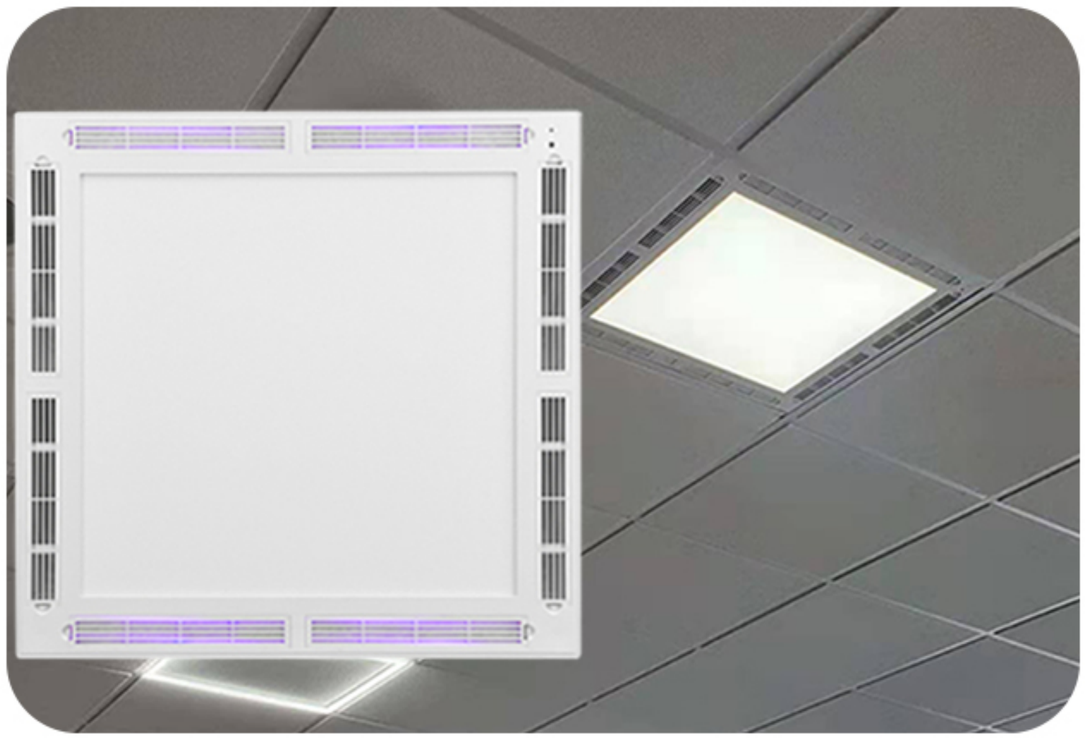
Nano Tech Ceiling Panel With UV-C Air Purifier

Nano-antibacterial material and UV-C lighting have long been used as a disinfectant against microorganisms, virus and bacterial, both are highly effective in breaking down the DNA and RNA of viruses.
99.99% effectively inactivating them and rendering them harmless.

It has wide range of application, especially in School, Office , Hotel , Gym , Fitness Center , Elevator Room etc.

Nano-Tech UVC Air Purifier



Combined with the more and more serious interior biological pollution, it analyses the categories and harm of interior biological pollution, illustrates present interior biological pollution control method from source control, ventilation dilution and purifying,and points out that photocatalysis technology and Ultraviolet-C (UV-C) are wide, thorough, safe and lasting air purification technology.

The new designed Nano Ceiling Panel with UVC Air Purifier which features are Nano-antibacterial material, UV-C lighting and special designed HEPA 4-Layer filters, have been approved and tested by world wide renowned authorities such as UL, SGS, GMICRO, CE , RoHs.

CONTENTS

Nano-Tech UVC Air Purifier

FEATURES

1, Multi-stage air sanitizing ceiling panel light draws room air through Nanometer material / HEPA /Carbon filter and across germicidal UVC led to inactivate airborne pathogens and return clean air to the space.

2, Nanometer material killing the bacteria and virus

3, 4-Layer hepa filter captures up to 99.97% of airbormne pathogens as small as 0.3μm while activated carbon reduces gases, odors and VOC from the air.

4, Easy Plug-and-Play installation with no programming required.

5, Led Lighting CCT changing to 3000k/4000k/5000k optional

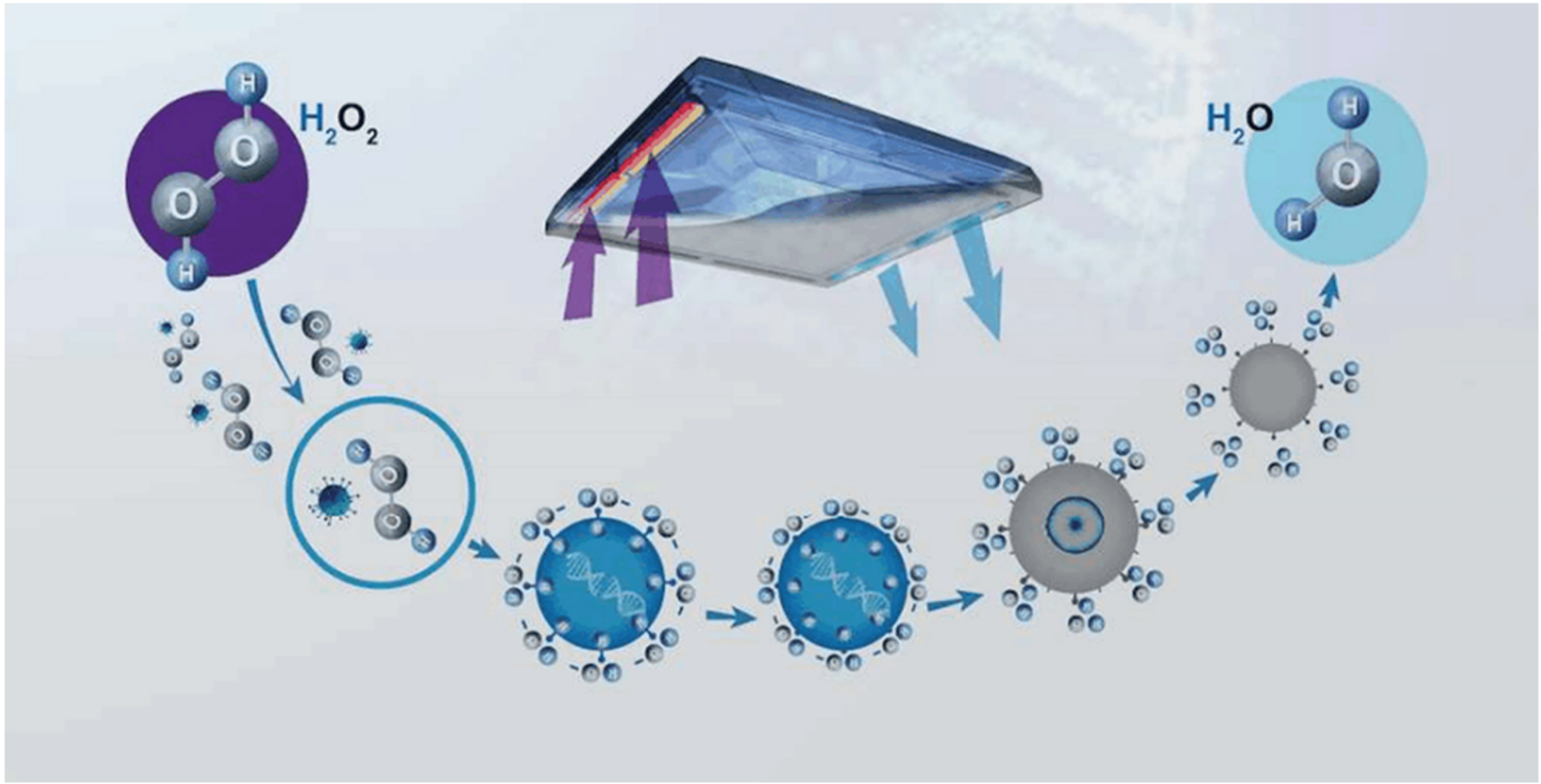
6, Use of UV led eliminates hazardous material and waste disposal concerns of traditional mercury-based UV lamp.

