X-CATCHER INDUCTION
AIR STERILIZER
Cut Off The Public Transmission Of The Virus

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Hygiene license of manufacturing enterprise:[2020]-05-No.0028
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Sterilization, disinfection and odor removal are the lifelong mission of X-CATCHER induction air sterilizer. Restaurants, lobbies, hospitals, waiting halls, the more crowded and complex environment, the more worthy of X-CATCHER air sterilizer.
Induction matrix air sterilization technology is a new air disinfection technology based on the principle of electromagnetic induction, which is invented by “the phenomenon of induced electromotive force produced by the conductor cutting the magnetic field line in the changing magnetic field”.

The core of the technology includes a super audio intelligent frequency conversion controller and a metal compound for electromagnetic induction.

By making metal compounds into a special matrix structure, each matrix element becomes an independent potential body under the action of electromagnetic induction, and finally forms a high-energy, high-density potential matrix.

When bacteria, virus and organic matter (VOC) pass through the potential matrix, its physical structure will produce a “micro explosion” in an instant, so as to realize the effect of sterilization, disinfection and odor removal, without any toxic and harmful by-products.
The most typical feature of the restaurant is its crowd gathering. Restaurant is always crowded with people. In particular, the risk of getting infection is relatively high during the epidemic period of flu season in the school canteen, company canteen and the restaurant with long queue and booming business.

Compared with general public places, the humidity of restaurants is higher. Especially in summer, the indoor humidity is high, the ground is wet and slippery, and there is a lot of condensation water on the wall. Due to the existence of oil smoke, in some canteens with poor smoke exhaust design, the concentration of oil particles in the air are very high. High humidity and oil-based particles make major damage to filter screen type equipment.

The restaurant is the place for public dining. There are special environmental factors such as food, soup, lampblack, and kitchen waste that is not disposed in time. In addition, due to the crowded people and complex odor, pathogenic microorganisms are more likely to breed.

For example: two kinds of common pathogenic microorganisms that can be transmitted by air in restaurants

Staphylococcus aureus
It can be widely spread through air, water, food, etc.
Infection symptoms: nausea, vomiting, dizziness, skin ulceration, wound spread, fever, nausea and vomiting, enteritis, pneumonia and other symptoms, which can cause meningitis, septicaemia, shock and other symptoms.

Legionella
It can be spread by air and water. The common way of transmission is central air conditioning.
Infection symptoms: mainly fever and respiratory symptoms, the most common and serious clinical type is pulmonary infection, accompanied by systemic multiple system damage.

The school canteen and company canteen generally possess large space. According to the “Code for Design of Catering Buildings” (JGJ 64-1989), the minimum usable area of each dining room and dining hall of restaurants and canteens shall be 850 m² ~ 1100 m² at least. Ordinary air disinfectors and air purifiers are not suitable for use in such places.

Aerosol is an important way of virus transmission, such as covid-19. Because of the dense seats in restaurants, the virus is more likely to spread through aerosols. Especially in the flu season or epidemic period, it is impossible to wear masks while eating, so the risk of aerosol transmission is higher, and the restaurant is easy to become the focus of the epidemic.

Air Disinfection In Public Places — Represented by restaurant

**X-CATCHER INDUCTION AIR STERILIZER**

X-CATCHER is suitable for the complex place with rigorous standards and requirements as represented by the restaurant. Because among all kinds of complex places, the air disinfection in the restaurant (school canteen, company canteen, restaurant, etc.) is very urgent and difficult to deal with.

**Five typical characteristics of restaurant**

1. **Crowd gathering**

The most typical feature of the restaurant is its crowd gathering. Restaurant is always crowded with people. In particular, the risk of getting infection is relatively high during the epidemic period of flu season in the school canteen, company canteen and the restaurant with long queue and booming business.

2. **High humidity, more oil particles**

Compared with general public places, the humidity of restaurants is higher. Especially in summer, the indoor humidity is high, the ground is wet and slippery, and there is a lot of condensation water on the wall. Due to the existence of oil smoke, in some canteens with poor smoke exhaust design, the concentration of oil particles in the air are very high. High humidity and oil-based particles make major damage to filter screen type equipment.

