

HSK **UV-Care**

DISINFECTION LIGHTING

HSK UV-Care Disinfection Lighting

UV-C light kills bacteria and viruses



UV-C radiation is currently one of the most effective technologies removing viruses, bacteria, fungi and microorganisms from the air and surfaces. The rays also destroy the thin lipid layer of SARS-CoV-2, so the UV-C light is recommended by the Main Sanitary Inspectorate to fight the Covid-19 pandemic.

Announcement of the Chief Sanitary Inspector of March 4, 2020

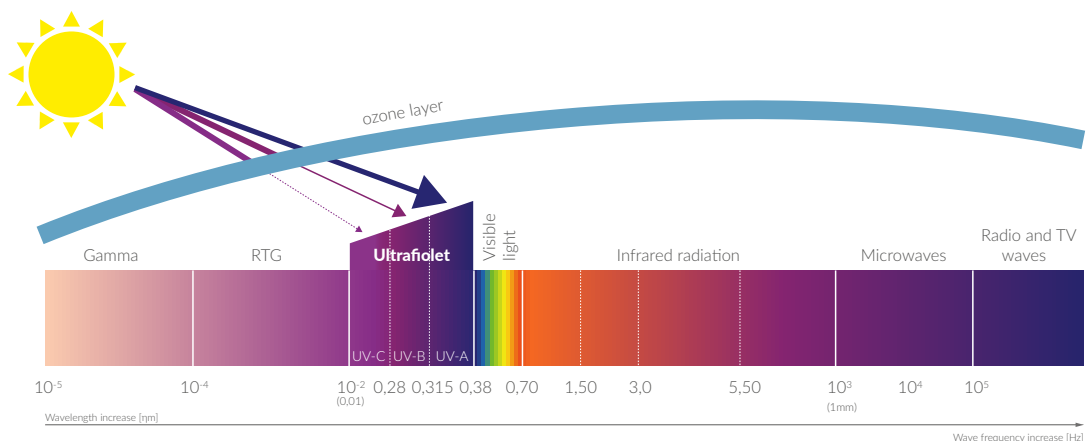
The World Health Organization (WHO) also confirms that known human coronaviruses are susceptible to the ultraviolet radiation disinfection.

Technical Brief: 3 March 2020 – World Health Organization



Where does the ultraviolet come from? Apart from a radiation visible to the human eye, the sun also emits UV rays. However, the earth's natural ozone layer stops the vast majority of UV-B and UV-C rays. Such a radiation can be generated by man-made sources. The sources in question include fluorescent bulbs and excimer lamps. Modern technology enables us to control the range of waves emitted by such sources more and more effectively. Hence, artificially emitted UV radiation is applied in many fields of life, including the disinfection.

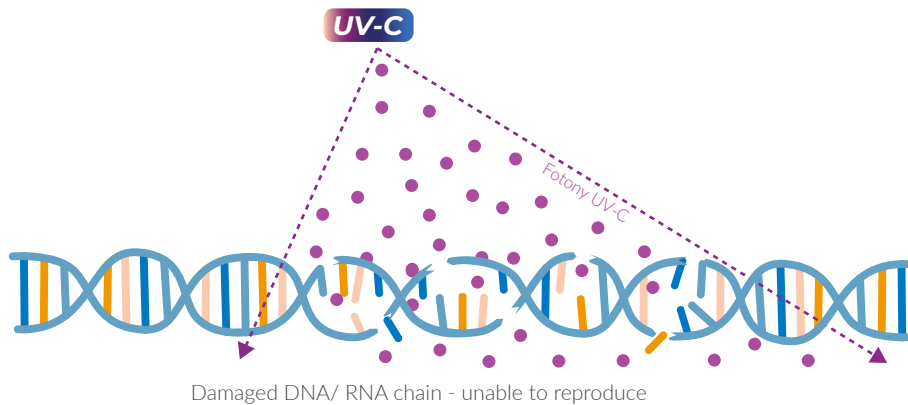
ELECTROMAGNETIC SPECTRUM



How does the ultraviolet work? UV is electromagnetic radiation, wavelength of 10-400nm, invisible to the human eye, carrying the energy and having the ability to penetrate e.g. the human epidermis or shells of microorganisms such as bacteria and viruses. UV-C (ultraviolet rays of the wavelength range 100-280nm) have been used for decades to disinfect the air, water and varied surfaces. The UV-C radiation energy penetrates the cells and damages the nucleic acid, breaking down the DNA of microorganisms and the RNA of viruses such as SARS-CoV-2. As a result, they lose their ability to reproduce; so neutralized, they are no longer dangerous to humans.

