

CLEANAIR SKY

NT PLASMA UNIT WITH VOLUME PLASMA FOR
ROOM AIR DISINFECTION AND ODOUR ELIMINATION



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Current preliminary remark

In the fight against Corona, many talk about indoor air purifiers as an important building block for a return to normality. Our Cleanair Sky has proven that it massively reduces the risk of infection - even when the virus mutates. According to a study by the Fraunhofer Institute for Building Physics (IBP), the device eliminates corona viruses in indoor air by almost 100 percent. It achieves this in two to three hours. The elaborate study meets all the requirements of the Federal Environment Agency for realistic conditions. The situation was simulated in a classroom.

Unlike many room air purifiers, the Cleanair Sky does not work with a HEPA filter in which the living viruses get stuck and which has to be changed regularly under elaborate protective measures. Instead, the Cleanair Sky uses a sophisticated, very low-maintenance technology with low follow-up costs. In it, the room air flowing through is briefly switched to the energetic state of NT plasma. In the process, the molecules are positively charged and thus viruses, bacteria and germs are destroyed. The air is sterilised in fractions of a second. Unlike all other plasma processes on the market, the Cleanair does not only disinfect the air with activated oxygen. In the NT plasma process, the air travels through the volume plasma and is disinfected by oxidation. The Fraunhofer study has proven that this does not result in any critical contamination of the room air by pollutants. The device works so quietly that it does not disturb lessons or conversations in the room.

But even after the Corona pandemic, the Cleanair has tangible advantages: It ensures pleasantly fresh room air – even if in midsummer, winter or when there are loud noises from outside. This makes it easier for students to study and for people to concentrate better during office work. Because it is effective against viruses of all kinds, the Cleanair also significantly reduces the risk of infection from colds and other infections. In addition, people with allergies to pollen, house dust or animal hair experience a significant improvement in their symptoms.

The quiet units are a highly effective supplement to normal ventilation. They make regular lessons possible again with disruption-free school hours that do not have to be interrupted several times by shock ventilation.

1. Safety instructions

1.1 Safety and warning labelling



**Warning of dangerous
electrical voltage**

Motor/High-voltage
transformer

All Cleanair Sky units are supplied with associated warning stickers. These warn of possible risks associated with the operation of the unit.

Control unit/fan/electrode/high-voltage transformer,
if necessary electrostatic filter



Attention automatic start-up

Rotating parts/Fan/Motor

1.2 Intended use

The unit may only be operated under the following conditions:

- Operation exclusively in living, office and practice rooms without condensing humidity
- Operation exclusively for air purification

No access by persons, including children aged 8 years and above, who are not capable of using the appliance safely because of their physical, sensory or mental capabilities or lack of experience or knowledge. They must not use the appliance without supervision or instruction by a responsible person.

Maintenance of the unit only by instructed personnel.

1.3 Foreseeable misuse

Any use other than that specified under the intended use shall be deemed to be improper use.

oxytec accepts no liability for consequences arising from improper use.

The guarantee does not apply to damage or defects caused by non-compliance with the operating instructions.

1.4 General safety instructions

Read and observe the following safety instructions carefully.

Read and observe the operating instructions completely before using the appliance.

Keep the operating instructions available to users of the unit at all times.



Danger to life from electric shock:

An electric shock can lead to serious injuries or even death.

