AIR CLEANER

HIGHLY EFFICIENT UV-C AIR DISINFECTION

Aircleaner AC-800pro / ECO

Air cleaner pro

The Pro Series was specially developed for quiet and efficient air disinfection. Ideal for small rooms or in combination with several devices, this Air Cleaner reliably reduces active germs in the aerosols of the air. Viruses, bacteria and spores are effectively and reliably reduced by up to 99.999% (Log. 5) in the aerosol. Depending on the area of application, the devices are delivered modified according to the desired requirements. Coated CDF housings and solid HPL core housings for the - medical sector are available.

UVC- technology

By means of a maintenance-free circulating air fan, the ambient air is sucked in at the upper end of the housing and fed into a UV-C combustion chamber. In the specially mirrored and completely shielded combustion chamber (reactor), germs in the aerosol are effectively and reliably inactivated within a fraction of a second by means of a high-performance UV-C tube. This process does not produce any pollutants, ozone or other half-life products.

Fields of application

CDF: Office, meeting room, public zones, gastro areas, medical sector, noursing homes. HPL: Medical sector, sterile environments, laboratories, testcenters.

Calculation basis of the efficiency

All units are calculated as follows: 1 run per hour, efficiency log. at 20°, 60% humidity with 70%. The basic calculation was done on to the residual power of the UV-C tubes at reaching the 12'000 hours.

+ ECO Version

The ECO version with a DC- fan and the air flow can be individually regulated from 0 - 100%!

Certificate of efficiency

Tested by University of Fribourg Switzerland.One run efficiency of Corona Virus (ms2 bacteriophage a surrogate for sars-cov-2 "covid-19").

Efficiency

Corona Virus	> log 5 (99,999%)
Influenza	> log 1 (98,870%)
S. aureus	> log 1 (98,710%)
A. baumannii	> log 2 (99,200%)
E. faecium	< log 1 (84,920%)
C. difficile	< log 1 (80,400%)

Certificate of conformity

All Air Cleaner products are "Certificate of Conformity" certified by the notified body Eurofins Switzerland.

Fact`s & Figures

Efficient disinfection from up to Log. 5 (99,999%).
Absolutely harmless to health.
Can be used in busy areas.
No ozone formation thanks to special tubes.
Maintenance-free operation up to 12000 hours.
Swiss Made construction (pat. pend.) and production.
Individually modified for every field of application.
No filter exchange or other maintenance necessary.
No chemical products required.
Extremely low energy consumption.

Technical specifications

Dimensions (l,w,h)	550 x 1040 x 1100mm
Weight	97kg (CDF/ HPL)
Voltage	230volt
Power	172watt
Max. m3/h	< 800m3/h
Sound	ca. 52.2 db /3m
Service Interval	12000 h
Manufacture	Swiss made
Certification	COC Eurofins
CDF (full core)	coated black, white
HPL (sanitized)	antibacterial, white

