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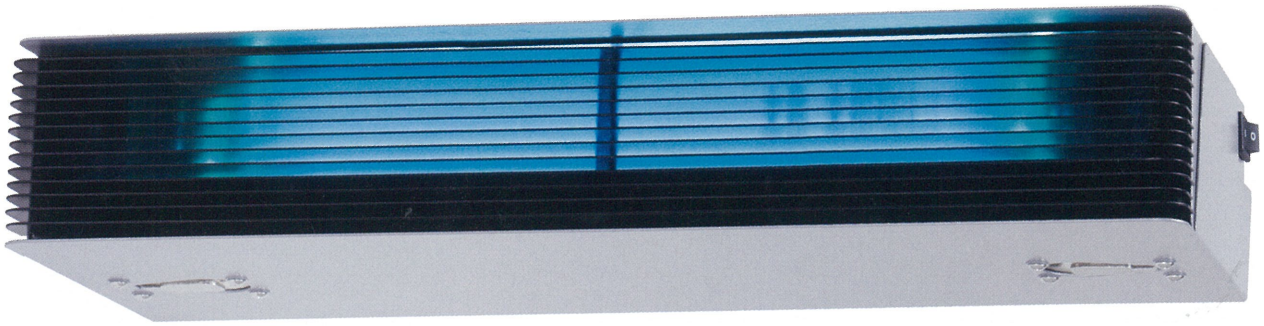
Germicidal strength of an indoor sun
uses ultraviolet rays to protect you from the ravages of infection

Ultraviolet ray germicidal device

UVC Air Clean Manager®

The ultraviolet ray germicidal device “UVC Air Clean Manager®” is an airborne infection countermeasure device that enables efficient UVGI systems for indoor use.



No piping/power source work required
Easy installation on walls/ceiling

Safe/secure
structure harmless to the human body

Super germicidal capability
Virus removal rate 99.99%

24 hour germicide
Enables continuous use in living environment

Maintenance-free
6 months!

UVGI
Ultra Violet Germicidal Irradiation
US CDC-recommended

UVGI stands for “Ultra Violet Germicidal Irradiation”. Ultraviolet rays are absorbed in the nucleus, and chemically altered DNA lose their copy function, preventing bacteria or viruses from proliferating, and so causing a die-off. Since the DNA is destroyed, this is a germicidal method with the big advantage that bacterial resistance cannot be created.
The CDC (U.S. Centers for Disease Control and Prevention) is a comprehensive research institute for combating infectious diseases that was established in 1946 under the jurisdiction of the U.S. Department of Health and Human Services, and is a specialist institution that works together with the WHO (World Health Organization) to fight against the world's infectious diseases. Recommendations from the CDC can be classified based on existing scientific data and theoretical foundations, and because these are created based on scientific foundations as much as possible, they carry such weight as to be considered a world standard.Category II of the “recommendations for environmental infection management in medical facilities” issued by the CDC includes a listing regarding use of UVGI, as an “item supported by clinical research, immunological research, or theoretical foundations that recommend and strongly hint at introduction”.UVGI has already been proven to show germicidal effectiveness in the United States and Europe, and has been applied to various fields. The “CDC guidelines for preventing transmission of the tuberculosis bacillus in medical institutions” are an important guideline for airborne infections. The Japanese language version lists all types of measurement date, as well as the ultraviolet ray germicidal device.

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Air subject to ultraviolet ray germicidal action provides a constantly secure and safe environment

Ultraviolet ray germicidal device “UVC Air Clean Manager®” germicidal effects and removal performance evaluation test for alternate viruses

Ultraviolet ray germicidal device “UVC Air Clean Manager®” uses a “UV-C” lamp with high germicidal effects.

