

Absolute confidence, in a world of uncertainty

The global pandemic has put UV-C lighting firmly into the spotlight. The quality of the air we breathe, the cleanliness of surfaces and objects we touch, and the purity of water we drink have a profound effect on our health and well-being.

Bacteria and viruses can cause a wide range of common infections. They can live in air, on surfaces and on objects, even after normal cleaning routines. That means any contamination left behind in the air we breathe and on the surfaces we touch can have a profound effect on our day - to - day health and wellbeing.

UV-C disinfection

UV-C lighting disinfects radiated air and surfaces which contain bacteria and viruses and helps to reduce them from spreading further. All microorganisms tested to date respond to UV-C lighting¹. UV-C surface disinfection products, fitted with our UV-C light sources, can inactivate SARS-CoV-2 virus on surfaces by more than 99% to below detectable levels².

Philips UV-C disinfection luminaires

With 35 years of experience in UV-C lighting, we have built up strong application expertise. This has led us to develop a new range of UV-C disinfection luminaires and chambers, ideal for use in offices, retail outlets, factories, in hospitality areas, schools, public washrooms and even on modes of transport such as aircraft, buses and trains.

- 1 Fluence (UV Dose) Required to Achieve Incremental Log Inactivation of Bacteria, Protozoa, Viruses and Algae Revised, updated and expanded by Adel Haji Malayeri, Madjid Mohseni, Bill Cairns and James R. Bolton. With earlier contributions by Gabriel Chevrefils (2006) and Eric Caron (2006) With peer review by Benoit Barbeau, Harold Wright (1999) and Karl G. Linden.
- 2 Nadia Storm et al, Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation, 2020. Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm².
- 3 According to results obtained from a laboratory test conducted by Innovative Bioanalysis, a CAP, CLIA, AABB Certified Safety Reference Laboratory, in a room with sufficient air circulation. For more information, please refer to the Innovative Bioanalysis report available as download in the link.







Shining a light on UV technology

UV-C radiation is a known disinfectant for air, surfaces and objects that can help mitigate the risk of acquiring an infection.

What is UV technology?

Ultra-Violet (UV) light is invisible to the human eye and is divided into UV-A, UV-B and UV-C.

UV-C is found within 100-280 nm range. The germicidal action is maximised at 265 nm. Philips Low pressure UV-C lamps have their main emission at 254 nm where the action on DNA is 85% of the peak value. As a result, our germicidal lamps are extremely effective in breaking

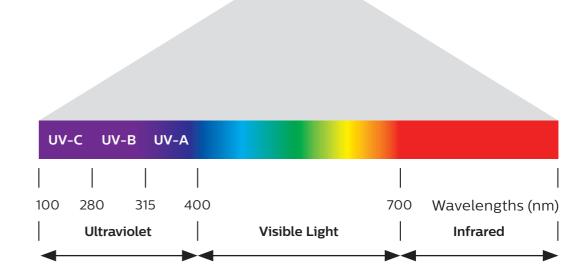
down the DNA and RNA of micro-organisms. This means that they cannot replicate and cause disease⁴.

The technology has primarily been used in areas where there is a risk of microbiological contamination, and has been used safely and effectively for more than 40 years⁵.

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Our test results show that above a specific dose of UV-C radiation, viruses were completely inactivated: in a matter of seconds we could no longer detect any virus."

Dr. Anthony Griffiths, Associate Professor of Microbiology at Boston University School of Medicine



⁴ A comparison of pulsed and continuous ultraviolet light sources for the decontamination of surfaces. McDonald K.F., Curry R.D., Clevenger T.E., Unklesbay K., Eisenstark A., Golden J., Morgan R.D. IEEE Trans. Plasma Sci. 2000;28:1581–1587. doi: 10.1109/27.901237.

⁵ EPA Report, "Building Retrofits for Increased Protection Against Airborne Chemical and Biological Releases" Pg. 56.



