

# JIMCO FLO-K air-cleaning system for the reduction of odour from industrial exhausts

JIMCO A/S has over a number of years developed and manufactured air-cleaning systems - specifically for industrial use.

*The JIMCO systems are based on UV-C & Ozone Technology. This method is based on Photolytic oxidation whereby a cold incineration of organic matter occurs. The process leaves no harmful residues.*



FLO-K systems are manufactured and supplied for various tasks.

The system can be installed in a common exhaust duct from various processes used in the production of for example pre-cooked dinners.

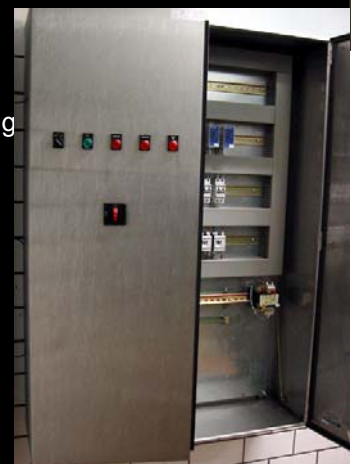
It can be designed to treat an airflow from: 0 - 55,000 M<sup>3</sup>/h.



JIMCO industrial systems are normally equipped with PLC-controllers incorporating modem links and alarm signals.

JIMCO FLO-K systems can be used in conjunction with automatic CIPcleaning systems. The CIP system is controlled from the PLC-controller to programme the cleaning sequence to your requirements.

JIMCO and CIP suppliers have jointly selected the best environmentally friendly detergents for the cleaning process.



## The FLO-K system can be specially designed..

-for tasks where there is ammonia in the exhaust air. The system is a combination of scrubber and Photolytic Oxidation Unit. The scrubber is made with automatic pH-adjustment as ammonia is easily precipitated in water with a low pH-value. This type of system is very suitable for the cleaning of exhaust air from compost plants, central sewage stations, biogas plants etc.

A newly developed product has made it possible to clean the air exhausting from smoking ovens very successfully. Experience and analyses have shown that a cleaning effect of approx. 95% can be achieved.

The UV-C & Ozone technology is used in conjunction with a catalyst containing activated carbon. Tests have shown that excess ozone produced by the FLO-K System regenerates the activated carbon elements.

## JIMCO Air Cleaning System Type FLO-K

JIMCO Air Cleaning System type FLO-K is used for a large number of different applications where air temperatures are less than 45°C.

The FLO-K system does not require secondary air to cool the primary air to be treated. The process is called Photolytic oxidation, which means the contaminated air is subjected to a combination of UV-C light and ozone. The contaminants in the air are oxidised, or cold incinerated.

Odours and organic particles contained in the air are reduced to an absolute minimum. The typical reduction in OU/m<sup>3</sup> is in the region of 90 – 98%.

The reaction chamber of a JIMCO FLO-K system is made of acid proof stainless steel (316) and contains a number of JIMCO Photozonelamps™. These are dimensioned for the volume of air you wish to clean.



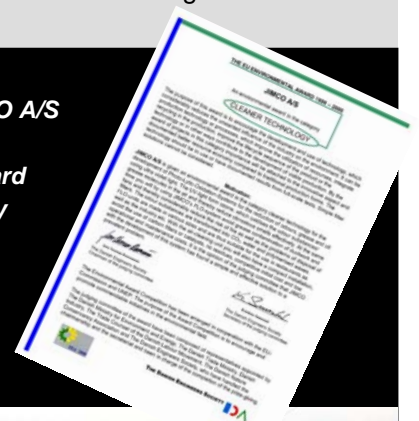
### There are numerous applications for the JIMCO FLO-K system, e.g. in:

- Public sewage / waste water plants
- Pumping stations
- Food processing plants
- Grain and feedstuff factories
- Stables and zoological gardens
- Pharmaceutical and chemical production units
- Biogas plants
- Destruction plants
- Etc.

