

Cleaner Air Requirements for Commercial Buildings.



ELIMINATES AIRBORNE VIRUSES & BACTERIA

Sterilizes & Purifies the air we breathe.

fourways^o



BACKGROUND

During the height of the pandemic, hospitals came under huge pressure to provide bed space in a clean, sanitized environment and as a result they were approached to provide a solution to assist in this regard.

An Air Purification Unit (APU) was developed using existing UV-C, Ozone and HEPA filter technology that provided for the circulation of the air in an environment of up to 6 air changes per hour. In the process of circulating the air, the APU was able to eliminate all airborne pathogens including bacteria, fungi and viruses including COVID-19.

The APU's were then introduced into the hospital wards and they proved to be highly effective in removing contaminants from the air and increasing the efficiency of ward turn-around times. As a result, the product is presently in all Netcare hospitals.

Since then, there has been a demand by corporates to invest in technology that provides safer environments for their staff and customers. Standard Bank has subsequently rolled the product out to 30 branches, with an on-going roll out programmes to further branches and administration centres being planned.

The product lends itself to a wide spectrum of the commercial world from hospitals, clinics, shopping malls, offices, retail areas, cinemas, schools to mines and public transport.

Micro Electrostatic Precipitation (MESP) which is discussed in greater detail further on, has been found to provide a cleaner, more effective and maintenance friendly solution as well as a greater value for money product than the UV-C / HEPA filter option.

Fourways Group is excited to be the first South African company to provide the European certified MESP technology to our clients with the confidence and understanding that we will continue to strive as a company to be at the cutting edge of the Purified air industry for the benefit of all South Africans.

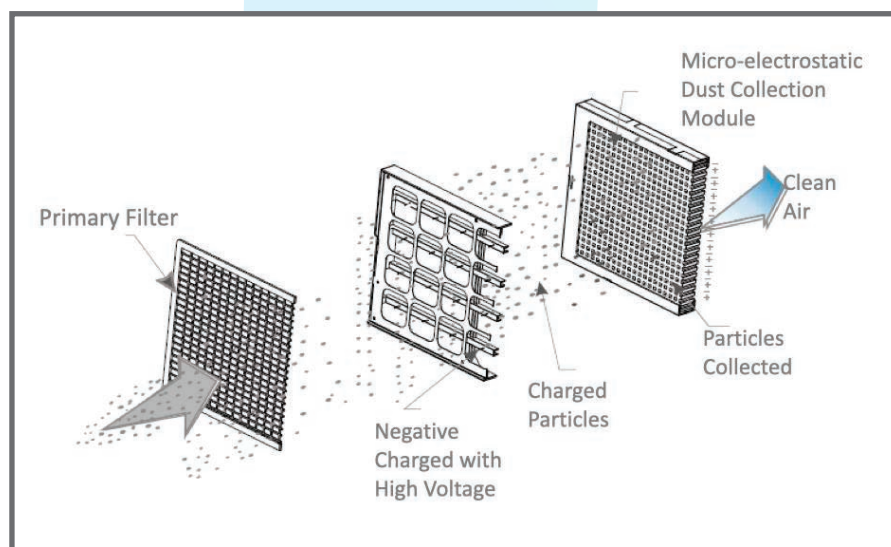


MESP

MESP® stands for Micro-electrostatic Precipitator, which is a new generation air purification technology. It is highly efficient at removing airborne particles like PM2.5, fungus, dust, pollen, soot, smoke and powerfully deactivates viruses and bacteria.

MESP technology is an upgrade from ESP (Electrostatic Precipitator) technology. Compared to ESP, MESP not only has 10 times the clogging capacity, but also solves the problem of ozone generation, arc, and spark. The particle collection filter is an innovative dielectric with an intense electrical field which enables the removal of even the tiniest particles without a high-pressure-drop fibre matrix. Airborne particles get an electrical charge, then pass into a honeycomb of 2-4mm diameter hollow polymer flutes. Encased between rows of flutes are thin electrode sheets, which generate intense electrical fields. The polymer flute's dielectric material prevents current from flowing between electrodes even though an intense electric field is generated. Charged particles - pollutants, bacteria, germs, viruses — are pulled to the walls of the flutes and stick.

With the unique volt-ampere characteristic curve of MESP technology the current gets smaller even as the voltage increases again. The result: high voltage and low current without the potential dangers of electrode damage and electric shock, which are traditional ESP product weaknesses. The unique nano PP-made filter is washable, with a lifespan exceeding 10 years with just a small attenuation effect. The total running cost should be much lower than traditional media filter products.



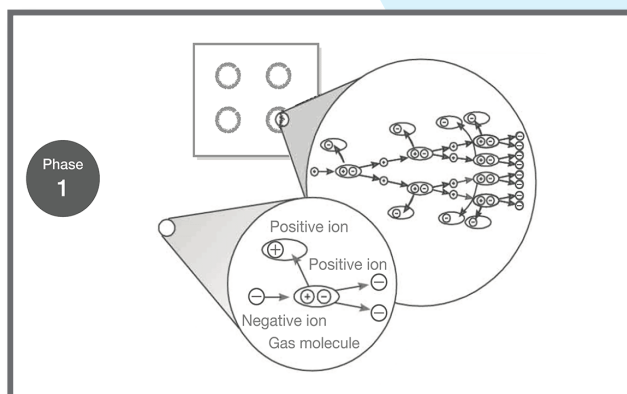


HOW DOES MESP KILL VIRUSES IN THE AIR

PHASE 1 - High voltage electrostatic field kills harmful microorganisms.

Due to the micro-electrostatic filter's high-voltage electrostatic effect of up to 10000 Volts, the cell wall of bacteria and protein shells of viruses which pass through will be instantly destroyed. thereby inactivated and instantly killed.

Once away from the corona zone, the negative ions are attracted to the surrounding air, negatively charging the gas molecules, which then move towards the MESP positive plate under the action of a strong electric field.



PHASE 2 - Any virus absorbed on the electrostatic filter will be continuously killed.

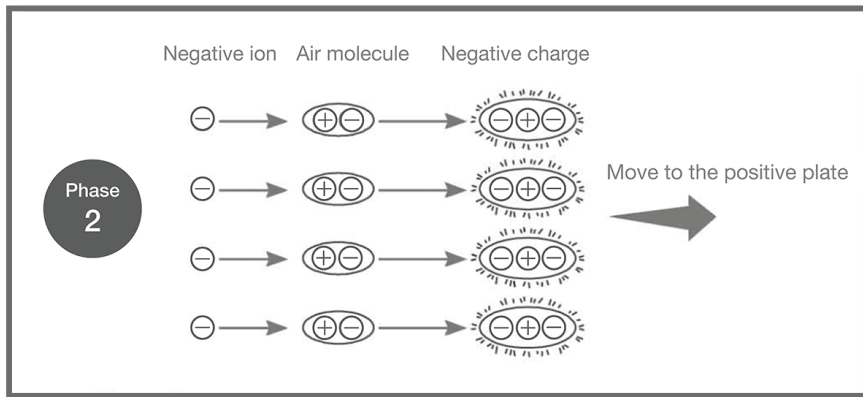
In the MESP sterilization module, the dielectric material forms a honeycomb hollow micro-channel and wraps the electrode sheet to form a strong electric field in the channel.