Designed with safety in mind

Correct usage

Our UV-C products are either provided with physically integrated equipment or time safeguards (such as presence or motion detection sensors or timers) or are to be installed together with the adequate containment safeguards to ensure that our UV-C products can be operated in line with the relevant safety standards. UV-C disinfection luminaires that we provide without physically integrated equipment or time safeguards are meant to be used only as components in disinfection systems that contain the adequate safety safeguards such as, but not limited to, those indicated in the mounting instructions and/or user manuals of such luminaires.

UV-C Services End-to-end Services Offer

The effectiveness and safe application of a UV-C solution starts with the right application design. We can support your business's UV-C project in the following key areas:



Plan and design

Our team will assess your facility to identify potential areas for UV-C, customising a solution with the right light output, optimum installation position, mounting height, angle and system functionality.



Build

For total peace of mind we provide end-to-end project management.
We supply, deliver, install and commission your UV-C system, so you enjoy a smooth, seamless experience.



Operate

We'll check your UV-C system is operating correctly on a regular basis, performing irradiation measurements, checking for faults and carrying out preventative checks.



Maintain and optimise

We can also carry out maintenance and repairs, optimising your installation, verifying performance and providing fast replacements at the end of your UV-C light's useful life.



Direct exposure to UV-C is dangerous.

Philips UV-C disinfection luminaires
must only be sold through qualified
UV-C partners and installed by
professionals according to our stringent
safety and legal requirements.



Professional air, surfaces and object disinfection

Everywhere it's needed

For more information on the benefits of Philips UV-C disinfection luminaires in your chosen application, please contact your local Signify representative.

The power to protect in real-world applications



Retail
Disinfecting shopping carts,
shelves and counters



Hair and beauty salons
Disinfect client rooms, floors,
mirrors, chairs, counter surfaces
and other sensitive areas



Schools
Disinfect classroom walls,
floors, desks and surfaces



Offices
Disinfect work rooms, meeting spaces and corridors



Banking
Disinfect counters, cash
machines and work surfaces



Restaurants and hotels
Disinfect guest rooms, reception
areas and health club facilities



Supermarkets
Disinfect preparation surfaces
and equipment



Washrooms
Disinfect vanity units,
basins and mirrors



Sports facilities
Disinfect player, staff and fan
areas, from changing rooms, to
commercial office space and
hospitality areas

Philips UV-C disinfection luminaires The power to protect

We have more than 35 years of experience and expertise in developing and manufacturing UV-C products. Our Philips UV-C disinfection luminaires portfolio with UV-C lamps deliver on all the promises of UV technology.





Designed for efficacy

In laboratory testing, Signify's UV-C light sources reduced SARS-CoV-2 virus infectivity on a surface to below detectable levels in as few as 9 seconds². Our Philips UV-C disinfection upper air wall mount luminaires inactivated 99.99% of SARS-COV-2, the virus responsible for the COVID-19 disease, in the air of a room within 10 minutes. At 20 minutes, the virus was below detectable levels³.



A lifetime of reliability

Made from durable, UV-C resistant materials, our UV-C solutions are designed to provide reliable disinfection over the useful long lifetime of the lamp and luminaire. This is supported by our stringent manufacturing and testing processes to guarantee the highest quality.



Environmentally friendly

For added peace of mind, all our UV-C solutions are also environmentally friendly.
We guarantee that no ozone gases will be emitted during or after use.



Safety in mind

Philips UV-C products are delivered with a range of safeguards and instructions. They come with physically integrated equipment or time safeguards, such as presence or motion detection sensors or timers, otherwise they are to be installed with containment safeguards to enable correct operation. In addition, we provide extensive training and certification programs to help ensure correct installation, usage and maintenance of our UV-C products.



A wide range of applications

The Philips UV-C disinfection luminaires and components are innovative, high-quality solutions that are suitable for a wide range of applications. This includes upper air systems that disinfect passing air, as well as cabinets that are used to disinfect specific objects.

- 2 Nadia Storm et al, Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation, 2020. Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm².
- 3 According to results obtained from a laboratory test conducted by Innovative Bioanalysis, a CAP, CLIA, AABB Certified Safety Reference Laboratory, in a room with sufficient air circulation.

