

Disinfection Solutions

Fighting Back Against the Virus

UV Light is possibly the only technology that is both **Defensive** and **Offensive** when dealing with all strains of virus and bacteria in the air.

Immediate Defensive Benefit

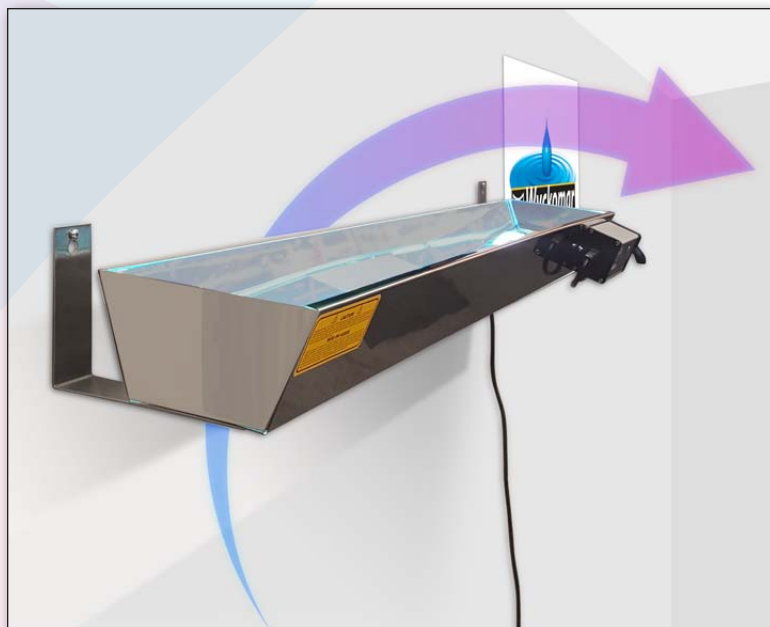
UV is an additional barrier to Coronavirus infection along with gloves, masks etc.

Immediate Offensive Benefit

UV aggressively attacks virus inside the "Disinfection Zone" to kill the pathogen and reduce the viral load in the air over time.

Long Term Benefit

UV is effective against a wide range of disease-causing pathogens including Coronavirus, Norovirus, Influenza, Measles, Legionella, Tuberculosis, Streptococcus plus others. UV will reduce these pathogens and many more over the long term.



available from



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manufactured
by



What is UV and How Does it Work?

Ultraviolet (commonly referred to simply as UV) light when employed at a specific wavelength is a very efficient killer of virus and bacterial pathogens that can be contaminating water and also indoor air.

Since natural germicidal UV light from the sun is screened out by the earth's atmosphere, we must look to alternative means of producing UV light. This is accomplished through the conversion of electrical energy in a low-pressure mercury vapor "hard glass" quartz lamp. Electrons flow through the ionized mercury vapor between the electrodes of the lamp, which then creates UV light.



