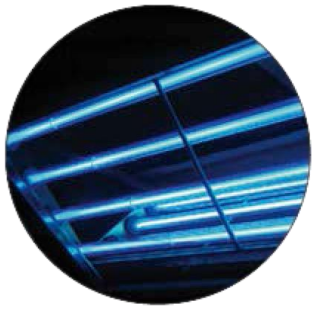
UV-C & Ozone Air-Treatment

AerO³ ACS UV-C module;

Chemical free removal of odour and grease in kitchen exhaust systems



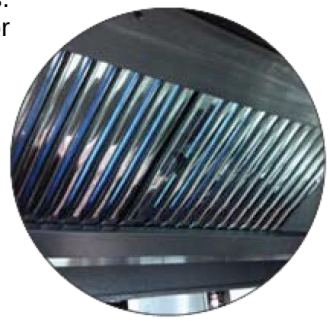
Environment-friendly Air Cleaning Solution

The AerO³ ACS UV-C Air Cleaning System described below significantly reduces the odour and grease content in kitchen exhaust air.

Functional Principle of the Oxidation Process:

- Exhaust air loaded with odour and grease flows across the AerO³ UV-C air cleaning system.
- The oxygen contained in the exhaust air is transformed into active oxygen by short wave UV-C light (O^3).
- The molecular chains of the organic odour and grease particles are split up by photolysis.
- Thus the following oxidation (cold combustion) is supported.
- Ozone (O^3) combines with the organic substances contained in the exhaust air.
- These compounds oxidise.
- The oxidised innocent compounds are removed by the exhaust system.
- Maximum temperature of the exhaust air to be treated must not exceed **45°C**, maximum humidity must not exceed **85%**.

Technical Data and Dimension Specifications

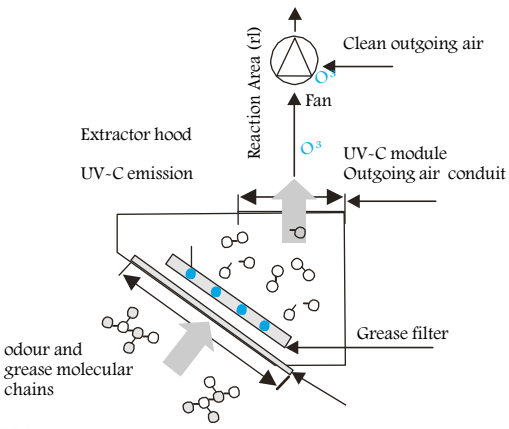


- Type and number of AerO³ ACS UV-C modules are to be adjusted relative to the volume of exhaust air, to the kind of kitchen exhausts and to the individual hoods. The emitter modules are installed in parallel behind the flame protection filters or UV-reactor, so all of the exhaust air has to flow along the AerO³ UV-C emitters.
- In the situation where temperature of the exhaust air in the emitter area exceeds 45°C, it should be cooled by a secondary air flow.
- Response time for the oxidation process amounts to ~2-4 seconds, depending on the type of kitchen operation.
- The reaction area needed (Rl) is determined on the basis of the volume of air to be treated, the size of the air conduit and reaction time.

Example for the calculation of the reaction area (rl) of the ventilation conduit with an assumed response time (rt) of 2 sec.

V/h : 3600s	= V/s	5000m³/h : 3600s	= 1,38 m³/s
V/s x rt	= V	1,38m³/s x 2s	= 2,77m³
A	= conduit	0,5m x 0,5m	= 0,25m²
A : V	= rl	2,77m³ : 0,25m²	= 11,08m

Consequently the conduit has to have a total volume of 2,77m³, or a total length of the reaction “leg” of approx. 11m in respect to to the assumed conduit size specifications. The fan should be positioned at the far end of the reaction conduit if possible. If is not sufficient, use AerO³KAT system



The outgoing air conduits should be designed accordingly

An air flow speed of 4m/s must not be exceeded in the emitter Area otherwise the splitting up of the molecule chains is not ensured.

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Product Description

AerO³ Technology Special AerO³ UV-C Emitters modules are made from stainless steel and allow for a 360° radiation exposure of the hood and of the exhaust air. The product life span of an AerO³ UV-C lamp is about 8.000 hours of operation, equaling about 2 years assuming a daily service of 12 hours. Afterwards lamp emitters have to be replaced in order to ensure constant effectiveness. Flame protection filters and emitters have to be cleaned depending on the amount of usage. AerO³ ACS UV-C Exhaust Air Cleaning Systems are CE-certified and are in compliance with DIN standard18869-7.

AerO³ ACS UV-C Exhaust Air Cleaning Treatment

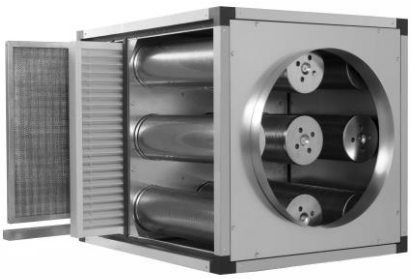
AerO³ 2-80 Lamp emitter performance:
2x80 W UV- emitter Air flow up to about:
800m³/h Size: 880 x 200 x 60

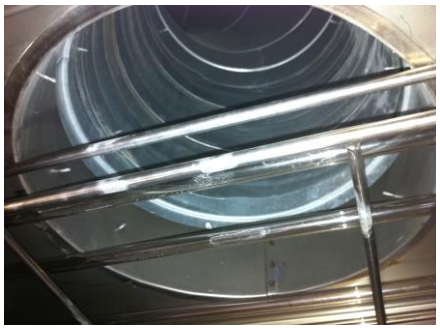
AerO³ 4-80 Lamp emitter performance:
4x80 W UV- emitter Air flow up to about:
2000m³/h Size: 990 x 300 x 60

AerO³ 6-80 Lamp emitter performance:
6x80 W UV- emitter Air flow up to about:
3000m³/h Size: 990 x 300 x 60

AerO³tronic UV PLC managed control unit with:
Operating hour indicator Operating hours reset
Radiation emitter Alarm signal in case of emitter exchange. Signal for upcoming emitter exchange Box:
steel or stainless steel
Size: 380 x 300 x 210

Our performance, your profit
Kitchen exhaust without odour and grease





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