UV-C lighting for commercial applications

Bacteria and viruses are transmitted through the air and via surfaces. We recommend to consider 3 main types of Ultraviolet Germicidal Irradiation (UVGI) using UV-C lighting for:



Air applications

Viruses, bacteria, or fungi can be airborne, spreading through breathing, talking, coughing, sneezing, raising of dust or any activities which generate aerosol particles or droplets. Heating, cooling and air circulation in your spaces can further distribute airborne bacteria and viruses.



Surface applications

When someone coughs or exhales, they release droplets of fluid. Most of these droplets fall on nearby surfaces and objects - such as desks, tables or telephones. If they are carrying a virus, staff could become infected by touching contaminated surfaces or objects, then touching their eyes, nose or mouth.



Object applications

Viruses can live on surfaces for up to 5 days, so devices which come into regular contact or are shared between people can provide a higher risk. Introducing a disinfection process to your daily cycle of item reuse or recharging helps ensure that viruses and bacteria are destroyed.

Overview Philips professional UV-C disinfection luminaires

Philips offers a range of luminaires with compatible reflectors, lamps and drivers that are suitable for use in commercial applications.



Disinfection solutions

Surface

Disinfection

solutions











Floor standing

Philips UV-C

disinfection

Philips UV-C

unit

disinfection air

Ceiling

Philips UV-C

disinfection batten

Wall

Ceiling/Wall

Philips UV-C

disinfection active

Philips UV-C

disinfection linear luminaire with sensor



trolley

Philips Dynalite UV-C control



systems



Bare

Reflector

Sensor

Philips BioShift UV-C

disinfection chamber



Object **Disinfection** solutions

Philips UV-C

disinfection chamber







Medium

Small

Large

6 Source: World Health Organization



Philips UV-C disinfection upper air

Airborne viruses and bacteria contaminate the air trapped indoors and can pose a real health threat. Upper air UV-C systems are powerful instruments to disinfect the upper air layers within rooms. Our Philips UV-C disinfection upper air wall mount luminaires inactivated 99.99% of SARS-COV-2, the virus responsible for the COVID-19 disease, in the air of a room within 10 minutes. At 20 minutes, the virus was below detectable levels³.

Benefits:

- The UV-C rays are distributed at device level and above.
- The beam of UV-C rays is controlled by specific reflectors and the louvre design. This allows for the disinfection of the air in a space, while ensuring that day-to-day business activities can continue underneath the area where the device is active.
- Radiates UV-C in the upper part of rooms. where it does not reach people directly.
- · Quietly and effectively deactivates airborne viruses and bacteria with Philips UV-C (253.7 nm) lamps.

- · Effective disinfection over the useful long lifetime of lamp and luminaire.
- Environmentally friendly no ozone emissions during or after use.

- · Shortwave UV radiation peak at 253.7 nm (UV-C).
- · Louvres and reflector control the distribution people are not usually present.
- photobiological safety.

- of UV-C at the device level and above, where



Philips UV-C disinfection upper air wall mounted

Designed for the disinfection of air in a variety of applications:

- · Wall mounted installation.
- · Philips T5 TUV lamp included: 25W.
- Dimensions L:564 x W:142 x D:196mm



3 According to results obtained from a laboratory test conducted by Innovative Bioanalysis, a CAP, CLIA, AABB Certified Safety Reference Laboratory, in a room with sufficient air circulation



Philips UV-C disinfection upper air ceiling mounted

Designed to be installed on false or concrete ceilings for the disinfection of air in a wide range of applications.

- · Philips PL-S TUV lamp included: 4x9W.
- · Three mounting options: Ceiling plate, Surface and Suspended.
- Dimensions L:500 x W500 x D:123mm





Philips UV-C active air disinfection

The UV-C active air device is designed to disinfect the air during day-to-day business activities, without interruption. It can be installed on a wall or on a ceiling in many different types of location, even UV-C sensitive ones. Thanks to integral ventilators, air from the room is pulled into the device, filtered, then subject to intense disinfection thanks to 2x60W UV-C lamps. Clean air is then passed back out into the room.