3. **Various strains, complex odor easy to grow microorganisms**

The restaurant is the place for public dining. There are special environmental factors such as food, soup, lampblack, and kitchen waste that is not disposed in time. In addition, due to the crowded people and complex odor, pathogenic microorganisms are more likely to breed.

4. **Large space**

The school canteen and company canteen generally possess large space. According to the “Code for Design of Catering Buildings” (JGJ 64-1989), the minimum usable area of each dining room and dining hall of restaurants and canteens shall be 850 m² ~ 1100 m² at least. Ordinary air disinfectors and air purifiers are not suitable for use in such places.

**Minimum area for each seat in restaurants**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimum area for each seat in restaurants (m² / seat)</th>
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<tbody>
<tr>
<td>Class I</td>
<td>Restaurant: 1.30, Catering shop: 1.10, Canteen: 1.10</td>
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<tr>
<td>Class II</td>
<td>Restaurant: 1.10, Catering shop: 1.10, Canteen: 1.10</td>
</tr>
<tr>
<td>Class III</td>
<td>Restaurant: 1.00, Catering shop: —, Canteen: —</td>
</tr>
</tbody>
</table>

Class I canteen: the seating arrangement is comfortable; Class II canteen: the seating arrangement meets the basic requirements.

5. **Without masks while dinning: the risk of aerosol transmission is higher**

Aerosol is an important way of virus transmission, such as covid-19. Because of the dense seats in restaurants, the virus is more likely to spread through aerosols. Especially in the flu season or epidemic period, it is impossible to wear masks while eating, so the risk of aerosol transmission is higher, and the restaurant is easy to become the focus of the epidemic.

<table>
<thead>
<tr>
<th>Aerosol transmission</th>
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<tr>
<td>2m</td>
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<tr>
<td>3m</td>
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</table>

**For example:**

- **Two kinds of common pathogenic microorganisms that can be transmitted by air in restaurants**
- **Staphylococcus aureus**
  - It can be widely spread through air, water, food, etc.
  - Infection symptoms: nausea, vomiting, dizziness, skin ulceration, wound spread, fever, nausea and vomiting, enteritis, pneumonia and other symptoms, which can cause meningitis, septicaemia, shock and other symptoms.
- **Legionella**
  - It can be spread by air and water. The common way of transmission is central air conditioning.
  - Infection symptoms: mainly fever and respiratory symptoms, the most common and serious clinical type is pulmonary infection, accompanied by systemic multiple system damage.
When using ultraviolet disinfection, the human body cannot be directly irradiated, otherwise it will cause skin redness, itching, desquamation, eye inflammation, burning and even cataract.

In the use of ozone disinfection, inhalation of excessive ozone will strongly stimulate the respiratory tract, causing sore throat, chest tightness, cough, bronchitis and emphysema. In severe cases, it can also cause neurotoxicity, dizziness and headache, decreased vision and memory. Ozone can also damage the immune system of human body.

The above two disinfection methods require "No Human Around", the personnel must leave and this method is subject to high limitation. It cannot be used for air disinfection during the business operating hour and can't kill the bacteria and viruses immediately.

Staphylococcus aureus
It can be widely spread through air, water, food, etc.
Infection symptoms: nausea, vomiting, dizziness, skin ulceration, wound spread, fever, nausea and vomiting, enteritis, pneumonia and other symptoms, which can cause meningitis, septicemia, shock and other symptoms.

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X-CATCHER INDUCTION AIR STERILIZER

Common Air Disinfection Technology

Is the common air disinfection technology on the market suitable for the complex places with high standards and strict requirements represented by restaurants?

Ultraviolet & Ozone air disinfection
When using ultraviolet disinfection, the human body cannot be directly irradiated, otherwise it will cause skin redness, itching, desquamation, eye inflammation, burning and even cataract.