Filaments and arc in a UV lamp

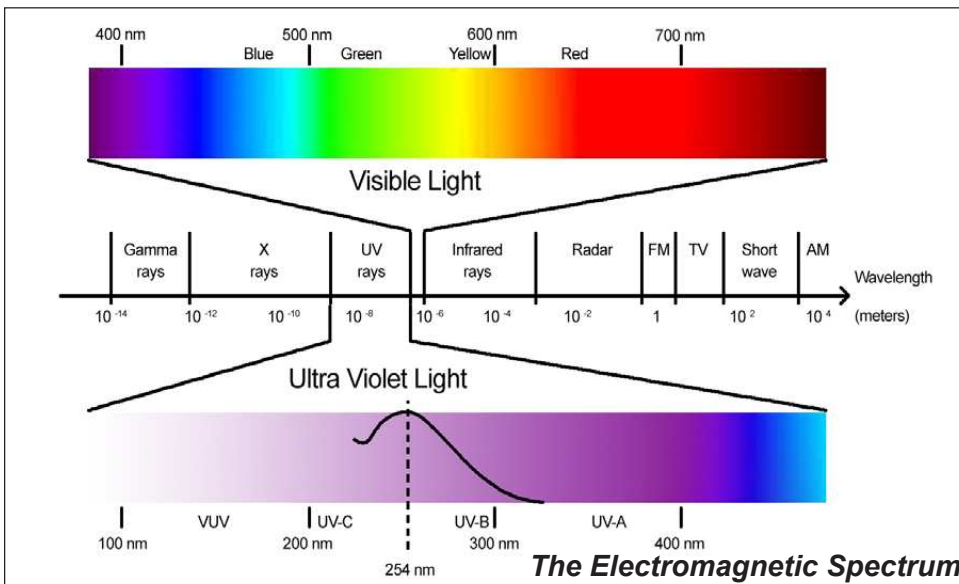
The Electromagnetic Spectrum

Ultraviolet light is one energy region of the electromagnetic spectrum, which lies between the x-ray region and the visible region. Wavelengths of visible light range between 400 and 700 nanometers (nm). UV itself lies in the range of 200 to 390 nm. Optimal UV germicidal action occurs at 254 nm.

As UV light penetrates through the cell, it causes a molecular rearrangement of the micro-organism's DNA, preventing it from reproducing. If the cell cannot reproduce, it is considered dead or "inactivated".

UV Fixture - A Simple Solution

In order to help sterilize indoor air, a UV fixture mounted on the wall will allow the indoor air to constantly pass over the lamp and through the "disinfection zone" multiple times and this results in a lowering of the viral and bacterial load in the air over time.



UV is effective against many common pathogens including

- Coronavirus
 - Rhinovirus
 - Adenovirus
 - Picornavirus
 - Influenza A virus
 - Herpes simplex virus
 - Measles
 - Norovirus
 - Rotavirus
 - Varicella-zoster virus
 - *Neisseria meningitidis*
 - *Mycobacterium tuberculosis*
 - *Streptococcus pneumoniae*
 - *Bacillus anthracis*
- and many more

Recent studies suggest that UV light may help reduce COVID-19 transmission indoors

"We have been able to demonstrate that UV-C susceptibility constant Z, for SARS-CoV-2 is likely to be similar to that exhibited by SARS-CoV-1 and MERS-CoV viruses. Furthermore, we have found evidence suggesting that SARS-CoV-2 when suspended in air is reasonably easy to inactivate using UV light at 254nm. As such, this suggests that upper-room UVGI may have great potential as an intervention to inhibit the transmission of COVID-19 in buildings, especially in situations where achieving high ventilation rates might otherwise be impractical."

Upper-room ultraviolet air disinfection might help to reduce COVID-19 transmission in buildings.

by Clive B Beggs and Eldad J. Avital <https://www.medrxiv.org>

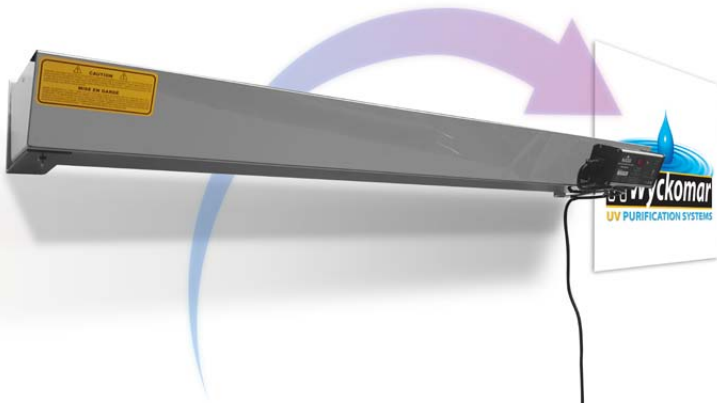
Using UV Light to Disinfect Indoor Air

Ultraviolet light at a specific frequency (254nm) is a very effective disinfectant against both virus and bacteria in both water and air. In fact UV is effective against a large list of pathogens.

To sanitize and help disinfect indoor air, we have developed a simple UV light fixture that can be deployed in many situations to help reduce the viral and bacterial load in the air, while operating silently and continuously over time.

The stainless steel fixture is mounted on the wall 7 feet or more from the floor – this is known as “upper-room-UV-germicidal-disinfection” and the UV lamp in the fixture creates a “disinfection zone” above the lamp.

As air in the room continually circulates, it will pass over the UV lamp and through the disinfection zone multiple times and this is the mechanism that provides the disinfection benefits.



Deploying UV Air Systems in the Hospitality Industry

The hospitality industry requires some creative solutions to help recover from the economic damage of the pandemic.

One such measure may be the installation of simple UV Lamp wall fixtures in common areas of the facility. UV lamps are commonly used in the disinfection of both water and air because UV light is an effective, efficient, chemical-free and inexpensive way to provide another barrier to pathogenic contaminants including virus and bacteria.