Benefits

- Continuous operation while business activity continues.
- High air disinfection power (Microbiological test to show more than 90% microbial reduction after 2h in a room of 30m² and 2.9m ceiling height)⁸.
- Easy to install/commission.
- Safe use with UV-C fully contained inside the product.
- · Easy maintenance.

Features

- · Philips PL-L TUV lamps included: 2x60W.
- · Wall mount or ceiling mount.
- Dust filter.
- UV-C emitted only inside the device, not outside.
- Dimensions: H:189 x W:535 x D:407mm





⁸ Prof. Waclaw Dabrowski Institute of Agriculture and Food Biotechnology – State Research Institute.

Assessment of the effectiveness of air disinfection using device: SM310C 2xTUV PLL 60W HFS flow disinfection lamp.



Philips UV-C air disinfection unit

The Philips UV-C disinfection air unit is a powerful and effective way to disinfect circulating air. It draws air into the unit where UV-C radiation inactivates up to 90% of micro-organisms in 80m³ within just 2 hours (circular coverage 28m²)8. With no need for mounting, the freestanding unit can be wheeled into place in a wide range of professional applications – from offices and retail to hospitality. The aesthetic design delivers well-controlled UV-C radiation (Risk Group 0) and can also be used when people are present.

Benefits

- Achieves 90% air disinfection in 80m³ in 2 hours⁶.
- · Circular coverage of 28m².
- No fixed installation or mounting required and replaceable in the room.
- Reliable and strong UV-C irradiance inner chamber.
- User-friendly interface with clear display and range of flexible options.

Safeguard benefits

- Mechanical safety and germicidal effectiveness validated by independent scientific reports.
- Easy maintenance with display notification for spare parts.

Feature

- · Housing material: anti UV plastic.
- Touch panel: timer button 30/60/120mins & always on options, fan speed button with low, medium and high options, lock button to avoid unwanted operations, power on/off button.
- Display on user interface, which starts counting down on pre-set disinfection duration.
- · Four wheels for portable & flexible movement.
- Dimensions H:790 x W:360 x D:360mm



⁶ Guangdong Detection Center of Microbiology. Test conclusion: Turned the sample UV lamps on and the fan speed to maximum for a duration of 1 hour in a 10m³ test chamber. The test was repeated 3 times. The detection result of the killing rate of staphylococcus while in the air was > 99.9%, which met the standard requirements of the Technical Standard for Disinfection (2002 Ministry of Health P.R.China).

⁷ Guangdong Detection Center of Microbiology. Test conclusion: Turned the sample on maximum fan speed for testing, and after stabilisation, the ultraviolet radiation luminance collected at 30cm around the device was less than 5µ w/cm2, which met the requirements of GB 28235-2011 (safety and sanitary standard for ultraviolet appliance of air disinfection) –6.2.9.1.



Philips UV-C disinfection batten

A fixed installation of luminaires on the ceiling is used at controlled times to fill a room or enclosed space with disinfecting UV-C radiation. Philips UV-C batten provides disinfection for high contact areas, such as meeting rooms, restaurants, supermarkets, washrooms and public buildings.

Benefits:

- All microorganisms tested to date respond to UV-C lighting¹.
- UV-C surface disinfection products, fitted with our UV-C light sources, can inactivate SARS-CoV-2 virus on surfaces by more than 99% to below detectable levels².
- Proven, effective disinfection over the useful long lifetime of lamp and luminaire.
- Environmentally friendly no ozone emissions during or after use.

Features:

- Lamp configurations possible:
 1-lamp or 2-lamps version.
- · Available: bare batten or with reflectors.
- · Philips T8 TUV lamp included: 18W or 36W.
- · Shortwave UV radiation peak at 253.7 nm (UV-C).
- High reflective aluminum housing for better reflectivity and performance.
- All plastic components are protected by dedicated UV-C shielding.



