
Ventilation & Extraction Statement

**260-262
London Road
Waterlooville
PO7 7HG**

30/05/2018

Purpose of Statement

This statement provides details of the ventilation and extraction equipment proposed as part of the above application.

Kitchen Ventilation/Extraction

The detailed design and installation of the ventilation system will be undertaken by, manufacturers and installers specialising solely in commercial kitchens. Therefore the specification has been designed in accordance with B&ES, DW1,72 & DEFRA Guidelines.

This statement sets out the performance objectives of the system, namely the ventilation and extraction to ensure that there is no disturbance, nuisance, or loss of amenity to nearby premises as a result of fumes, odour, food particles or noise.

The system performance is to be such that the extract rate of air from the kitchens always results in the kitchen area being under negative pressure.

The Cooking

Hours Midday

10pm 7 days per week

Electric & Gas Equipment

System Performance

As equipment list is not yet known this has been estimated on a 2500mm cookline and
calculated on face velocity $3.0 \times 1.2 \times .45$ for heavy loading
Airflow $1.62\text{m}^3 \text{ l s @, } 200\text{Pa}$

Extraction Canopy

Stainless steel extraction canopy 3000mm x 1200mm x 500mm boxed or tapered style wall mounted canopy, clw 6 stainless steel baffle filters 395mm x 495mm x 48mm and grease drain tap in 4309 0.9mm steel. Canopy will allow for 250mm overhang on either sides of the cookline and 300mm over the front of the equipment.

Make Up Air

If gas equipment is to be used within the kitchen an additional air supply fan will be required to allow for 85Vo of the extracted to be returned back into the kitchen, this will include a 400mm dia cased axial fan, variable speed controller, additional pre-filtration ductwork and external air supply vent

Ducting & Extract Fan

Galvanised steel spiral duct 450mm dia with fittings
Extract Fan TCBBx2I4-450 single phase, 4 pole contra rotating cased axial fan & 8amp Variable speed controller

Termination will be with an accelerator cowl to allow for the correct efflux velocity at between 12-15 m/s

Noise

Extract noise level for the fan is 67

If additional attenuation is required we can install 2 No. silencers 450mm dia x 500mm Long which will reduce the noise levels by 10 dba Anti vibration mounts and flexible duct connectors will also be used to reduce @3m. vibration.

If further noise control is required we can extend the length of the silencers and/or fit an acoustic fan jacket to the fan as required

Filtration

Primary stage filtration will include 6 No. stainless steel baffle filters
Second stage filtration will involve a 2 cell ESP unit, which will omit the grease and smoke from the airflow. (Please see product spec. sheet attached)

Odour Abatement

For further odour abatement we would install an OC2 Unit, which will use ozone to neutralise the odours from the airstream. (Please see product specification sheet attached)

Gas Interlock System

The Ventilation/Gas interlock system for the kitchen area shall be a Gas Safety System Merlin CT1250.

The panel dimensions are 254mm high x 178mm wide x 62 mm deep. The box shall be rated to IP65 it shall be an ABS enclosure and be CE Approved. The fascia of the panel should be key operated (on/off) and a shrouded emergency shut off button located in the top right hand corner should be fitted (to meet BS 5958:2001). The Ventilation/Gas interlock panel shall have a total of 7 L.E.D'S on the fascia, these should be: Power, Gas on, EM Stop, Supply Fan, Extract Fan, Fan Fault and Service).

1 x Merlin CT1250 Panel

1 x Gas Solenoid Valve (Size as required)

2 x Remote Gas Shut-Off Button (where required) to be fitted to the fire exists

This system works on using current monitoring instead of pressure air flow switches.

Maintenance

The Baffle filters must be removed cleaned on a regular minimum weekly basis in a heavy duty degreaser and replaced when they are no longer in good condition.

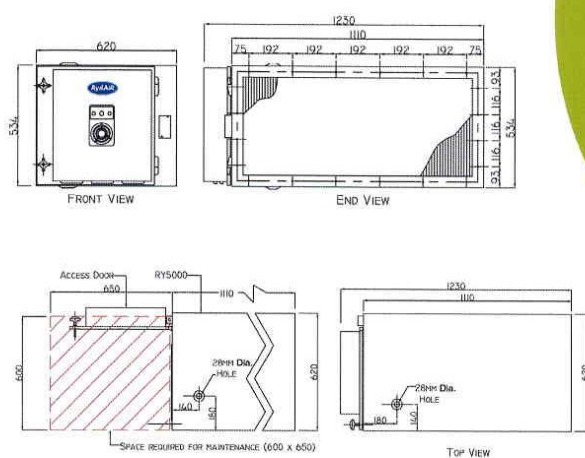
Depending on usage the canopy, fan & ductwork needs to be cleaned at least annually by a duct cleaning commercial company who can provide a certificate for this work.