■Effective against all bacteria and viruses (※1)

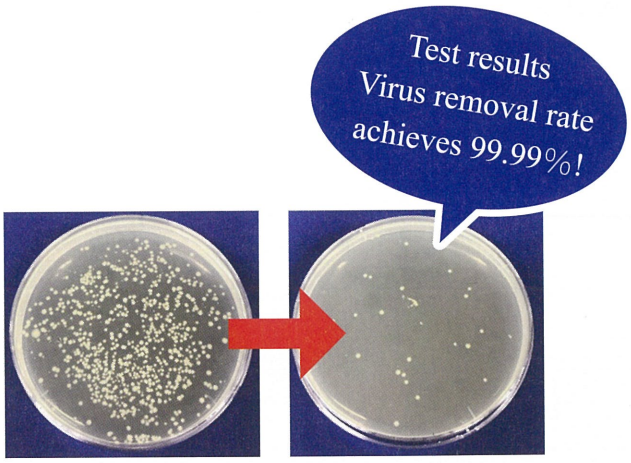
■No creation of resistant bacteri (※2)

■Germicide at room temperature

Etc., for superior germicide characteristics special to ultraviolet rays.

※1 Inactivates individuals possessing genes/DNA.

※2 No creation of bacteria with resistance capability against ultraviolet rays.



Unit pfu	Alternate virus		
After spraying (min)	Test device not in operation	Test device in operation	Removal rate
0	1.3×10^{6}	1.3×10^{6}	—
15	1.2×10^{6}	6.0×10^{4}	95.0
30	1.1×10^{6}	3.0×10^{3}	99.73
45	1.0×10^{6}	5.0×10^{2}	99.95
60	9.4×10^{5}	1.9×10^{2}	99.98
90	8.4×10^{5}	1.8×10^{2}	99.99

Result: Influenza alternate virus

Table: Plaque formation count

(plaque formation unit, pfu)/10 Liter air

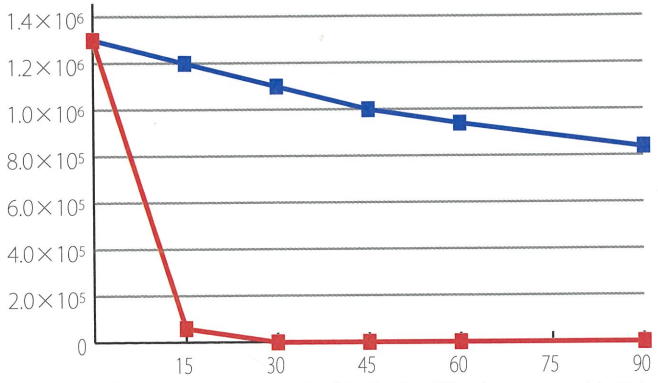
Effective against all bacteria. No creation of resistant bacteria!

Previously, germicide lamps could not be used except for unmanned situations, because the ultraviolet rays shined directly on human bodies.

UVC Air Clean Manager® can be used 24 hours a day even in rooms occupied by people, because the ultraviolet rays are irradiated horizontally, so that ultraviolet rays do not ever strike the human body, for safe operation.