Is the ultraviolet safe? It should be remembered that both the UV-A and UV-B radiation present in the earth's atmosphere as well as the artificially produced

SCHEME OF UV-C IMPACT ON THE DNA OF MICROORGANISMS



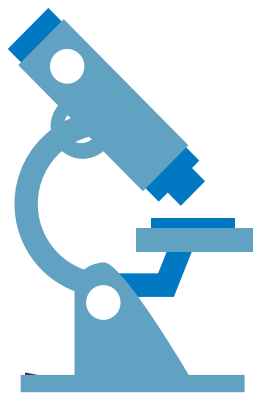
UV-C radiation have a harmful effect on human epidermis and cornea. They can cause burns and may be carcinogenic in the long term

According to recent studies conducted by the Columbia University, there is a narrow range of UV-C waves (200-222nm) ensuring an effective killing of bacteria and viruses, which, on the one hand, has no carcinogenic effect on the epidermis and cornea of mammals [*Germicidal Efficacy and Mammalian Skin Safety of 222-nm UV Light*, Buonanno et.al., 10 August 2017]. However, currently available light sources emit the full range of the UV-C radiation (100-280nm), so disinfection by means of this type of radiation must be carried out only without the presence of people and with all the precautions stipulated by a manufacturer. Disinfection equipment may be operated only by trained employees and strictly according to the safety procedures. Protective equipment such as glasses and sunscreens with UV-A and UV-B filters are not a barrier protecting from the UV-C radiation!

Products emitting the UV-C radiation are extremely useful in terms of the air and surface disinfection or water sterilization. Nevertheless, the CIE and WHO warn against using the UV disinfection lamps to disinfect hands or other skin areas (WHO, 2020), unless clinically justified. The UV-C radiation can be very dangerous for humans and animals, and therefore, may only be used if products generating this radiation are made acc. to an approved design complying with safety regulations, or used under strictly controlled conditions where the priority is to ensure that the maximum permitted exposure to the UV radiation, as defined in ICNIRP (2004) and IEC / CIE (2006), is not exceeded. Appropriate UV measurements are necessary for proper UV assessment and risk management.

Recommendations of the International Commission on Lighting (Commission Internationale de l'Eclairage) of 12 May 2020.





The necessary amount of the radiation depends on type of a microorganism, intensity of the radiation source, exposure time and, to a lesser extent, also on ambient conditions such as temperature, humidity and reflection. The higher the power of the UV-C radiation source and the smaller the cubic capacity of the disinfected room, the shorter irradiation time is necessary to deactivate the microorganisms.

Manufacturer of disinfection lamps should have the results of reliable tests on effectiveness of the lamps, conducted for individual luminaires (not just for the light source), and determine the time necessary for effective disinfection of the room on their basis.

HSK **UV-Care**

Efficiency and safety confirmed by tests

All products of the HSK UV-Care line are equipped with light sources, efficiency of which is confirmed by test procedures conducted in microbiological and photometric laboratories.

- Microbiology Laboratory of the Jagiellonian Center of Innovation
- Photometric Laboratory GL Optic

The safety of the users of HSK UV-Care lights is guaranteed by integrated timer and control systems that switch off the fixture when people are detected in the UV-C light range.



Disinfection with UV-C radiation can only be carried out without the presence of people and with the precautionary measures specified by the manufacturer of the radiation sources.

