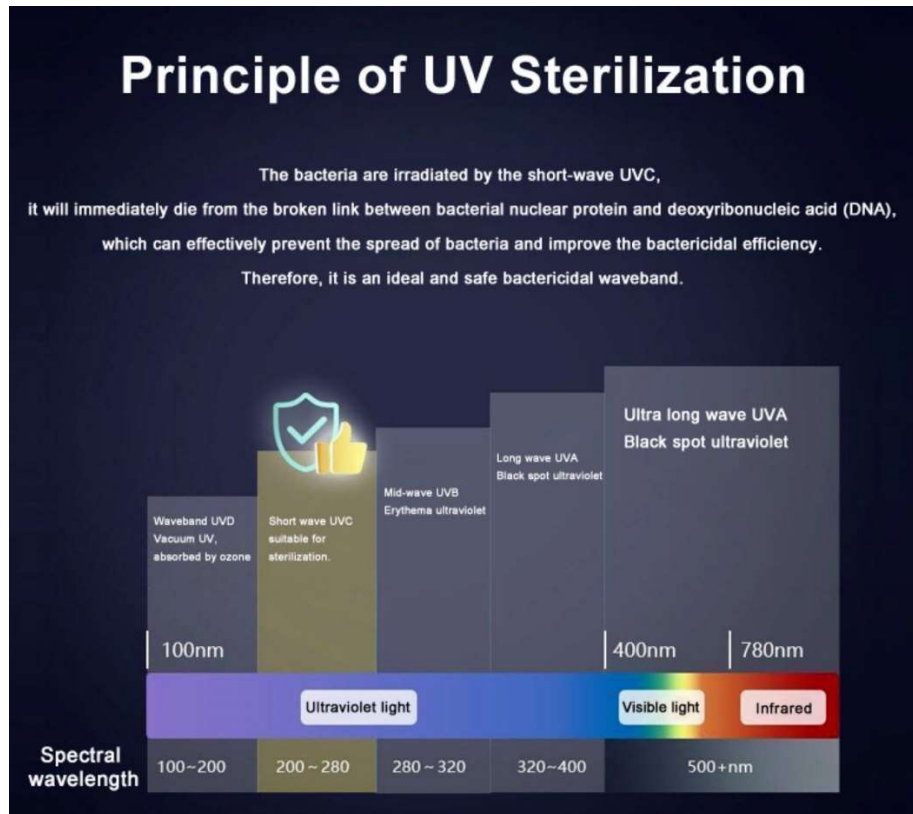


Efficacy of Air Sanitation Equipment in the Mitigation of Indoor Pollution

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Introduction

Ongoing research has been used to analyze air sanitation systems and the importance of clean air in reducing life-threatening viral diseases. Present work has been focused, particularly on the recent spread of COVID-19 and other bacteria in our environment while analyzing the advantages of air sanitization devices and air pollution mitigation systems in society. Additionally, research has also focused on alternative methods and techniques recommended for disinfection.

1 General Overview of Viral Diseases

The increasing pollution in our society has increased viral diseases. Germs are stronger than ever. Following a recent research finding, more than 23,000 people die in the United States alone because of bacteria and related diseases. Thus, discovering new viruses and bacteria is commonplace, and society becomes complacent in their attitude towards germs. In the developed world, we know that advanced medical science can control the spread of bacteria before a virus can significantly impact society. However, as recent times have shown, this is not always the case. Highly advanced medical teams have taken several months to understand the Coronavirus and prepare medical guidelines. The medical community is still searching for answers.

1.1 What is COVID-19?

COVID-19 derives from the SARS-COV-2 virus. The virus is different from other viruses due to prominent surface spikes. Different tracing methods and vaccines have been analyzed at the National Institute of Allergy and Infectious Diseases Vaccine Research Centre and across the world. Unfortunately, a solution still has not been found. The vaccine development is known as mrna-1273 and is under process based on prior studies on coronavirus such as MERS and SARS. Viruses are relatively more dangerous as compared to bacteria and cause life-threatening symptoms. They work as hijackers that invade the normal cells and produce viruses like them. They can damage, change, and kill the cells in the blood, respiratory system, and liver. In the case of coronavirus, the attack is concentrated on the respiratory system.

