

***Grease & Odour Control Solutions  
for Commercial Kitchens  
using UV/ozone or low temperature plasma***



**Clean Kitchen Air, Cleanair Plasma and Clean Grill Air – effective  
and safe in commercial kitchens, snack bars and in front cooking areas**

# Cleaning of gastronomic exhaust air free from grease and odours



## REQUIREMENTS BY AUTHORITIES

- Cleaning regulations
- Fire safety
- Regulations regarding odours
- Environmental awareness
- Protection of listed buildings
- Waste heat recovery

## CUSTOMER REQUIREMENTS

- Independent of location
- Independent of ventilation system
- Increased awareness of hygiene
- Reduction in cleaning and maintenance work
- Increased fire safety
- Frontcooking

## AREAS OF APPLICATION

- Large-scale kitchens and canteens
- Snack bars
- Front cooking systems
- Recirculated air systems

## PRODUCT ADVANTAGES

- Removes germ-infested and odourous exhaust air
- Fire safety due to fat reduction and removal
- Can be upgraded at any time (depending on the respective ventilation system)
- Flexible use
- Exhaust air can be used for heat recovery at no extra effort
- Minimal installation efforts

## REAL LIFE EXAMPLES

### The Cleanair Plasma CAP 2000 system

The Cleanair Plasma 2000 systems are installed directly above the canopy and eliminate unpleasant odours without the need for an elaborate ventilation system.

#### Canteen

A Cleanair Plasma has been integrated into the ventilation system to remove odours from the canteen inside a multi-storey building and vent the purified air to the outside façade.

#### Snack bar inside a railway station

Snacks are cooked and fried in a railway station. As the building is listed, it was not possible to pass the exhaust air, that amounts to 3.000 m<sup>3</sup>/h, via the roof. Thus it was required to vent the exhaust air to a concourse, 3 meters

off the ground. The system makes this possible and can simultaneously use the exhaust air for heat recovery.

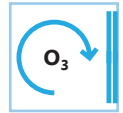
#### Bakery/café – frying odours

The price of a ventilation system should not stop customers from enjoying freshly fried bacon and eggs. However, cooking this could lead to unpleasant odours; and thus the Cleanair Plasma comes to the rescue.

#### Mobile catering systems

With a capacity of 650 m<sup>3</sup>/h, the Cleanair Plasma is ideal for mobile catering units. It removes odours. Two devices can be installed if required.

# Kitchen exhaust air purification adapted to statutory requirements



## Clean Air Plasma – CAP

The Cleanair Plasma technology is based on the physical principle of low-temperature plasma (LT plasma) and works entirely without chemicals. The innovative combination of several filtering steps removes grease and unpleasant odours.

### Cleanair Plasma – CAP 1500 – 10000

A 4-step ventilation device for exhaust air purification for 1.500 - 10.000 m<sup>3</sup>/h, which compactly results in a sustainable and high levels of odour reduction.



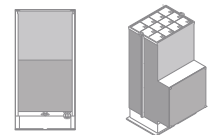
### CAP 600 / 1200 HA ES

A 4-step ventilation device for exhaust air purification for 600 and 1200 m<sup>3</sup>/h. With electrostatic filter and plasma unit. For installation in the ventilation duct or as a canopy attachment.



### Cleanair Plasma 650 V

The Cleanair-Plasma 650 V is an efficient purification module for 650 m<sup>3</sup>/h, which can be flexibly integrated into any front cooking station and mobile catering system.



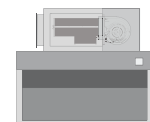
### Cleanair Plasma Tower – CAP 600 T

Shaped like an upright tower for counter extractors, the 4-step system is a system comprising of pre-filters, electrostatic filters, plasma unit and carbon.



### Cleanair Plasma Hood – CAP 600 H / 1200 H

Integrated into a canopy, the system offers a functional solution for 500-1.950 m<sup>3</sup>/h of exhaust air.

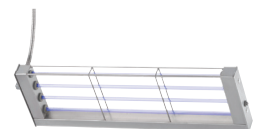


## Clean Kitchen Air – CKA

An efficient and economical solution is offered here by the UV-/ozone-based system Clean Kitchen Air (CKA). With this air purification system, the air flows over special tubes producing UV light, photozone tubes.

### CKA Module – CKA IB 100 – 600

Suitable for any canopy and ventilation ceiling between 500-3.000 m<sup>3</sup>/h per module, flexible in installation and can be upgraded at any time.



### CKA Duct – CKA IB K

An extension to a counter or deep fat fryer canopy or placed centrally in the ventilation duct – a fully pre-assembled solution in stainless steel or zinc-plated.



## Clean Grill Air – CGA

The Clean Grill Air is a filter system that is water based and can be connected as an additional unit with a charcoal barbecue, as well as a filter and air extraction system to prevent particle deposits.