In the use of ozone disinfection, inhalation of excessive ozone will strongly stimulate the respiratory tract, causing sore throat, chest tightness, cough, bronchitis and emphysema. In severe cases, it can also cause neurotoxicity, dizziness and headache, decreased vision and memory. Ozone can also damage the immune system of human body.

The above two disinfection methods require "No Human Around", the personnel must leave and this method is subject to high limitation. It cannot be used for air disinfection during the business operating hour and can't kill the bacteria and viruses immediately.

2. Filter screen type
When it is used in restaurants with high temperature, high humidity and much lampblack, the pores are likely to be blocked and the loss rate may be accelerated due to high concentration of oil particles, resulting in a rapid decline in the purification effect. It is not only costly to use, but also easy to lose the filtering ability of bacteria and viruses due to not replacing in time.

3. Chemical disinfection
Chlorine dioxide and sodium hypochlorite are the representatives of chemical agents, which also include spray, effervescent tablets, and 84 disinfectant water. Such chemicals shall be kept away from the human body, otherwise it will cause uncontrollable safety problems.

In addition, it is impossible to cut off the transmission path of bacteria and viruses.

4. Photocatalyst method
The photocatalytic reaction of photocatalyst is unstable and depends on the triggering light source usually like ultraviolet light, which is difficult to control the actual effect.

5. Electrostatic purification
Electrostatic purification adopts the principle of corona air of high voltage DC electric field to absorb dust and kill microorganisms. It is easy to produce ozone. If the ozone is not well controlled, excessive inhalation will cause damage to human respiratory tract, nerves and immunity.

6. Plasma and anion
Plasma and anion are both used to ionize air (mainly oxygen) under high pressure, which will also produce trace ozone while working, but with less amount than the type of electrostatic purification.

The effect of anion sterilization and disinfection is very weak, and more effect is reflected in dust reduction, fresh air and other aspects.

Plasma can be used as an auxiliary in the air disinfection of complex places with high standards and strict requirements, such as restaurants.
How does X-CATCHER induction air sterilizer solve the problem of air sterilization?

The X-CATCHER induction air sterilizer can generate negative pressure through the German ebmpapst air power module, and suck the indoor air into the machine from the bottom all around. The inhaled air is first treated by the triple metal filter module at the bottom so that dust, hair, oil smoke, PM2.5, etc. are intercepted. Then, the physical structure of bacteria and viruses are killed by virtue of the high-intensity and high-density potential matrix formed by core module and induction matrix. Finally, the internal air is released from the top all around to achieve the effect of disinfection and purification.
Four powerful abilities

X-CATCHER INDUCTION AIR STERILIZER

1. Man-machine coexistence

Cut off the public transmission path of virus

Induction matrix air sterilization technology adopts a safe, reliable and harmless physical disinfection method, which will not produce toxic and harmful by-products, irritating smell and other peculiar smell.

When X-CATCHER is used, it will not cause damage to the environment and human body. The on-site personnel do not need to leave the field, and the machine can cut off the virus transmission path in real time at the first scene.

The disinfection method that personnel must leave the site during disinfection

- Ozone
- Ultraviolet
- Chemical disinfection

Ozone            ultraviolet         chemical disinfection
The induction matrix air sterilization technology adopts the physical disinfection method. When bacteria, virus and organic matter (VOC) pass through the potential matrix, its physical structure will produce a “micro explosion” in an instant, so as to realize the effect of sterilization, disinfection and odor removal, without any toxic and harmful by-products. In terms of microbe treatment, compared with the filter screen type of “blocking without killing”, the chemical disinfection of “short-term inhibition”, the electrostatic purification of “dust collection and adsorption”, the induction matrix air sterilization technology employed by X-CATCHER can authentically and thoroughly kill bacteria and viruses from the physical structure.

### Four powerful abilities

#### X-CATCHER INDUCTION AIR STERILIZER

#### 2. Large-flow instantaneous sterilization

The innovative design of “staggered” matrix structure ensures the effect of “instant sterilization” when bacteria and viruses pass by. At the same time, it is equipped with large-volume and high-performance fans, realizing ultra-low wind resistance and achieving high flow rate and instantaneous sterilization.