1.2 How do Viruses and Bacteria get into our Bodies?

COVID-19, measles, chickenpox, and infections are transmitted to the body through respiratory droplets, direct contact, fecal-oral transmission, blood, and insect bites. Respiratory droplets are spread by direct contact through touching and can even travel at a distance of three feet by sneezing and coughing. In the airborne transmission, the viruses and bacteria float suspended

into the air in small droplets and dust particles. The viruses and bacteria that can spread by droplets are considered contagious germs.

1.3 The Severity of COVID-19

The coronavirus pandemic is posing a severe health threat at global levels. To date, the cases of COVID-19 increased across the world, and in the United States alone, the number of cases has increased by 70%. The majority of the threat is to the local community, overall health, and countries' economy. Based on statistical analysis, 47% of the United States' population is under a major health threat. The reports identified that coronavirus is a major threat to the 27% of personal health and 51% as a minor health threat (Who. int, 2020). The world faces the worst public health crisis in modern history (Pew research. org, 2020). So far, more than 1,500,000 patients are affected, and 88,000 patients have died worldwide within the last three months. This crisis has had a devastating impact on the healthcare system.

1.4 How to Protect Yourself?

Our primary focus is on providing customers with these essential components that help overcome the spread of coronavirus. Spikes in Covid-19 bind the virus with the human body. The only possible way to overcome the issue is to prevent the virus from latching onto the body. The interaction with neutralizing antibodies blocks this interaction. In this way, sterilization, air purifiers, hand sanitizers, and other UV light methods are becoming reliable methods to block the virus.

We provide our customers with UV systems, ionizers, and air sanitizers, which are reliable, low cost, low energy consumption, low cycle residuals, minimal adverse environmental effects, and no toxicologic issues. Our products are designed to provide new and innovative sterilization, filtration processes and disinfectants in healthcare facilities, and domestic usage, following the FDA's strategies and guidelines.

2. What are UV Lights?

UV radiation mainly comes from the sun and is considered a primary source of germicide. The main use is to inactivate the viruses by exposing them to the defined wavelength light energy. It works well to kill double standard DNA, single standard DNA, double standard RNA, and single standard RNA and genomes. The sensitivity and efficacy are based on the lethal hit per virion, and the size of the genome is important and relatively constant for the genetic composition and killing process of bacteria and viruses.

2.1 How Effective is UV Light Against Viruses?

UV light is highly effective, and one of the best solutions to kill germs. Due to an increased number of COVID-19, scientists and experts suggested using sanitizers and UV light systems to control the growth of coronavirus (Khan, Hussein, Suwaidi, Idris, & Abu-Zidan, 2020). The reason for the usage of UV light is that it is the shortest wavelength with the highest energy, and is capable of killing viruses and bacteria, also known as pathogens. Powerful UV light mainly finds applications in the decontamination of hospital rooms and surgical tools. It works as a sanitizer that makes it effective against superbugs. Recent research demonstrated a narrow spectrum of

UVC rays ranging from 207-222nm that kill viruses and bacteria without penetrating the human skin's outer cell layer.

2.3 UV Room Air Sanitizer

The UV room air sanitizer is a fully occupied device for air sanitization. This type of device is a suitable option for commercial sectors, including restaurants, food, and pharmaceutical industries.

The UV room air sanitizer can also be used in dairy plants and clinics to collect germs and ensure a safe environment for the processing and business operations concerning food processing and medication. UV room air sanitizers can also be used in conference rooms and auditoriums.



3. What is Ionizer Technology?

The ionizer's main function is to generate negative ions, and these negative ions render as airborne particles and droplets. All the airborne particles are negatively charged in this process, and they are attracted to the positively charged collector plate. While using the ionizers, the trapped viruses

are identified by the reverse transcription and quantitative real-time PCR. In the process, the device enables the simple and rapid removal of viruses from the air.