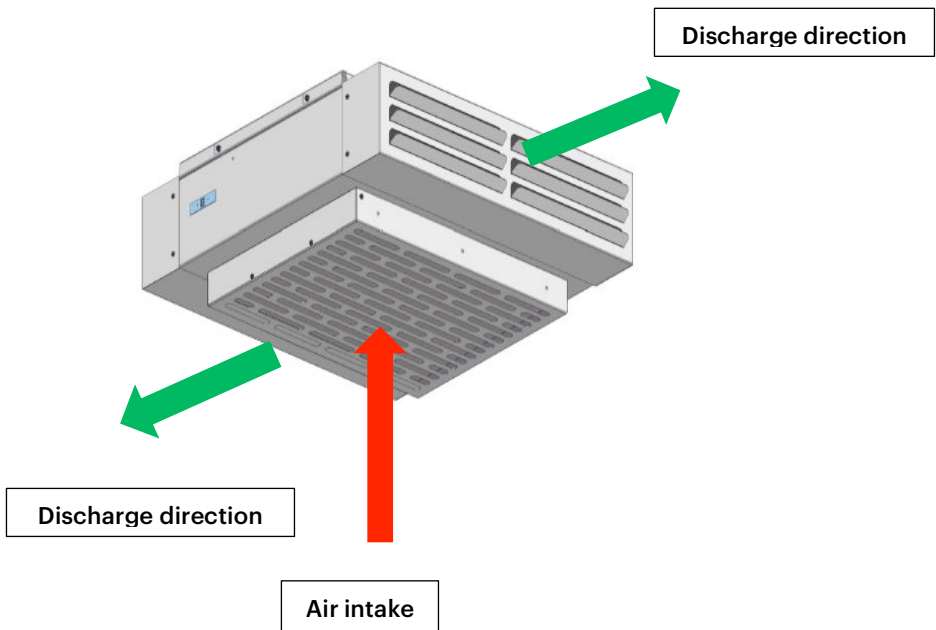
- Do not operate a unit that is damaged.
- Only connect the unit to a mains voltage according to the type plate.
- Never repair the unit yourself.
- Do not make any modifications to the unit.
- The unit contains live parts.
- There is a danger to life if the housing is opened.
- Only use original accessories.
- When carrying out cleaning and maintenance work, always switch off the fuse and secure it against being switched on again.

2. Technical Data

Housing	Aluminium	Powder-coated
Power supply	Voltage 230 V	50 – 60 Hz
	Power	<80 Watt
Power	Fixed connection	Cable length 80cm
Fan	Level 1 – 4 selectable	
	Fan speed 1	150 m³/h <30dB 21 Watt
	Fan speed 2	265 m³/h <39dB 26 Watt
	Fan speed 3	410 m³/h <49dB 39 Watt
	Fan speed 4	600 m³/h <58dB 75 Watt
Filter	Pre-filter G4	
	NTP-Electrode	
	Product filter F9	
	Activated carbon catalyst	
Net weight	13 kg	
Dimensions	210 x 680 x 610 mm	(H x W x D)
Ambient-temperature	Temperature range:	10°C – 30°C

3. The Cleanair Sky

Whether in waiting rooms, conference rooms, workrooms or living rooms.
– the air is enriched with bioaerosols as well as dust. These can become a source of infection in times of pandemic. The Cleanair inactivates viruses, bacteria and spores highly effectively. The air currents in the room are taken into account. The unit, which is suspended centrally under the ceiling, ensures an even, optimal air exchange.



3.1 Pre-filter stage

A filter cassette with filter class G4 is installed in the intake in the base plate of the unit. Its task is to remove the dust from the room air.

Changing the filter is very easy. The unit does not have to be opened for this.

3.2 Fan

An EC centrifugal fan with backward curved blades is installed. This guarantees efficient and low-noise operation. The fan is preset to 4 power levels and can be controlled via the remote control.

3.3 NTP-Electrode

The proprietary NTP electrode has been developed for air treatment. The volume plasma it generates is capable of destroying or inactivating organic compounds such as odours or microorganisms in fractions of a second. It has a minimal energy consumption.

3.4 Product filter

The reaction in the volume plasma can lead to cluster formation. These dust particles are then filtered out in the product filter with filter class F9.

3.5 Activated carbon catalyst

This activated carbon filter serves as a catalyst to eliminate odours and any ozone that may have formed. It guarantees the safe use of the unit and is therefore also monitored with the control unit.

3.6 Remote control

An infrared remote control allows the unit to be switched on and off and the overrun levels to be selected.

3.7 Time programs

These levels can also be adjusted via the remote control.

Power level: In this level, the unit operates with a volume flow of 600 m³/h. Because of the slightly higher volume, this level can be used during break times. Its running time is set to 10 minutes. After that, the unit returns to the previous stage.

Run-on: When the unit is switched off, it can run on for 30 minutes.