#### Comparison of bacteria and virus treated by different purification methods

<table>
<thead>
<tr>
<th>Disinfection technology</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Filter screen type</td>
<td>Large wind resistance</td>
</tr>
<tr>
<td>Plasma, anion, photocatalyst</td>
<td>Unstable effect</td>
</tr>
<tr>
<td>Nano silver, UV, ozone, chemicals</td>
<td>Long response time</td>
</tr>
<tr>
<td>Induction matrix air sterilization technology</td>
<td>Large-volume and high-velocity instantaneous sterilization</td>
</tr>
</tbody>
</table>

The test results of authoritative organization show that X-CATCHER has strong and fast sterilization ability.

- Microbial removal rate in 15 minutes: **89.26%**
- Microbial removal rate in 30 minutes: **99.91%**

### 3. Thorough sterilization

The induction matrix air sterilization technology adopts the physical disinfection method. When bacteria, virus and organic matter (VOC) pass through the potential matrix, its physical structure will produce a “micro explosion” in an instant, so as to realize the effect of sterilization, disinfection and odor removal, without any toxic and harmful by-products. In terms of microbe treatment, compared with the filter screen type of “blocking without killing”, the chemical disinfection of “short-term inhibition”, the electrostatic purification of “dust collection and adsorption”, the induction matrix air sterilization technology employed by X-CATCHER can authentically and thoroughly kill bacteria and viruses from the physical structure.

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<th>Disinfection technology</th>
<th>Mode</th>
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<tr>
<td>Induction matrix air sterilization technology</td>
<td>Sterilization and disinfection from the physical structure</td>
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<tr>
<td>Filter screen type</td>
<td>Blocking without killing</td>
</tr>
<tr>
<td>Chemical disinfection</td>
<td>Short-term inhibition and easy to rebound</td>
</tr>
<tr>
<td>Electrostatic purification</td>
<td>Mainly for dust collection</td>
</tr>
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### 4. Ultra-low cost

All metal matrix structure, which is washable, eliminating the trouble of frequent replacement of consumables, and realizing ultra-low operation and maintenance cost.
Other characteristics

X-CATCHER INDUCTION AIR STERILIZER

Operation design of replacing complexity with simplicity

Simplicity and convenience are the way of business
According to the needs of logistics management, work time and mode can be set in advance to ensure simple and efficient operation.

Sufficient air volume, super high efficiency
In order to ensure the efficacy of sterilization, X-CATCHER is equipped with Germany ebmpapst high-performance fan with large air volume. Ebmpapst is a global leader in aerodynamic solutions.

Ventilation design of breathing zone
The sterilized air will be supplied to the breathing zone at first
Height of air outlet: 1.35m higher than the ground (height of breathing zone) Breathing zone refers to the air directly used by human breath, that is, the air in the space near the mouth and nose, with a height of about 0.5-1.5m, which has a direct impact on human health.

Body design of high-quality stainless steel
Good texture and stable structure
The body is made of high quality stainless steel, which is durable.

Moving design with wheel
Easy and smooth to move
Equipped with high-performance wheel, which is convenient for daily use of logistics management.
1. The air sterilization technology of induction matrix is adopted to effectively kill bacteria and viruses. Its technical framework consists of three technologies: matrix-based bacteria and viruses hunting technology, remote sensing control technology and induced electromotive force control technology;

2. The efficiency of air sterilization is high, the sterilization rate accounts for 89.26% in 15 minutes and 99.91% in 30 minutes;

3. Guard in time: kill the bacteria and viruses in the air and cut off the transmission path immediately and quickly at the first scene;

4. Man-machine coexistence: there are no toxic and harmful substances produced in the process of disinfection, and personnel do not need to leave the site during disinfection to realize the coexistence of human and machine;