# Odour- and germ-free in four steps with full air extraction technology on the basis of LT plasma technology.

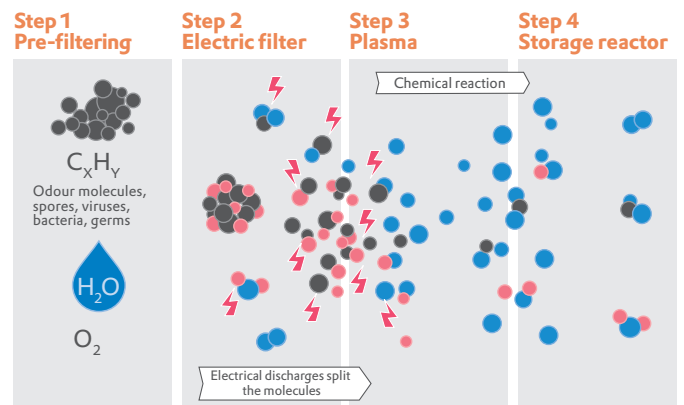


## Cleanair Plasma – CAP 1500 - 10000

Effective odour removal by a compact exhaust air purification unit that can be placed indoors or outdoors. There is a pre-filter and fan in the first chamber, followed by the plasma units in the second chamber. In the third chamber, the activated carbon works as a storage reactor. The compact unit is a standardized device that is available in various sizes. The exhaust air is more or less free of odours after purification, and can then be fed directly to an outside vent. There is no need for a complicated air extraction system or duct networks.

### PRODUCT ADVANTAGES

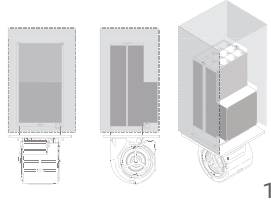
- Thanks to the alternative air extraction, catering businesses can be developed in places where it was not once possible
- No more annoying odours
- Exhaust air can be safely fed into places where people linger (shopping street)
- Small cooking stations can be run, e.g. in shopping centres with secondary air (circulating air)
- Upstream heat recovery is possible at no extra effort
- There is a technical solution available in the event of complaints and neighbourhood disputes
- Kitchen exhaust air treatment becomes a "ventilation device"



### MODE OF OPERATION

- **Pre-filtering:** Coarse and finest aerosols are removed from the extracted air by a mechanical filter
- **Electric filter:** The molecule structures are broken up by way of electrical voltage
- **Plasma:** Oxidation/dissociation (oxidative degradation)
- **Storage reactor:** Non-oxidized compounds are retained in an activated carbon filter and oxidized with the remaining ozone.

# Odourless front cooking stations and mobile catering systems



1

## Cleanair Plasma – CAP 650 V

The Cleanair Plasma Circulating Air Filter can be flexibly integrated into front cooking stations and mobile catering systems. The filter is suitable for assembly directly on the blowout support. Available with and without EC radial fan.

### Technical details 1

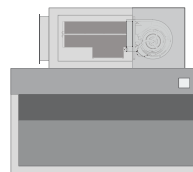
Flow rate:	650 m <sup>3</sup> /h
Consumption:	ca. 175 W/230 W
Dimensions:	270 x 300 x 681 mm

### Technical details 2

Flow rate:	600-2.600 m <sup>3</sup> /h
Consumption/unit:	ca. 175 – 700 W
Dimensions	flexibly adjustable
Available with or without EC radial fan	

### Technical details 3

Flow rate:	600/1200 m <sup>3</sup> /h
Consumption/unit:	ca. 230/460 W
Dimensions:	1200x320/620x350 mm
Available with or without EC-radial fan	



2



3

## Cleanair Plasma Hood – CAP 600 H

Effective exhaust air purification by way of a wall-mounted canopy with compact exhaust air technology. The purified air is emitted to the environment in an odourless, grease- and germ-free condition. The Cleanair Plasma circulating air canopy is independent of location and duct system.

## Cleanair Plasma Hood – CAP 600/1200 HA ES

A 4-step ventilation device for exhaust air purification for 600 and 1200 m<sup>3</sup>/h. With electrostatic filter and plasma unit. For installation in the ventilation duct or as canopy attachment.

## REAL LIFE EXAMPLES

### Festival tent, Switzerland

Thanks to the integration of this technology, the exhaust air can be funneled directly to the outside. The tent remains free of exhaust air ducts that impair the overall appearance.

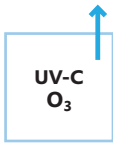
### Frontcooking

Air is meant to remain fresh during the live preparation of food. The Cleanair Plasma offers an efficient

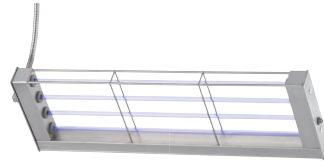
purification model for this purpose, which can be integrated into any front cooking system. The innovative combination of several filter steps removes grease and odours in a high-performance, hygienic and effective way.

### Alternative to fume extractor hood

The Cleanair Plasma comes to the rescue in areas where a fume extractor hood cannot be installed and it removes kitchen smells.



# Increased fire safety by way of CKA UV-/ozone-technology



## CKA Module – CKA IB 100 - 600

A common problem of catering locations are the odours that occur during: frying, cooking, and roasting. The oxytec CKA system offers an efficient and economical solution. The air is extracted above the cooker and is purified after passing through the grease filter, where organic, fatty and odour producing substances are „burned cold“. The amount of grease in the air extraction systems and the emission of stenches into the environment is significantly reduced.