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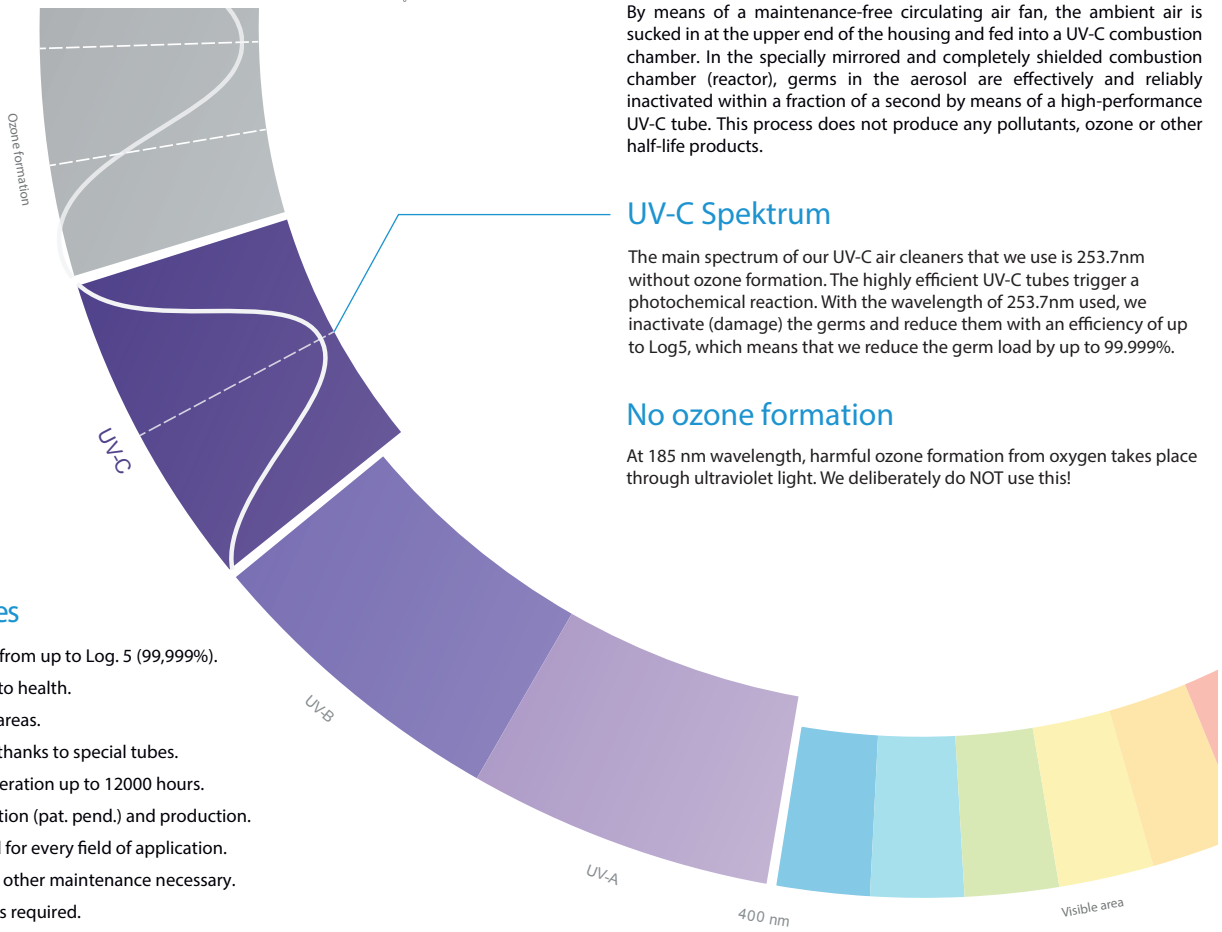
UVC technology



UV-C disinfection

By means of a maintenance-free circulating air fan, the ambient air is sucked in at the upper end of the housing and fed into a UV-C combustion chamber. In the specially mirrored and completely shielded combustion chamber (reactor), germs in the aerosol are effectively and reliably inactivated within a fraction of a second by means of a high-performance UV-C tube. This process does not produce any pollutants, ozone or other half-life products.

UV-C Spektrum

The main spectrum of our UV-C air cleaners that we use is 253.7nm without ozone formation. The highly efficient UV-C tubes trigger a photochemical reaction. With the wavelength of 253.7nm used, we inactivate (damage) the germs and reduce them with an efficiency of up to Log5, which means that we reduce the germ load by up to 99.999%.

No ozone formation

At 185 nm wavelength, harmful ozone formation from oxygen takes place through ultraviolet light. We deliberately do NOT use this!

Fact`s & Figures

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Can be used in busy areas.
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Swiss Made construction (pat. pend.) and production.
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	AC-100pro	AC-250pro / ECO	AC-500pro	AC-800pro / ECO	AC-1600pro	AC-250pro DENTAL
Corona Virus	> log 5 (99,999%)	> log 5 (99,999%)	> log 5 (99,999%)	> log 5 (99,999%)	> log 3 (99,970%)	> log 5 (99,999%)
Influenza	> log 3 (99,960%)	> log 2 (99,470%)	> log 2 (99,860%)	> log 1 (98,870%)	> log 1 (93,980%)	> log 2 (99,470%)
S. aureus	> log 3 (99,950%)	> log 2 (99,380%)	> log 2 (99,820%)	> log 1 (98,710%)	> log 1 (93,450%)	> log 2 (99,380%)
A. baumannii	> log 3 (99.980%)	> log 2 (99,640%)	> log 3 (99,910%)	> log 2 (99,200%)	> log 1 (95,160%)	> log 2 (99,640%)
E. faecium	> log 1 (96,590%)	< log 1 (89.040%)	> log 1 (93,740%)	< log 1 (84,920%)	< log 1 (69,430%)	< log 1 (89.040%)
C. difficile	> log 1 (94,380%)	< log 1 (84.800%)	> log 1 (90,560%)	< log 1 (80,400%)	< log 1 (63,570%)	< log 1 (84.800%)

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Housing variants CDF/HPL

Air cleaner pro housing variants

All Pro-Series air purifiers were developed for the most efficient air disinfection possible. The device housing plays a not insignificant role here. The Air Cleaner Pro air purifiers have been certified by an independent certification body Eurofins COC "Certificate of conformity". The Pro devices can be ordered with either CDF or HPL Sanitized housing, depending on requirements.

