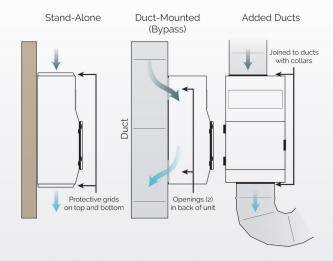
BENEFITS

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

- Eliminates 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



3,000 cu.ft.



Lamps Length . 10.5' 'J' shaped lamp

> Installation (3 options)







Added ducts





Reduction of Odors & Chemical



Reduction of Volatile (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.

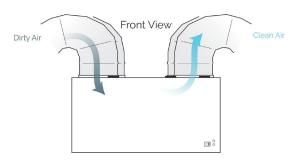
This unit is constructed of a lightweight aluminum case and has a three-stage disinfection process:

- 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"

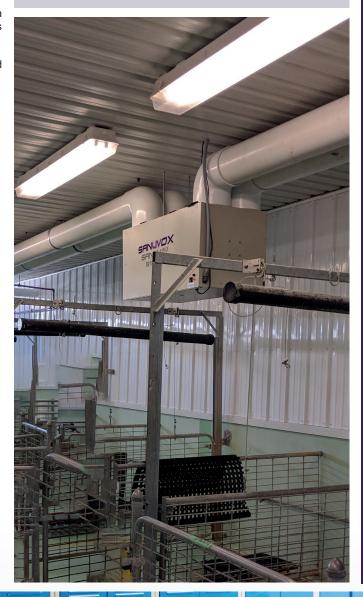


Top View



BENEFITS

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





Capacity 15,000 cu.ft.



Lamps Length 16" 'J' shaped lamp



Installation Added ducts



Bio-Sterilization



Reduction of Odors & Chemical Contaminants



Reduction of Volatile Organic Compounds (VOCs)



HEPA Filter

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 dual wavelength UV lamp for air and odor disinfection.

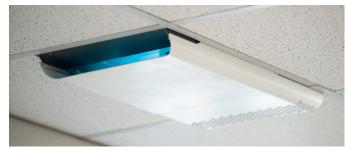
In California, the Sanuvair® S100 is equipped with a 'J' shaped UVC lamp only. Therefore the unit does not reduce odors. chemical contaminants and VOCs.



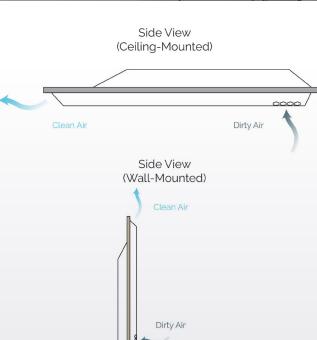
Unit Dimensions: 23.75" x 13.5" x 3.25"

BENEFITS

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









Installation

'J' shaped lamp









Reduction of Odors



P900-GX

AIR PURIFICATION UNIT





Ideal for small garbage rooms, beauty salons, daycare centers and small gyms, the P900-GX 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

- + Protects from airborne germs
- + Reduces odors
- + Helps alleviate allergies and flu symptoms
- + Helps control asthma

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.



Side View

Power Cable

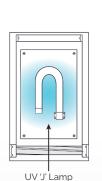
Floor

Wall











900 sq.ft.



'J' shaped lamp

Installation (2 options)





Wall-mounted





Reduction of Odors & Chemical



Reduction of Volatile 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 eliminates odors associated with garbage, and thus reduces the presence of insects and flies in the room.

Compact and efficient, the Sanuvair $\!\!^{^{\oplus}}$ 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 and occupants
- + Equipped with a large 600 cfm fan
- + Reduces insects and flies in the garbage room
- + Destroys mold, virus, bacteria



Capacity 7,000 cu.ft.



Lamps Length 6.5" 'U' shaped lamp



Installation



Bio-Sterilization



Reduction of Odors
& Chemical
Contaminants



Reduction of Volatile Organic Compounds (VOCs)



Unit Dimensions: 23" x 27" x 13"





Sanuvair® S300 OZD & Sanuvair® S1000 OZD

ODOR REMOVAL UNITS FOR COMMON ODOR ISSUES





Ideal for buildings that struggle with strong and common odors such as locker rooms, gyms, garbage and compost 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

UV purification unit for an effective solution against odors

- + Eliminates 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





& Chemical Contaminants



Reduction of Volatile Organic Compounds (VOCs)



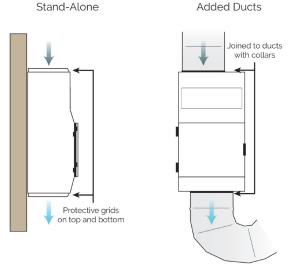
Unit Dimensions: 17" x 30" x 12"



per minute

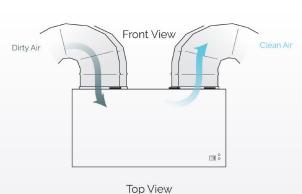


Odor Controller



Installation (2 options)

Versatile unit that can be positioned horizontally or vertically







Unit Dimensions: 40" x 20" x 20"

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



Odor Controller

DOMESTIC SMOKE REDUCTION



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





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

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.

SANUVOX

ATTENTION: Please find the UV Lamp under the HEPA Filter.

OBJECTIVE

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

APPLICATION

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

Stand-Alone

BENEFITS

UV purification unit for an effective solution against smoke

- + Eliminates smoke and offensive odors
- + Improves air quality

Joined to ducts

Added Ducts



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



S1000 | 16"









Installation S1000



Added ducts



Bio-Sterilization



Reduction of Odors & Chemical Contaminants



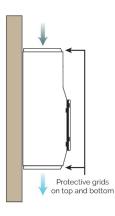
Reduction of Volatile **Organic Compounds** (VOCs)

Installation (2 options)





VOC Controller







Versatile unit that can be positioned horizontally or vertically

40" x 20" x 20"



□ °

Front View

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



VOC Controller



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 | 3,000 cu.ft. S1000 | 15,000 cu.ft.