The Jimco FLO-K system can be combined with a water scrubber for applications with large ammonia content.

Ammonia is easily washed out of the contaminated air. The air is washed before entering the UV-C reaction chamber.

*In February 2000 JIMCO A/S received the EU Environmental Award for Cleaner Technology for the development of the: Photolytic Oxidation System.*



**JIMCO A/S - Ellehaven 4 - DK-5900 Rudkøbing – Phone: +45 62 51 54 56 / Fax: +45 62 51 54 57**

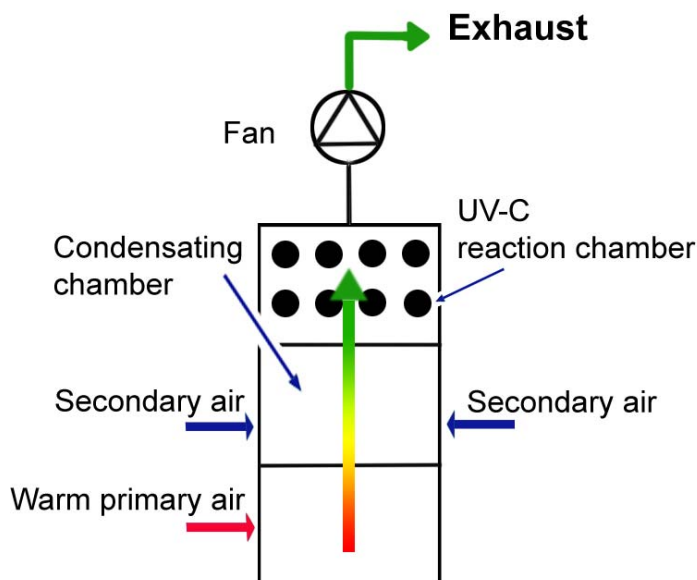
**E-mail: jimco@jimco.dk - Website: www.jimco.dk**

**Please call us for additional information – we shall be pleased to assist you!**

## JIMCO FLO-P

### Air-cleaning system for the reduction of grease and odour from industrial exhausts

For a number of years, JIMCO A/S has developed and manufactured air-cleaning systems specifically for the reduction of grease and aromatic compounds in exhaust air with high temperatures (frying, boiling and deep frying processes). JIMCO systems are based on UV-C & Ozone Technology that results in the cold incineration of organic matter from a process called Photolytic oxidation. The process leaves no harmful residues.



**The FLO-P air cleaning system is normally made according to client's specific requirements.**

There are two main considerations when designing the air treatment system. The first step is to calculate the unit size to successfully treat the air. This is based on the process air organic content, air temperatures, air flow-rates, grease and odour destruction requirements, etc.

The second step is to configure the installation to meet space requirements because frequently space is at a premium in process plants. Over the years JIMCO has designed units that can be floor, ceiling, wall or roof mounted to suit the installation requirements of all our clients. Access for maintenance is also carefully considered.