This electric field exerts a huge attraction to the charged bio-aerosol moving in the air, while only generating minimal airflow resistance.

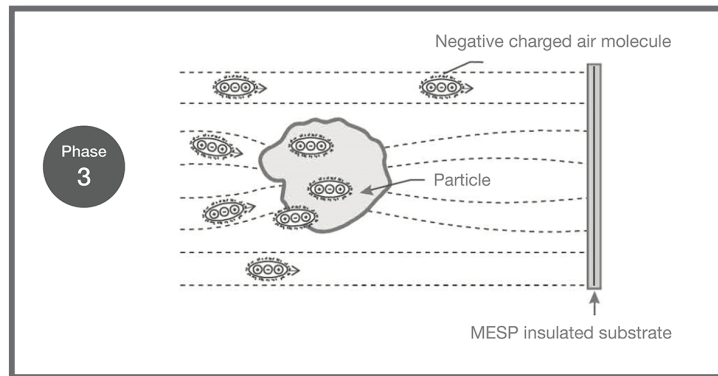
It can absorb almost 100% of air movement biological aerosols, PM2.5 and other particulate matter. When the virus loses its host cell, it will naturally die out after being continuously absorbed by a strong electric field. In addition, as viruses and bacteria continue to be impacted by high voltage electric fields, they gradually become carbonised and thereby eliminated.



MESP uses a negative ionizer to generate a air molecule and release negative ions with a voltage of -10.2KV. The negative ions collide with air molecules to generate more negative ions,

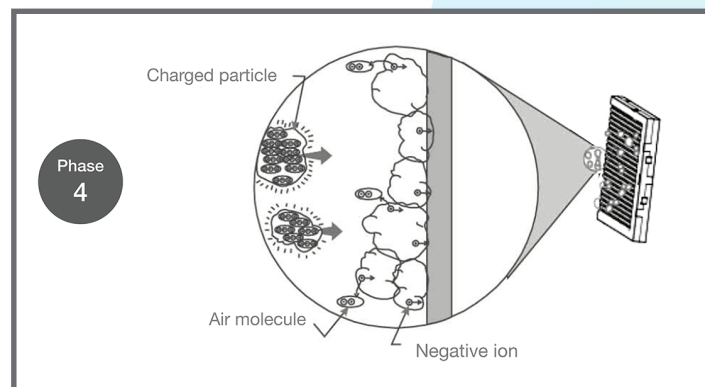


PHASE 3



The fine particles will block the negatively charged air molecules from flying and stick them together. These particles continue to absorb negatively charged molecules until they are saturated. The fine particles thus carry enough negative charges.

PHASE 4



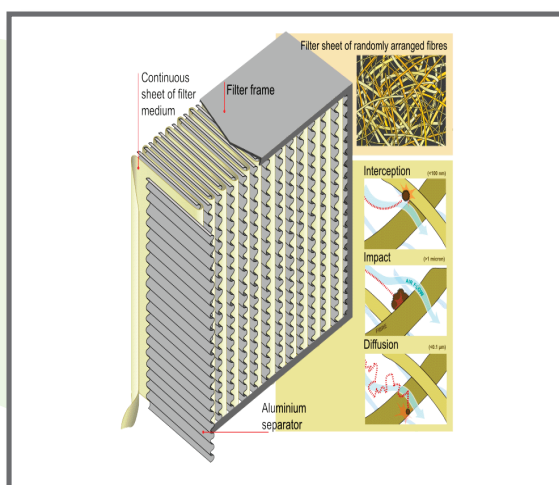
Once the fine particles carry enough negative charges, they move to the positive plate under the action of the dense MESP matrix electric field – and are firmly attracted by it



MESP versus HEPA

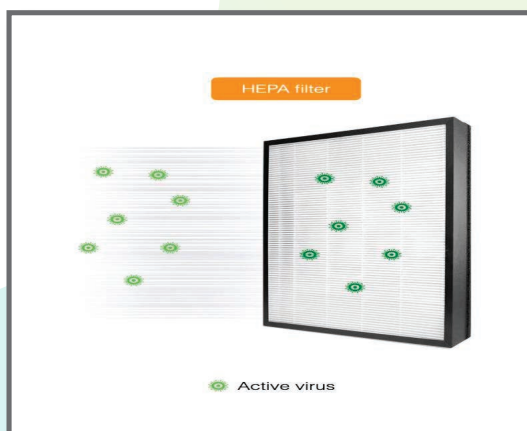
What is HEPA?

High-efficiency particulate air (HEPA), also known as high-efficiency particulate absorbing and high-efficiency particulate arrestance. Filters meeting the HEPA standard must satisfy certain levels of efficiency. Common standards require that a HEPA air filter must remove—from the air that passes through—at least 99.95% (European Standard) or 99.97% (ASME, U.S. DOE) of particles whose diameter is equal to $0.3\ \mu\text{m}$; with the filtration efficiency increasing for particle diameters both less than and greater than $0.3\ \mu\text{m}$.



HEPA is good, but far from perfect!

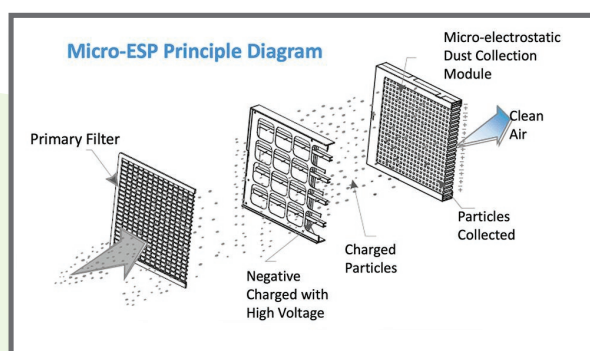
True HEPA filters can purify the air, which means they can also kill viruses in the air if greater than $0.3\ \mu\text{m}$ by capturing them with the HEPA filter. However, the virus is still alive and in some cases can be released back into the air. We need to be very careful of these viruses when replacing filters, especially in pandemic situations.





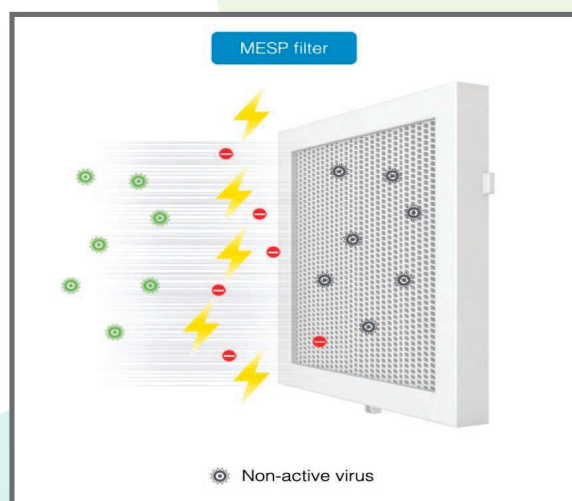
What is MESP?

Micro Electrostatic Precipitator is a new generation air purification technology. Intense dielectric field describes the mechanism by which the MESP filter can remove even the tiniest particles without the use of a high-pressure-drop fibre matrix filter. Airborne particles are first given an electrical charge, then passed through a honeycomb of hollow polymer flutes, 2-4 mm in diameter. Encased between rows of flutes are thin electrode sheets, which generate intense electrical fields. The polymer flute material is dielectric, which prevents current flowing between electrodes but does not inhibit creation of an intense field within the flutes. Charged particles are pulled to the walls of the flutes, where they stick.