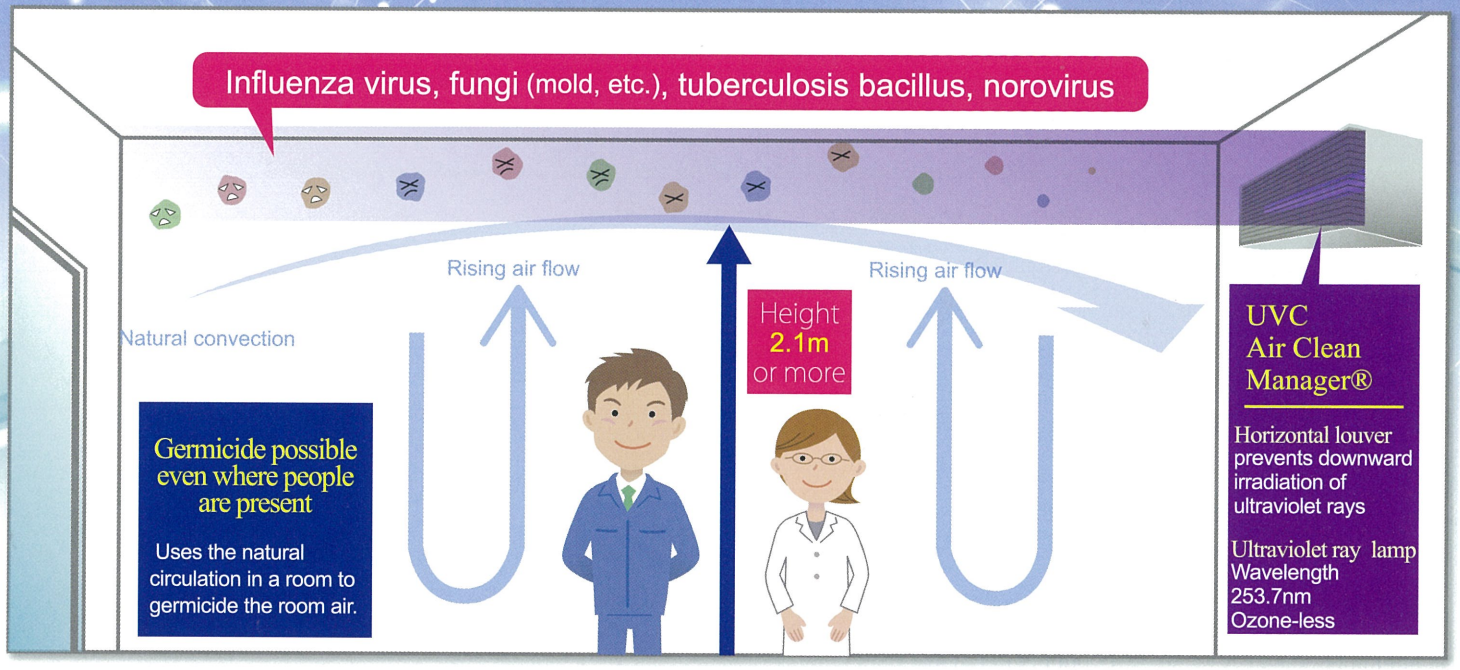
■Alternate virus removal performance test

Blue: When test device not in operation Red: When test devic+e in operation



Test institution: Idea Co. Food/life sciences research institute

●Removal performance test/45 minute operation ▶Bacteria 88% germicide, Mold 80.0% germicide (Reference)

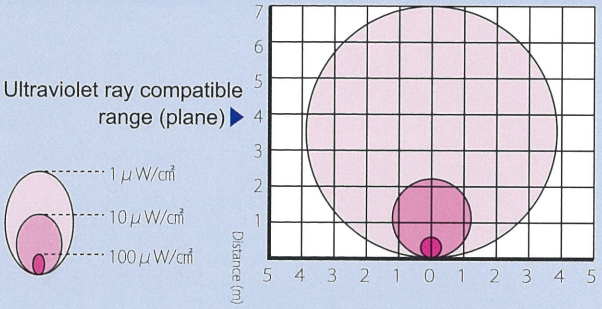


UV-C germicide

Superior germicide capability of ultraviolet rays

The ultraviolet ray germicide action is strongest near the wavelength 253.7nm (UV-C) region, with its germicide capability achieving about 1,600 times the ultraviolet rays at wavelength 350nm, which includes direct sunlight.
This device uses the UV-C lamp with its high germicide effectiveness, with such superior characteristics of ultraviolet ray germicide as “effective against all bacteria and viruses (※1)”, “no creation of resistant bacteria (※2)”, and “germicide at room temperature”, etc.

