



Product manual

# UV Ozone system

UV-OS

Kitchen ventilation

Version 1.0.0  
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## UV-OS HMI

Provides effective method for removal of odors and grease in kitchen hoods and exhaust systems of professional kitchens.

Numerous companies in the field of hotel and catering and the food industry, find the need for more effective removal of odors and grease formed during the food preparation process. On occasion cooking in professional kitchens, using various ingredients, spices, oils and fats, by burning different types of fuel (wood, coal or gas), but also depending on the way the food is prepared, numerous organic compounds are released, which in addition unpleasant odors can also be harmful to inhalation. Although grease filters remove up to 95% of grease from the resulting vapors and smoke, the remaining 5% are constantly building up on the walls of kitchen hoods and exhaust ventilation ducts, which, in addition to inconvenient odors and the formation of numerous microorganisms, leads to a very high risk of fire. The main goal of UV Ozone System HMI air conditioner is a highly efficient neutralization of odors and preventing the deposition of fat in professional kitchens, created during the process food preparation.



### DIMENSIONS

	UV-OS-1	UV-OS-2	UV-OS-3	UV-OS-4	UV-OS-6	UV-OS-8
<b>AIR VOLUME FLOW</b>	< 2000 m <sup>3</sup> /h	< 4000 m <sup>3</sup> /h	< 6000 m <sup>3</sup> /h	< 8000 m <sup>3</sup> /h	2 x < 6000 m <sup>3</sup> /h	2 x < 8000 m <sup>3</sup> /h
<b>NOMINAL OUTPUT</b>	276 W	460W	736W	1150W	736W	1150W
<b>MAXIMAL DISTANCE BETWEEN LAMPS/HOOD AND POWER SUPPLY UNIT</b>	30m	30m	30m	30m	30m	30m
<b>AMBIENT TEMPERATURES FOR POWER SUPPLY UNIT</b>	+5°C do +40°C	+5°C do +40°C	+5°C do +40°C	+5°C do +40°C	+5°C do +40°C	+5°C do +40°C
<b>POWER SUPPLY UNIT DIMENSIONS</b>	500 x 400 x 210mm	600 x 400 x 210mm	600 x 400 x 210mm	600 x 400 x 210mm	2 x 600 x 400 x 210mm	2 x 600 x 400 x 210mm
<b>POWER SUPPLY UNIT WEIGHT</b>	13 kg	15,5 kg	16,5 kg	17,5 kg	2 x 16,5 kg	2 x 17,5 kg
<b>DEGREE OF PROTECTION IEC/EN</b>	IP54	IP54	IP54	IP54	IP54	IP54

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### PRODUCT OVERVIEW

## How does the UV Ozone system work?

The UV Ozone system uses ultraviolet light technology that emits special vacuum UV lamps, designed to operate at a wavelength of 185 nm, creating ozone molecules.

This system removes unpleasant odors and prevents the deposition of grease particles in two ways, photolytically and by oxidation. First, UV photolysis neutralizes and destroys fat and odor molecules, breaking DNA bonds in chains of organic molecules. In the same way, microorganisms such as bacteria are eliminated. Viruses, fungi and mold which significantly contributes to better meeting of the hygienic requirements in professional kitchens. Additionally, vacuum UV radiation, produces ozone molecules from oxygen molecules stream around the lamp which oxidize the present fragrant organic compounds, breaking them down into carbon dioxide, water and residual ozone, thus leaving waste air odorless. The oxidation process also acts on decomposition grease in the exhaust air which prevents deposition on the walls of the ventilation duct.