MESP is a perfect air sterilizer!

A properly maintained MESP filter should be highly effective at capturing and trapping microbes such as germs, bacteria, viruses, mold, etc. The MESP system will disintegrate them with high voltage (over 10KV) strong electrostatic field. The official test report from the USA claims that MESP products could be more than 99.99%+ in removal of H1N1 virus. Safe and controllable!





Technical Comparison HEPA/ MESP

	HEPA	MESP
Efficiency (particle capture 0.3 microns)	Excellent 99.97 %	Excellent + 99.99%
Pressure Drop Resistance	Poor 150-450Pa	Excellent 10-50Pa
Energy Cost	Poor 610x610 filter= fan energy x 5 MESP	Excellent Comparable MESP 1/5 HEPA cost
Maintenance Cost	Poor Final and pre-filters require replacement and disposal	Excellent Occasional cleaning takes a few minutes, soapy water and dry
Service Life	Poor Pre filter and HEPA block in relation to the environment	Excellent Properly maintained MESP filter is permanent; never needs replacing
Noise	Poor High-pressure drop = High noise	Excellent Low-pressure drop=quiet air flow

Technical Comparison UVC-GI /MESP

	UVC-GI	MESP
Efficiency (Microbial deactivation)	60% on first pass	+ 99.99% on first pass
Pressure Drop Resistance	75Pa	10-50Pa
Energy Cost	95W per Lamp Lamp per 200L/sec	5 to 13 W
Maintenance Cost	Pre-filters and UVC-GI Lamps require replacement and disposal	Occasional cleaning takes a few minutes, soapy water and dry
Service Life	Pre-filter and Lamp replacement As required	Properly maintained MESP filter is permanent; never needs replacing
Exposure length	Requires extended exposure area	Requires on max of 150mm exposure
Cassette depth	Depth of min 350mm	Depth between 90 and 150mm
Noise	Low noise	Excellent Low-pressure drop=quiet air flow

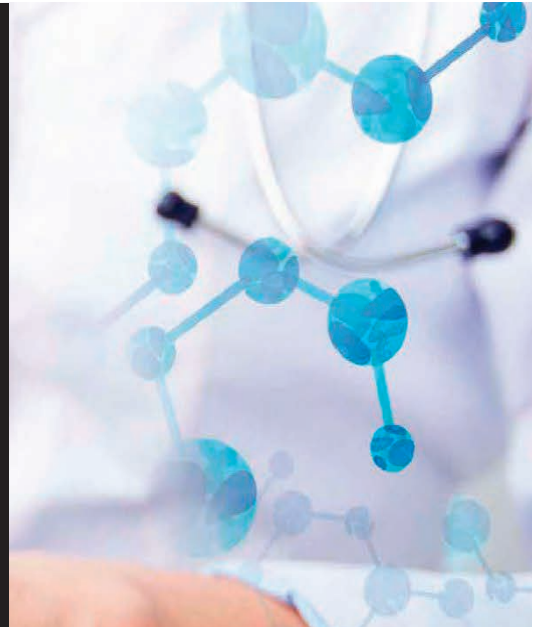


CLEAN AIR IS A CRITICAL REQUIREMENT IN HOSPITALS.



Medical and health institutions are the front lines facing high risk of virus infections when it comes to treatment and control of an epidemic. Due to the buildings of large medical institutions usually using central air conditioning and ventilation systems, and the closed environment of central AC systems are ideal for germs and other microorganisms to reproduce and spread the virus. The virus can be transmitted to all multiple rooms through the AC systems.

The hospitals have always been concerned with the number of bacteria in the air and did not issue requirements for PM2.5 and other pollutants such as formaldehyde, TVOC, ozone, and odour. Nowadays, the additional control requirement of particulate matters PM2.5 and other pollutants has changed the traditional hospital air standard.



THE KEY ELEMENTS OF CLEAN AIR IN HOSPITALS



- Control the PM2.5 concentration in the hospital air to reach the health limit of 10 mg/m³ proposed by the World Health Organization.
- Further dynamically control the number of bacteria in the air to meet relevant hygiene standards.
- Effectively control the formaldehyde, TVOC, ozone and other pollutants in the air of all hospital departments to reach international quality standards.
- Ensure that each department has sufficient amounts of fresh air, and strictly control the PM2.5 concentration in the fresh air (less than 10 mg/m³).
- Control all purification devices and ensure that they do not produce secondary pollutants.
- Adjust air humidity, negative ion concentration and other air quality elements according to patients needs.





POLLUTANT TYPES IN INDOOR AIR



Viruses / Bacteria / Fungus



PM2.5 / Pollen



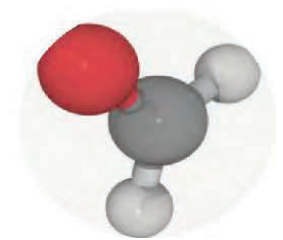
Air conditioner pollution



Lack of fresh air



Medical gas volatilization (eg. ozone)



Formaldehyde / TVOC / Benzene

THE ANALYSIS OF POLLUTION

Pollutant	Source
PM2.5	<ol style="list-style-type: none"> 1. Intrusion of atmospheric pollutants: nearby thermal power generation, combustion and other industrial activities; smog, sandstorms; car engines, road traffic erosion on the road surface, brakes and tyre friction; chemical reactions between air pollutants in the air which form secondary particles. 2. Human-to-human activities: human and pet dander, clothing; fuel and fumes of canteens and restaurants. 3. Central air conditioning ventilation systems: Dust particles in the indoor air accumulate on the fins, filters and pipes of the central AC evaporator. Bacteria and other microorganisms use dust particles as carriers to rapidly reproduce and grow in the central AC systems. The suitable temperature and humidity in the central air conditioner provide suitable environment for bacteria and other microorganisms growth. Outdoor air pollutants enter the room through open windows and doors, subsequently accumulate on the fins, filters and pipes of the central air-conditioning evaporator.
Viruses / Bacteria / Fungus	<p>Human or animals: they can release a large number of microorganisms into the air through breathing, coughing etc.</p> <p>PM2.5 carries a large number of bacteria and other microorganisms. Human-to-human activities: The dander produced by human metabolism becomes a source of nutrients for the survival and reproduction of bacteria and fungi. Indoor environment: Carpets, wallpapers, sofas, mattresses, beddings and other upholstered furniture, kitchens and bathrooms can be possible places for living bacteria and fungi.</p>
Ozone	<p>Intrusion of atmospheric pollutants: Unlike the upper atmospheric ozone layer, ground-level ozone is a major component of photochemical smog. It is formed by the reaction of pollutants such as nitrogen oxides (NOX) released by vehicles and industrial plants, plus volatile organic compounds (VOCs) released by vehicles, solvents and industrial plants with sunlight. Ozone pollution is severe when there is plenty sunshine.</p> <p>Corona discharge: unqualified copiers, laser printers, negative ion generators, electrostatic and plasma devices.</p>
NO2	Natural-made air pollutant, the main source of man-made release of nitrogen dioxide is the combustion process (heating, power generation, and engines of motor vehicles and ships)
SO2	Natural-made air pollutant, home heating, power generation and motor vehicles burn fossil fuels containing sulfur. The use of high chimneys in power stations cause widespread release of sulfur dioxide, causing pollution to the population far from the source of production. The increasing use of high-sulfur coal in many developing countries.
Positive Ion	Natural-made air pollutant, air conditioning systems, electromagnetic pollution



AIR POLLUTANT DIMENSIONS



The dimension of COVID-19 virus is 0.1 microns in diameter, which is similar to the H1N1 virus. Viruses do not exist alone in the air. It is always carried and transmitted by **aerosols**. The diameter of the aerosol is 0.3-10 microns. It means clean air is a critical requirement.