7, For optimal sanitization performance, it is recommended to replace HEPA filter after 2160 hour

8, Available in optional service of Emergency function / Separate control (fan and led light) / Brightness adjustable / Logo design

Nano-Tech UVC Air Purifier

ANTIVIRUS -NANO UVC WORKING PRINCIPLE



Fixture With Centrifugal Industrial Fan

The fixture is installed with centrifugal industrial fan which is powerful and silent with less noise when it works.Air comes into the intake and goes out through the outlet. The inhaled air will be purified by getting rid of the floating particles and automatically killing bacteria and virus in air.

Deactivation Of Viruses

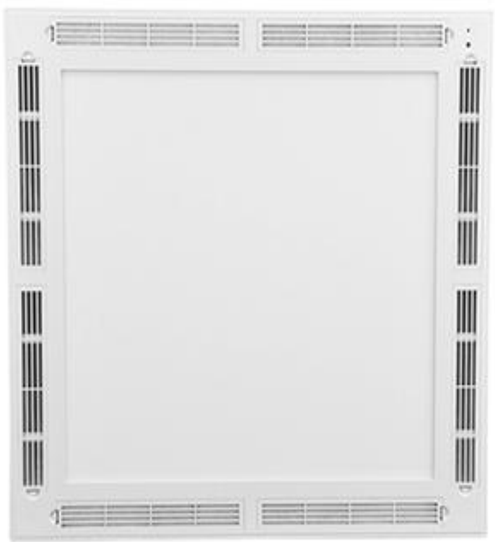
Silver ion reacts with hydrogen sulfide ion in bacteria and inhibits its reproduction. Produces superoxide free radicals and breaks down the bacteria. Material surface is with electric charge that pull the membranes of bacteria, cause rupture and bring bacteria to death

UV-C Air Disinfection

Built-in UVC +UVA lamp in the fixture, the inhaled air can be sterilized again by the UVC light and through natural convection that can reach a better sterilization effect in the room.