**Odour testing in a steakhouse in Düsseldorf:** The measurement was taken with an olfactometer and was carried out by Müller-BBM, who is one of the leading engineers for consulting services, tests and planning. After taking three odour samples they came to the following conclusion: „The effectiveness of the UV/ozone air purification system by oxytec is at an average of 95,6%.“

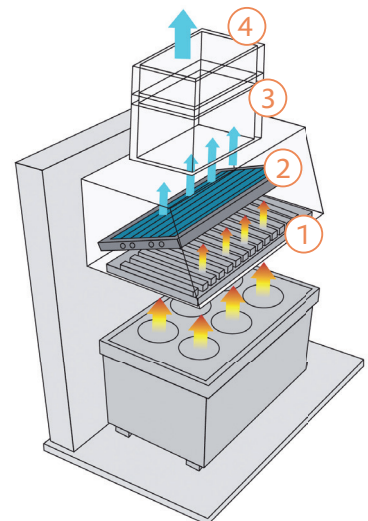
### PROPERTIES

- Purification system especially for hot, very greasy and strong smelling exhaust air
- Effectively destroys organic, fatty and smelling particles
- Keeps the exhaust air ducts grease-free
- Automatic CIP purification system for UV/ozone tubes is possible
- TÜV tested

**The CKA air purification system is extremely flexible.** It comprises modules, i.e. six different UV systems that are selected and combined according to the on site requirements. The cassettes are stable, made from rust-free material and can be installed directly into the extractor canopy or the ventilation system near the source of odours.

### MODE OF OPERATION

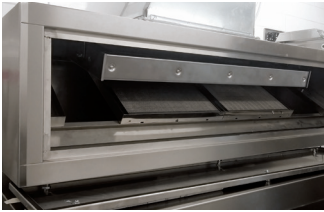
- ① The fatty and steamy waste air passes the fat filter of the fume extractor hood.
- ② The photozone tubes of the oxytec CKA module producing UV light convert natural oxygen into ozone.
- ③ The ozone oxidizes fat and odour carriers. The residues (CO<sub>2</sub>, water, dust) are removed with the exhaust air flow.
- ④ The ventilation system and duct remain free of grease and odours.



# Flexible ways of use – also for special fields of application



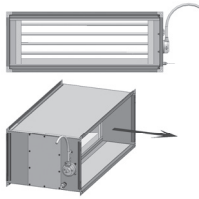
UV-C  
O<sub>3</sub>



## CKA Duct – CKA IB K

Modular UV-/ozone exhaust air purification unit for reducing odours and eliminating grease for installation in the exhaust air duct as a duct part.

A duct part is always installed when the canopy is very small and there is insufficient space or if several extraction flows need to be merged. This solution is an option even if the tenant or owner of a catering unit are not the same person as the building owner, as is usually the case in shopping centres.



### MODE OF OPERATION

- Pre-filtering of coarse particles and non-oxidizable substances
- Reducing the temperature
- In addition with humidity reduction



## Clean Grill Air – CGA

The washer was specially developed for filtering smoke, grease, and soot from coal and charcoal barbecues. The components of the exhaust air flow are extracted

separately. The washing water can be used for a longer period depending on the process. At the end of the predefined period, the automatic cleaning system switches on. The washer empties and cleans itself without any need for manual intervention afterwards. The filter system removes 95% of all sooty particles and 30 – 40% of the smell. The flue gas purification system can be set up both indoors and outdoors with a weather-resistant cover made from rust-free steel.

## REAL LIFE EXAMPLES

### Food court

40.000 m<sup>3</sup>/h of exhaust air from the food court of a shopping centre flowed directly towards adjacent apartments and car parks because the roof of the shopping centre is lower than the neighbouring buildings. By installing the CKA system, complaints from neighbours about odours could be prevented.

### Shopping mall

In the shopping mall, the exhaust air from five restaurants can lead to the other commercial tenants being disturbed by smells. If the exhaust air outlet of a Chinese restaurant is near the air supply suction point of another shop causing the exhaust air to be suctioned into the other tenants' shops. The solution: all restaurant ventilation ceilings and canopies were upgraded with CKA units. Ozone and odour analyses confirm the satisfying result.

**Please contact us for individual advice.**  
*We are ready for you – on the phone or on site!*

## CUSTOMER FEEDBACK

*"We didn't believe in it! No technology in the world had been able to tackle our greasy steam. But the installation of the oxytec CKA systems in our extractor hoods and the difference has convinced us."*

**Jürgen Gosch, Gosch Fisch, Sylt**

### YOUR ADVANTAGES AT A GLANCE

- Significantly higher level of fire safety
- All components of the air extraction system remain grease-free for the most part
- Odour elimination improves air quality even outside of the building
- Effective hygiene and improved indoor climate: Destruction of bacteria and mould spores
- Cost-saving: Significantly reduced maintenance work, longer service life of the air extraction unit
- Use of the exhaust kitchen air for heat recovery is possible

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