Areas of application of HSK UV-Care systems:

Disinfection of all surfaces and the air by deactivation of viruses, bacteria, molds and other microorganisms in areas, where people are present and live, in particular e.g.:

- hospitals (in particular, infectious wards), doctor's offices, treatment rooms and other health care facilities
- dental offices, prosthetic laboratories
- pharmacies
- hotels, guest houses, sanatoriums
- laboratories
- beauty parlors and hairdressing salons
- schools
- gyms, fitness clubs
- offices, administrative units
- public transport



UV-Care LAB is a professional portable luminaire for decontaminating surfaces and tools with ultraviolet radiation. Luminaire supplied with a handy stand that allows for stable placement on the work surface or table.

APPLICATION: effective and quick disinfection of medical instruments, tools, prosthetic works, worktops and workstations. Recommended for healthcare facilities, dental offices, prosthetic laboratories, and medical and cosmetic surgeries.

DISINFECTION TIME: factory programmed, based on the distance from the objects or surfaces to be disinfected. Three predefined settings: disinfecting surfaces and tools or disinfecting rooms and equipment, selection with an intuitive switch on the housing.

CAUTION: Do not enable people to stay in the room during operation. Switching on and off only from outside the room or using a timer that will automatically delay the start of radiation emission, and then turn it off after a set time.

Looking into a light source can damage your eyesight; long-time skin exposure can cause burns and irreversible tissue damages.

SAFETY FEATURES (RECOMMENDED):

Timer for safe operation:

- delays the activation of the device by 30 seconds after pressing the start button to enable the operator to leave the room safely;
- activates the UV-C radiation for the programmed time;
- upon completion of exposure it notifies the operator with a sound signal;
- counts the total operation time of the UV-C tube and after exceeding the limit of 9 000 hours audibly indicates the need to replace it.

FEATURES:



COLOR:



UV-CARE LAB

Design	Anodized aluminum profile (60cm length) placed on a stable metal stand with adjustable lighting direction. The fitting has a handle to prevent the UV-C tube from falling out.
Dimensions	600x250x390mm
Weight (with the radiation source)	3.3kg
Power of the luminaire	18W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tube
UV-C dominant wavelength	254nm
Cap-base	G13
Nominal wattage	15W
UV-C radiated power	5W
Dimensions of tube (with pins)	452mm x 28mm
Lifespan	9 000h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation at a working distance (330mm):	600 μ W/cm ²
UV-C irradiation 1m from the luminaire:	52 μ W/cm ²



Antilia A-69-UV-Care is a professional ceiling and wall mounted luminaire for disinfection of the air and surfaces with ultraviolet radiation, for easy installation at the ceiling or a wall, with an adjustable light angle due to knobs on the sides of the enclosure. Available in two lengths (75cm and 135cm) and three power options (18W, 40W and 80W).

APPLICATION: daily disinfection of closed rooms and workstations. Recommended for health care facilities, dental practices, hotels, catering industry, waiting rooms, shops and any other closed public spaces, beyond working hours or between visits of subsequent clients.

DISINFECTION TIME: factory programmed, based on the volume and parameters of a room or the distance from a disinfected area.

CAUTION: Do not enable people to stay in the room during operation. Switching on and off only from outside the room or using a timer that will automatically delay the start of radiation emission, and then turn it off after a set time.

Looking into a light source can damage your eyesight; long-time skin exposure can cause burns and irreversible tissue damages.

SAFETY FEATURES:

Timer for safe operation:

- delays the activation of the device by 30 seconds after pressing the start button to enable the operator to leave the room safely;
- activates the UV-C radiation for the programmed time;
- upon completion of exposure it notifies the operator with a sound signal;
- counts the total operation time of the UV-C tube and after exceeding the limit of 9,000 hours audibly indicates the need to replace it.

