HEALTHYBUILDINGS

Self-contained Air Purifier range

THE OPTICLEAN™ 39UV

Suitable for Office, Hotel, Healthcare and Industry

Leading the way to a healthier future

Studies indicate that we spend around 90% of our time indoors. In addition to the current circumstances, this has highlighted the importance of ensuring optimal air quality to improve occupant health. Improved air quality also has a positive impact on the performance and productivity of people, and their physical and mental development.

The comfort and health of occupants can be significantly improved with consistent service and maintenance of not only buildings themselves, but also most importantly HVAC systems, which reliably reduce the concentration of indoor contaminants by introducing filtered outdoor air into the building, and other items such as air purifier units.
In its ongoing commitment to development and continuous improvement for the air conditioning, ventilation and air quality industry, Carrier launches the OptiClean™ 39UV air purifier series.
The OptiClean™ 39UV air purifier enables Carrier to expand solutions to meet the needs of any type of building.

Offices

Air quality is critical for offices not only for health, but also on performance and behaviour.

Reception
Canteens
Meeting rooms
Areas with high occupancy

Hospitality

Ensuring a clean, healthy and odourless environment is key to success in Hospitality.

Hotel Reception & Lobby
Canteens
Function rooms
Bars and Nightclubs

Health

IAQ must be managed in line with critical Health-care regulations, and it not only affects patients, but healthcare staff and visitors too.

Outpatient consulting rooms
Waiting rooms
Areas requiring negative pressure
Outdoor field hospitals

Industry

Contaminated air in production areas means extra care to ensure both the health of employees and equipment is protected.

Production rooms
Waiting rooms
Warehouses
Offices

OptiClean™ 39UV air purifier series

At Carrier, we continue to innovate, seeking new solutions that will improve the quality of HVAC and air conditioning installations.

Our experts will advise you on your path towards buildings with healthier, safer and more productive environments, through increasingly efficient and environmentally responsible solutions.

Plug & play design

The design of the equipment is made to simplify your installation as much as possible, making it easier to use for any application.

100% configurable

The equipment has different filtration HEPA stages and the possibility to include activated char-coal or germicide system (UV-C) as an option.

Quiet

With low sound levels, this unit is ideal for use in spaces with permanent human occupation.

Easy cleaning and maintenance

Smooth, screwless finishes and easy access to all parts of the unit make the OptiClean™ 39UV easy to clean and maintain.

High energy efficiency

The high performance EC motor (with electronic switching) reduces power consumption.

Great versatility

The OptiClean™ 39UV can be used in 2 different operating modes including negative air pressure and recirculation.

Technical Specifications

- Standard Plug & Play unit with EC fans and 10%-100% speed control, including light for unit status, ultraviolet lamp and filter indication.
- Silent unit for full load operations in spaces with permanent human occupation.
- Smooth, screwless interior and exterior finishes for easy cleaning and maintenance.
- Maintenance access in all sections of the equipment.
- Rock wool sandwich insulation in 30mm thick panels.

Coding

The components of the OptiClean™ 39UV air purifier units are selected according to the following coding:

39UV - X - X - OPTIONAL X - x - x

RANGE

SIZE
1= 1000 m³/h
2= 1800 m³/h
3= 2500 m³/h

HEPA FILTER
A= Hepa H13
B = Hepa H14

ADDITIONAL OPTIONS
4= none
5= UVC
6= carbon filter

ACCESSORIES
C= none
D= circular connexion for duct SIZE 1
H= circular connexion for duct SIZE 2 and 3
E= horizontal diffusion grille SIZE 1
I= horizontal diffusion grille SIZE 2 and 3

ELECTRIC PLUG TYPE
F= Type F (all EU but UK & Ireland)
G= Type G (UK & Ireland)
J= Type J (Switzerland only)

Range

Designed for direct use in the room to be treated, including option for wheels so that the unit can be placed conveniently.

Model

Model	Flow rate	Nominal available pressure	Motor capacity	Supply Voltage	Noise level
	[m³/h]	[Pa]	[W]	[V]	dB [A]
OptiClean™ 39 UV 10	1000	135	170	240 v 50 Hz	53
OptiClean™ 39 UV 18	1800	465	500	240 v 50 Hz	56
OptiClean™ 39 UV 25	2500	420	750	240 v 50 Hz	58

Configuration

Choose the one that best meets your installation requirements.