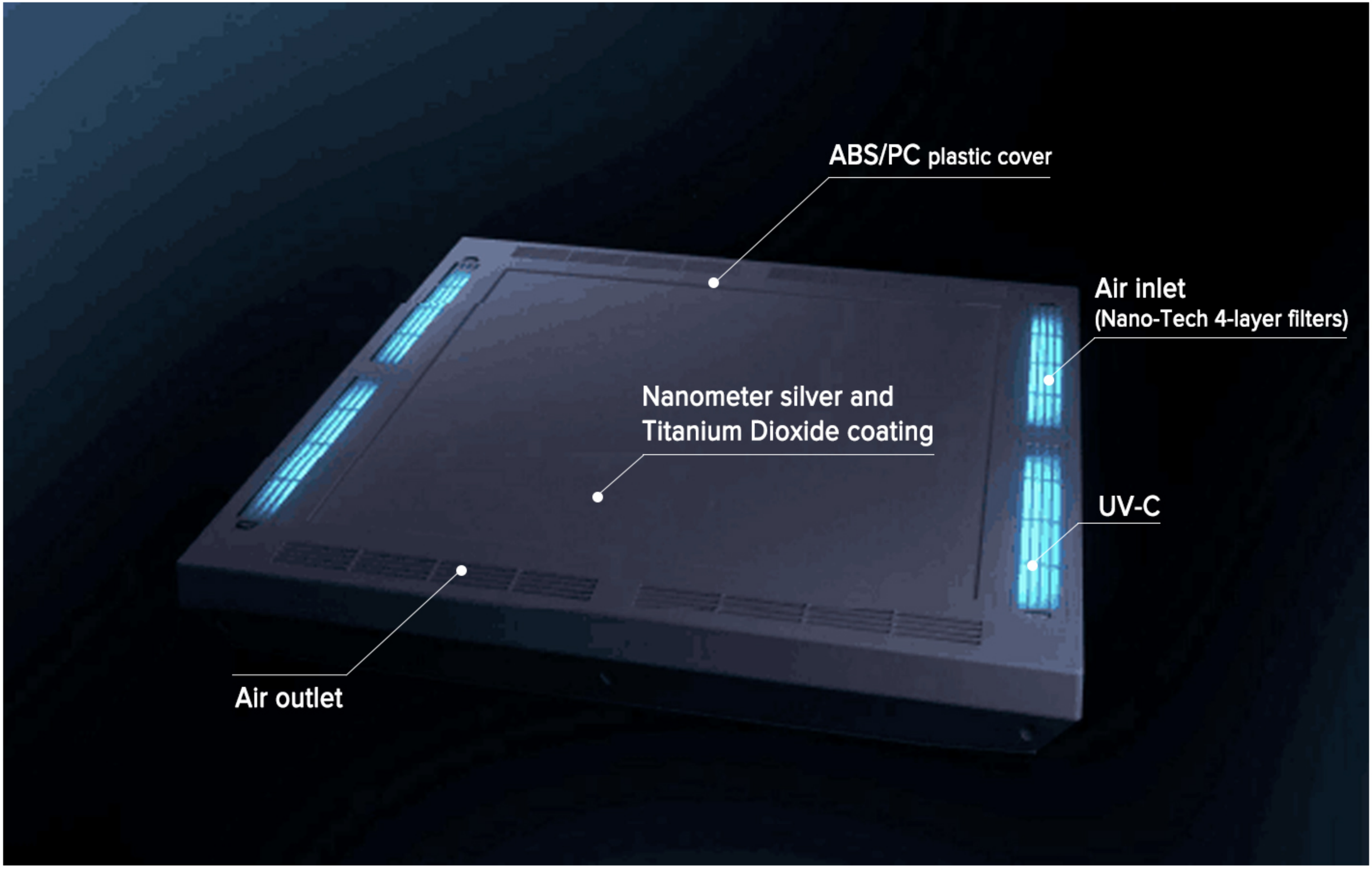
Nano-Tech UVC Air Purifier

SPECIFICATIONS



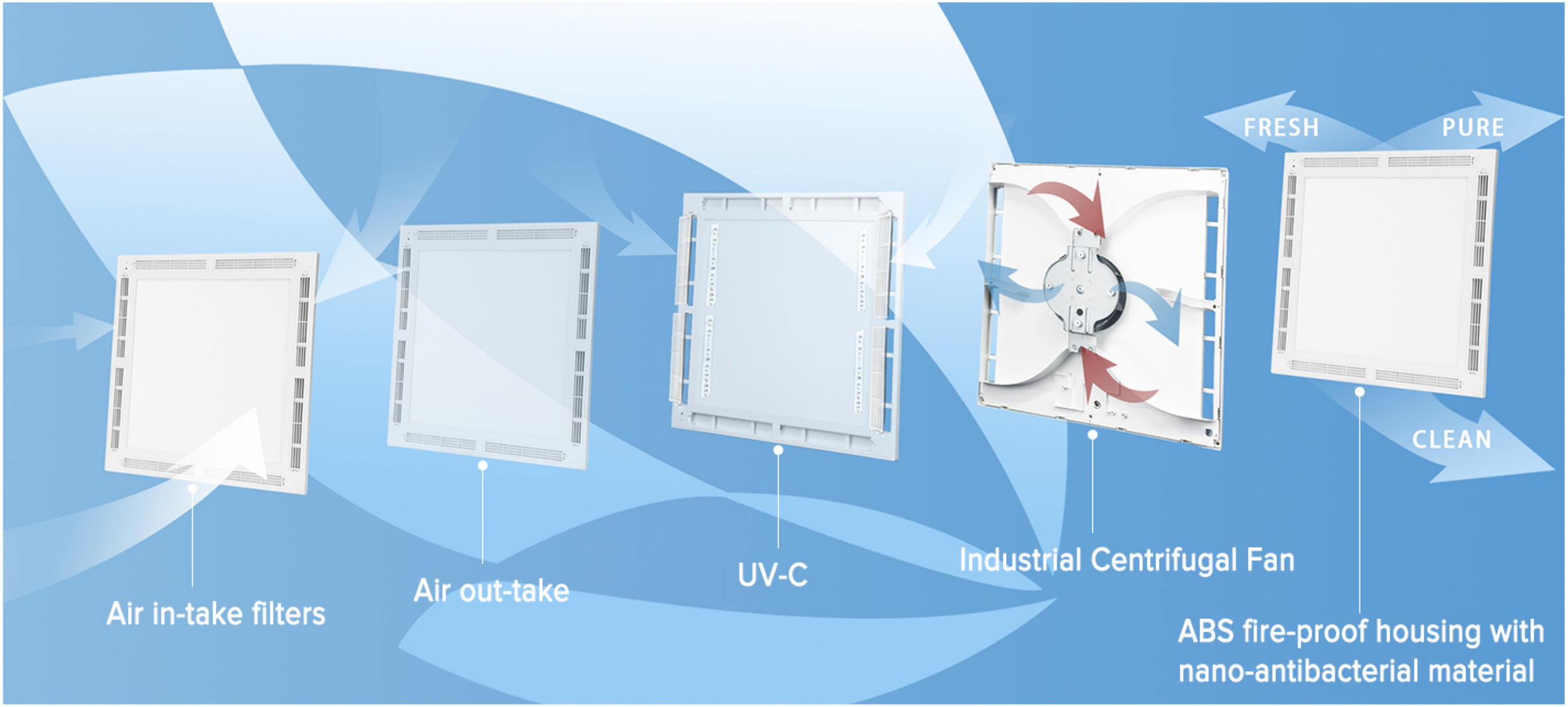
Electrical Parameters	
Total Wattage	60W (LED Light 40w+15W FAN+ 5w UVC)
Voltage	DC 24V/ AC 120-277V
Air Flow Rate	110CFM
UVC LED Lifetime	>30000Hrs
Filtration	Nanometer material HEPA-Carbon Activated Filter captures up to 99.97% of particles as small as 0.3μm
Frequency	50/60Hz
UV Light Source	UVC LED with peak wavelenght of 275nm
Certifications	UL Listed/CE/Rohs/SGS/EPA Registered
Warranty	3 Years
Life Span	
Centrifugal Fan	Medical grade non-stop100,0o0hrs
Filters	2,160hrs; Additional cost for replacements
Dimension	23.65*23.65*5.4
Weight	18.74lbs
Installation Information	
Average Ambient	Average ambient : +25c
Temperature	Operating temperature range: -20°C to +50 ℃
Centrifugal Fan	Exposed T-bar ceiling, recessed
Installation	Recessed | Ceiling Mounted | Suspension
celing type	ABS +PC
I Rank	Total lamp IP44
IK Rank	IKO2

