

# Cooking Fume Emission Control for Restaurants and Catering Business

## Introduction

Oily fume and cooking odour emitted from cooking processes are one of the air pollutants which come under the control of the Air Pollution Control Ordinance. Restaurant owners and operators are required to take appropriate pollution control measures in order to minimize the emission of air pollutants from causing nuisance to the neighbourhood.

This leaflet aims to provide a concise guidance to help the owners and operators of restaurants and catering business understand and apply practical pollution control measures against their cooking fume emission.

## Common Cooking Fume Emission Control Equipment

### Grease Filter (Metallic Filter)

- Filtering out large oil droplets
- As a preliminary treatment
- Made of fine synthetic fibres or metal

### Hydrovent

- Oil particles be carried away by the water flow whilst passing through the water curtain
- Removing oil grains and odour
- Higher oily fume removal efficiency when comparing with grease filter

### Electrostatic Precipitator (EP)

- Including “hood-type” & “duct-type”
- Collecting and removing fine oil particles of the oily fume
- Oily fume removal efficiency up to 90% or above
- Approval by Fire Services Department required

The design of air pollution control equipment should be based on the peak load conditions (i.e. the busiest period when emission of cooking fume is at maximum intensity). A brief description of the air pollution control technology and their removal efficiency in controlling oily fume emission is shown below for reference:

### Oily Fume Removal Efficiency Rate for Single Application of Pollution Control Equipment

Equipment	Removal Efficiency
Electrostatic Precipitator	√ √ √
Grease Filter (Metallic Filter)	√
Hydrovent	√

### Oily Fume Removal Efficiency Rate for Combined Application of Pollution Control Equipment

Equipment	Removal Efficiency
Hydrovent + Electrostatic Precipitator	√ √ √ √
Grease Filter (Metallic Filter) + Electrostatic Precipitator	√ √ √ √

### DID YOU KNOW?

The combined application of two or more types of air pollution control equipment together with suitably located exhaust outlet is now commonly considered as an efficient and effective cooking fume emission control system.

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## Requirements of Proper Operation and Maintenance of Air Pollution Control Equipment

Proper operation and maintenance of the exhaust system (including air pollution control equipment) is vital and the measures listed below should be adopted:

- Operation and maintenance of the exhaust system and the air pollution control equipment should be carried out by competent staff with sufficient training and relevant skills, and should be done in accordance with the manufacturers' specifications and specified procedures;
- To ensure proper performance, qualified professionals should be employed to undertake regular monitoring, inspection, cleaning and maintenance of components.

### **DID YOU KNOW ?**

In considering the positioning of exhaust outlets :

- The outlets should be located at a place where ventilation is good and sufficient separation distance from the neighbourhood is maintained;
- The emission from the exhaust system should be adequately dispersed and should not be restricted or deflected by any plates, caps or other obstacles.

### **Practical Tips**

- √ Carefully select your site to avoid air pollution
- √ Adopt effective air pollution control equipment and exhaust system
- √ Take remedial measures within the time limit as specified in the "Air Pollution Abatement Notice"
- √ Consider using the pollution control facilities provided by the premises
- √ Establish a clear operation and maintenance manual for the equipment to achieve best performance

### **DID YOU KNOW?**

- If any emission of air pollutants from a polluting process or activity is causing air pollution, the EPD may serve an Air Pollution Abatement Notice under section 10 of the Air Pollution Control Ordinance. The Notice requires the owner concerned to take remedial action to cut down or eliminate the emission;
- If any emission of air pollutants is due to the improper design, operation or maintenance of any equipment, section 30 of the Air Pollution Control Ordinance empowers the EPD to require the owner of the premises concerned by Notice to take specified actions to rectify the deficiencies.

### **Extended Reading**

- ① 《A Concise Guide to the Air Pollution Control Ordinance》
- ② Control of Oily Fume and Cooking Odour from Restaurants and Food Business
- ③ A Guide to the Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations
- ④ Green Restaurant - Technical Information CD-ROM
- ⑤ Support Programme for Mitigation & Control of Cooking Fume Emissions - Technical Guide for Restaurant Trade and Catering Industry (Printed by HKFORT)

**Information can be downloaded from the following websites or obtainable from the Compliance Assistance Centre.**