Providing an additional layer of protection for guests and staff is a common-sense measure that can help reassure customers that the facility is doing everything it can to help mitigate the effect of the pandemic on daily life.

These UV-Air systems may be deployed in care settings such as resident living spaces, hallways, kitchens etc. while the UV-Air1500 systems may be deployed in larger spaces such as common areas, classrooms, offices etc.

More than one unit should be used where room size, air-flow and traffic patterns warrant.

UV System - Operational Considerations

The systems require a replacement UV lamp annually. They are extremely simple to install, use and maintain. Wyckomar provides a one-year warranty on the fixture and a one-year pro-rated warranty on the UV lamp.



Suggested Areas of Application

Residential - Commercial - Institutional

Using UV fixtures distributed through the facility at key points such as reception, restaurants and banquet facilities, hallways, meeting rooms and other common areas makes sense as these are where people congregate. This also allows maximum flexibility for the facilities management to position UV disinfection systems where needed based on traffic flow patterns.

Focus on classrooms

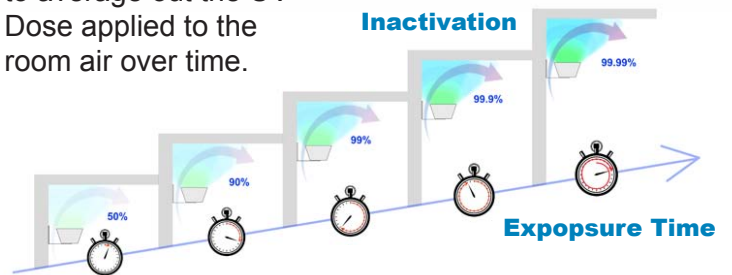
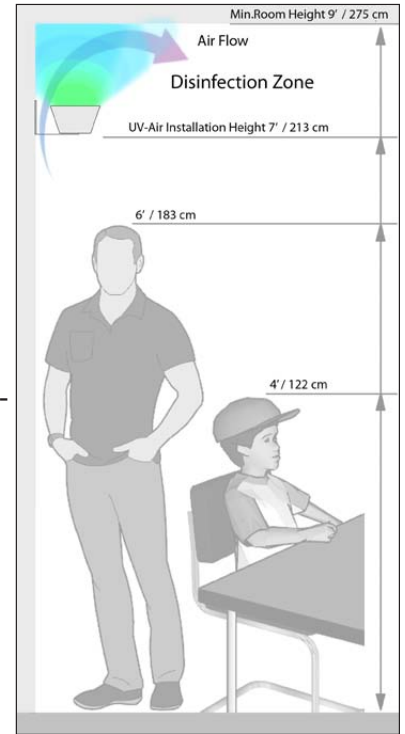
Classroom installations are of particular importance as students and staff are in the room for extended periods of time regularly.



Disinfection Zone

As the air moves up and over the "Disinfection Zone", the germicidal UV rays from the UV lamp attack any virus and bacterial pathogen in the air.

As the air passes the UV lamp multiple times during the day, the pathogens are hit with an accumulated UV Dose and this accumulating dose of germicidal UV light is the mechanism for viral load reduction in the air over time. Constant air circulation over the lamp will tend to average out the UV Dose applied to the room air over time.



Specifications

Model UV-Air1500

Electrical	120/240 VAC 50/60 Hz
UV Lamp	RL-110/1197T5 Low Pressure UVC
Certification	UV-Air Purification Device CSA 222.2 No. 187-20 & UL 867
Wattage	88 Watts
Ballast	4-BE800-ECO with LED Display Visual / audible lamp-out alarm, operation count
Shipping Size	53 x 11 x 6 inches (135 x 28 x 15,2 cm)
Weight	14 LBS (6,4 kg)
Installation	Wall Mounted
Maintenance	Change UV lamp annually - clean unit occasionally
Coverage Area	Approx. 550 - 750 sq ft / 51 - 70 m ² per unit
Designed for larger sized rooms, not for open concept areas	