Lamps Length S300 | 10.5" S1000 | 16" 'J' shaped lamp

'J' shaped lamp







Duct-mounted



Added ducts



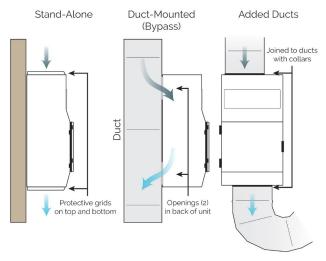
Added ducts



Bio-Sterilization



Installation (3 options)



Versatile unit that can be positioned horizontally or vertically

Sanuvair® S300 CRO Purifies up to

300 cu.ft. per minute



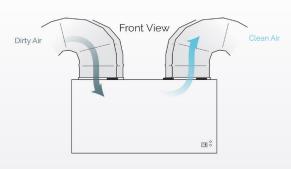
Unit Dimensions: 17" x 30" x 12"



Unit Dimensions: 40" x 20" x 20"

Sanuvair® S1000 CRO Purifies up to

992 cu.ft. per minute



Top View









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	3,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone, duct-mounted (bypass) or added ducts	
Sanuvair® S1000 (p. 9)	Air Disinfection with Filtration	15,000 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-GX (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	3,000 cu.ft.	10.5" 'J' shaped lamp	Stand-alone, duct-mounted (bypass) or added ducts	
Sanuvair® S1000 CRO (p. 15)	Room Disinfection	15,000 cu.ft.	16" 'J' shaped lamp	Added ducts	

16









	Bio- Sterilization	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	\checkmark				Eliminating ethylene Contaminated surfaces	Cold rooms equipped with cooling systems.	
IL Food Safe	\checkmark				Eliminating ethylene Contaminated surfaces	Food preparation and packaging facilities.	
BioWall	\checkmark	√			Contaminated air Lingering odors	Buildings equipped with HVAC systems.	SHELVO :
Quattro	\checkmark	√			Contaminated air Lingering odors	Buildings equipped with HVAC systems.	Onthern
Sanuvair® S300	\checkmark	√	√	√	Contaminated airParticles reductionLingering odors	Buildings with poor air quality and odor issues.	STRANSON, STRANS
Sanuvair [®] S1000	\checkmark	√	\checkmark	O ptional	Contaminated airParticles reductionLingering odors	Buildings with poor air quality and odor issues.	SPENOX PROMISE
Sanuvair® S100	\checkmark	✓	√		 Contaminated air Lingering odors* Not in California 	Offices, meeting rooms or classrooms.	
P900-GX	√	✓	✓		Contaminated airLingering odors	Office buildings or rooms.	
Sanuvair® S600	√	✓	✓		Strong odors	Waste rooms, waste dumps, sewers or other buildings with strong odor issues.	greenex greenex
Sanuvair® S300 OZD	√	✓	✓		Strong odorsLingering odors	Buildings with odor issues.	SPRANOZX STRANOZ
Sanuvair® S1000 OZD	√	✓	✓		Strong odorsLingering odors	Buildings with odor issues.	SENUVOX SHINAL PAR B 1000 0225
Sanuvair® S300 VOC	√				Smoke and associated odors	Buildings with smoke issues.	STATUS SECONDARY TT
Sanuvair [®] S1000 VOC	√				Smoke and associated odors	Buildings with smoke issues.	SPINARY Market
Sanuvair® S300 CRO	√			√	Contaminated air Particles reduction	Chemical and testing labs, white rooms, production facilities or cold room storage.	SPECIAL STATE OF THE STATE OF T
Sanuvair® S1000 CRO	✓			✓	Contaminated air Particles reduction	Chemical and testing labs, white rooms, production facilities or cold room storage.	SPELIOX SPELIOX SUBMINIS

SANUVOX The Leader in Air Purification & UV Sterilization

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

UVV - Oxidant (185 nm)

The UVV wavelength oxidizes the airborne chemical components by photo-oxidation.

UVC - Germicidal (254 nm)

Wellknown for their highly germicidal properties, UVC wavelengths are well documented (see Chapter 16 of the "ASHRAE Handbook - HVAC Systems and Equipment").

This relationship is generally similar to the absorption curve of a nucleic acid (DNA or RNA), the base of any living organism. The relative yield is close to 100% since 90% of the energy spectrum produced by the Sanuvox germicidal UVC source is concentrated to 254 nm.

The Sanuvox Process on Odors

Activation Phase $(H_00 + 0^* -> 0H^* + 0H^*)$

The ultraviolet photon energy is emitted by a high intensity source to decompose the water and oxygen molecules into activated hydroxyls. The rate of production or the efficiency of this process depends on the wavelength, relative humidity, and the intensity of UV sources.

Reaction Phase (OH* + P -> POH)

The activated hydroxyls (OH*) are then mixed in the air stream; the process will react with any compound containing carbon-hydrogen or sulfur, reducing it by successive oxidation into odorless and harmless byproducts. If the activated hydroxyls outnumber the air contaminants, residual ozone (O³) will be formed due to oxidation of the oxygen molecules (O²).

Neutralization Phase $(0^3 + UV(C) -> 0^2 + OH^*: 0 + 0 -> 0^2)$

Also germicidal.

ODOR DECOMPOSITION

+ Formaldehyde: $CH_2O + OH^* -> CO_2 + H_2O$

+ Ammonia: $NH_3 + OH^* -> N_2 + H_2O$

+ Mercaptans: $H_2S + OH^* -> SO_2 + H_2O$