Nano-Tech UVC Air Purifier



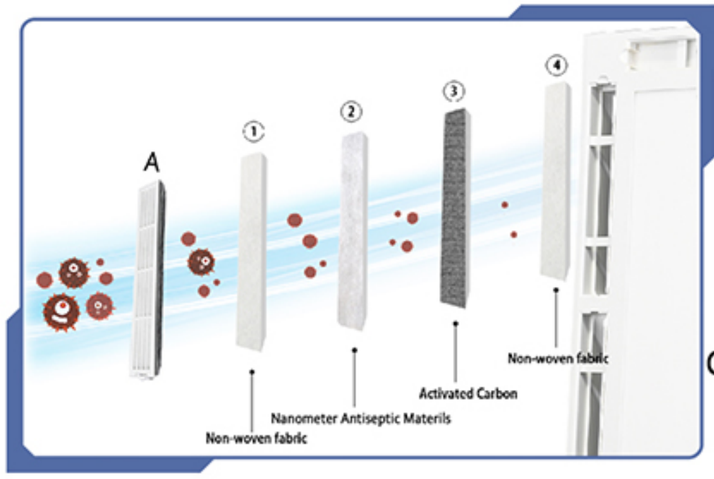
Nano-Tech UVC Air Purifier

CONSTRUCTION



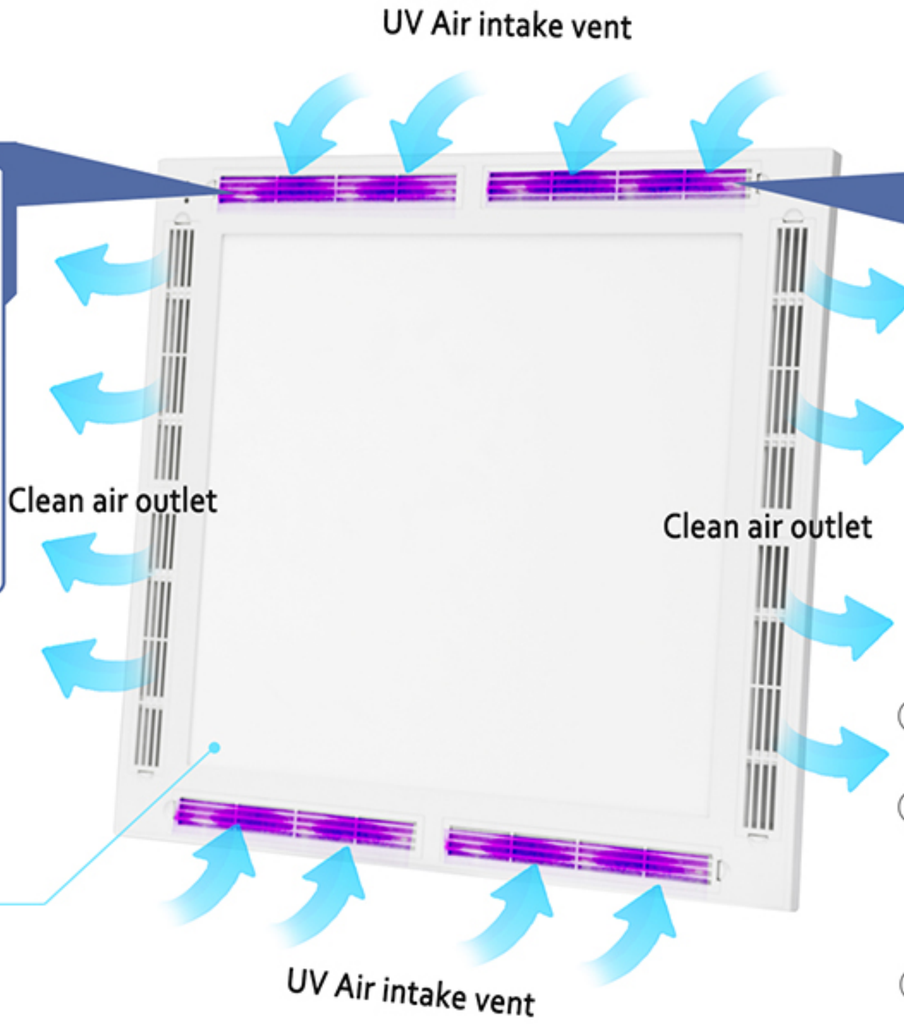
Nano-Tech UVC Air Purifier

Nano -Tech Filters

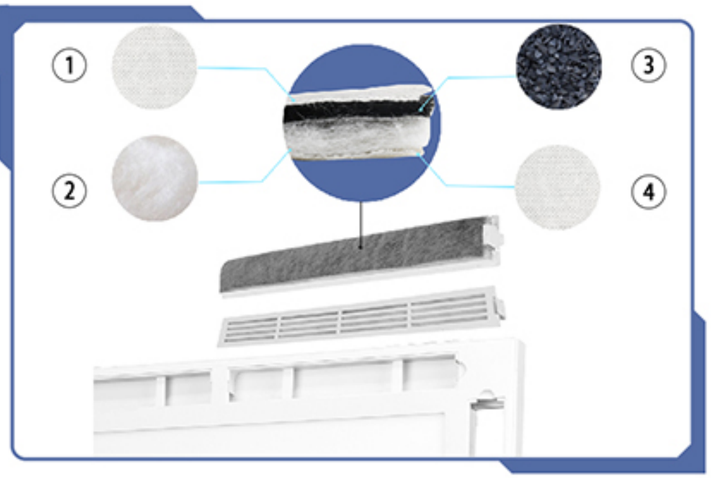


Four-layer strainer
Air outlet filter screen
A separable plastic lattice

New Nanometer Materials Layer



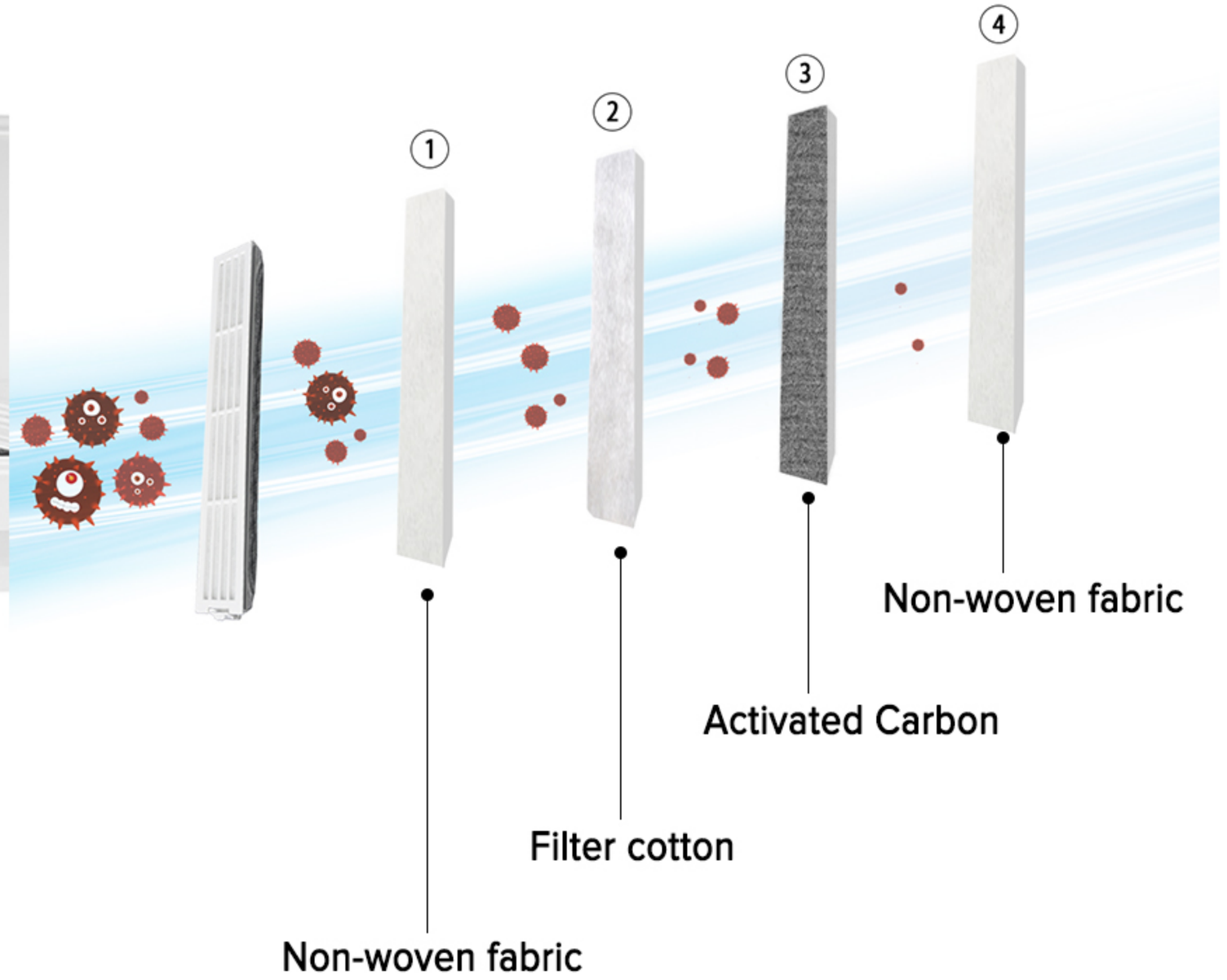
Air intake vent filter screen



① Layer Ⅰ Non-woven fabrics filters block the floating particles in the air
② Layer Ⅱ Newly designed compound nanometer materials
High efficiency to remove virus and bacteria in the air
Decomposition of formaldehyde and organic gases
Deeply clean the air indoor
③ Layer Ⅲ Highly efficient activated carbons absorb and eliminate various odor molecules in the air
④ Layer Ⅳ Non-woven fabrics filters purify the air again