SARS-COV-2 AND POTENTIAL AIRBORNE TRANSMISSION

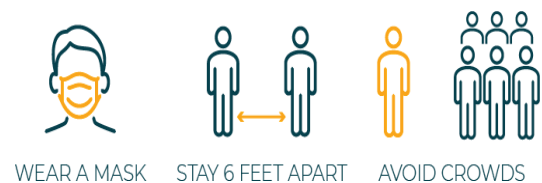
The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory droplets carrying infectious viruses.

Infections with respiratory viruses are principally transmitted through three modes:

- Contact transmission
- Droplet transmission
- Airborne transmission



MEASURES



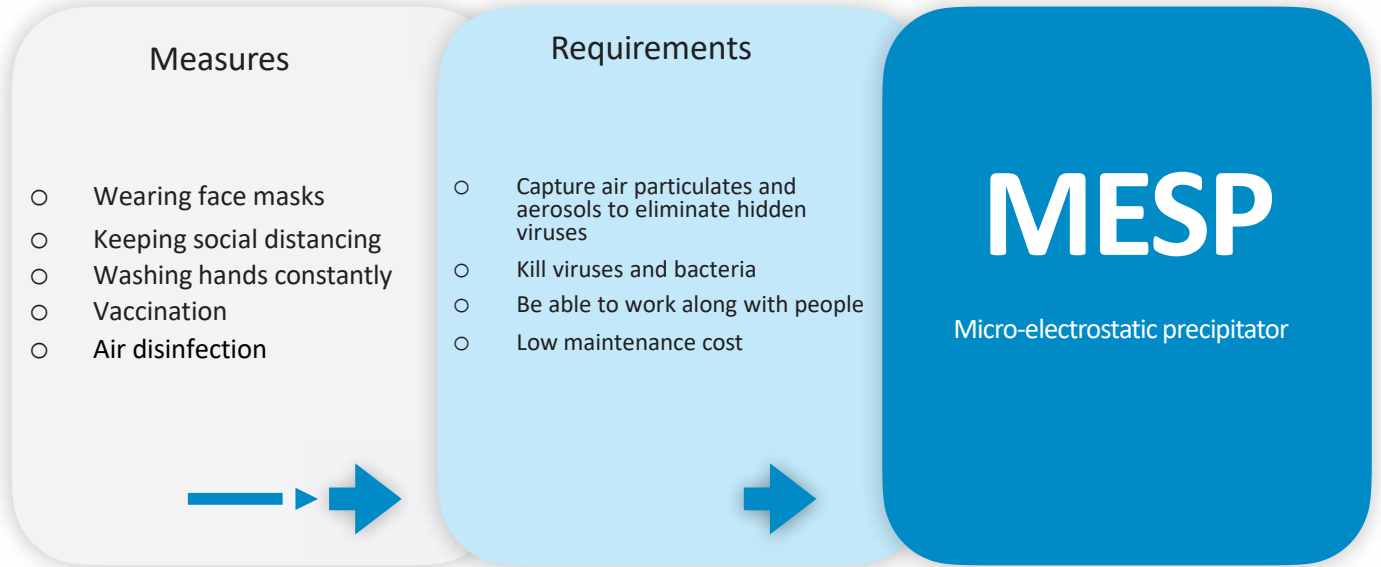
What else?



AIR DISINFECTION



FIGHT COVID-19

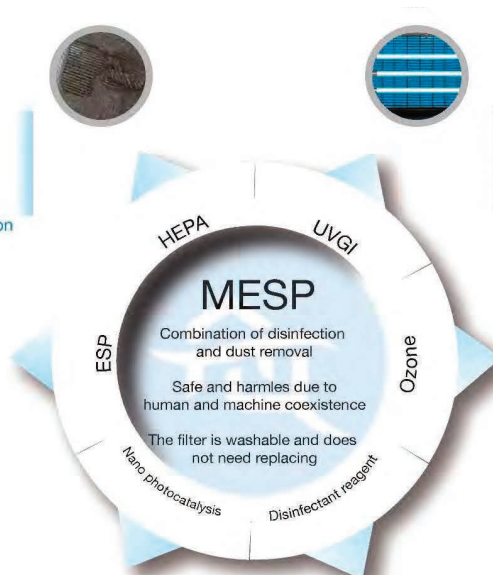


MESP vs OTHER TECHNOLOGIES

Pros: Lower initial investment
Cons:
 - Cannot sterilize, can only remove particulates
 - Ash accumulation on the filter
 - Risks of bacteria and viruses breeding on the filter
 - High air resistance leads to high power consumption

Pros: Sterilization and dust removal
Cons:
 - Release hazardous ozone
 - Cause spark and arc

Pros: Small and convenient
Cons:
 - Not effective as it does not eliminate dust, only deodorization
 - Risks of strong oxidizing and UV radiation



Pros: Can sterilize the air and Object surface
Cons:
 - Cannot remove particulates
 - Harmful UV rays
 - The disinfection is effective only within the range of high intensity and long term exposure
 - High cost
 - Can not work around people because of its harmful radiation and ozone generation

Pros: Can sterilize the air and Object surface
Cons:
 - Cannot remove particulates
 - Because of its strong oxidizing and toxic properties, this method is not suitable around people

Pros: Widely used
Cons: Do not remove dust. Time-consuming, labor-intensive and toxic.



THE SUMMARY OF INDOOR CLEAN AIR TECHNOLOGY

WAYS TO IMPROVE INDOOR AIR QUALITY



- Establish smoking & eating areas, preventing the spread of contamination.
- Purify air conditioning air, isolate infected persons, reduce cross- infection.
- Do not use toxic materials.

- Improved ventilation systems or equipment
- Increase fresh air circulation in order to increase the oxygen content in the air
- Reducing indoor pollutant concentrations.

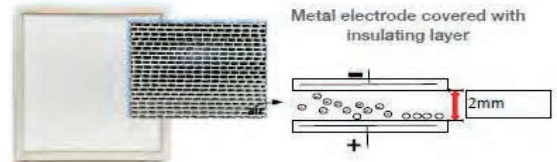
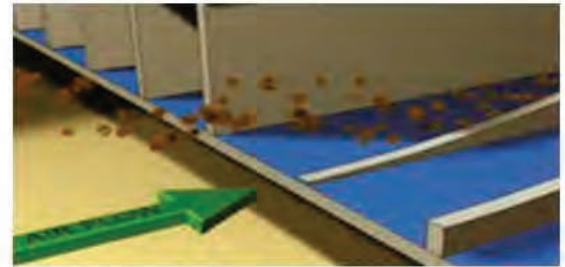
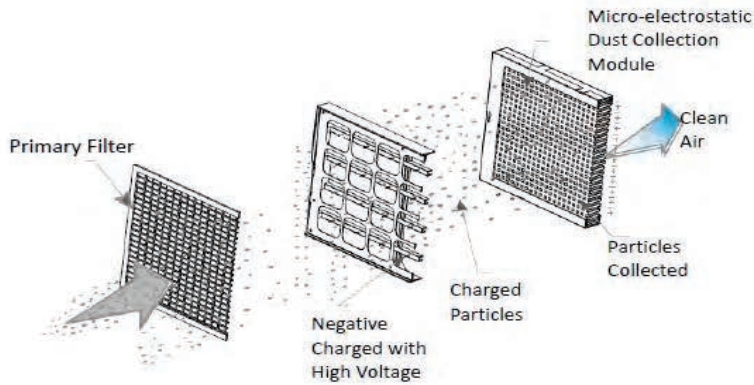
- Install air purifier to remove particles, viruses and bacteria to provide best air quality.