3.1 Why is Ionizer Technology Important?

The updated and modified versions of ionizer devices provide additional features to kill bacteria and viruses efficiently. Some air conditioners and air purifiers have ion generation features and an ion production that releases negative ions in the air and work as purifiers. The ionizer or ion generator produces negative ions in the air, and these negative ions latch on the surrounding positive ions such as fungal spores, pollens, dust particles, bacteria, and viruses (Povaiah, 2020). The ion generator helps break down the coronavirus's outer protein and bacteria that help control airborne diseases. The process increases body resistance and reduces the harmful factors of the environment. The ionizers also decompose the gaseous pollutants such as nitrogen dioxide, carbon monoxide, and volatile organic compounds.

The ionizer air purifier is again a recommended option for home. This device can attract germs and pollution particles to make a room clean.



4. The Importance of Sanitizer Technology

Health specialists advise using hand and air sanitizers. Our specially designed sanitizers are approved by The Health Department.

The correct technique of hand sanitization is provided below:

1. The user needs to ensure that all organic materials are removed from the hand. The organic materials are often visible to the naked eye, for example, fluff, food crumbs, etc. The proper removal of these particles is necessary to achieve maximum sanitization outcomes.

2. After removing the organic and visible materials from the hand, the next process is to add a waterless hand sanitizer.

3. Now use only a dime-sized amount of waterless hand sanitizer on the palm of the hand.

4. Rub the hands together and cover all the surfaces of the fingers and hand thoroughly.

5. The amount of sanitizer in this process is important because the final step is to rub the hands until the whole sanitizer is absorbed.

4.1 The Benefits of Hand Sanitizer

There are numerous advantages of waterless hand sanitizer that provides additional benefits to the user.

1. The use of hand sanitizer to kill the viruses and bacteria requires less time compared to washing the hands properly.
2. The process is quick in killing microorganisms on hands.
3. The usage is becoming more accessible as compared to sinks.
4. The process reduces the possible bacterial counts on hands.
5. Hand sanitizers are good in reducing viruses and will not promote antimicrobial resistance on the human skin.
6. Compared to other medicines and chemical products, the waterless hand sanitizers are less irritating to the skin.

4.2 Disinfection Tunnel

For a large set-up of air purification and sanitization, this machine is highly effective. This tunnel has a door through which people can enter to get disinfected and sanitised from viral diseases.

The frequency of use and the cost-related variable makes this a suitable option for the commercial sector.



5. The Importance of Air Purifiers

Clean and purified air is not only important, but it is considered as an essential component for all human beings. However, air pollution, as well as outbreaks of diseases, are harming the population's health. By installing air purifiers and indoor pollution mitigation devices at offices and homes, we can remove germs and viruses from our air, keeping us safe from disease, pollution, and allergies, without having to wear masks.

5.1 The Benefits of Our Air Purifiers

We provide a wide range of options for air sanitizers and indoor pollution mitigation devices. Our low cost activated carbon air purifiers combat organic compounds and eliminate the airborne odors, contaminants, and allergens, making it an excellent product to control pollution from rooms and houses. Additional features of our products include low noise emission (described as almost silent), HEPA filter, and carbon filter. The process of cleaning the unit is also kept simple. All wires and vulnerable areas are covered with body parts external to them. However, stainless steel collecting contaminants can be cleaned easily with alcohol pads or a simple, clean cloth.

The air purifiers and sanitizers are completely free from harmful chemicals. The air sprays available in the markets spread chemicals in the air, dangerous to our health. Our recommended air purifiers and sanitizers do not spread harmful chemicals in the air, making the room a healthy environment for users.

Our stainless-steel filter not only makes it easy to clean, but it can also heat easily without consuming too much electricity. Thus, the usage of stainless-steel material makes this device a cost-effective device.



5.2 Our Portable Air Sanitizers

The majority of our air sanitization products are portable. A portable air purifier is a suitable option for house use. Users can easily plug in these devices in their rooms and offices to keep the air clean and pollution-free. These handy devices can be taken in a bag while traveling; thus, users can get the benefit of these devices in multiple places.