4. First use

4.1 Preliminary remark

The unit was thoroughly checked and carefully packed before leaving the factory.

If the packaging is damaged or opened, check the unit for external damage immediately upon receipt.

Never put a damaged unit into operation. In the event of a complaint, contact your supplier immediately.

Observe the technical data as well as the safety instructions before the first operation.

4.2 Scope of delivery

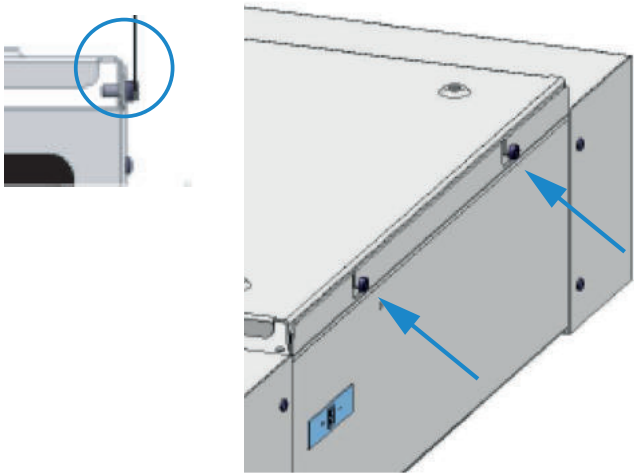
1 x Device
1 x Mounting plate
1 x Remote control
1 x Operating instructions

4.3 Assembly



1. The mounting plate is fixed to the ceiling with four screws. Select the dowels according to the ceiling material and the dowel manufacturer's specifications. Please pay attention to the discharge direction of the unit.

2. Remove the protective strips from the two outlet grilles.
3. Connect the power cable to the connection cable on the unit.
4. Hang the unit in the mounting plate and secure it with the locking screws.



5. Operation

5.1 Overview remote control



5.2 Switch on the unit

Either Restore-Button: Unit starts in the stage, in which it was switched off.
Or Plus-Button: Unit starts with level 1.

5.3 Select fan level

Select the appropriate level (1 – 4) with the plus or minus key.

5.4 Power level

Press the pause button. The unit goes to level 4 for 10 minutes and then switches back to the output level.

5.5 Switch off the unit

- Minus-Button/Level 0: The unit then switches off or to standby.
- Or Menu-Button: Unit switches off after 30 minutes. During the display flashes. The overrun can be switched off by pressing the button again.
- Or Restore-Button: Unit switches off, but saves the level for the next time it is switched on.
- Or switch off voltage: The next time the unit is switched on again to the same level as before it was switched off.

5.6 Display



- Level 0 = Unit is off, but on voltage
- Level 1 – 3 = Normal running levels
- Level 4 = Power Level

Next to the display is the infrared receiver to which the remote control should be pointed when switching.

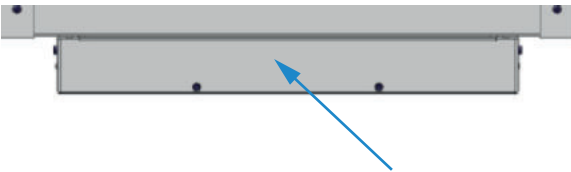
6. Maintenance and Care

6.1 Cleaning

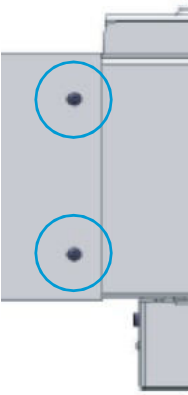
Clean the outer cover only with a soft cloth and not with abrasive or corrosive cleaning agents.

6.2 Change pre-filter

Only change the filter when it is switched off. To change the prefilter, open the inspection flap and pull out the filter cassette. Then install the new filter and close the flap.



6.3 Change activated carbon filter



To change the filter, loosen the screws on the sides of the outlet nozzles and remove the nozzles with the filter. Replace the filter. Reinstall the outlet connection pieces and tighten them with the screws.

6.4 Maintenance intervals

Pre-filter: You should change the filter every 3 to 6 months by pulling out the filter cartridge. Product filter and activated carbon catalyst: after 9000 operating hours.