CDF housing

Our robust standard housing for individual use. The "compact density fibreboard" panels are almost indestructible and easy to clean. These enclosures are ideal for offices, waiting rooms, treatment rooms, schools, etc. The disinfectant-resistant surface guarantees the most sterile possible environment. COC (Certificate of conformity) certified.
For offices, meeting rooms, schools, nursing homes, medical areas, public areas * Standard housing

HPL housing

Our indispensable medical and laboratory housings when a sterile environment is indispensable. This housing variant is used in hospitals, medical practices and laboratories, etc. The disinfectant-resistant, solid core plate with a "Sanitized Actifresh" coating guarantees a sterile environment. COC (Certificate of conformity) certified. For medical areas, sterile environments and for laboratory applications as well as clean rooms.

COC certification

All Air Cleaner Pro device housings and components have been certified by the notified body Eurofins Switzerland as a "Certificate of Conformity".

CDF housing

For standard access decisions and CDF enclosures which have very robust and impact resistant surface permissions.

HPL housing

For the medical sector and laboratories, we recommend antibacterial HPL housings with a "Sanitized Actifresh" coating.

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AIR CLEANER

HIGHLY EFFICIENT UV-C AIR DISINFECTION

Efficiency proof

Scientific evidence

Calculation basis of the efficiency

All units are calculated as follows: 1 run per hour, efficiency log. at 20°, 60% humidity with 70%. The basic calculation was done on to the residual power of the UV-C tubes at reaching the 12'000 hours.

Certificate of efficiency

Tested by University of Fribourg Switzerland.One run efficiency of Corona Virus (ms2 bacteriophage a surrogate for sars-cov-2 "covid-19").

Certificate of conformity

All Air Cleaner products are "Certificate of Conformity" certified by the notified body Eurofins Switzerland.

Logarithmic efficiency calculation (more informations i product data sheets)

Mikroorganismus LD90 [mJ/cm2] Quelle: SARS-CoV-2 (LD90 = 0.655 mJ/cm2 (Walker 2007), Influenza A (LD90 = 1.940 mJ/cm2 (Kowalski 2001), S. aureus (LD90 = 2.000 mJ/cm2 (Nakamura 1987), A. baumannii (LD90 = 1.800 mJ/cm2 (Rastogi 2007), E. faecium (LD90 = 4.600 mJ/cm2 (Martiny 1988), C. difficile (LD90 = 5.400 mJ/cm2 (Kowalski 2011)






	AC-100pro	AC-250pro / ECO	AC-500pro	AC-800pro / ECO	AC-1600pro	AC-250pro DENTAL
Corona Virus	> log 5 (99,999%)	> log 5 (99,999%)	> log 5 (99,999%)	> log 5 (99,999%)	> log 3 (99,970%)	> log 5 (99,999%)
Influenza	> log 3 (99,960%)	> log 2 (99,470%)	> log 2 (99,860%)	> log 1 (98,870%)	> log 1 (93,980%)	> log 2 (99,470%)
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C. difficile	> log 1 (94,380%)	< log 1 (84.800%)	> log 1 (90,560%)	< log 1 (80,400%)	< log 1 (63,570%)	< log 1 (84.800%)

Technical specifications

Dimensions (l,w,h)	380 x 530 x 750mm	405 x 620 x 1000mm	485 x 820 x 1100mm	550 x 1040 x 1100mm	720 x 1150 x 1200mm	405 x 620 x 1000mm
Weight	47kg (CDF/ HPL)	55kg (CDF/ HPL)	71kg (CDF/ HPL)	97kg (CDF/ HPL)	129kg (CDF/ HPL)	65kg (CDF/ HPL)
Voltage	230volt	230volt	230volt	230volt	230volt	230volt
Power	46watt	101watt	175watt	172watt	271watt	412watt
Max. m3/h	< 100m3/h	< 250m3/h	< 500m3/h	< 800m3/h	< 1600m3/h	< 250m3/h
Sound	ca. 34.4 db /3m	ca. 41.0 db /3m	ca. 46.0 db /3m	ca. 52.2 db /3m	ca. 59.0 db /3m	ca. 51.4 db /3m
Serv. interval	12000 h	12000 h	12000 h	12000 h	12000 h	12000 h
Manufacture	Swiss made	Swiss made	Swiss made	Swiss made	Swiss made	Swiss made
Certification	COC Eurofins	COC Eurofins	COC Eurofins	COC Eurofins	COC Eurofins	COC Eurofins

