Air Purifier Series - AircoTrans

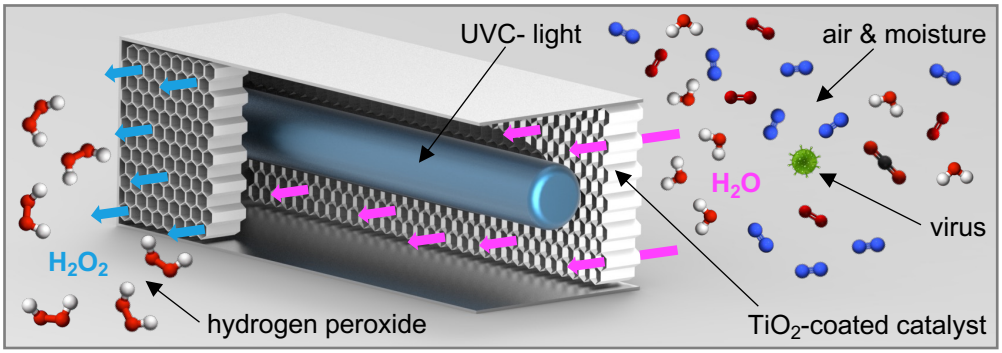
MUSFELD

Aircotech Clean

Working principle: Photocatalysis - an innovation from nature

By photocatalysis, hydrogen peroxide (H_2O_2) splits off from the air in a catalyst coated with titanium dioxide (TiO_2) under irradiation with UVC light. The low-concentration hydrogen peroxide actively and highly effectively (up to 99.99%) destroys microbial pollutants **"in situ"** in the **ambient air** as well as on **surfaces** and in **air duct systems** such as:

- **Viruses** e.g. SARS CoV 2, feline calicivirus, influenza, etc.
- **Bacteria** e.g. Staphylococci, enterococci, etc.
- **Fungi** e.g. Dermatophytes, conidiophores, etc.
- **Allergens**
- **Odors**



- **No toxic «concentration»** Hydrogen peroxide promptly decomposes back into oxygen & moisture
- **No harmful ozone (O_3)** Specific selected wavelength of the UVC light
- **No dangerous filter replacement** No accumulation of pollutants in filters (hazardous waste)
- **Optional: Ionization** cleans air flowing through from fine particles (fine dust, pollen, etc.).

AircoTrans 200 / 1000 / 2500* / 5000*

** Customer specific design*

Application	Public transport vehicles, visually inconspicuous and almost silent
200 / 1000 / ...	In individual housing, free mounting, with fan and independent of the ventilation system
200-d / 1000-d / ...	Mounting in existing air duct, without fan
200-i / 1000-i / ...	Integrated in air conditioner, without fan
Purification method	UVC light (254 nm), hydrogen peroxide & ionization (optional)
Hydrogen peroxide	Health harmless concentration: 0.01 - 0.1 ppm or 0.0139 - 0.139 mg/m^3

Technical specification

** Customer specific design*

Models	AircoTrans 200	AircoTrans 1000	AircoTrans 200-d	AircoTrans 200-i
Operating voltage	12 V / 24 V	24 V	24 V	12 V
Power	5,8 W / 12,3 W	19,4 W	15,7 W	14,4 W
Flow rate / area	25 m³/h / 10 m^2	80 m³/h / 15 m^2	n.a. / 14,5 m^2	n.a. / 10 m^2
Application	Driver's cabin	Passenger cabin*	Air duct*	air conditioning unit*
Dimensions [mm]	240 x 180 x 80	400 x 300 x 113	165 x 105 x 310	265 x 55 x 30
Ionizer	Yes	Yes	No	No

Clean air creates healthy climate

Contact:
info@aircotech.ch

SWISS MADE

www.musfeldaircotech.ch

Harmlessness test of the air purifiers

Basel, June 15, 2022

Task:

«At the request of transport companies and in accordance with the requirements of the Federal Office of Public Health (FOPH), the health safety of the use of the device or the underlying technology for passengers and staff in public transport vehicles is to be investigated by technical measurement».

Excerpt Summary:

«All pollutant concentrations measured in the vehicles are significantly below all available reference or MAK values." The concentration of titanium dioxide particulate matter in the reference bus was ... by a factor of 5 ... below the ... limit values for nanoparticles. The remaining parameters checked were each at least a factor of 30 below the reference or occupational exposure limits used for comparison».

Field test in a public bus

France, April 20, 2021

Task:

The evaluation of the performance of the continuous H_20_2 disinfection process included:

- the execution
- the biocidal efficacy
- the concentrations of the chemical substances in the air.

Excerpt Summary:

The results of the air quality measurements, parameters: VOC, aldehydes and H_20_2:
The results show that the measured concentrations of volatile organic compounds in the air are significantly lower than the available interpretative values (AIGW, CLI and TWI).
The measured concentration of H_20_2 is well below the PMWT (<0.7% of the PMWT). The mass collected on the support material is below the quantification limit of the laboratory analytical method.
The results at the level of the driver and passenger areas show a good decrease in total flora between T0 and T1 (T0 + 2 days) and between T0 and T2 (T0 + 15 days). The results show an average decay rate of 93% at T1 and 92% at T2 at the evaluable points that were sufficiently contaminated with microorganisms only when sampling from the equipped bus 328.

Field evaluation phase H_2O_2

France, November 25, 2020

Task:

Permanent disinfection (technology: photocatalytic oxidation).
Sampling and counting of microorganisms on the surfaces and in the air.
The results of the study were based on samples collected in the air before and during the application of the process, in collaboration with a tram.

Excerpt Summary:

«The procedure of permanent disinfection showed effectiveness in relation to the reduction of microbial load» ... «showed significant reductions in total flora, which can be attributed to the continuous disinfection effect of the photocatalytic procedure».
«The process seems effective to us as it is able to reduce the contamination rate observed».

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