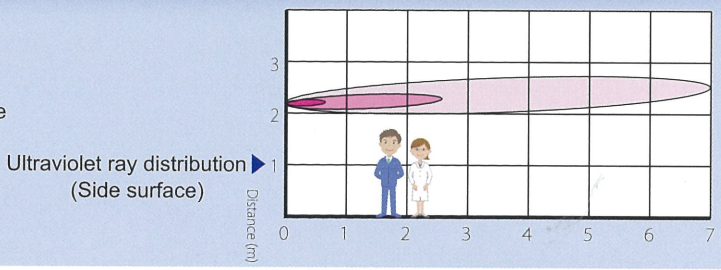
※1: Inactivates individuals possessing genes/DNA
※2: No creation of bacteria with resistance capability against ultraviolet rays



Safe and secure design

Horizontal louver structure ensures safety

A louver structure is used so that ultraviolet rays are irradiated in the horizontal direction only.This configuration ensures that ultraviolet rays are not directly irradiated against the human body.In addition, because it is divided into a germicide space (over 2.1m) and living space (under 2.1m), germicide can be safely performed for 24 hours a day, 365 days a year.



Low running costs

Long service life/high performance/maintenance-free

Electrical bill About 5.1 yen (24 hours)
●Calculated at UVC Air Clean Manager® 21.3 yen/kw

Lamp service life
6,000 hours (24 hour use)

Uses an ultraviolet lamp made in Japan.
Dedicated ultraviolet ray reflective plate for a dedicated design that does not need replacements.

Environmental measurement certification issued (fee-based service)

Visualizes sanitary state of installation environment

We can implement a floating bacteria count before and after installation of the UVC Air Clean Manager®. (Fee service※1)
If the floating bacteria count has fallen below a fixed value, an “aerial environment measurement implementation certificate” can be issued. This can set yourselves apart from other facilities, and also be utilized for facility environment management PR.

※1 Test facility [Idea Co.]

Infection route

Droplet infection

Disseminated by an infected person's coughing or sneezing.Viruses contained within droplets can infect by adhering to the nose or mouth mucous membrane.

- Cold virus
- Influenza
- Pertussis
- Mycoplasma
- MERS
- SARS

Aerial infection
(droplet nucleus infection)

Droplets from an infected person's coughing or sneezing are dried in midair and become floating.
The floating viruses are inhaled for infection.

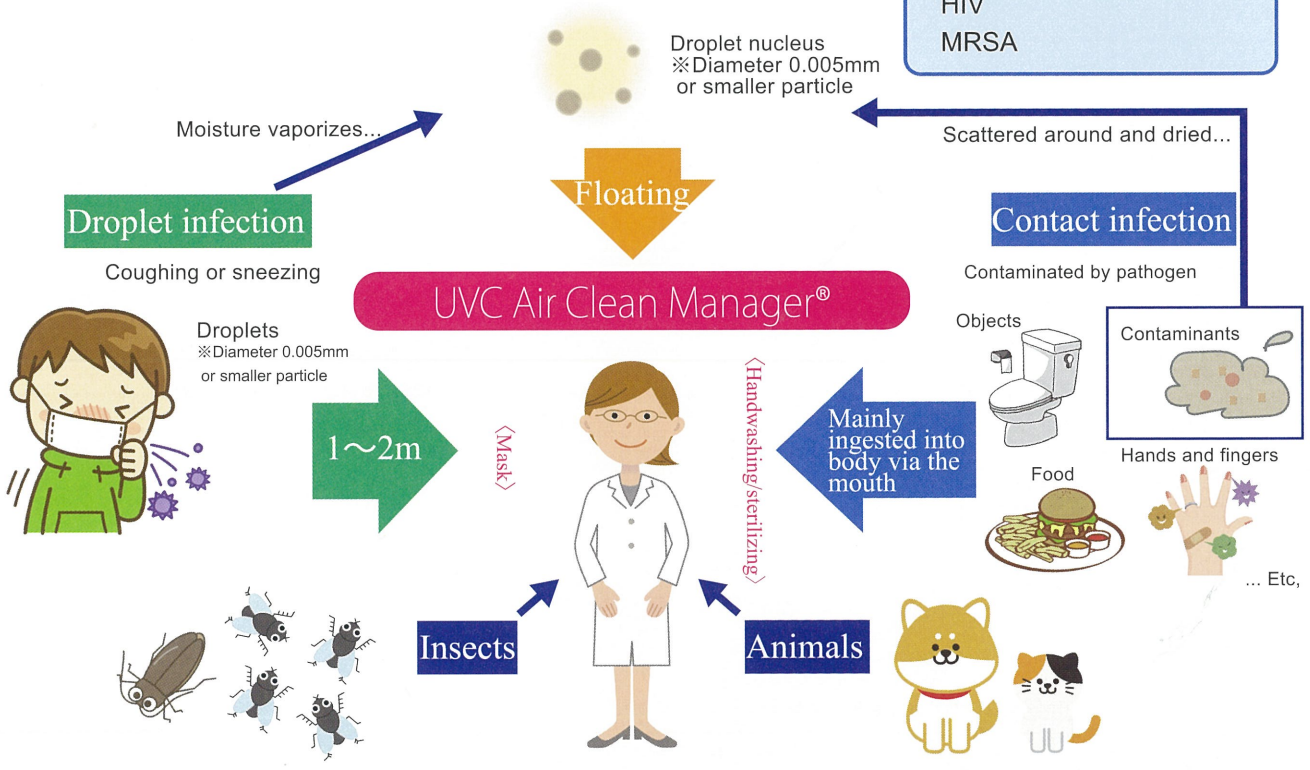
- Measles
- Chicken pox
- Tuberculosis
- Norovirus (influenza)