Nano-Tech UVC Air Purifier

Nano Compound Filter Replaceable every 2160hrs

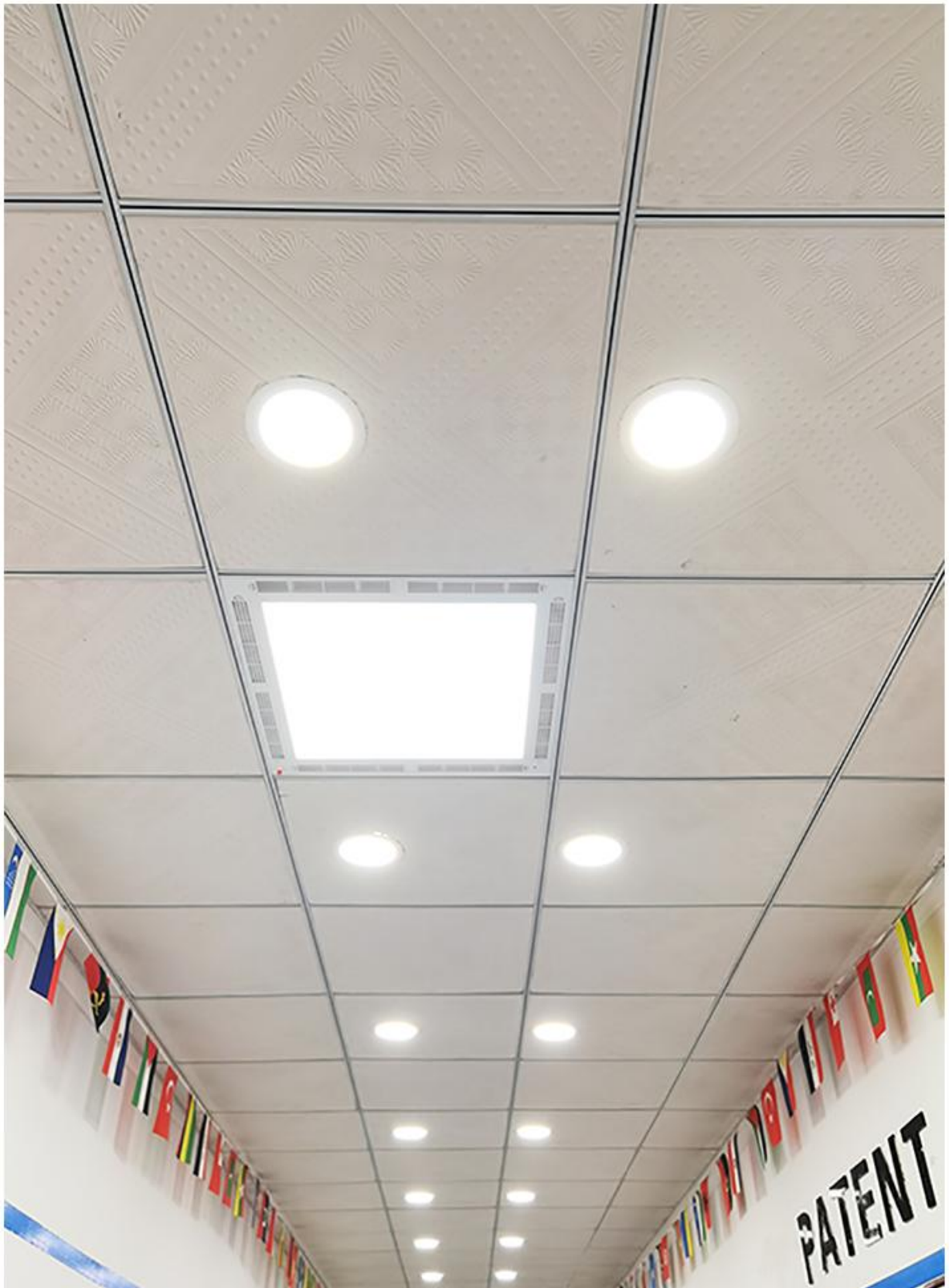


1.1st and 4th layers are non-woven fabrics ,which can absorb dust and block the floating particles
2.the 2nd layer is anti-bacterial and anti-virus nano material ,which can automatically kiil the harmful germs and virus
3.the 3rd layer is activated carbon, which can remove various odor molecules

Nano-Tech UVC Air Purifier

Working hours for filter screen	2160 hours 24hr/d,3months 12hr/d,6months 8hr/d,9months
Movement at the expiration of working hours	1. Fan power is turned off; 2. Power supply of lighting system remainsnormal use. 3. LED indicator light blinks
Replacemen t of filters	1. Follow user manual instruction to removethe intake filters on the cover 2. Open the filter cover,insert new filters 3. Clip in the filter mask on the fixture
Pressing RESET Key	1. Press the button on the left side of LED light for 4 seconds 2. Lighting is switched off, and circulatory system power restarts 3. Timer recalculates until next change hours is done.

Nano-Tech UVC Air Purifier



TESTS AND VERIFICATIONS

Nano-Tech UVC Air Purifier

Test Report **GZF20-017385-01** **Date: 10 Oct 2020**

Sample Description:

Specimen No.	SGS Sample ID	Description
1	GZF20-017385.001	Equipment

TEST RESULT(S):
Air virus elimination effect*
Test Method: Refer to Technical Standard for Disinfection (2002 Ministry of Health P.R.China) -2.1.3

Virus and host cell	Action time	Serial Number	Air virus content ($TCID_{50}/m^3$)	Killing rate (%)
H1N1 *Influenza A virus* (A/PR/8/34) Host cell: MDCK	0（CK）	1	4.07×10^6	-
		2	5.13×10^6	-
		3	5.13×10^6	-
	2h	1	$< 1.62\times10^2$	> 99.99
		2	$< 1.62\times10^2$	> 99.99
		3	$< 1.62\times10^2$	> 99.99

Remark:
1.The natural decay of the microorganisms in the air had been eliminated.
2. *The test was carried out by external laboratory assessed as competent.
3. The sample was placed in a $1m^3$ test chamber for testing.

