

REACT-AIR EXPANSE

Commercial Air and
Surface Virus
Neutraliser



T. 0203 885 2299

www.reaction-grp.com

Poundbury House | Poundbury West Industrial Estate | Dorchester | Dorset | DT1 2PG

React-Air Expanse

Commercial Air and Surface Steriliser

The React-Air Expanse, is a portable air and surface steriliser designed for use in commercial environments. Using a UVC technology, the powerful fans drive the airflow through the decontamination chamber, neutralising bacteria, viruses, pollen and odours, delivering clean and sterile air to a room.

The Expanse is also a powerful ozone generator, which can be set to activate when a room is unoccupied, filling the environment with ozone gas. When the ozone comes in to contact with items and surfaces, it eradicates viruses and bacteria, sterilising everything it touches

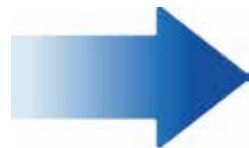
UVC and Ozone technology has been used for many years to sterilise hospitals, operating theatres and surgical instruments.

Air Flow, Ozone Release and UVC Dose can be controlled using the UVC touch screen. The Expanse also contains a powerful sensor array which monitors Air Exchanges, Air Quality and UVC dose, which can be set to neutralise different types of viruses. This information is displayed on the screen when in operation to give your building users extra peace of mind.



What is UV-C?

The Technology Explained



What is UVC?

How does the React-Air Expanse neutralise viruses in the air?

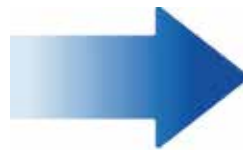
UVC light is highly effective at decontamination because it destroys the molecular bonds that hold together the DNA of viruses and bacteria. UVC light has been regularly used to decontaminate surgical tools and hospital rooms.

The Expanse draws air in to its extraction vents which are specifically located at shoulder height, so as to capture as many virus particles as possible. The air then passes through a medical-grade HEPA 13 filter, trapping any larger contaminants, and finally through a high intensity UVC chamber, capable of delivering a dose of over 240J/M² - enough to neutralise even the most resilient coronaviruses studied. The high power, variable fan can circulate up to 2000 metres cubed of air per hour - enough to give 9 air cycles per hour in an average 50 person office space.



How does Ozone Work?

Advanced Surface Sterilisation



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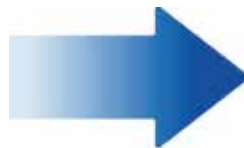
Viruses and bacteria can be neutralised with alcohol and hydrogen peroxide, however, these substances cannot be used on some surfaces, and will only be effective on items and surfaces which can be reached. Ozone gas will penetrate hard to reach areas, fabrics and rough or uneven surfaces. This makes ozone gas a valuable addition to standard cleaning and disinfection practices.

The Expanse contains 4, high powered ozone discharge plates which operate as a separate function from the air cleaning UVC technology. Ozone can be harmful if inhaled so the Expanse can be set, by an authorised user with a password, to be released when the room is empty. This can be set on a timer function and an audible and visual warning is given before ozone is dispersed, with an emergency shut-off feature, should anyone still be in the room.

Once the ozone cycle is complete, the Expanse switches back to UVC mode to eliminate any trace ozone, faster than its natural half-life conversion back to oxygen.

Advanced Monitoring

Peace of Mind for Staff and Users



Advanced Monitoring

Peace of Mind for Your Staff and Building Users

The conveniently titled touchscreen control of the Expanse can be used to set fan speed, UVC dose and adjusted to neutralise different types of bacteria and viruses from the air.

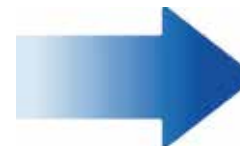
But the Expanse also contains a complex sensor array which actively monitors Air Quality (AQI) and air exchanges within the room it is placed. This information is synced wirelessly with our cloud platform so that information is always available to building managers, across multiple units and multiple sites.

The touchscreen can also be set to display this data. This is highly effective for creating peace of mind for building occupants, delivering air cleaning that can actually be seen in real time, on each Expanse unit.

The data is available through our React-Air mobile app and on our online web-based app, delivering confidence that you are meeting your duty of care.