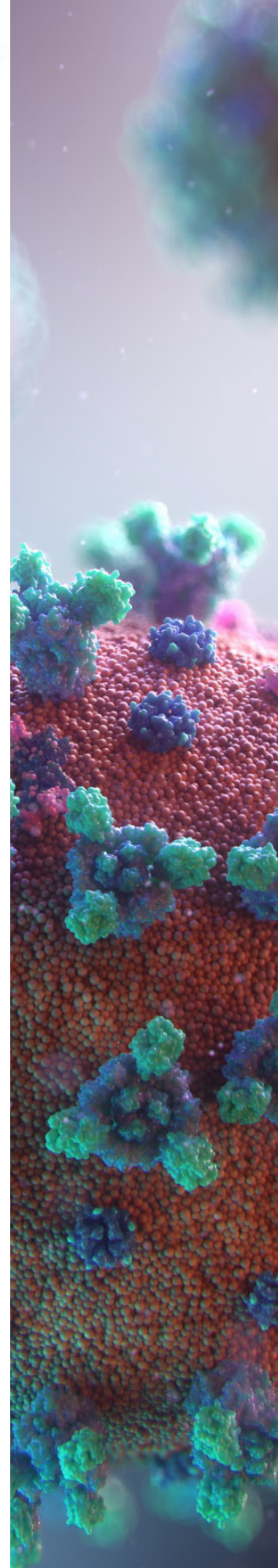
OPTIONS:

- The microwave motion detector automatically deactivates the UV-C if a human is detected during the operation, protecting from hazardous effects of the UV-C radiation.
- Door opening sensor

FEATURES:



COLOR:



ANTILIA A-69-UVC-60-18W

Design	Anodised aluminum linear profile. Suspended, ceiling or wall mounted, with adjustable direction. The fitting has a handle to prevent the UV-tube from falling out.
Dimensions	750x58x86mm (without handle)
Weight (with the radiation source)	2,5kg
Power of the luminaire	18W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tube
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	15W
UV-C radiated power	5W
Dimensions of tube (with pins)	452mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire:	52 μ W/cm ²

ANTILIA A-69-UVC-120-40W

Design	Anodised aluminum linear profile. Suspended, ceiling or wall mounted, with adjustable direction. The fitting has a handle to prevent the UV-tube from falling out.
Dimensions	1350x58x86mm (without handle)
Weight (with the radiation source)	4,56kg
Power of the luminaire	40W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tube
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	36W
UV-C radiated power	15,5W
Dimensions of tube (with pins)	1214mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire:	165 μ W/cm ²

ANTILIA A-69-UVC-120-80W

Design	Anodised aluminum linear profile. Suspended, ceiling or wall mounted, with adjustable direction. The fitting has a handle to prevent the UV-tube from falling out.
Dimensions	1350x58x86mm (without handle)
Weight (with the radiation source)	4,56kg
Power of the luminaire	80W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tube
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	75W
UV-C radiated power	25,5W
Dimensions of tube (with pins)	1214mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire:	270 μ W/cm ²



The Draco D-66-UV-Care is a professional ceiling mounted luminaire for direct disinfection of the air and surfaces with ultraviolet light; easy installation in 60x60cm system ceilings, in bricked ceilings, or drywall ceilings in an installation frame.

APPLICATION: daily disinfection of closed rooms and workstations. Recommended for health care facilities, dental practices, hotels, catering industry, waiting rooms, shops and any other closed public spaces, beyond working hours or between visits of subsequent clients.

DISINFECTION TIME: factory programmed, based on the volume and parameters of a room or the distance from a disinfected area.

CAUTION: Do not enable people to stay in the room during operation. Switching on and off only from outside the room or using a timer that will automatically delay the start of radiation emission, and then turn it off after a set time.

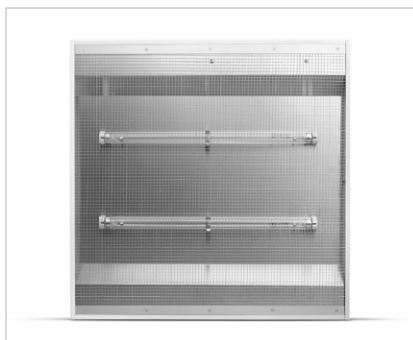
Looking into a light source can damage your eyesight; long-time skin exposure can cause burns and irreversible tissue damages.

SAFETY FEATURES:

Timer for safe operation:

- delays the activation of the device by 30 seconds after pressing the start button to enable the operator to leave the room safely;
- activates the UV-C radiation for the programmed time;
- upon completion of exposure it notifies the operator with a sound signal;
- counts the total operation time of the UV-C tube and after exceeding the limit of 9,000 hours audibly indicates the need to replace it.