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 Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm 2



Philips Dynalite control system

When using UV-C lighting, safety is always top priority. That's why the Philips Dynalite UV-C automated control system is designed to help ensure safe and risk-free management and correct operation of UV-C for surface disinfection.

Safety first - why controls

The Philips Dynalite UV-C disinfection control system's multiple mechanical and network safeguards help prevent exposure to harmful UV rays while at the same time applying the appropriate UV-C dosage.

The control system includes safety mechanisms such as authorised activation, UV-C cycle about-to-start warning, movement sensors and emergency stop switches to deactivate in case of potential hazards.





Philips UV-C disinfection linear luminaire with sensor

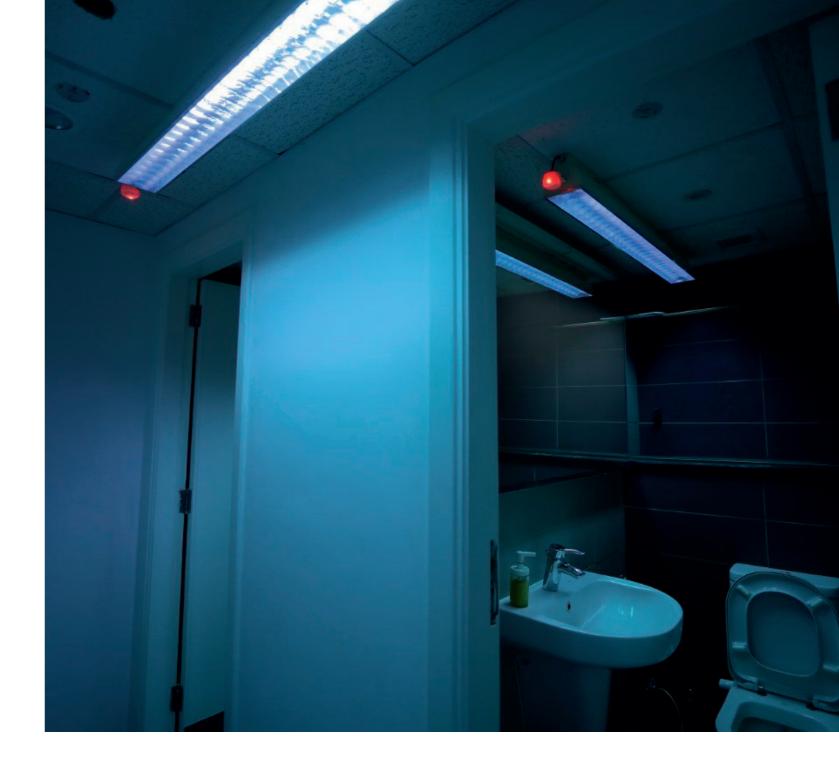
The Philips UV-C disinfection linear luminaire with sensor is designed for the disinfection of surfaces and is suitable for a wide range of applications. It provides universal UV-C irradiance with homogenous distribution. The performance is enhanced by a highly-reflective and durable aluminium body, which improves efficacy even further and directs the UV-C light towards the surfaces to-be-irradiated (within the safety range of the sensor).

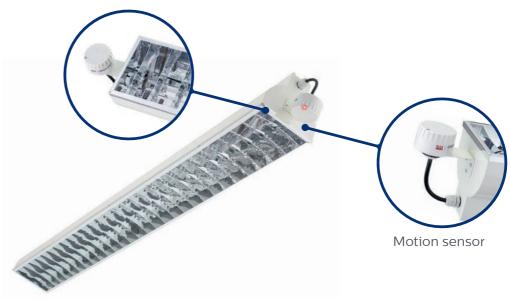
Benefits:

- Available with safeguard controls using sensor monitoring which makes it safe to use.
- In laboratory testing, Signify's UV-C light sources reduced SARS-CoV-2 virus infectivity on a surface to below detectable levels in as few as 9 seconds².
- Proven, effective disinfection over the useful long lifetime of lamp and luminaire.
- Environmentally friendly no ozone emissions during or after use.