Product filter and activated carbon catalyst: after 9000 operating hours. With eight hours of operation per day, this corresponds to five years. The unit indicates when it needs to be changed.

6.5 Malfunction

Unit cannot be switched on – Check the mains voltage!

Error message	Meaning
F with number	This fuse is defective.
L	The fan has a malfunction.
H	Pls change the activated carbon.
T	The filter is not mounted correctly.

6.6 Spare parts

Product name	Description	Dimensions in mm
Filterset Sky	Replacement filter set consisting of Prefilter G4 Product filter F9, 2 Activated carbon catalysts, 4	
Prefilter Sky	Prefilter G4	392 x 495 x 24 (L x W x H)
Product filter F9	F9 Filters, 2	595 x 130 x 25 (L x W x H)
Carb Sky	Activated carbon catalysts, 4	595 x 130 x 25 (L x W x H)

7. General information

7.1 Transport

If possible, transport and ship the unit in its original packaging. Please pay attention to the top and do not tilt the Cleanair Sky.

7.2 Disposal

You must not dispose of the Cleanair Sky in household waste. Its components are separated and recycled. Otherwise, improper disposal can cause lasting damage to the environment. According to the Electrical and Electronic Equipment Act (ElektroG), as a consumer you are obliged to return electrical and electronic equipment at the end of its service life free of charge to the manufacturer, the point of sale or to public collection points.

7.3 Guarantee

We guarantee to repair any defects in the material and function of your device free of charge for two years (for private customers) or one year (for companies and business customers).

Your invoice is valid as a warranty certificate. Please contact your oxytec dealer if required.

This guarantee does not apply if you treat the Cleanair Sky improperly and in case of normal wear and tear. The guarantee also expires if you or a third party modify anything on the unit.

7.4 Certificates



Fraunhofer-Institut für Bauphysik IBP

Forschung, Entwicklung,
Demonstration und Beratung auf
den Gebieten der Bauphysik
Zulassung neuer Baustoffe,
Bauteile und Bauarten
Bauaufsichtlich anerkannte Stelle für
Prüfung, Überwachung und Zertifizierung

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Effizienz des Raumlufthereinigers von oxytec (Cleanair Sky L) auf die Reduktion und Inaktivierung von luftgetragenen Viren

Durchgeführt im Auftrag der
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97 percent fewer viruses in the room air - this is the result of the study "Efficiency of the room air purifier from oxytec (Cleanair Sky) on the reduction and inactivation of airborne viruses". The Fraunhofer Institute for Building Physics (IBP) tested the Cleanair Sky, which cleans the room air using the volume plasma generated in the NTP process.

The tests were carried out under realistic room conditions, not only with aerosols, but with living viruses that are identical to SARS-CoV-2 in structure, size and stability, but are not a health hazard. The virus family is recognised for test series of this kind. Thus, the study meets all the requirements of the Federal Environment Agency for realistic conditions.

The result: The device inactivated the viruses by 97 per cent after 165 minutes. A reduction of 73 per cent was already measurable after 45 minutes.

In comparable studies, often only salt water is evaporated in the room or viruses are only tested in a test tube or on a filter. Inside the Cleanair Sky, the air flowing through it is put into a non-thermal plasma state for an extremely short time and the viruses are inactivated. Ozone is formed in the process. This reaction only takes place inside the unit. Therefore, the ozone concentration measured in the indoor air was very low and harmless to health: a maximum of $10 \mu\text{g}/\text{m}^3$, which is only 8 per cent of the target value of $120 \mu\text{g}/\text{m}^3$ specified in the Federal Immission Act. This target value is often far exceeded on summer days when ozone is produced by nitrogen oxides in car exhaust fumes.

The Federal Environment Agency has stipulated that in the case of ozone-producing air purification processes, the secondary products emitted by the device into the indoor air must also be measured. Another result of the Fraunhofer IBP study: no critical pollution by secondary products was detected during air purification with the Cleanair Sky.

7.5 Service

If you have any questions about your Cleanair Sky, please feel free to contact us. You can reach our customer service at:

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