MICRO-ESP

MESP (Micro-electrostatic Precipitator) is a highly efficient filtration systems that purifies the air with a unique intense field dielectric.

* Particles movement distance is shortened by 8 times, 99.99% of airborne particles can be captured.



MESP: ELECTROSTATIC REVOLUTION

Precise purification, high speed and efficiency, removal of formaldehyde and dust, fresh and oxygen enriched.

ABILITY

- Micro-electrostatic can greatly increase absorption area by 10 times, which efficiently improves purification effect;
- It can absorb 0.1um particulate matter (PM) while ordinary filter medium just filters above 0.3um (PM) pollutants.

EFFICIENCY

- Eliminates more than 99% of indoor PM2.5;
- Air resistance 10Pa, effective energy saving;
- Protects fan coil pipe and surface air cooler of air handling unit, avoid change in heat exchange and temperature control effect due to dirt and blockage of coil pipe.

PROTECTION

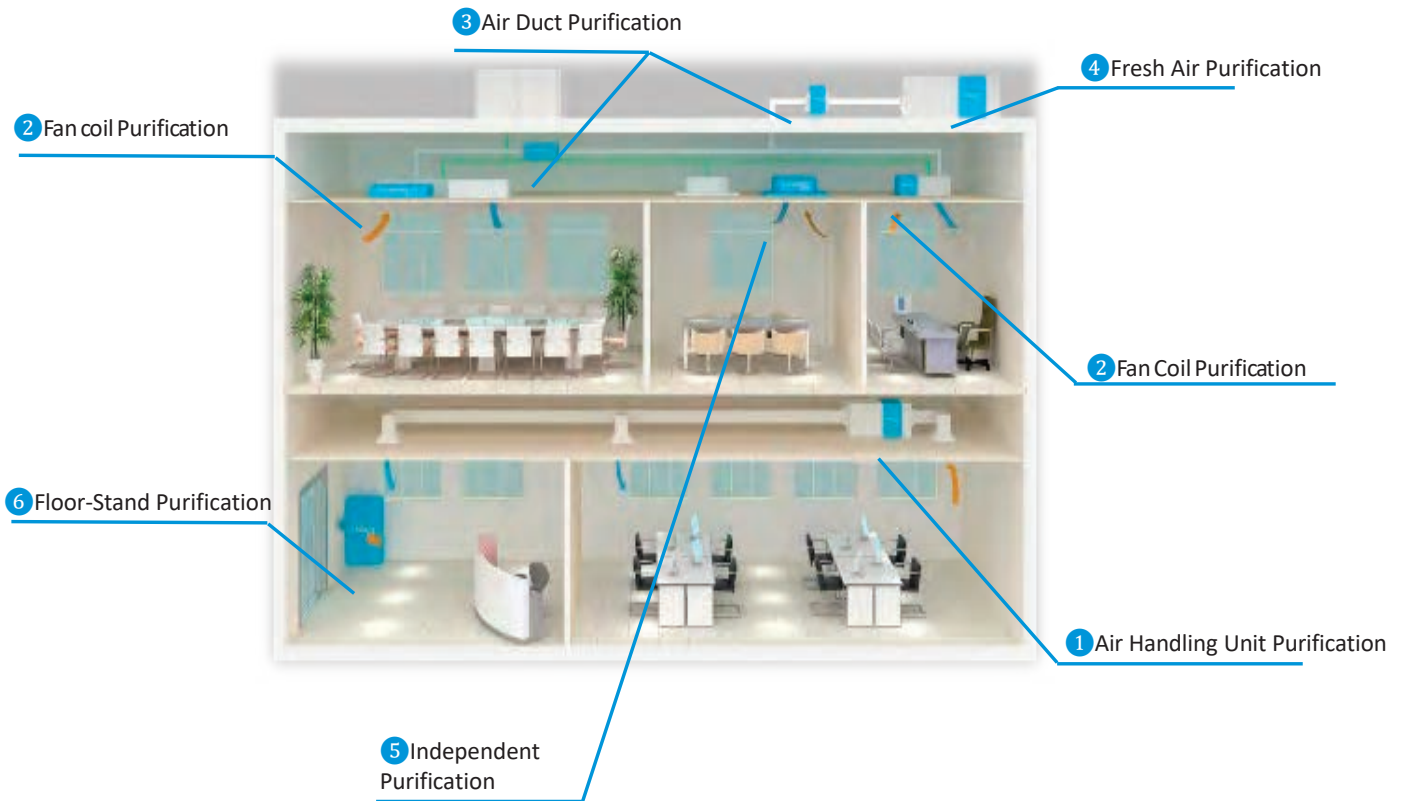
- Consuming no material in maintenance;
- No noise operation of purifier;
- The minimum power consumption of a usual room is 3W- 10W.

HEALTHY

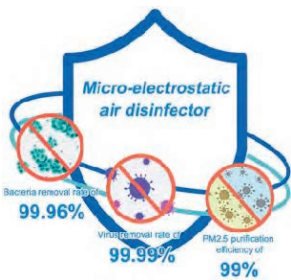
- It can kill bacteria rapidly and effectively with 99% cumulative sterilization rate and no secondary pollution;
- It can release air vitamin negative ion by 13 billion/day to meet the demand;
- Ozone free (the test report of KJ, FAH, FFC and FSA series shows the ozone concentration does not increase after micro-electrostatic purification.