C1: H13
C2: H14
C3: H13 + UV lights
C4: H13 + carbon filters
C5: H14 + UV lights
C6: H14 + carbon filters

M5 Prefilter

The M5 prefilter is installed as machine protection, extending the working life of the other systems and improving the efficiency of the UV lamps.

HEPA filters: high efficiency filtration

Those filters have high filtration efficiency and are tested under Standard EN-1822 with MPPS (particle size more difficult to filter or particle size with the least total filtration efficiency, considering the phenomena of inertial impaction, interception and diffusion) of 0.15 0.25 microns. Viruses are classified as PM1 particles (size <1 microns, typically between 0.07 microns and 0.15 microns). They are normally transmitted through integration into two types of droplets or bioaerosols of human origin (sneezing, coughing, speech, breathing, etc.): “droplet” (droplets>5microns) and “droplet nuclei” (<5microns). The smaller the size, the longer they stay in the atmosphere. HEPA filters actively participate in the bioaerosol RETENTION strategy, mitigating the droplet transmission mechanism. Large filtrating area cell filters (depth 296 mm) have a much higher particle retention capacity than low-depth filters, significantly reducing their maintenance requirements and improving their amortisation. H13 Hepa filters efficiency 99,95%.H14 Hepa filters efficiency 99,995%.

Activated charcoal filtration

As an air purifying complement, gas filters with chemical adsorbent are able to eliminate odours by adsorbing gases such as hydrogen sulphide, dimethyl sulphide, mercaptans, nitrogen oxides, formaldehydes, VOCs, formol, ethylene, chlorine, ammonia, mercury, etc.

HEPA filters

Activated charcoal filters

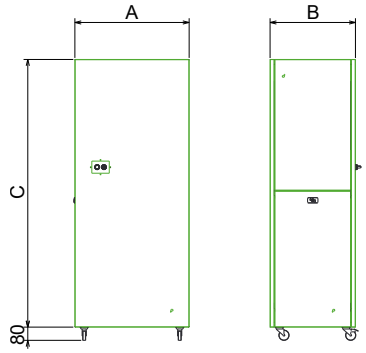
Ultraviolet lamps

UV-C lamps are involved in the strategy of air cleaning, reducing the concentration pathogenic polluants. UVC radiation inactivates and inhibits the replication of the nucleic acids (DNA and RNA) in micro-organisms (viruses, bacteria, etc.). Absorption of very high energy over a wavelength of 253 nm results in irreversible damage to the structure of nucleic acids and proteins at a molecular level (Ashrae Fundamentals, Ch. 62, Ultraviolet and surface treatment).

Accessories

- Absolute Filter H14
- Circular connexion for Duct (dimensions depending on size)
- Additionnal plenum with horizontal diffusion grille
- Solution 1 Additionnal UV lamps device
- Solution 2 Additionnal Carbon
- Filter

Dimensions



mm	A	B	C	WEIGHT (kg)
OptiClean™ 39UV 10	675	505	1580	96
OptiClean™ 39UV 18	675	810	1710	128
OptiClean™ 39UV 25	675	810	1710	135

Operating Modes

1.- Negative pressure
Keeps the room where the equipment is located at negative pressure, creating a "vacuum effect" that limits the spread of potentially contaminated air to neighbouring areas. The air in the room is sucked in, filtered, and expelled outside the building. This mode requires ducting between the unit and outdoors, and supports the "AIR FLOW CONTROL" strategy.

2.- Recirculation
In the event of rooms with difficulties in obtaining satisfactory ventilation or to support existing ventilation, placing the equipment in the area to be treated mitigates the contaminant load.
They must maintain a significant hourly air movement rate to support the RETENTION and INACTIVATION strategy.

Other Indoor Air Quality solutions

Carrier has developed a comprehensive suite of innovative solutions aimed at ensuring healthier, safer, more efficient and productive indoor environments in key applications, such as commercial offices, healthcare, hospitality, education and retail. From products to improve indoor air quality and remote services to ventilation management of buildings, and comprehensive solutions in public spaces, Carrier is redefining the spaces of the future, today.

A wide range of AHU's can be customised to each of the solutions, thanks to the wide variety of configurations available to meet the technical requirements of your project.

Our control solutions optimise air quality at all times, improving comfort and efficiency.

Carrier offers a wide range of services to monitor your buildings to make them safer and more efficient.

www.carrier.com