Features:

- Specially engineered mirror optics to cut off UV-C irradiation beyond the sensor range to avoid any accidental exposure beyond the coverage area.
- Philips T8 TUV lamp included: 36W.
- Shortwave UV radiation peak at 253.7 nm (UV-C).
- Various mounting options.
- Specially designed mirror optics improve efficacy by average 90% by controlled distribution of the irradiance (Compared to UV-C Batten with Aluminium Cover).
- Dip Switch available in sensor for time settings as per application.
- Dimensions L:1237 x W:128 x D:120mm





² Nadia Storm et al, Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation, 2020. Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm 2.



Philips UV-C disinfection trolley G2

The UV-C trolley is designed to disinfect professional surfaces and comes with auxiliary sensors for motion detection. Safety features, such as remote control, alarm and key locks, are integrated to operate the trolley safely. With 360° wheels, the UV-C trolley is a flexible solution as it can be easily and quickly replaced and repositioned in a room/space. The UV-C trolley offers a variety of options for lamp direction and disinfection duration.

Benefits:

24

- In laboratory testing, Signify's UV-C light sources reduced SARS-CoV-2 virus infectivity on a surface to below detectable levels in as few as 9 seconds.¹
- 4-log disinfection for 20m2 square area or 36m2 circular area within 15 minutes.
- Environmentally friendly as no ozone emission or residue present during or after use.

Features:

- Remote control: on/off independent button, 4 options 15/30/60/90 mins. 30 sec delay time before disinfection cycle commences.
- · Control distance: maximum 10 meters.
- Housing material: stainless steel with anti-UV plastic
- Buzzer & LED indicator: to indicate that the device is active.
- Philips UV-C lamp: strong ultraviolet radiation-4pcs TUV 30W.
- Lock and key protection: only authorized person(s) can unlock the key to operate the trolley according safety instruction.
- Alarm: operation is supported by audio guidance on the warnings and procedures of the trolley.
- Touch panel: timer button 15/30/60/90/120 mins, power on/off button, 30 sec delay when time is set.
- Auxiliary motion sensors: 4 sensors with 360° detection angle up to 5m distance for an additional level of safeguard.
- Dimensions H:1159 x W:400 x D:340mm

1. Nadia Storm et al, Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation, 2020.
Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm2

lockable wheels 25

Optional Remote control Control panel Floor standing with



Philips UV-C disinfection chamber

An effective UV-C disinfection chamber for fast and environmentally friendly disinfection of objects. Suitable for a wide variety of uses in professional indoor environments (for bacteria & virus disinfection.)

• In laboratory testing, Signify's UV-C light sources reduced SARS-CoV-2 virus infectivity on a surface to below detectable levels in as few as 9 seconds¹².

Features:

- Heavy-duty stainless-steel chamber
- · Auto power off when the chamber is open ensuring no UV-C exposure to user
- Prefixed step timer for disinfection, easy to use, one touch operation
- Dimensions H:660 x W:560 x D:560mm







¹² Nadia Storm et al, Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation, 2020. Report available at https://www.nature.com/articles/s41598-020-79600-8. The UV-C irradiance used in this study was 0.849 mW/cm²



Philips BioShift UV-C disinfection chamber

For instant disinfection of objects such as handheld devices, headsets, parcels and protective equipment.

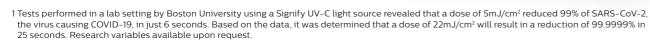
Benefits:

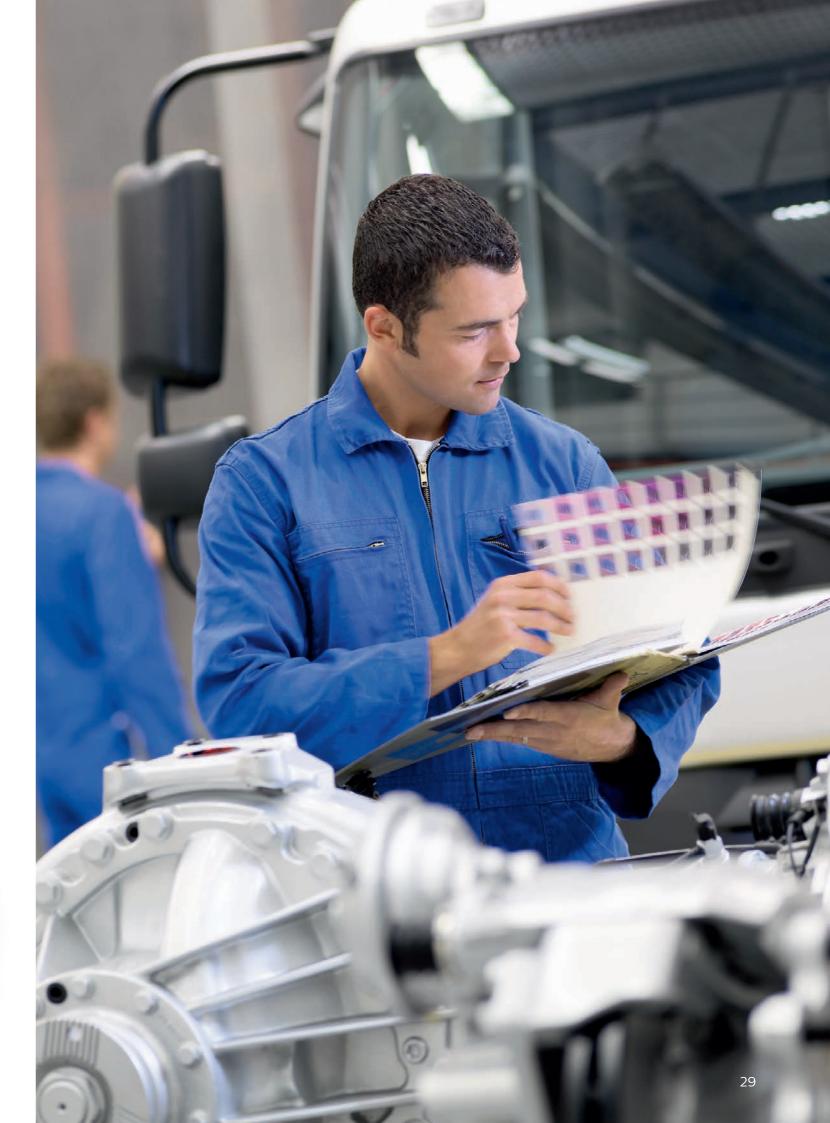
- Inactivates 99.9999% of the SARS-COV-2 virus that causes COVID-19, within 1 minute¹.
- Mechanical safety and germicidal effectiveness validated by independent scientific research agency TNO*.
- Comes with advanced features to provide secure disinfection, including door sensors, magnetic locks to prevent accidental door opening and inspection windows.
- To ensure sufficient UV-C dose is provided, the controller can frequently sample the UV dose, for this the UV dosimeter card is placed in the centre of the unit, and the 'dose test' is run via the maintenance screen.

Features:

- Lamp life monitoring system indicating end of life of UV-C lamps
- · Rugged shelving supports heavy items.
- · Emergency button & door lock.
- · Heavy-duty stainless-steel chamber.
- · Chemical-free disinfection.
- Two versions, Small:
 H:600 x W:750 x D:585mm
 and Large:
 H:1828 x W:762 x D:1180mm
- * TNO report available on request