The OC & ESP units need to be checked and cleaned by the manufacturer on an annual basis.

Please find below a typical system that we will look to install

Electrostatic Participators

Industrial grade electrostatic air cleaner for collection of dry and wet particulates like dust, oil mist, cooking fumes etc. Typical application include Commercial kitchen exhaust, factories, workshops, CNC machine shops etc.



CE
ISO
9001



Spec sheet overleaf >

Unit:	H: 534mm / W: 1230mm / L: 620mm
Cabinet	1.2mm Electro Galvanized Steel Powder Coated
Finishing	Dark Blue
Weight	70 Kg
Air Volume	Upto 5000m ³ /hr or 1.38m ³ /s
Air Flow	Left to Right, Right to Left
Static Pressure Reqd	100 Pascal
Operating Voltage	220 Vac+/-10%, 50 Hz (Single phase)
Features	Short circuit, arc protection and auto power restore for Power Pack
Efficiency	Up to 95%, meets NIOSH 5026 Oil Mist Test (National Institute for Occupational Safety and Health)
Particle Size	Collects particles as small as 0.01 microns
Controls	Auto cut-off switch when door is opened. Indicator lights for fault, normal or wash function
Cell	H: 480mm / W: 340mm / L: 550mm / Weight: 15Kg each Ionizing voltage: 12 KVdc Collector voltage: 6 KVdc Uses 2 cells, each cell comprising of 9 ionizing wires & 25 collection plates. Total face Area is 0.528 sqm. Effective collection area is 11.6 sqm
Power consumption	75 Watts (2 cell)
Pre-filter Installation	Aluminum mesh, washable Ceiling suspended, wall or frame mounted
Options	Dry contact for Building Management System (BMS)

TCBBX2/TCBTX2

5605764700 - TCBBX2/4-450 (230V50HZ) V3 - Cylindrical Cased Axial Fan

Cased axial fan . Casing manufactured from galvanised sheet steel. Fitted with 2 contrarotating fan assemblies with aluminium blades. Single phase - IP65 - motor with thermal protector and terminal box with capacitor out of the air stream
Brand S&P model TCBBX2/4-450 (230V50HZ) V3 for an airflow 2.06 m³/s and static pressure 9.88 Pa.

Theoretical Working Point

Airflow	2.07 m³/s
Static Pressure	10.0 Pa
Temperature	20 °C
Altitude	0 m
Density	1.2 kg/m³
Frequency	50 Hz
Voltage	230~1 V

Working Point

Airflow	2.06 m³/s
Static Pressure	9.88 Pa
Dynamic pressure	99 Pa
Total Pressure	109 Pa
Input power	0.936 kW
Outlet speed	12.9 m/s
Fan speed	1370 rpm
Specific Fan Power	0.46 W/l/s

Construction

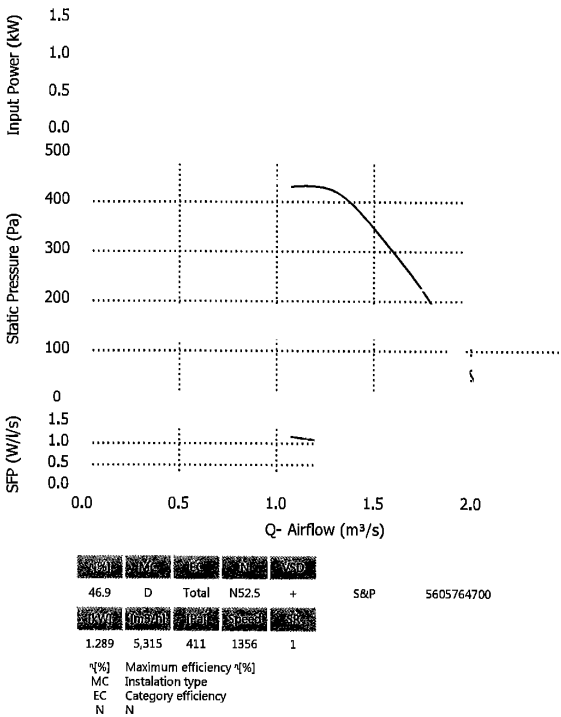
Diameter	450
Blades	7
Weight	42 kg

Motor Characteristics

Number of poles	4
Motor Power	0
Voltage	230~1
Maximum absorbed current	5.7 A
IP Rating	IP65
Motor insulation class	

Drawing

Performance Chart



Sound Performance

	63	125	250	500	1k	2k	4k	8k	Overall
Inlet (LwA)	46	73	85	82	85	79	72	64	90
Inlet LpA @ 1.5m	31	58	70	67	70	64	57	49	75
Outlet (LwA)	63	75	86	85	87	82	74	67	92
Outlet LpA @ 1.5m	48	60	71	70	72	67	59	52	77

A	B	C	D	E	N
537	375	500	450	12	8

Oudor Controlal

Product Description

The Oudor Controlal is a compact, self-contained unit designed for odor control in industrial and commercial applications. It features a robust stainless steel construction and a built-in control system for easy operation.