Contact infection

●Direct contact
Infection from hands, etc. Direct contact with skin or mucous membrane.

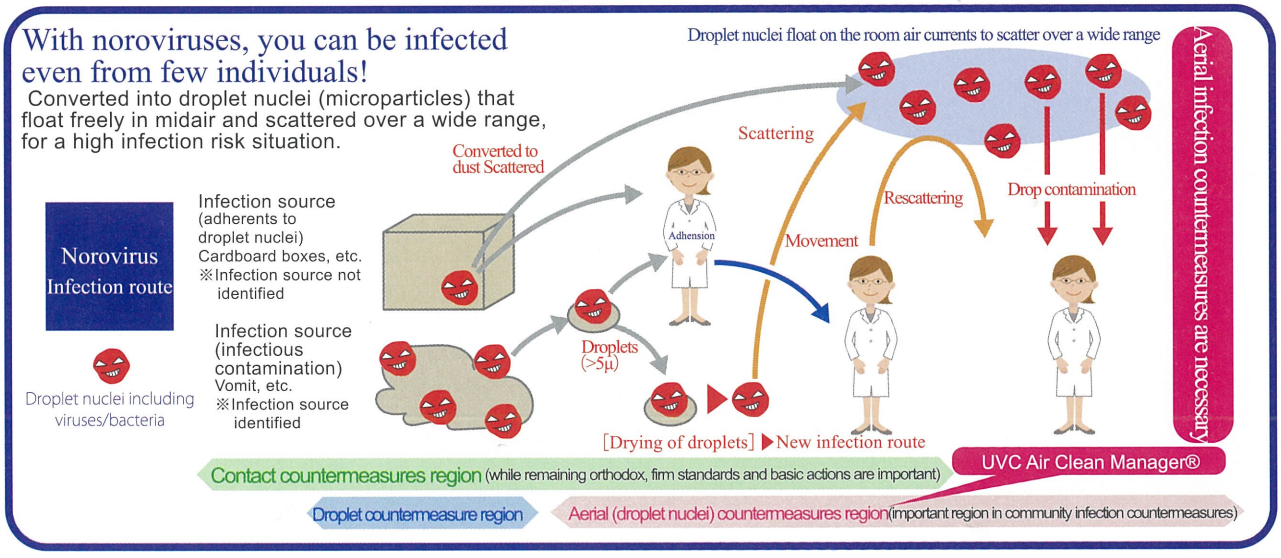
●Indirect contact
Infection from door knobs, handrails, or other environmentally contaminated areas around the infected person.

- Norovirus
- Rotavirus
- Influenza
- Hepatitis B or C virus
- HIV
- MRSA



With noroviruses, you can be infected even from few individuals!

Converted into droplet nuclei (microparticles) that float freely in midair and scattered over a wide range, for a high infection risk situation.