OPTIONS:

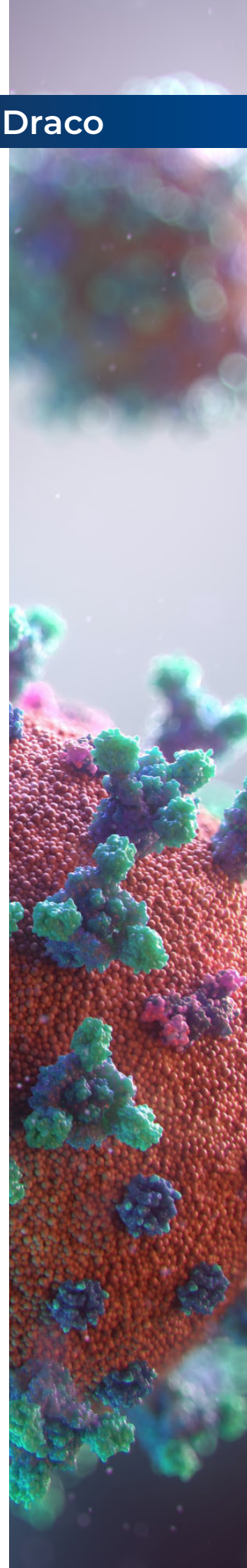


- Microwave motion detector automatically deactivates the UV-C if a human is detected during the operation, protecting from hazardous effects of the UV-C radiation.
- Door opening sensor.
- Safety grid preventing accidental access to light sources.

FEATURES:



FARBE:



DRACO D-66-G/P/S-UVC-2X18W

Design	Metal sheet cassette resistant to the UV rays, with a reflector. For 60x60cm ceilings, suspended or ceiling mounted. Equipped with handles to protect UV-C tubes from falling out. Optional: grid to prevent accidental access to the light sources.
Dimensions	595x595x60mm
Weight (with the radiation source)	5kg
Power of the luminaire	36W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tubes (2 pcs.)
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	15W
UV-C radiated power	5W
Dimensions of tube (with pins)	452mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire:	130 μ W/cm ²

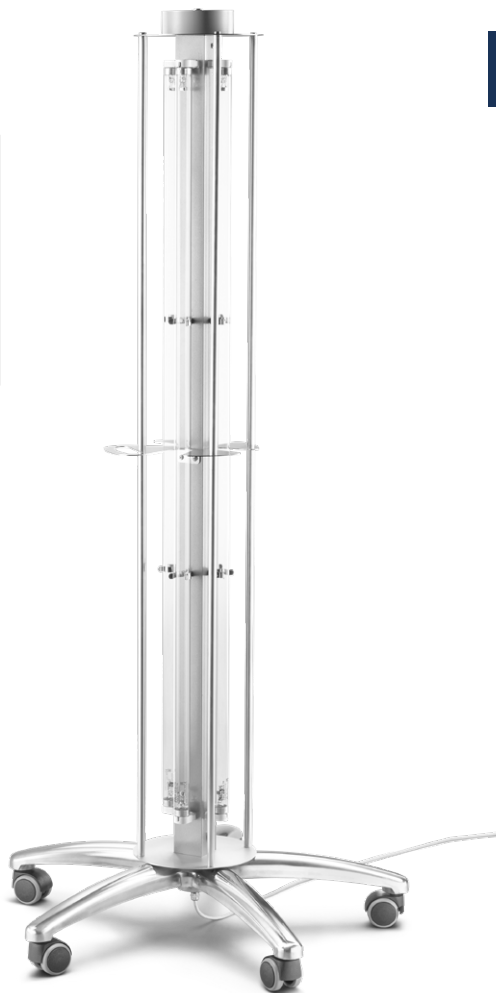
DRACO D-66-UVC-G/P/S-4X18W

Design	Metal sheet cassette resistant to the UV rays, with a reflector. For 60x60cm ceilings, suspended or ceiling mounted. Equipped with handles to protect UV-C tubes from falling out. Optional: grid to prevent accidental access to the light sources.
Dimensions	595x595x60mm
Weight (with the radiation source)	5,2kg
Power of the luminaire	72W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tubes (4 pcs.)
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	15W
UV-C radiated power	5W
Dimensions of tube (with pins)	452mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire:	260 μ W/cm ²