5.3 Plugin Universal Switches

A Portable Air purifier comes with a universal plug-in option. Users can easily turn on this device by inserting the attached plug in the switches. This device does not require any additional purchase of switches or converters as it can easily function with a power supply from a universal switch.

The portable air purifier is offered with a built-in night light function. It can turn on a night light in dark rooms, which develops a convenient environment in your rooms during the evening. This function can be deactivated as well if the user does not need it.

5.4 Reusable Filter

Another amazing feature of this portable air purifier is its reusability. Users can reuse this filter by washing it when it is fully contaminated with pollutants and dust. Thus, the portable air purifier is a durable product that works efficiently for several months or more than a year (if handled with proper care).

5.5 Existing options for portable air sanitizers:



CORE PURIFICATION DOUBLE FILTER ELEMENT

the bactericidal ability is multiplied

the outer filter element is made of HEPA
the inner filter element is made of activated carbon nano cotton
effectively remove PM2.5 and nearly 99.99% dust and formaldehyde in the air

1. NANOTECHNOLOGY

isolation of dust particles

2. PARTICULATE AIR FILTRATION

remove bacteria and tiny particles

3. ACTIVATED CARBON

adsorb formaldehyde, smell



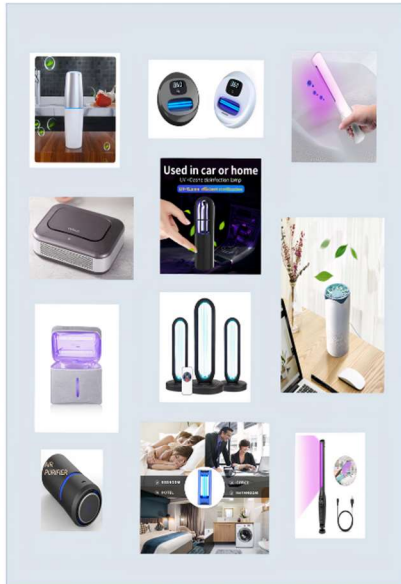
5.6 Germ Guardian Air Purifiers

The Germ Guardian is an electronic device specially manufactured to remove germs from the air. The device has the strength to attract germs from the environment when it is turned on. After collecting germs from the room, it can kill these germs to make the environment free from viral diseases. Germ guardian is a handy device that can be connected to any power supply easily and is suitable for a normal sized room of 167 square feet. In comparison, the overall size of this device is only 22 inches. Additionally, this device can reduce smoke and bad odor from rooms. It can also remove large particles on a gentle setting, including pet hair and dust, from the floor.

Fresh Sanitized Air

"Let's Get Ready to Re-Open!"

Portable Desktop
Room Sanitizers



Wide Area
Floor or Wall
Mount



Disinfection Spray Chamber
Tunnel and Temperature
Measurement

Intelligent Control Design

The intelligent control design reduces the manual operation and monitoring workload, namely improve the safety guarantee and the detection efficiency.

- Special Contact Induction Sanitization
- Precise Temperature Detection



Sterilization Rate up to 99.9%

**BUG
FREE
ZONE**

FRESH PURIFIED AIR

For

Homes Hotels Restaurants Offices Factories
Warehouses Shopping Malls Cinemas Stadiums
Convention Center Schools Places of Worships

6. Where do I Purchase Air Sanitizers and Indoor Pollution Mitigation?

if you are looking for an excellent and suitable device that meets your specific requirements, then we have more suitable options for you:

6.1 Our Sales Representatives

You can buy these air sanitizers and purifiers by calling Sales at 1-888 561-JETS (5387) and ask about our wide variety of air purifiers and sanitizers for commercial and house use. We provide volume discount options and a warranty for our products.

6.2 Online Orders

We also take online orders from our Company Website at www.jetsairpro.com. You can take advantage of our special prices by using the Discount Code from our Sales Representatives or Marketing Materials.

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