5. High efficiency: German EBM high-quality fan is adopted, with air volume of 1200m³/h, surrounded air inlet and outlet, staggered matrix structure and extremely low wind resistance, to meet the needs of indoor air disinfection in large space;

6. Low cost: there is no need for frequent replacement of consumables of filter screen, which is convenient for maintenance with low comprehensive cost;

7. High quality all stainless steel shell, which is corrosion-resistant, oxidation-resistant and durable;

8. Microcomputer intelligent control, TFT color touch display panel;

9. A variety of working modes are available, such as reservation, fast, super strong and silent modes, etc.

10. Intelligent function of reminding filter cleaning, which is convenient for maintenance and management.
Shenzhen Mantru.E Commercial Equipment Manufacturing Co., Ltd. is a national high-tech enterprise dedicated to the research and development and application of induction control technology. Mantru.e has outstanding talent advantage, production experience and technological leading advantage in the field of induction control technology. Through unremitting efforts and technical breakthroughs, it has made a number of breakthrough achievements in the field of induction control technology, and has more than 200 patents. In the application of technology, promoting the all-electric kitchen solution based on “real fire simulation induction control technology” has been highly recognized in school canteens, enterprise canteens, star-rated hotels, restaurants and restaurants. The company now owns two brands of “X-CATCHER” and “MANTRU.E”. We focus on the field of induction air sterilization and the field of high-power induction cooking.

Hygiene license of manufacturing enterprise:[2020]-05-No.0028
Company profile

X-CATCHER INDUCTION AIR STERILIZER

R & D Strength

Magnetoelectric Standard Laboratory

Electrical Control Performance Lab
EMIS Lab
Components Lab
Radiation Lab
Environmental Simulation Lab
Tasting Center Product Standard Lab
Energy Efficiency Lab
Safety Regulation Lab
Waterproof Lab
Reliability Lab
LPG/Electricity Contrast Lab

Manufacturing Strength

Self developed robot laser welding system
0.1mm High Precision Imported Laser Cutting Line,
System Link Robot High Precision Bending Line,
High Precision Robot Laser Welding Production Line,
Argon Arc Welding Production Line for High Strength Robot.

Fully automatic production and assembly system
35m Automated Assembly Unit,
Automatic Hoisting Unit,
Automated Winding Unit,
Automated Packaging Unit,
Digital Control System.

Complete Detection system
Intelligent control of aging voltage,
Real-time preservation and analysis of product aging process parameters,

To Speak as the Representative of China to the United Nations Climate Conference

Discusses with the European Environment Administration as the Representative of Chinese enterprises

Participates in China Education Equipment Exhibition

Authoritative Report by Xinhua News Agency

Report by the Chinese Journal of Institutional Logistics
X-CATCHER INDUCTION AIR STERILIZER

1. Applicable site
(1) This product is suitable for crowded public places such as schools, restaurants, factories, public institutions, and waiting halls, etc.
(2) This product is not suitable for commercial kitchens or places where there are metal dusts.
(3) This product needs to be placed on a level and stable ground.
(4) This product needs to be placed more than 30cm away from its left and right walls, furniture, curtains, etc., and at the same time, the back of the product needs to be kept at least 10cm away from the wall to ensure that the indoor air can be effectively disinfected and purified.
(5) It is recommended to use the product in the environment where the ambient temperature is between -15°C and 45°C and the relative humidity is below (93±3) %.

2. After-sales service
24 hours * 365 days national service hotline: 0086-400 9936 036

3. Instructions for use
(1) The installation and use of the equipment must be in accordance with the requirements of the product manual.
(2) Please place the equipment on a level and stable ground and turn the red gear of caster clockwise until the foot pad is against the ground to avoid the equipment toppling or overturning.
(3) This equipment may cause noise under the operation of super mode, and sensitive people may be uncomfortable. It is recommended to adjust the equipment to silent mode after 30 minutes of operation under super mode.
(4) The cleaning and maintenance of the equipment shall be in accordance with the requirements of the product manual.
(5) Please keep the product manual for future use.