

## **CMS SYSTEM**

### **The Completely Monitored System**

#### **The Safe Intelligent Way to Harness the Benefits of Ozone to Control Cooking Odours**

Ozone has long been recognised as a very effective medium for the neutralising of cooking odours, and injection into the kitchen extraction system has proven to be effective in the control of odour emissions, however, ozone emissions must be within safe levels.

Working within the accepted industry guidelines of 1 gram per 0.09 m<sup>3</sup>/s of air volume @ 1.5 seconds of dwell time within the ducts, to achieve neutralisation of 80% of cooking odours and maximum discharge levels of 0.3 ppm ozone concentration, the Controlled Ozone products are designed to be the first fully controllable, energy efficient, future proof units developed to reduce cooking odour emissions.

The monitoring processes of the CoRange start with the production levels of ozone being controlled via an electronic air-pressure sensor within the control panel, which controls the concentration ratio of air/ozone in the extract ducts.

To ensure the correct concentration the CoRange Injector will increase its output of ozone by 10 grams per every 1 m<sup>3</sup>/s of air volume within the duct,

Should ozone emissions from the extract system exceed permitted levels a second stage of control via a discharge monitor situated at the end of the extract duct is an optional addition, this monitor is factory set at 0.3 ppm of ozone to comply with HSE guidelines for discharge to atmosphere within 10 metres of the closest habituated premise.

#### **Benefits**

- Fully controllable by information gathered from both electronic air pressure switch and if required by ozone monitor
- Will deliver correct concentration of ozone from 0.8 to 8 m<sup>3</sup>/s of air flow
- Delivers low dwell times as it can inject active ozone into the system at the earliest possible opportunity
- Will not exceed permitted ozone discharge levels
- Can deliver ozone to multiple points within the extraction system to suit requirements ie. Plenum, ducts either before or after fans and inline filtration
- Easy to install
- Additional injectors can be added to the system easily
- Only uses power when it is required
- Control Panel can be sited away from injectors – in a position that is easy to view
- Outputs for Building Management Systems and Data loggers
- Two years warranty

ThMS System comprises of 1 off CMSVM Control Panel and between 1 and 4 CMS Injectors to match the demands of the extraction system.

The level of Ozone being called off is indicated by the LED bulbs illuminated on the control panel, for example, with LED A and B on Injector 1 delivery is 20grams; LEDs up to A on Injectors 3 = 50grams etc.

Injector 1 on its own	A)	Up to 1 m <sup>3</sup> /s the ozone delivery is 10 Grams
	B)	Up to 2 m <sup>3</sup> /s the ozone delivery is 20 Grams
Injectors 1 and 2 on	A)	Up to 3 m <sup>3</sup> /s the ozone delivery is 30 Grams
	B)	Up to 4 m <sup>3</sup> /s the ozone delivery is 40 Grams
Injectors 1, 2 and 3 on	A)	Up to 5 m <sup>3</sup> /s the ozone delivery is 50 Grams
	B)	Up to 6 m <sup>3</sup> /s the ozone delivery is 60 Grams
Injectors 1, 2, 3 and 4 on	A)	Up to 7 m <sup>3</sup> /s the ozone delivery is 70 Grams
	B)	Up to 8 m <sup>3</sup> /s the ozone delivery is 80 Grams

To ensure that the levels of ozone being discharged are within guidelines the Co515 Monitor will cut the ozone production by 10g of ozone at a time until the monitor registers the desired ppm concentration of ozone at discharge.



### CMS Ozone Injector

- 150 x 150 x 330 mm Stainless Steel Case
- 2x 10 Gram per Hour Gaseous Ozone Reactors
- 1x 5 Pin
- 1x Power on Indicator Lamp
- 1x Ozone Production Lamp



### CMS / CoVM53 Control Panel

- 155 x 200 x 95 mm
- LED Indicator Lamps
- Electronic Air Pressure Sensor
- 4x 5 pin Monitor Output Sockets
- 1x 5 Pin CMS Output Socket
- 1x 5 Pin Data Logger Output Socket



### CMS / Co515 Ozone Monitor

- 155 x 200 x 95 mm
- 1x Power on Indicator Lamp
- 1x Monitoring Indicator Lamp
- 1x Dwell Indicator Lamp