#### The process works as follows:

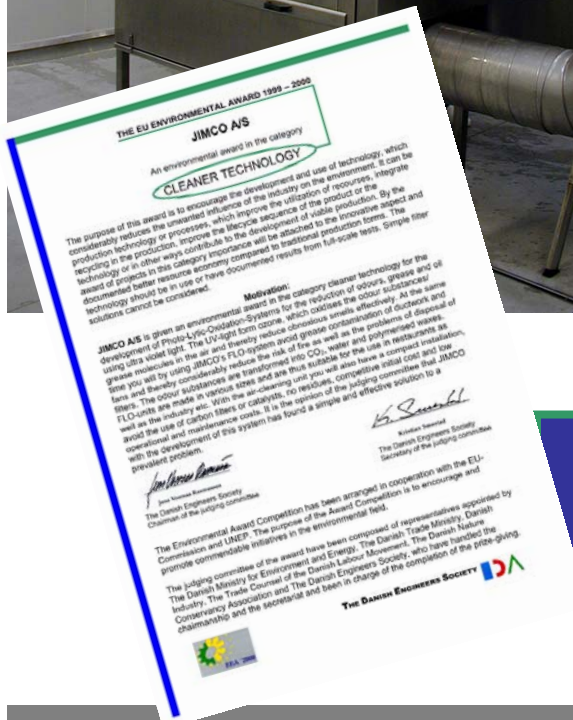
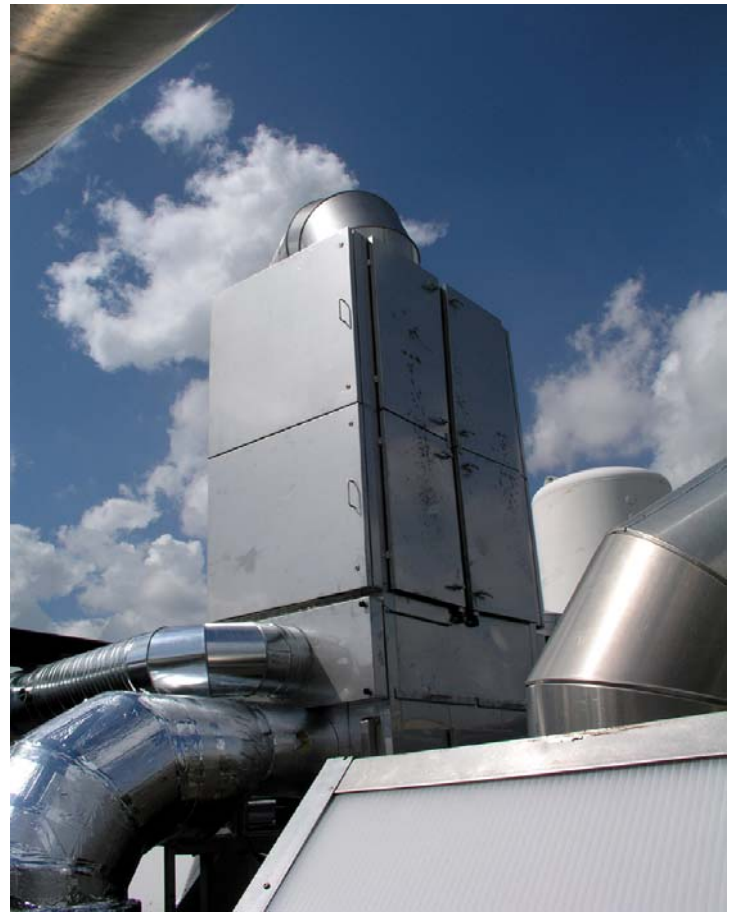
- Step 1:** Warm contaminated air (primary air) enters the lower part of the unit.
- Step 2:** The primary air passes through a maze filter resulting in the separation of large grease and water droplets.
- Step 3:** Primary air is cooled by mixing it with secondary air from the room (e.g. via a spot exhaust from a production line). The mixed air then passes over a bank of condensation blocks causing further grease/water separation from the air stream. This reduces power consumption during the Photolytic oxidation process.
- Step 4:** The Photolytic oxidation process is achieved using special low-pressure UV-C lamps that also generate a small quantity of ozone. Exposure to UV-C light breaks down organic compounds in the air and subsequent treatment with ozone completes the oxidation process.



JIMCO A/S

UV-C & OZONE

ENVIRONMENTAL FRIENDLY SOLUTIONS..



In February 2000 JIMCO A/S received the: EU Environmental Award for Cleaner Technology for the development of the Photolytic Oxidation System.

The JIMCO FLO-P air cleaning system is patented under PCT/DK97/00182. The unique operation of the JIMCO FLO-P air cleaning system ensures that optimum cleaning of high temperature exhaust air is achieved.

JIMCO A/S - Ellehaven 4 - DK-5900 Rudkoebing - Phone: +45 62 51 54 56 / Fax: +45 62 51 54 57

E-mail: jimco@jimco.dk - Website: www.jimco.dk

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