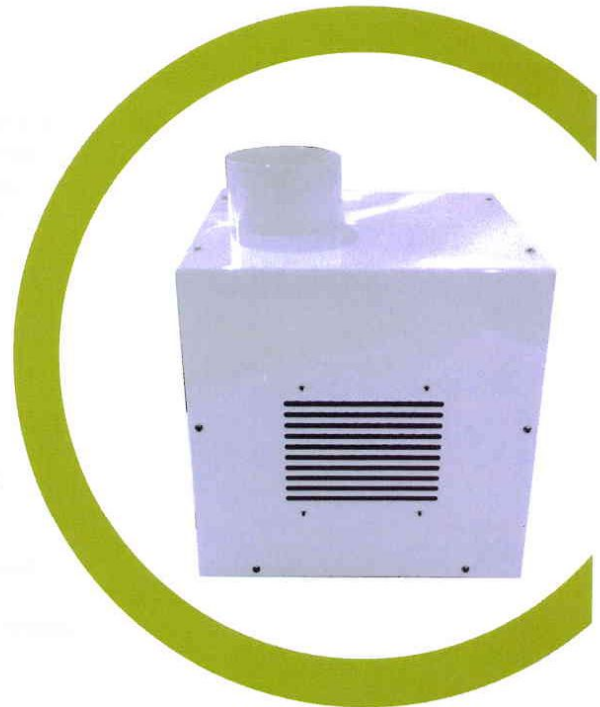
The unit is designed to be installed in a variety of locations, including indoor and outdoor. It is capable of handling a wide range of odors and is suitable for use in food processing, pharmaceutical, and chemical industries.

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- Compact design for easy installation and operation.
- Robust stainless steel construction for durability.
- Built-in control system for easy operation.

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[Spec sheet overleaf >](#)

TECHNICAL INFORMATION

Ozone Output:	20g/hr ozone output
Housing dimensions:	290mm W 290mm L 290mm H
Housing material:	Stainless Steel powder coated black
Duct work connection:	100mm circular
Volume flow rate in ductwork:	Up to 2m ³ /s per unit, subject to cooking odours.
Air residence time inside chamber:	>0.1 seconds
Pressure drop:	N/A
Weight of unit:	10Kg approx.
Electrical requirements:	240V / 1 ph / 50/60Hz
Power requirements:	168W
Safety:	THE UNIT MUST BE INTERLOCKED IN TO FAN CONTROL SYSTEM

INSTALLATION

It is recommended to locate the units with an injection point located closest to the source of odours (i.e. Canopy plenum or nearest accessible point on ductwork, in order to maximize dwell time. In any case the dwell time must be no less than 1 second.

The system is powered via a fused spur/socket, which is interconnected to the main extraction fan control to ensure that the OC2 units only operate when the main fan is operating.

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MAINTENANCE

An optional service contract is available which entails a yearly inspection of the unit. Please contact us for further information and pricing.

TCBBX2/TCBTX2

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Theoretical Working Point

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Static Pressure	10.0 Pa
Temperature	20 °C
Altitude	0 m
Density	1.2 kg/m³
Frequency	50 Hz
Voltage	230~1 V

Working Point

Airflow	2.06 m³/s
Static Pressure	9.88 Pa
Dynamic pressure	99 Pa
Total Pressure	109 Pa
Input power	0.936 kW
Outlet speed	12.9 m/s
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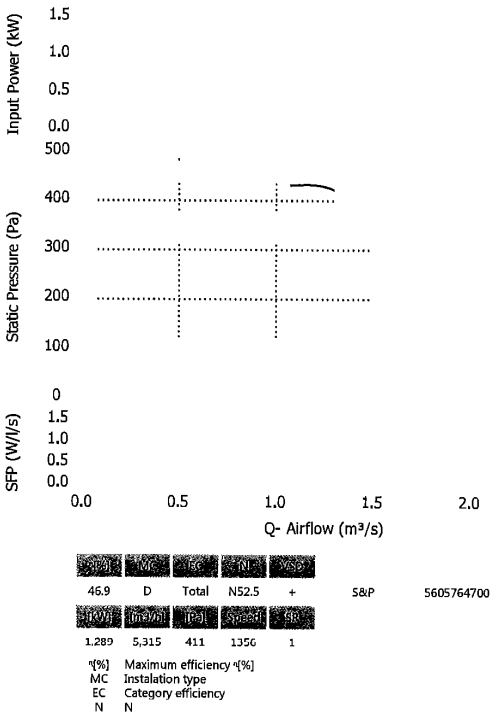
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Q = 1

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