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AIR CLEANER

Hocheffiziente UVC Luftentkeimung

Certificate of Conformity CoC

COC Certificate

Eurofins CERTIFEL CoC

(Type testing certification scheme)

Certificate number C6M22012-0013-98889

Product	UV-C air cleaner
Applicant	Air Cleaner AG Bahnhofstrasse 14 / Halle 15, 8544 Attikon Switzerland
Manufacturer	Air Cleaner AG Bahnhofstrasse 14 / Halle 15, 8544 Attikon Switzerland
Manufactured at/Factory	Air Cleaner AG Bahnhofstrasse 14 / Halle 15, 8544 Attikon Switzerland
Trademark	Air Cleaner
Type/Model	AC-100pro AC-250pro AC-250pro ECO AC-500pro AC-800pro AC-800pro ECO AC-1600pro AC-250pro Dental
Ratings, characteristics	220-240 V, 50/60 Hz, 46-412 W Class I, IPX0
Standards	EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019 EN 60335-2-65:2003+A1:2008+A11:2012 EN 62233:2008
Additional information	---
EC-Directives Commission regulations	2014/35/EU
Swiss regulations	SR 734.26 NEV

The products submitted by the applicant was type tested in accordance with the requirements of the mentioned standards. Eurofins certifies the conformity of the product with the standards. Presumption of conformity with the mentioned European directives and Swiss regulations can be assumed. Assurance of conformity during production will be in responsibility of the manufacturer. This certificate has been issued under the presumption and conditional on the fact that the applicant holds all necessary legal rights with regard to the product presented for testing and certification. This certificate has been issued under the presumption and conditional on the fact that the manufacturer fulfils the requirements written in the EU directives and Swiss regulations.

Results of testing are shown in report number: 20CH-01231.S01

Eurofins Electric & Electronic Product Testing AG
Swiss Certification Body

Martin Plüss
Product Certification

www.eurofins.ch Fehraltorf, 2020-12-10

T51_V01

AIR CLEANER

Hocheffiziente UVC Luftentkeimung

Proof of efficiency

sterilAir®
hygiene solutions since 1939

Berechnungen „**Air Cleaner** AC-800pro“

Berechnungsgrundlagen

Mikroorganismus	LD90 [mJ/cm²]	Quelle
Acinetobacter baumannii	1.800	Rastogi 2007
Coronavirus	0.655	Walker 2007
Clostridium difficile	5.400	Kowalski 2011
Enterococcus faecium	4.600	Martiny 1988
Influenza A	1.940	Kowalski 2001
Staphylococcus aureus	2.000	Nakamura 1987

Die Berechnungen wurden bei einer Restleistung (EOL) von 70% durchgeführt.

Berechnung bei einem Durchsatz von 800 m³/h

Volumenstrom in Abhängigkeit des Zielkeims und des Entkeimungsresultates

	A.baumannii	Coronavirus	C. difficile	E. faecium	Influenza	S. aureus
log1	1700 m³/h	4820 m³/h	**570** m³/h	**665** m³/h	**1580** m³/h	**1530** m³/h
log2	**830** m³/h	2350 m³/h	280 m³/h	325 m³/h	**770** m³/h	**750** m³/h
log3	**550** m³/h	1550 m³/h	180 m³/h	215 m³/h	510 m³/h	495 m³/h
log4	410 m³/h	1150 m³/h	135 m³/h	160 m³/h	380 m³/h	370 m³/h
log5	335 m³/h	**960** m³/h	110 m³/h	130 m³/h	310 m³/h	300 m³/h
Effizienz	**> 99.20%**	**> 99.999%**	**> 80.04%**	**> 84.92%**	**> 98.87%**	**> 98.71%**

Wichtig: Die Auslegung beruht auf theoretische Ansätze und Berechnungen. Werte und Resultate können durch Einfluss von Umweltbedingungen und Verschleisserscheinungen variieren.

Weinfelden, den 30. November 2020

Benjamin Frischknecht, Bachelor of Science
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Proof of efficiency

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Berechnungen „**Air Cleaner** AC-800pro ECO“

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Weinfelden, den 30. November 2020

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