INDOOR CLEAN AIR SOLUTION



A NEW GENERATION AIR PURIFICATION TECHNOLOGY



Sterilizing Purification



Washable Filter



Higher Efficiency



Safety



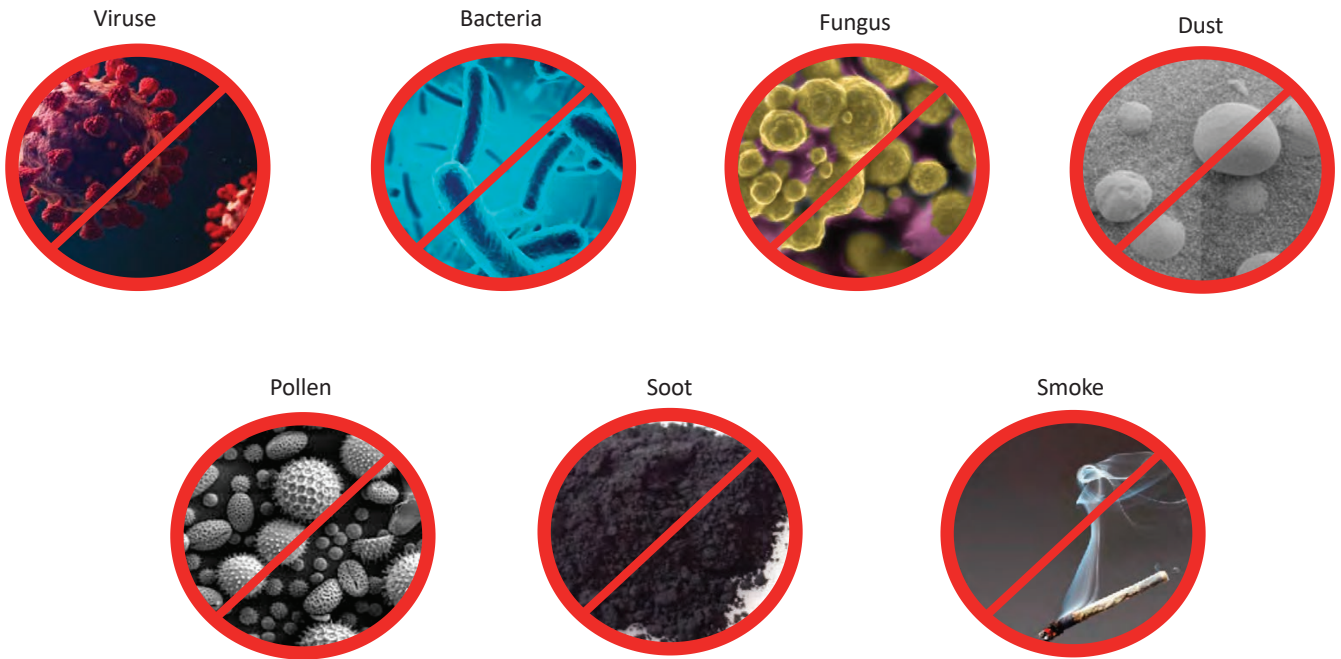
High Usability



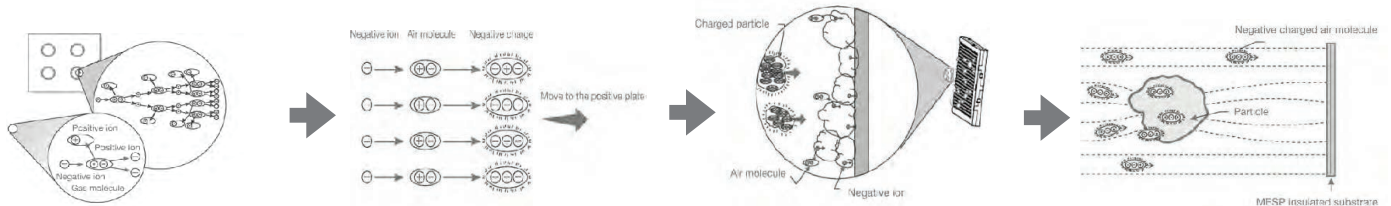
Environmental Friendly



WHAT POLLUTANTS CAN MESP PROTECT YOU FROM?



THE METHODOLOGY AND MECHANISM OF MESP TECHNOLOGY

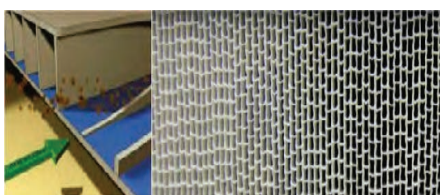


MESP uses negative ionization technology to generate corona and release negative ions through a voltage of -10.2KV. The negative ions collide with air molecules to generate more negative ions and form an avalanche effect.

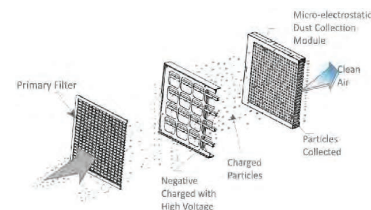
After being far away from the corona zone, the negative ions will be attracted by the surrounding air, so that the gas molecules will be negatively charged and move towards the MESP positive plate under the action of a strong electric field.

The negatively charged fine particles move to the positive plate under the action of the dense MESP matrix electric field, and are firmly attracted by it.

The fine particles will block the negatively charged air molecules from flying and stick them together. The fine particles continue to absorb negatively charged molecules until they are saturated. The fine particles thus carry enough negative charges.



The unique nano PP insulation coating technology of micro static electricity can effectively avoid the potential dangers of electrode damage and electric shock



The particle collection filter is innovative dielectric with intense electrical field. It describes the mechanism by which the MESP filter is able to remove even the tiniest particles without the use of a high-pressure-drop fiber matrix.



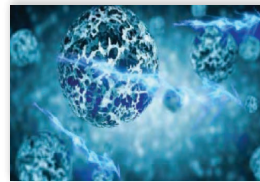
HOW DOES MESP KILL VIRUSES

2 Steps double disinfection:



Phase 1. High voltage electrostatic field kills harmful microorganisms

When bacteria and viruses pass through the micro-electrostatic filter (which consists of a high-voltage electrostatic effect of ten thousand volts), the low potential difference between the bacteria and viruses from the outside to the inside, the high voltage will instantly destroy the cell wall of bacteria and the protein shell of viruses, thereby inactivated, instantly killed.



Phase 2. If the virus is adsorbed on the electrostatic filter and will be continuously inactivated

In the MESP sterilization module, the dielectric material forms a honeycomb hollow microchannel, and the dielectric wraps the electrode sheet to form a strong electric field in the channel. It exerts a huge attraction to the charged aerosol moving in the air, while only generating minimal airflow resistance. It can absorb almost 99.99% biological aerosols, PM2.5 and other particulate matter. When the virus loses its host cell, it will naturally die out after being continuously adsorbed by the strong electric field. In addition, as viruses and bacteria continue to be exposed to high-voltage electric fields, they will gradually become carbonized until they are eliminated.

TEST REPORT RESULTS

SGS Page 4 of 6 Report No.: SHES201002002772

2.Refer to test standard: GB 21551.3 -2010 Annex A

Test item: air virus removal effect test

Clause	Item	Time	Test No.	Air virus concentration value TCID ₅₀ /m ³	Removal rate(%)
Annex A	H1N1 (A/PR/8/34)	0(CK)	1	2.44x10 ⁶	
			2	1.94x10 ⁶	
			3	2.44x10 ⁶	
	MDCK Cell	60 min	1	<97.3*	>99.99
			2	<97.3*	>99.99
			3	<97.3*	>99.99

Note: Natural attenuation was taken into account for the calculation of bacterial removal effectiveness.
*: Limited value of measured equipment.

KJ Portable Series recently received a detailed test report from SGS, a well-known Swiss Inspection Authority in certification and testing.

It is worth mentioning that the report specifies H1N1 virus killing instead of Covid-19. Our FAH unit using same components was tested **for** Corona Virus by Innovation Bionically proved MESP Technology is 99.99% efficient to kill and remove COVID.