HSK **UV-Care**



ERGONOMIC HANDLE



UV-Care Mobile

Mobile UV-Care is a professional mobile luminaire for quick and effective disinfection of public spaces and equipment by the ultraviolet radiation. Due to the high dose of UV-C radiation and thus, short time of disinfection, it is suitable for use between visits of subsequent patients or clients. Equipped with a mobile base and a long (5m or 10m) power cord enabling easy transport between stands or rooms.

APPLICATION: health care facilities, doctor's offices, dental offices, treatment rooms, physiotherapy and cosmetics facilities, hairdressing salons, make-up/tattoo studios, gyms, bathrooms, toilets, cloakrooms and changing rooms.

DISINFECTION TIME: factory programmed, based on the volume and parameters of a room. Three predefined settings: disinfecting surfaces and tools or disinfecting rooms and equipment, selection with an intuitive switch on the housing.

CAUTION: Do not enable people to stay in the room during operation. Switching on and off only from outside the room or using a timer that will automatically delay the start of radiation emission, and then turn it off after a set time.

Looking into a light source can damage your eyesight; long-time skin exposure can cause burns and irreversible tissue damages.

STANDARD SAFETY FEATURES:

Timer for safe operation:

- delays the activation of the device by 30 seconds after pressing the start button to enable the operator to leave the room safely;
- activates the UV-C radiation for the programmed time;
- upon completion of exposure it notifies the operator with a sound signal;
- counts the total operation time of the UV-C tube and after exceeding the limit of 9,000 hours audibly indicates the need to replace it.

OPTIONAL SAFETY FEATURES:

Microwave motion detector automatically deactivates the UV-C if a human is detected during the operation, protecting from hazardous effects of the UV-C radiation.

FEATURES:



COLOR:



UV-CARE MOBILE MB-150-UVC-4X40W

Design	Lightweight aluminum construction equipped with a stable base with castors and a handle for easy transportation. UV-C tubes covered with protective rods. Cord: 5m or 10m.
Dimensions	h=1500mm, ø=730mm
Weight (with the radiation source)	9kg
Power of the luminaire	160W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~ 50Hz
Radiation source	UV-C tubes (4 pcs.)
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	36W
UV-C radiated power	15,5W
Dimensions of tube (with pins)	1214mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire	430 µW/cm ²

UV-CARE MOBILE MB-150-UVC-4X80W

Design	Lightweight aluminum construction equipped with a stable base with castors and a handle for easy transportation. UV-C tubes covered with protective rods. Cord: 5m or 10m.
Dimensions	h=1500mm, ø=730mm
Weight (with the radiation source)	9kg
Power of the luminaire	320W
Power supply voltage	Built-in electronic driver of high efficiency and power factor >0.95 ensures constant UV-C light intensity at supply voltages from 184V~ to 253V~50Hz
Radiation source	UV-C tubes (4 pcs.)
UV-C dominant wavelength	254nm
Socket	G 13
Base	T8
Nominal wattage	75W
UV-C radiated power	25,5W
Dimensions of tube (with pins)	1214mm x 28mm
Lifespan	9 000 h
Replaceable radiation source	Yes (only after disconnecting the device from the ~230V power supply)
UV-C irradiation 1m from the luminaire	710 µW/cm ²

HSK **UV-Care**

APPLICATION AREAS - UV-C DISINFECTING LIGHT

MEDICINE, DENTISTRY, COSMETIC INDUSTRY



HOTELS AND RESTAURANTS



GYMS, SPORTS CLUBS, UNIVERSITIES AND SCHOOLS





UV-C disinfection may be carried out only without the presence of people and in accordance with the precautions established by a manufacturer of the radiation emitters.