This is the kind of place we recommend! Intro Promotion Facility

Nursing Facility

Reduces the infection risk of locations where elderly persons who tend to have reduced immune resistance may congregate

Meal Supply Center

Suppresses the risks of food poisoning

Medical Facility · Clinic

Always maintains a clean environment for facility infection countermeasures

Nursery School・Kindergarten

Reduces the infection risk among children who have not yet developed immune resistance

Dispensing Pharmacy

Suppresses the infection risk of colds and other source viruses

Call Center

Reduces the infection risk of spaces where many persons may congregate

Q & A Frequently Asked Questions

Q1 Does the UVC Air Clean Manager® have an effect on the human body?

Since we use a louver configuration enabling ultraviolet rays to shine in the horizontal direction only, the ultraviolet rays never directly strike the human body, and the device is safe. In addition, we use an ozone-less type lamp that does not have a malignant effect on the human body. We use an ultraviolet ray measuring instrument for installation and each periodic inspection, to confirm safety.

Q2 Violet-colored light is visible; is this OK?

What you can see is the visible light spectrum, and not the ultraviolet rays. Visible light rays have longer wavelengths than ultraviolet rays, and these scattered visible light rays (=violet-colored light) are what reach the eye. We designed the ultraviolet rays to shine only in the horizontal direction, and use an ultraviolet ray measuring instrument at time of device installation and periodic inspections, to confirm that the device is safe and operating correctly.

Q3 Won't ultraviolet rays reflecting off the walls do damage to the human body?

Ultraviolet rays striking the walls are almost entirely not reflected back. In addition, they are generally attenuated before arriving at the wall. We use an ultraviolet ray measuring instrument to ensure safety versus the ultraviolet rays, for careful safety management.

Q4 Is there something that can demonstrate germicidal effectiveness?

We use an air cleanliness evaluation system to compare and verify the floating bacteria count before and after installation of the UVC Air Clean Manager®. (Fee-based service) If the floating bacteria count has fallen below a fixed value, an "aerial environment measurement implementation certificate" can be issued, setting yourselves apart from other facilities, and linking to good sanitary environment policy PR for your company.

Q5 What is the working life of the ultraviolet ray lamp?

About 6,000 hours. The electrical bill is 10 yen or less per day, even if used all day long. We use an ozone-less ultraviolet ray lamp with a working life of about double that of conventional ultraviolet ray lamps.

Q6 What about maintenance?

The sales agent shop handles equipment maintenance, and replacement of the ultraviolet ray lamp, etc.

With consideration for the working life of the ultraviolet ray lamp, we perform replacement work once every six months. In addition, since no filter is used, there is no need for daily inspections at the customer.

For any other maintenance issues, please feel free to consult with us.

Q7 What are the differences with the ozone generation device or hypochlorite water sprayer?

While both the ozone generation device and hypochlorite water sprayer exhibit a higher germicidal effect when their respective concentrations are higher, they may sometimes be unusable in manned environments for reasons of safety.

UVC Air Clean Manager® can be used safely even in manned environments.

《Specifications》

Model	UVC-20
Install location	Wall/Ceiling
Install guideline	20-50㎡
Rated lamp	10W
Power source	AC206.8V～233.2V 50Hz (Glow type)
Outward dimension	About W450xD200xH120
Weight	About 3.5kg

※Product standards/specifications may be changed without warning, due to improvements.

《Safety Precautions》

- When it is lighted, absolutely never look straight into the lamp with the naked eye. (It could be the cause of eye pain/visual acuity damage)
- Do not let ultraviolet rays (germicidal rays) from directly or indirectly striking the skin. (It could be the cause of skin inflammation or sunburn)
- Always be sure to cut the power before mounting/dismounting or cleaning. (It could be the cause of electrical shock, eye pain, visual acuity damage, or skin inflammation)
- Ultraviolet rays have strong germicidal capability, and require a strict management system. Since installation, transfer, lamp replacement, disassembly, and repair are performed by designated vendor companies, always be sure to ask the sales vendor for assistance.

Manufacturing source

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