PRODUCT RANGES



KJ Series
Portable Air Sterilizing Purifier



FSA Series
Ceiling Mounted Air Sterilizing Purifier (Stand Alone)



FFC Series
Return Air Sterilizing Purifier for FCU



RAG Series
Air Sterilizing Purifier



FAD Series
Air Duct Sterilizing Purifier



FFA Series
Fresh Air Sterilizing Purifier

SOLUTIONS

Public Area

Reception

Outpatient Hall

Inpatient Wards



Diagnosis and

Treatment Areas

CT

X-Rays

And other examination rooms



PUBLIC AREA/ RECEPTION / OUT PATIENT HALLS

PRODUCTS:



FAD



FFC



RAG



Clean Air Solution

If the outpatient hall or infusion room on the first floor uses all air conditioning systems, FAH purifiers can be installed in the air handling units or installing FAD purifiers on the air duct. For energy saving purpose, it is suggested to install air curtains at entrances. If it is a waiting hall on the second floor or above that uses fan coils combined with air-handling units for a centralized air supply, then FFC and FAH purifiers can be provided.

Requirement Analysis

The outpatient hall has the largest people flow in the hospital, where there is high probability of virus infection. The best way for disinfection is to install air purifiers in the air conditioning systems because many medical staff and patients can not spray disinfectant during working hours.

INPATIENT WARDS

PRODUCTS:



FFA



FFC



RAG



Clean Air Solution

Fan coil air conditioning is generally used in ordinary inpatient wards, so FFC purifiers should be installed. FAH purifiers are recommended for wards with fresh air requirements because fresh air will be introduced to each room through the air handling unit. Considering that bacterial viruses will spread across rooms through the AC systems, it is necessary to install one way valves in the air ducts to avoid air circulation in different rooms. For wards of highly infectious departments or wards without fresh air introduction, Sanitizair suggests that FFA fresh air purifier should be installed independently in each room.

Requirement Analysis

Inpatient ward spaces are relatively closed with many patients and bed attendants. Air quality inside is low with heavy odors. On the other hand, the patients and their immunity are generally weak so they can easily cause postoperative infection. Therefore, air sterilizing and purification equipment should be installed in the ward to supply high quality indoor air, to ensure the health and safety of patients and remove the room odor



DIAGNOSES AND TREATMENT AREA

PRODUCTS:



FFSA



FFC



RAG



Clean Air Solution

Fan coil units FFC are recommended, with enough air flow from central air conditioning systems. For air disinfection and purification, AC systems can be matched with FFC sterilizer and air handling units with FAH sterilizer. If the hospital building is old such that its offices use wall mounted air conditioners, then FSA ceiling air purifier is recommended.

Requirement Analysis

Medical clinic spaces are generally narrow, and the air circulation is restricted. Doctors are in close contact when diagnosing patients. They can be infected easily if patients carry infectious virus through droplets, blood, etc., leading serious threats to their health. At the same time, different patients are also prone to cross infection.

CT, X-RAYS AND OTHER EXAMINATION ROOMS

PRODUCTS:



FFSA



KJ



Clean Air Solution

These rooms mostly use ceiling type or wall mounted air conditioners, so it is recommended to install ceiling type central AC purifiers FSA or portable air sterilizers KJ series.

Purifier features:

- 1.Suitable to be installed on the ground at any location and time.
- 2.Remove PM2.5 and disinfect from bacteria, viruses and other pathogenic microorganisms.
- 3.Independent operation with low energy consumption, quiet and comfortable.
- 4.Safe and harmless (people can be close to the purifier when sterilizing),.
5. Adjust indoor air quality.

Requirement Analysis

Patients with lung or brain diseases generally need to do CT, X-ray examinations, and most of the examination environment is very closed. Some bacteria and viruses are suspended in the air for a long time, leading to highly increased risk of cross infection between patients.



KJ SERIES



KJ300



KJ400



KJ500



KJ1200

Features

- Efficient removal of PM2.5, virus, bacteria, pollen, allergen and other particulate pollutants
- Kills 99.99%+ viruses and 99.96% bacteria, remove 99%+ air particulates
- No material consumption, the filter is washable, no need to replace
- Releases negative Ion to keep refreshing the air
- M8 methanal filter steadily absorbs and decomposes methanal and other harmful chemical gases
- "Surface design" of front panel expands air volume at the bottom and effectively purifies sedimentary pollutants at the bottom
- Low running noise, as low as 34dB in silent mode, and even lower in sleep mode
- Built-in particle sensor, indicator light displays air quality, automatically regulate air speed, and intelligent prompt of cleaning
- Low energy consumption, safe and power-saving
- Magnetic buckle panel is easy to disassemble, assemble and clean

RAG SERIES | Air Sterilizing Purifier For RAG



Features

- UL Listed
- High-efficiently kills viruses and bacteria (Above 99.96%)
- High-efficiently removes air particles (MERV 14)
- No material consumption, the filter is washable, no need to replace
- Low energy consumption, safe and power-saving
- Replace traditional bag filter section of Fan coil, low air resistance
- One-time purification efficiency is up to over 95%
- Protect Fan coil and prevent filth blockage of air-conditioning systems from affecting refrigeration and heating
- Lifetime washing of Micro-Electrostatic filter avoids replacement and substantially cuts down cost of consumables
- PRAX intelligent power module stabilizes voltage output and ensures maximum purification efficiency
- Multiple control boxes and junction boxes are optional
- Flexible installation: Installation in air duct is acceptable



FFC SERIES | Return Air Sterilizing Purifier for FCU



Features

- High-efficiently kills viruses and bacteria (Above 99.96%)
- High-efficiently removes air particles (Above MERV 14)
- No material consumption, the filter is washable, no need to replace
- Micro-Electrostatic technology, 0 space occupation, 0 material consumption, 0 noise and 0 ozone
- Removes 99% of PM2.5, methanal, influenza virus and other air pollutants
- Concealed in return air inlet of central air-conditioning without destroying decoration and occupying floor space
- Prevent influence on return air effect of air-conditioning with ultra low air resistance
- Clean without dead angles by three-dimensional circulation
- Reduce energy consumption, and avoid affecting effect of refrigeration and heating for filter blockage of coil
- Intelligent control, linked to fan coil, purify when air flows and stop when air stops
- Comprehensively adaptive to fan coils of internal unit, etc. of fluorine and water systems



FAH Series

Air Sterilizing Purifier For AHU | UL Listed



Features

- High-efficiently kill microorganism (one-time microorganism killing rate is 93.1%)
- High-efficiently remove airborne particulates (MERV 14)
- One-time purification efficiency is up to over 97%
- No material consumption, the filter is washable, no need to replace
- Low energy consumption, safe and power-saving
- Replace traditional bag filter section of AHU with low air resistance
- Protect AHU and prevent filth blockage of air-conditioning system from affecting effect of refrigeration and heating
- Lifetime washing of Micro-electrostatic filter avoids replacement and substantially cuts down cost of consumables
- PRAX intelligent power module stabilizes voltage output and ensures maximum purification efficiency
- Multiple control boxes and junction boxes are optional
- Flexible installation: Installation in air duct is acceptable
- UL listed

Product Model	FAH01M-A	FAH03M-A
Product Description	Single Microelectrostatic Unit	Dual Microelectrostatic Unit
Product Category	High Speed Type	
Overall Dimensions(Width x Height x Thickness mm)	370*610*150	680*610*150
Applicable air volume(m ³ /h)	1700	3400
Power Supply (V/HZ)	110~240 / 50~60	
Rated Power (W)	7	13
Pressure Drop (Pa) (@2.5m/s)	<50	
PM2.5 One-time Purification Efficiency(@2.5m/s;@3.5m/s)	≥96%; ≥87%	
Microorganism Purification Efficiency(@2.5m/s)	≥95%	
Disinfection method and certification	Electrostatic sterilization (1,2) (Sterilizer certification)	
Bactericidal rate (%)	99.93(Staphylococcus albus)	
Status Indication	running	
Additional	M7 Activated Carbon Filter (Optional), M8 Formaldehyde Filter (Optional)	
Net Weight(Kg)	10	13