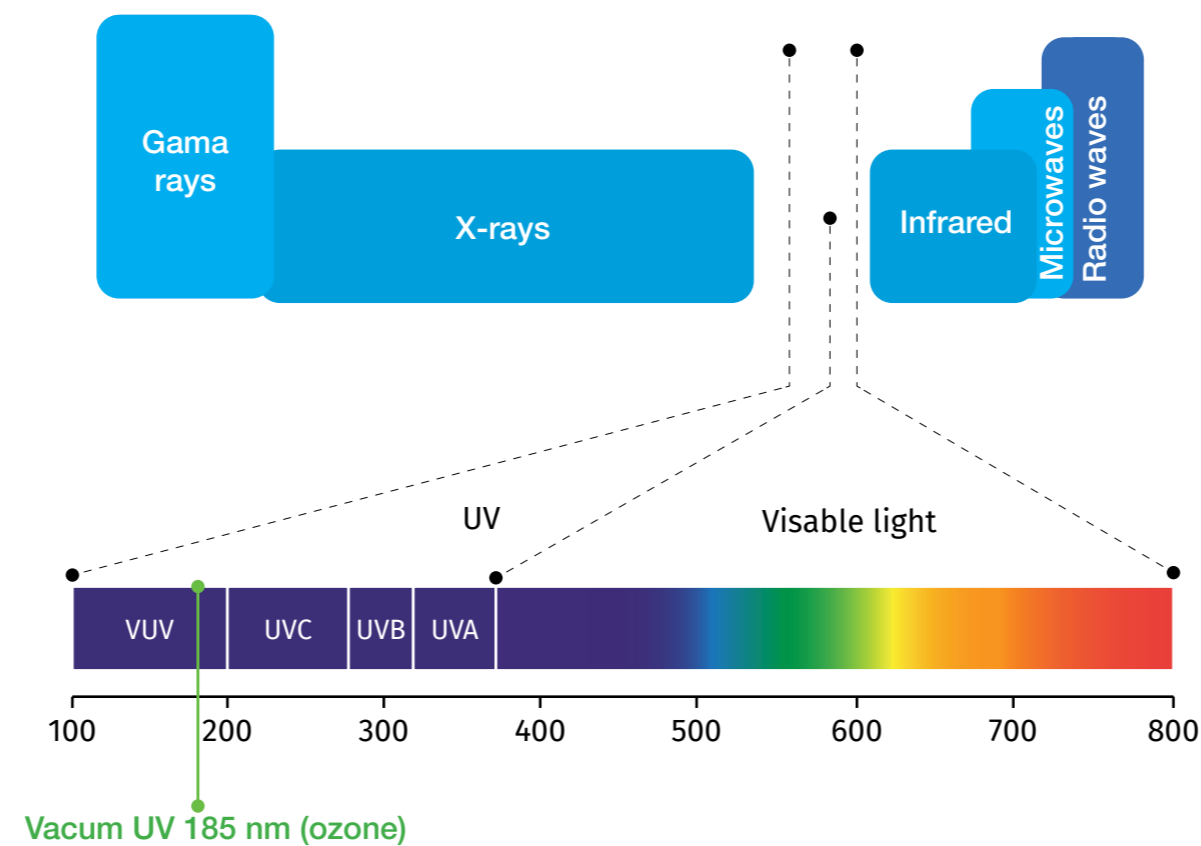
## Application of UV Ozone system

The UV Ozone system is a compact device that can be easily installed in new or existing air extraction systems in professional kitchens. During installation, the minimum technical requirements and safety measures specified in the manufacturer's instructions must be observed. The UV Ozone system can be used in facilities for different areas of food preparation:

- Restaurants and hotel kitchens
- Canteens and canteens
- Open kitchen types
- Food industry
- Mobile culinary events
- Grills with grill
- Fast food restaurants
- Bakeries
- Fish and meat processing
- Coffee roasters

The UV Ozone system can also be used in many other places where it is necessary to remove unpleasant odors or ensure high purity of the treated medium. Depending on the place of installation of the UV Ozone system, it is recommended to install additional components such as FKU filters with activated carbon that removes the remaining ozone molecules in case the exhaust air exhaust is carried to the area where people live (terraces, promenades, etc.).

Contact our technical team for additional details and advice on design and installation.



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## ORDERING KEY

ORDERING KEY (1) UV Ozone system

### UV-OS-1

- (1) UV-OS-1
- UV-OS-2
- UV-OS-3
- UV-OS-4
- UV-OS-6
- UV-OS-8

\* For more technical information visit [www.klimaoprema.com](http://www.klimaoprema.com)

## Advantages of UV-OS ozone system installation

It ensures almost no maintenance, fat-free ducts and deodorization of the exhaust fumes. High performance vacuum UV lamps filled with amalgam remain extremely effective at ambient temperatures up to 80 °C. The long lifespan of one UV lamp, up to 10,000 operating hours, is minimized the number of services required, and the efficiency of the system reduces the need for dry cleaning of the exhaust system professional kitchens.

The most important advantages of installing the UV Ozone System:

- Effective removal of unpleasant odors from the exhaust air by decomposing odor molecules already in the phase of origin.
- Prevents the deposition of new grease and removal of the existing deposits in the exhaust system.
- No fire hazard due to burning of fat deposits - the best possible protection against occurrence of fires in professional kitchens.
- Meeting hygiene standards by eliminating a large number of microorganisms.
- Since unpleasant odors and impurities have been removed, warm air can be recirculated through the system.
- Easy installation, use and maintenance of the system with automated operation.
- Long life of UV lamps - up to 10000 hours with occasional wiping of lamps with denatured alcohol and fabric.
- Quick and easy replacement of UV lamps during service.
- Significantly reduced need for dry cleaning of the exhaust system.
- Numerous safety features and warning alarms enable safe operation of the system.
- Longer life of all elements of the exhaust ventilation system due to reduced contamination.

## Safety measures

Since UV light radiation is not completely harmless, it is necessary to follow the safety measures listed in the instructions of the manufacturer.

- The system has safety elements (pressure switch) that ensure automatic switching off of UV lamps when removing the grease filter or due to a fault in the exhaust ventilation system.
- In order for the system to be as efficient as possible and to completely decompose the remaining ozone, a minimum exhaust ventilation duct length of 8m is recommended. It is also recommended to install an FKU filter with activated carbon at the end of the exhaust duct.
- The recommended speed of the exhaust air in the ventilation duct is 2-3m / s, max. 4m / s



- UV lamps are installed directly in the kitchen hood with the mandatory use of flame-retardant filters. On special request, UV lamps can be installed in the exhaust ventilation duct.
- Components of the UV Ozone System and UV lamps are installed exclusively by qualified-specialized personnel, authorized by the manufacturer.
- Hoods or grease filters equipped with UV lamps must be specially marked. Warning symbol W 09 "Beware of optical rays" in accordance with BGV A8 must be displayed.
- Please read the installation instructions! Standard EN 16282-6 (Commercial kitchen equipment - Part 8: Aerosol treatment plants; Requirements and testing). Annex A 6.4 with notes on UV protection must be specifically highlighted.
- It is advisable to change the UV lamp after 10000 hours, since the effect of emitting UV radiation decreases over time.
- Once a year, the entire UV Ozone System should be inspected.

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 SAFETY MEASURES



## KITCHEN VENTILATION

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Projektiranje, proizvodnja i održavanje opreme za klimatizaciju, ventilaciju i čiste prostore.  
Design, production and service of Ventilation, Air-Conditioning and Cleanroom equipment.

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