Test Report **GZF20-017385-01** **Date: 10 Oct 2020**

Sample photo:

GZF20-017385.001
SGS authenticate the photo on original report only
*** End ***

Test and Verification for Anti -viral Effect of Nanometer Compound Material

Nano-Tech UVC Air Purifier

Antiseptic Test for Air-circuiting Panel Light

广 微 测
Gmicro Testing

广东省微生物分析检测中心
GUANGDONG DETECTION CENTER OF MICROBIOLOGY
分 析 检 测 结 果
ANALYSIS AND TEST RESULT

报告编号（Report No.）：2019FM10519R01

作用时间 (Action Time)	测试微生物 (Test Microorganism)	序号 (Serial Number)	空气中细菌总数 (Total number of bacteria in the air) （cfu/m³）	杀灭率 (kill ratio) (%)
0（CK）	大肠杆菌 （*Escherichia coli*） 8099	1	2.1×10^{6}	
		2	2.3×10^{6}	
		3	2.2×10^{6}	
2h	大肠杆菌 （*Escherichia coli*） 8099	1	9.1×10^{2}	99.92
		2	9.1×10^{2}	99.91
		3	9.1×10^{2}	99.91
0（CK）	金黄色葡萄球菌 （*Staphylococcus aureus*） ATCC 6538	1	2.1×10^{6}	
		2	2.3×10^{6}	
		3	2.1×10^{6}	
2h	金黄色葡萄球菌 （*Staphylococcus aureus*） ATCC 6538	1	9.1×10^{2}	99.90
		2	9.1×10^{2}	99.92
		3	9.1×10^{2}	99.90

（以下空白）
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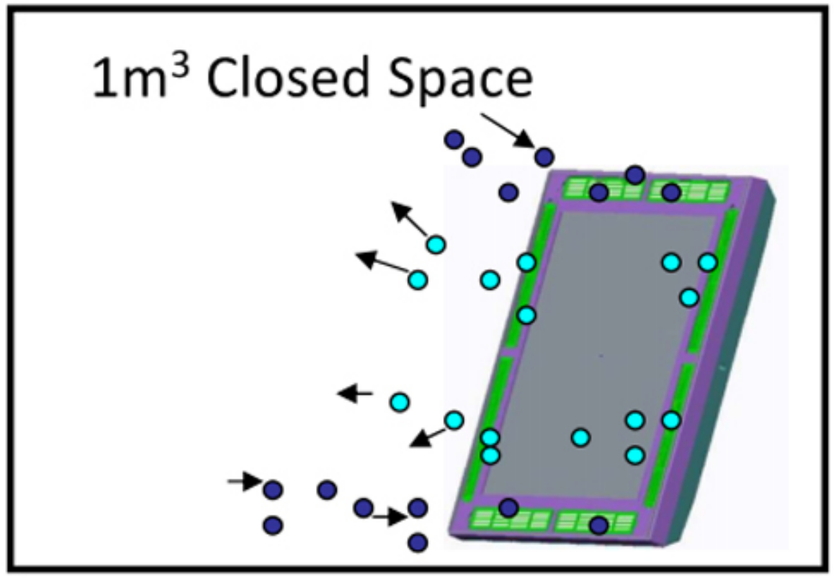
备注 Remarks	1. 方法简述:在空间 $1m^3$ 的试验柜内,即在实验室试验的条件下,启动送检样品作用 2h 后，用液体撞击式微生物气溶胶采样器以 11L/min 的流量进行采样。采样液的体积为 20mL。试验组与对照组的采样时间均为 2min。 Brief Method description: Sample was carried out with liquid impinged microbioaerosol sampler at a flow rate of 11L/min in a test in the cabin with $1m^3$ space, i.e. under laboratory test conditions, after the sample was activated for 2h.The volume of the sampling solution is 20mL. The sampling time of test group and control group was 2min. 2. 杀灭率试验结果已消除微生物在空气中自然消亡因素的影响。 The result of the test killing rate has been eliminated the influence of the natural extinction of microorganisms in the air.

样品图片：



Specification Reference GB21551

(Test space is revised as large as 1 m³)

- Infuse gaseous staphylococcus into one-cubic meter space and calculate ratio of natural colony number/ ratio of formaldehyde concentration before and after being placed into lamps and electric lights

广 微 测
Gmicro Testing

24-hour antiseptic rate > 99%

Nano-Tech UVC Air Purifier

BST | A RELIABLE TESTING FOR TRUST

Certificate of Compliance

Certificate No.	:	BSTXD200814719301EC
Applicant	:	SUNPZONE LIGHTING ELECTRONIC CO., LTD Building 4, Xingda Industrial Zone, No.10, Jixiang 3rd Road, Pingdi Street, Longgang District, Shenzhen, Guangdong, China 518100
Manufacturer	:	SUNPZONE LIGHTING ELECTRONIC CO., LTD Building 4, Xingda Industrial Zone, No.10, Jixiang 3rd Road, Pingdi Street, Longgang District, Shenzhen, Guangdong, China 518100
Product Name	:	Nano-Tech Air Sterilizing Panel Light
Trade Name	:	SunPZone
Main Test Model	:	NTPL2250SMV50KD1
Additional Model	:	NTPL2250XMV XXX YY(X—Denotes Lumen may be S or P; XXX—Denotes CCT(color temperature),provided with 3000K-6500K that may be 30K 35K 40K 45K 50K 57K 60K 65K; YY—Denotes dimming functions that may be D0 or D1)
Test Standard	:	EN IEC 55015:2019+A11:2020 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013+A1:2019
As shown in the Test Report No.	:	BSTXD200814719301ER

The EUT described above has been tested by us with the listed standards and found in compliance with the council EMC directive 2014/30/EU. It is possible to use CE marking to demonstrate the compliance with this EMC Directive.
The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production.

CE

Christina Deng
Manager
Aug. 26, 2020

BST Testing (Shenzhen) Co.,Ltd.
Add: No.7,New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China :
Certificate Search: http://www.bst-lab.com, Tel:400-882-9628, 8009990305, E-mail:christina@bst-lab.com

BST | A RELIABLE TESTING FOR TRUST

Certificate of Compliance

Certificate No.	:	BSTXD200814719301SC
Applicant	:	SUNPZONE LIGHTING ELECTRONIC CO., LTD Building 4, Xingda Industrial Zone, No.10, Jixiang 3rd Road, Pingdi Street, Longgang District, Shenzhen, Guangdong, China 518100
Manufacturer	:	SUNPZONE LIGHTING ELECTRONIC CO., LTD Building 4, Xingda Industrial Zone, No.10, Jixiang 3rd Road, Pingdi Street, Longgang District, Shenzhen, Guangdong, China 518100
Product Name	:	Nano-Tech Air Sterilizing Panel Light
Trade Name	:	SunPZone
Main Test Model	:	NTPL2250SMV50KD1
Additional Model	:	NTPL2250XMV XXX YY(X—Denotes Lumen may be S or P; XXX—Denotes CCT(color temperature),provided with 3000K-6500K that may be 30K 35K 40K 45K 50K 57K 60K 65K; YY—Denotes dimming functions that may be D0 or D1)
Test Standard	:	EN 60598-2-1:1989 EN 60598-1:2015+A1:2018 EN 62471:2008
As shown in the Test Report No.	:	BSTXD200814719301SR BSTXD200814719301UR

The EUT described above has been tested by us with the listed standards and found in compliance with the council LVD directive 2014/35/EU. It is possible to use CE marking to demonstrate the compliance with this LVD Directive.
The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production

CE

Christina Deng
Manager
Aug. 26, 2020

BST Testing (Shenzhen) Co.,Ltd.
Add: No.7,New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China :
Certificate Search: http://www.bst-lab.com, Tel:400-882-9628, 8009990305, E-mail:christina@bst-lab.com

Nano-Tech UVC Air Purifier

TTA long-acting antiviral coating has been certified by a number of authoritative organizations to effectively kill the human coronavirus

CDC Centers for Disease Control and Prevention

https://www.cdc.gov/coronavirus/types.html

Human Coronavirus Types / 人类冠状病毒类型

Coronavirus Home
Coronavirus Disease 2019 (COVID-19)
Human Coronavirus Types
Resources and References

Human Coronavirus Types

Coronaviruses are named for the crown-like spikes on their surface. There are four main sub-groupings of coronaviruses, known as alpha, beta, gamma, and delta.