MESP Portable Air Sterilizing Purifier

KJ300F-02A



Features

- Efficient removal of PM2.5, virus, bacteria, pollen, allergen, and other particulate pollutants
- Kill 99.99%+ viruses and 99.96% bacteria remove 99%+ airborne particulates
- No material consumption, the filter is washable, no need to replace
- Release negative ion to keep refreshing the air
- M8 methanal filter of Japan steadily adsorbs and decomposes methanal and other harmful chemical gases
- "Surface design" of front panel expands air volume at the bottom and effectively purifies sedimentary pollutants at the bottom
- Low running noise, as low as 34dB in silent mode, and even lower in sleep mode
- Built-in particle sensor, indicator light displays air quality, automatically regulate air speed, and intelligent prompt of cleaning
- Low energy consumption, safe and power-saving
- Magnetic buckle panel is easy to disassemble, assemble and clean

Product Model	KJ300F-02A
Power Supply(V/Hz)	110~240/50~60
Rated power(W)	55
Rated air volume (m ³ /h)	420
CFM (cubic feet per minute)	247
Clean air volume (CADR particulate matter) (m ³ /h)	300
Clean air volume (CADR formaldehyde) (m ³ /h)	100(Optional)
Accumulated Particulate Purification Energy Efficiency (CCM Particulate Matter)	P1
Purification Energy Efficiency (Particulate Matter)(m ³ /(W·h))	5.4(High efficiency)
Purification efficiency (formaldehyde (m ³ / (w · h)))	1.7(High efficiency)(Optional)
Area of use(m ²)	20-25
Noise (sound power level) dB(A)	60 (High speed mode); 34 (Sleep mode)
Dimension (width * height * thickness mm)	335x570x220
Weight(kg)	7.5
Anion content (PCs./cm ³)	10x105
Ozone concentration	<0.1X10-6%
Disinfection method	Electrostatic disinfection
Bactericidal rate(%)	99.96 (Staphylococcus albus)
Virus killing rate(%)	>=99.99 (H1N1)
APP smart control	None



MESP Portable Air Sterilizing Purifier KJ400F-01A

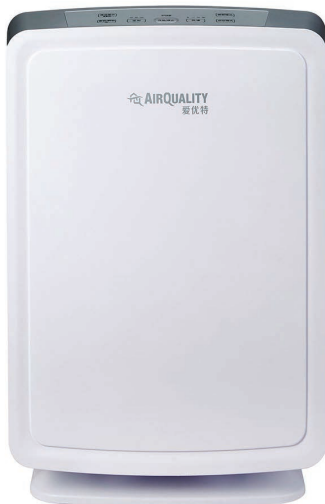


Features

- Efficient removal of PM2.5, virus, bacteria, pollen, allergen, and other particulate pollutants
- Kill 99.99%+ viruses and 99.96% bacteria remove 99%+ airborne particulates
- No material consumption, the filter is washable, no need to replace
- Release negative Ion to keep refreshing the air
- M8 methanal filter of Japan steadily adsorbs and decomposes methanal and other harmful chemical gases
- "Surface design" of front panel expands air volume at the bottom and effectively purifies sedimentary pollutants at the bottom
- Low running noise, as low as 34dB in silent mode, and even lower in sleep mode
- Built-in particle sensor, indicator light displays air quality, automatically regulate air speed, and intelligent prompt of cleaning
- Low energy consumption, safe and power-saving
- Magnetic buckle panel is easy to disassemble, assemble and clean

Product Model	KJ400F-01A
Power Supply(V/Hz)	110~240/50~60
Rated power(W)	55
Rated air volume (m ³ /h)	570
CFM (cubic feet per minute)	335
Clean air volume (CADR particulate matter) (m ³ /h)	400
Clean air volume (CADR formaldehyde) (m ³ /h)	180(Optional)
Accumulated Particulate Purification Energy Efficiency (CCM Particulate Matter)	P4
Purification Energy Efficiency (Particulate Matter)(m ³ /(W·h))	7.3(High efficiency+E10)
Purification efficiency (formaldehyde (m ³ / (w · h)))	3.3(High efficiency)(Optional)
Area of use(m ²)	28-48
Noise (sound power level) dB(A)	62 (High speed mode); 32 (Sleep mode)
Dimension (width * height * thickness mm)	420x690x240
Weight(kg)	9.5
Anion content (PCs./cm ³)	10x10 ⁵
Ozone concentration	<0.003mg/m ³
Disinfection method	Electrostatic disinfection
Bactericidal rate(%)	99.96 (Staphylococcus albus)
Virus killing rate(%)	≥99.99 (H1N1)
APP smart control	IOS/Android

MESP Portable Air Sterilizing Purifier KJ500F-01A



Features

- Efficient removal of PM2.5, virus, bacteria, pollen, allergen, and other particulate pollutants
- Kill 99.99%+ viruses and 99.96% bacteria remove 99%+ airborne particulates
- No material consumption, the filter is washable, no need to replace
- Release negative Ion to keep refreshing the air
- M8 methanal filter of Japan steadily adsorbs and decomposes methanal and other harmful chemical gases
- "Surface design" of front panel expands air volume at the bottom and effectively purifies sedimentary pollutants at the bottom
- Low running noise, as low as 34dB in silent mode, and even lower in sleep mode
- Built-in particle sensor, indicator light displays air quality, automatically regulate air speed, and intelligent prompt of cleaning
- Low energy consumption, safe and power-saving
- Magnetic buckle panel is easy to disassemble, assemble and clean

Product Model	KJ500F-01A
Power Supply(V/Hz)	110~240/50~60
Rated power(W)	65
Rated air volume (m ³ /h)	600
CFM (cubic feet per minute)	353
Clean air volume (CADR particulate matter) (m ³ /h)	500
Clean air volume (CADR formaldehyde) (m ³ /h)	240(Optional)
Accumulated Particulate Purification Energy Efficiency (CCM Particulate Matter)	P1
Purification Energy Efficiency (Particulate Matter)(m ³ /(W·h))	7.6(High efficiency)
Purification efficiency (formaldehyde (m ³ / (w · h)))	3.7(High efficiency)(Optional)
Area of use(m ²)	35-60
Noise (sound power level) dB(A)	< 61
Dimension (width * height * thickness mm)	460x270x690
Weight(kg)	12
Anion content (PCs./cm ³)	10x10 ⁵
Ozone concentration	<0.1X10-6%
Disinfection method	Electrostatic disinfection
Bactericidal rate(%)	99.96 (Staphylococcus albus)
Virus killing rate(%)	>=99.99 (H1N1)
APP smart control	None



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Gauteng: (011) 704 6320
Pretoria: (012) 643 0445
Bloemfontein: 083 381 0074
East London: (043) 722 0671

Cape Town: (021) 556 8292
KZN: (031) 579 1895
Port Elizabeth: (043) 722 0671
Helderberg: (021) 864 5233