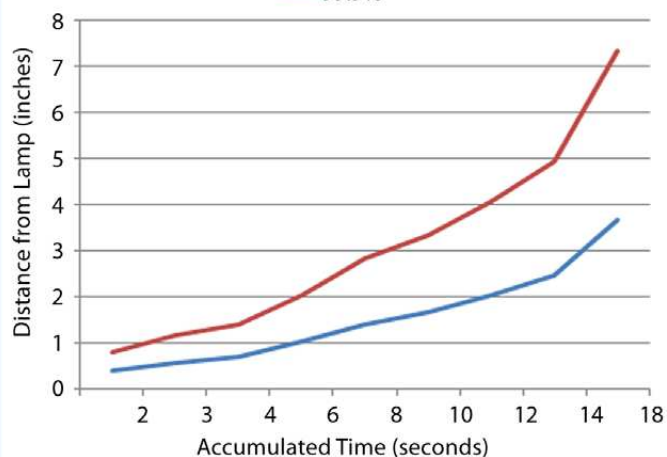
The UV-Air1500 is a very effective method of reducing the viral and bacterial load in the air.

Indoor air can host many pathogens, including viral and bacterial contaminants, and the UV-Air1500 is designed to continually provide effective UV disinfection 24/7 and to reduce the viral load in the air over time.

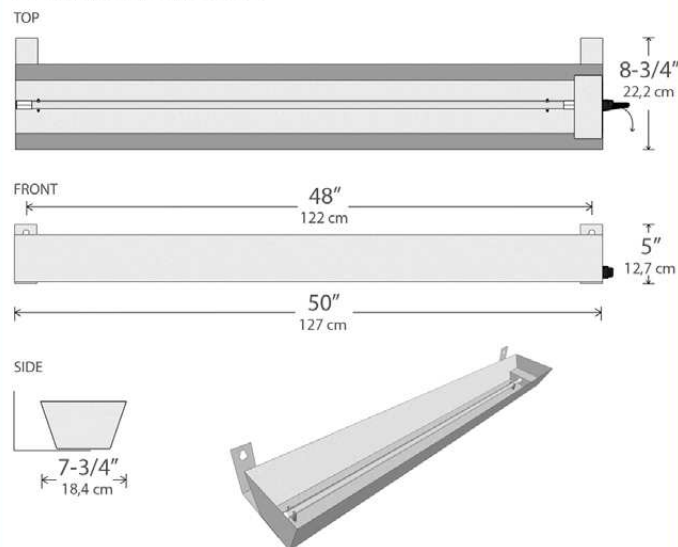
UV Efficacy against Virus and Bacteria

Germicidal UV light is effective at various distances in air.

Time to achieve up to — 90% Reduction for Influenza
— 99.9%



Dimensions



Applications

Use several units when air flow, room size and traffic warrant.

- Office and Recreation Areas
- Professional and Medical Offices
- Health Care Centres
- Retirement Homes
- Classrooms
- Restaurants
- Hotels
- Gyms



About the Company

Corporate Profile

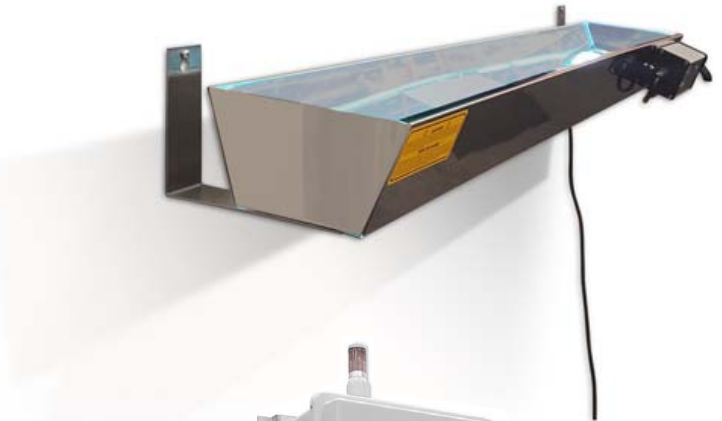
We are pleased to introduce Wyckomar Inc., a Canadian manufacturing company with more than 40 years of experience as a leader in the small systems sector of the global water purification industry. Our company currently exports from our main facility in Guelph, Ontario Canada to more than 45 countries worldwide.

Since 1978, Wyckomar Inc. has been manufacturing water disinfection equipment using ultraviolet (UV) light as the disinfection agent. UV has been used for decades in the water treatment industry and more recently throughout hospitals and other professions where air treatment is required to reduce the viral and bacterial load that may be present.

Wyckomar is now applying our 40+ years of experience in the UV industry to the task of helping to sanitize the air in homes, offices, workplaces, schools and care facilities..



The Wyckomar plant in Guelph, Ontario



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