Human coronaviruses were first identified in the mid-1960s. The seven coronaviruses that can infect people are:

Common human coronaviruses

1. 229E (alpha coronavirus)
2. NL63 (alpha coronavirus)
3. OC43 (beta coronavirus)
4. HKU1 (beta coronavirus)

Other human coronaviruses

5. MERS-CoV (the beta coronavirus that causes Middle East Respiratory Syndrome, or MERS)
6. SARS-CoV (the beta coronavirus that causes severe acute respiratory syndrome, or SARS)
7. SARS-CoV-2 (the novel coronavirus that causes coronavirus disease 2019, or COVID-19)

People around the world commonly get infected with human coronaviruses 229E, NL63, OC43, and HKU1.

Sometimes coronaviruses that infect animals can evolve and make people sick and become a new human coronavirus. Three recent examples of this are 2019-nCoV, SARS-CoV, and MERS-CoV.

TTA long-acting antiviral coating has been certified by a number of authoritative organizations to effectively kill the human coronavirus, and also kill the highly resistant protein capsid virus that is more difficult to be killed than the coronavirus. As below:

1、Human Coronavirus:

SRSA-CoV: Anti-Viral Value **R=3.67 (99.9%)**

2、Other more difficult viruses Vs. SARS-CoV-2

Influenza A virus (H1N1) - A: 99.99%
Respiratory Syncytial Virus: 90%
Mycobacterium Tuberculosis: 80.8%
Enterovirus - LLC -MK2: 99.99%
Poliovirus PV-I: >90%
Enterovirus CV-A16: >90%
Enterovirus: 99.99%

According to the "EPA Guidelines for Emerging Viral Pathogens", EPA and the CDC have divided microorganisms into three categories for their sensitivity to chemical disinfectants: enveloped, large non-enveloped, and small non-enveloped encapsulated type.

II. Viral Subgroup Classification

EPA and the Centers for Disease Control and Prevention (CDC) recognize that certain microorganisms can be ranked with respect to their tolerance to chemical disinfectants. The Spaulding Classification model, used by CDC, tiers microorganisms in accordance with the level of resistance to being killed (inactivation) by typical disinfectant products.[1] With this approach viruses are divided into three viral subgroups (small non-enveloped, large non-enveloped, and enveloped) based on their relative resistance to inactivation (see below). According to this hierarchy, if an antimicrobial product can kill a small, non-enveloped virus it should be able to kill any large, non-enveloped virus or any enveloped virus. Similarly, a product that can kill a large, non-enveloped virus should be able to kill any enveloped virus.

Small, Non-Enveloped Viruses (<50 nm): These small, non-enveloped viruses can be highly resistant to inactivation by disinfection. Despite the lack of a lipid envelope, these organisms have a very resistant protein capsid. The following are viral families in the small non-enveloped subgroup: (1) Picornaviridae, (2) Parvoviridae, (3) Caliciviridae, (4) Astroviridae, and (5) Polyomaviridae.

Large, Non-Enveloped Viruses: Compared to small, non-enveloped viruses, these viruses are less resistant to inactivation by disinfection. Although they have a resistant protein capsid, their larger size (50-100nm) makes them more vulnerable than their smaller viral counterparts. The following are viral families in the large non-enveloped subgroup: (1) Adenoviridae, (2) Reoviridae, and (3) Papillomaviridae.

Enveloped Viruses: Enveloped viruses are the least resistant to inactivation by disinfection. The structure of these viruses includes a lipid envelope, which is easily compromised by most disinfectants. Once the lipid envelope is damaged, the integrity of the virus is compromised, thereby neutralizing its infectivity. The following are viral families in the enveloped subgroup: (1) Arenaviridae, (2) Bornaviridae, (3) Bunyaviridae, (4) Coronaviridae, (5) Filoviridae, (6) Flaviviridae, (7) Hepadnaviridae, (8) Herpesviridae, (9) Orthomyxoviridae, (10) Paramyxoviridae, (11) Poxviridae, (12) Retroviridae, (13) Rhabdoviridae, and (14) Togaviriedae.

Under the criteria outlined in Section III of this Guidance, this hierarchy is used to determine a product's anticipated efficacy against an emerging viral pathogen.

These three types' inactivated difficult level by disinfectants is decreasing in order. If a disinfectant can kill small non-enveloped viruses, then this disinfectant can also kill large non-enveloped viruses and all enveloped viruses. Similarly, if a disinfectant can kill large non-enveloped viruses, it can also kill all enveloped viruses.

And the COVID-19(SARS-COV-2) is a type of Enveloped Virus.

EPA LINK: https://www.epa.gov/coronavirus/i-want-use-product-kill-sars-cov-2-covid-19-it-isnt-list-n-it-effective-against-sars-cov

Nano-Tech UVC Air Purifier

Nano-Composite Material had been approved by and registered at FDA

Introduction of the Material Used in the Antiviral & Antibacterial Treatment

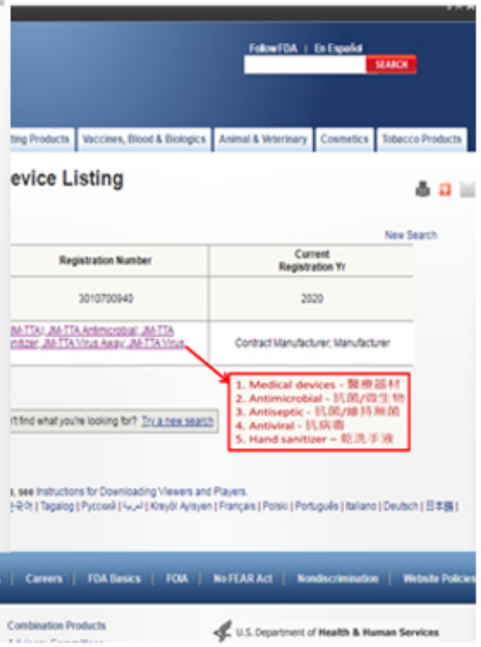
For the antiviral and antibacterial treatment we use the imported TTA Nano-Composite Material, which had been approved by and registered at FDA. The following content is from FDA website