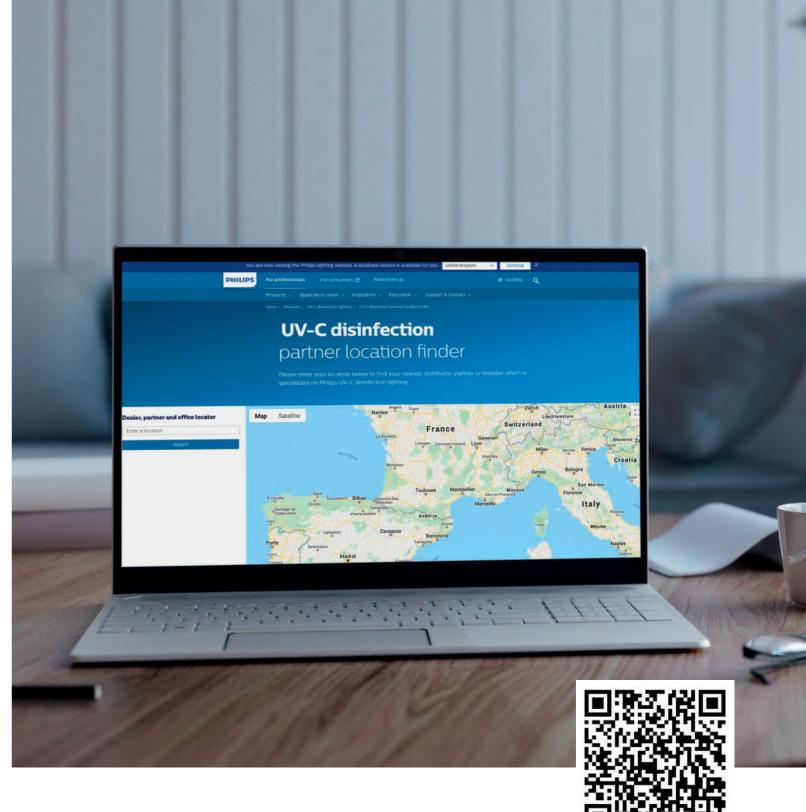






UV-C Product Order Guide

Product	12NC	Product Description	Page
Upper Air Passive			
Wallmounted	919206000011	WL345W 1xTUV T5 25W HFS	14
Wallmounted	919206000111	WL346W 1xTUV T5 25W HFS (high o/p)	14
Ceiling	919206000021	SM345C 4xTUV PLS 9W HFM	15
Ceiling Surface Mounted	919206000101	SM345C 4xTUV PLS 9W HFM SMB	15
Ceiling Suspended	919206000091	SM345C 4xTUV PLS 9W HFM SM4	15
Upper Air Active			
Surface	912401483298	SM310C 2xTUV PLL 60W HFS	18
Air Unit Floor Standing			
A200 Large	911401548681	UVCA200 UKI 4xPL-L 18W/TUV HFP	18
Batten			
Non Reflector	910925867661	TMS030 1xT8 18W/TUV HFP	20
Non Reflector	910925867662	TMS030 2xT8 18W/TUV HFP	20
Non Reflector	910925867659	TMS030 1xT8 36W/TUV HFP	20
Non Reflector	910925867660	TMS030 2xT8 36W/TUV HFP	20
Reflector	910925867665	TMS030 1xT8 18W/TUV HFP R	20
Reflector	910925867666	TMS030 2xT8 18W/TUV HFP R	20
Reflector	910925867663	TMS030 1xT8 36W/TUV HFP R	20
Reflector	910925867664	TMS030 2xT8 36W/TUV HFP R	20
Dynalite Control System			
Dynalite UV-C Controls	913703073709	PDUVCC-10	20
Dynalite UV-C Controls	913703073809	PDUVCC-20	20
Dynalite UV-C Controls	913703074309	PDUVCC-30	20
Batten with Sensor			
Sensor	911401535081	TMS031 1xT8 36W/TUV HFP R Sensor	22
Trolley with sensor			
2-arm Trolley with sensor	919013004771	UVCT210 130W SR 01	24
Philips Chamber			
Chamber	911401708483	UVCC200 UKI 5xTL Mini 16W/TUV HFP	26
BioShift Chamber			
Small Chamber	929002100334	Bioshift Small Pass Through	28
Large Chamber	929002100336	BioShift Large Pass Through	28



UV-C partner location:

Find your nearest UV-C partner here:

https://www.lighting.philips.com/main/products/uv-disinfection/installer-locator



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