Destroyer Array

The 3 Stage Process for Eliminating Covid-19



Destroyer Array

The 3 Stage Process for Eliminating Covid-19

1. HEPA 13 Filtration

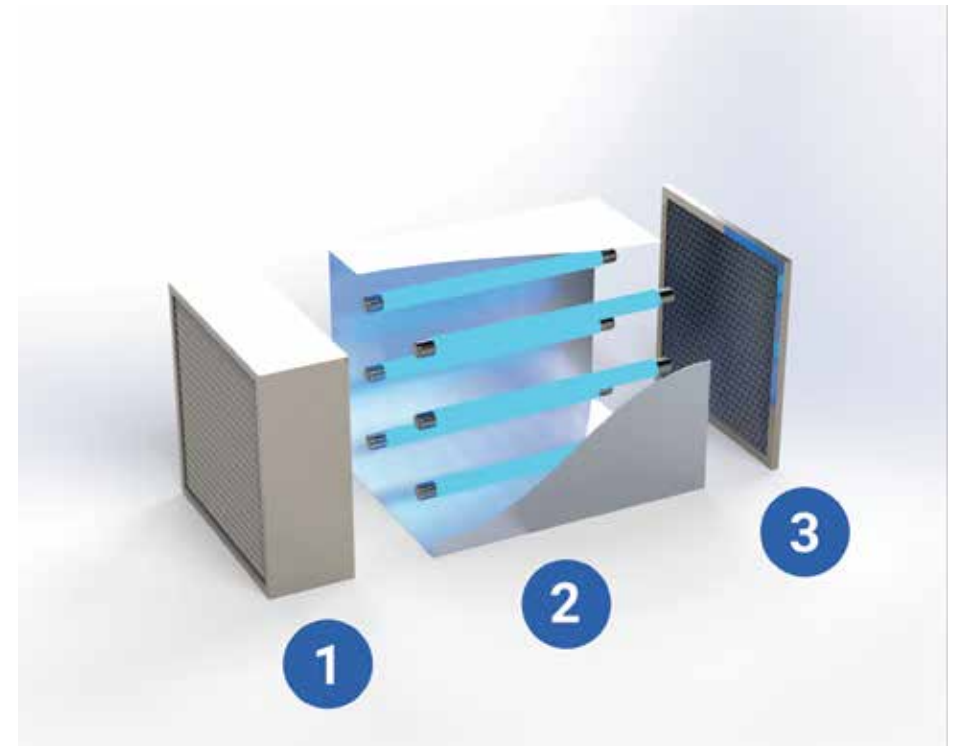
Using the React-Air's high-pressure fan, air is passed through a HEPA 13 filter to remove 80% of particles 0.3-1 microns. This process removes pollens, bacteria and viruses bonded to larger particles such as water droplets (the primary way Covid-19 spreads through airborne transmission).

2. Powerful UVC Array

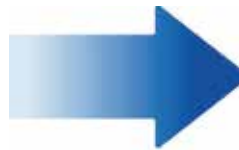
The filtered air is then passed through a UVC array, which delivers a dose of 250J/M3 – enough to neutralise Covid-19 (67J/M3 for one second of exposure according to studies). The effect of the UVC Array is intensified by its polished aluminium interior. UVC renders virus particles inert (sterile) by changing the molecular structure of the virus DNA.

3. Activated Carbon Filter

Finally, the air is passed through an activated carbon filter to remove any remaining odours. As well as removing any natural odours in the environment, the reaction between UVC and dust particles creates a mild, but for many people, unpleasant smell – all are removed with Activated Carbon.



Technical Specifications



Technical Specifications

React-Air Expanse

Supply Voltage	230V A/C
Fan Dimension	400 mm
Minimum Power Consumption	440 W
Maximum Power Consumption	462 W
Average Power Consumption	451 W
Average Air Flow (with HEPA filter)	2075 M2 Per Hour
Dimensions (W / D / H)	540 mm x 540 mm x 1500 mm
Weight	70 Kg
UVC Tube Specifications	16 X 25W Germicidal Lamps
Dominant Wavelength	253.7 nm
Radiated Power (UVC) Per Lamp	6.9W (110.4W Total)
Total BC Flux	94.94 W
Volume Bacterial Dose at Average	273.44 J/M2
Lamp Lifetime (Average)	6000 - 9000 hours
HEPA Filter Lifetime (Average)	12 Months



For more information call 0203 885 2299



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