Manufacturer Profile

https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRL/rl.cfm?rlid=

ant, Medical Device (Class 1)

sification



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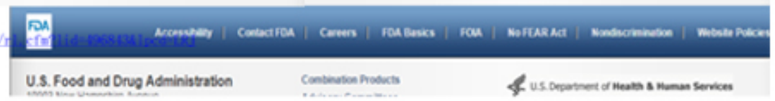

https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRL/rl.cfm?start_search=1&establishmentName=&regNum=&StateName=&CountryName=&RegistrationNumber=&OwnerOperatorNumber=10046149&OwnerOperatorName=&ProductCode=&DeviceName=&ProprietaryName=&establishmentType=&PAGENUM=10&SortColumn=

Nano-Tech UVC Air Purifier

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2002779-0
Report Reference E516780-20200918
Date 25-Sep-2020

Issued to: Sunpzone Lighting Electronic Co Ltd
4th & 5th Floor, BLDG 4, Xingda Industrial Park
10 Jixaingsan Road, Yixin Community, Pingdi St.,
Longgang Area Shenzhen , Guangdong,
China 518712

This is to certify that representative samples of IFAM - Light-emitting-diode Surface-mounted Luminaires
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1598, 4th E

Additional Information: See the UL Or
https://iq.ulpro

This Certificate of Compliance does not provide authoriz
Services Procedure provides authorization to apply the U

Only those products bearing the UL Mark should be con
Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorize
contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

UL Listed

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2002779-0
Report Reference E516780-20200918
Date 25-Sep-2020

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
NTPL2250XMVXXXYY, X — Denotes Lumen, may be S or P or blank MV — Denotes Voltage, MV means 120—277V XXX — Denotes CCT(color temperature),provided with 3000K-6500K that may be 30K, 35K, 40K, 45K, 50K, 57K, 60K or 65K YY — Denotes dimming functions that may be D0 or D1	LED Surface Mounted Luminaire

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2001859-0
Report Reference E516780-20200918
Date 25-Sep-2020

Issued to: Sunpzone Lighting Electronic Co Ltd
4th & 5th Floor, BLDG 4, Xingda Industrial Park
10 Jixaingsan Road, Yixin Community, Pingdi St.,
Longgang Area Shenzhen , Guangdong,
China 518712

This is to certify that representative samples of IFAM7 - Light-emitting-diode Surface-mounted Luminaires Certified for Canada
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: CSA C22.2 NO. 250.0-18, 4th Ed., Issue Date: 2018-08-28

Additional Information: See the UL Online Certifications Directory at
https://iq.ulprospector.com for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2001859-0
Report Reference E516780-20200918
Date 25-Sep-2020

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
NTPL2250XMVXXXYY, X — Denotes Lumen, may be S or P or blank MV — Denotes Voltage, MV means 120—277V XXX — Denotes CCT(color temperature),provided with 3000K-6500K that may be 30K, 35K, 40K, 45K, 50K, 57K, 60K or 65K YY — Denotes dimming functions that may be D0 or D1	LED Surface Mounted Luminaire

Bruce Mahrenholz, Director North American Certification Program

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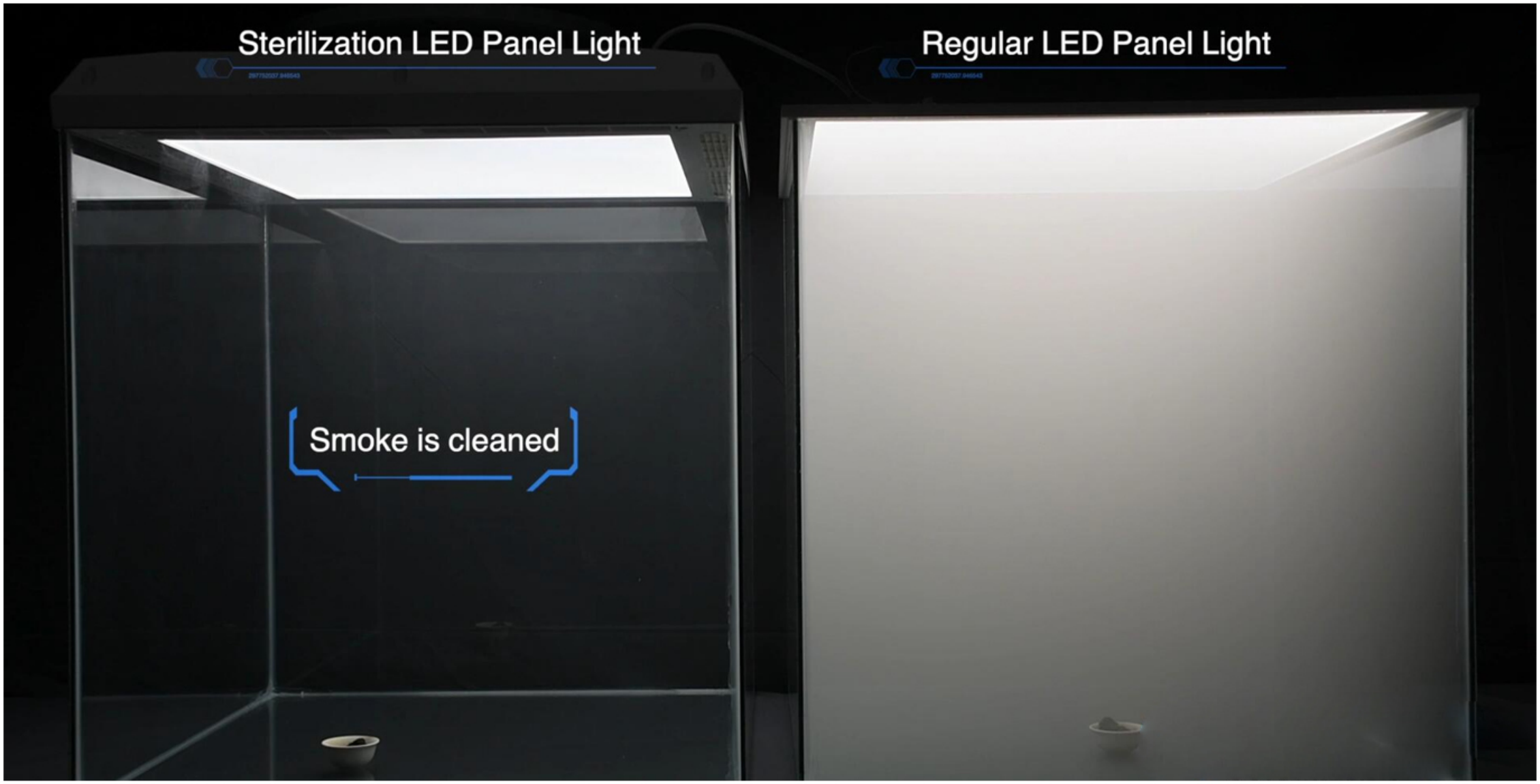
Nano-Tech UVC Air Purifier

Air Circulation Test



Nano-Tech UVC Air Purifier

Applications

Nano-Tech UVC Air Purifier

Cleaner Air | Better Light| Safer Spaces