



Premier commercial kitchens

Design • Supply • Install

**PROCESSED
BY:**

Premier Commercial
Kitchens

UNIT 32929

MANCHESTER

M61 0BW

TEL: [REDACTED]

EMAIL:

[REDACTED]

SITE DETAILS:

JEFF YATES

64

ECCLESTON

STREET,

PRESCOT

L34 5QL

Odour Control Risk Assessment

Prepared for: JEFF

YATES



Premier commercial kitchens

Design • Supply • Install

EMAQ Statement

Following further assessment subject to planning guidelines. This assessment we believe falls in line with the local authorities requirements and if the system is maintained correctly they will not exhaust nuisance odours leading to complaints from nearby residents.

We have made an independent assessment based on the EMAQ guidelines as detailed in Appendix 3 as below.

Criteria	Score	Score	IMPACT	Details
Dispersion	Very poor	20		Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15		Not low level but below eaves, or discharge at below 10 m/s.
	Moderate	10		Discharging 1m above eaves at 10 -15 m/s.
	Good	5		Discharging 1m above ridge at 15 m/s.
Proximity of receptors	Close	10		Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5		Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1		Closest sensitive receptor more than 100m from kitchen discharge.
Size of kitchen	Large	5		More than 100 covers or large sized take away.
	Medium	3		Between 30 and 100 covers or medium sized take away.
	Small	1		Less than 30 covers or small take away.
Cooking type (odour and grease loading)	Very high	10		Pub (high level of fried food), fried chicken, burgers or fish & chips.
	High	7		Kebab, Vietnamese, Thai or Indian.
	Medium	4		Cantonese, Japanese or Chinese.
	Low	1		Most pubs, Italian, French, Pizza or steakhouse.

ODOUR CONTROL REQUIRES SCORE 26



Premier commercial kitchens

Design • Supply • Install

Site Odour Abatement Requirements

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 – 0.4 residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

Recommendations (option 2)

(Spec Sheets Enclosed Separate)

STAGE 1 - HIGH EFFICIENCY GREASE FILTERS

STAGE 2 - G4 PLEATED PANEL FILTERS

STAGE 3 - F7 BAG FILTER

STAGE 4 - OC2 UNIT - UVC/OZONE INJECTION

Maintenance Summary

G4 FILTERS - BI MONTHLY EXCHANGE

F7 FILTERS - QUARTERLY EXCHANGE

OC2 - ANNUAL SERVICE

PRODUCT DATA SHEET



Premier commercial kitchens

Design • Supply • Install

Stainless Steel Baffle Filters

APPLICATIONS

Suitable for use in all catering applications to remove airborne grease

OPERATION

It is universally recognised that there is an increasing need to maintain and improve hygiene standards and reduce fire hazards within kitchens. The Baffle Grease filter accomplishes both needs through its clever design of interlocking baffles that provide a tortuous route for the passage of air through the filter by creating two rapid 180° air direction changes simultaneously. The grease molecules having a far greater inertial force than air impact themselves on the vanes

CONSTRUCTION

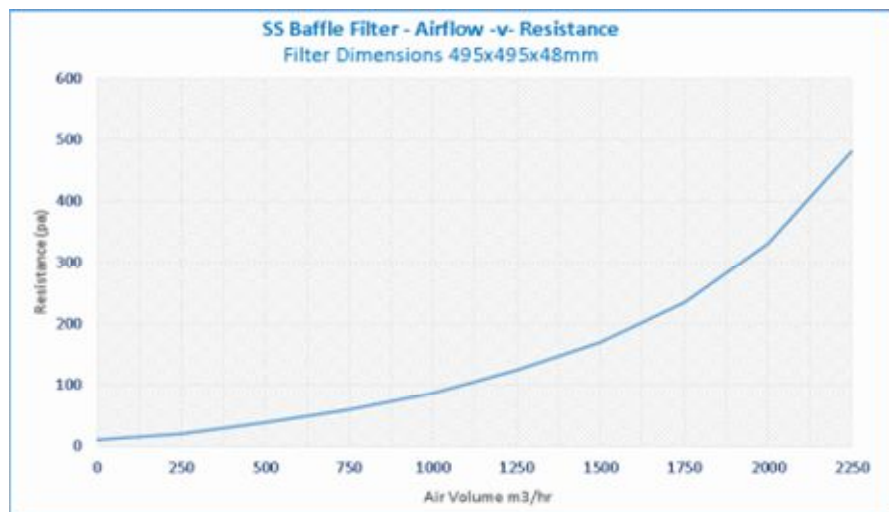
Robustly manufactured in stainless steel, a series of vertical vanes are housed in a channel frame with each of the baffles strategically aligned to provide the highest potential for grease removal. Due to the smooth nature of the vanes the grease naturally runs downwards through the drainage holes and into the collecting trays normally provided within the canopy holding casings.



- Consistent performance & long life
- Certified to DIN18869
- Robust construction
- Range of standard sizes
- Efficient removal of grease & oil

STANDARD RANGE (HxWxD)

495x495x48mm	395x495x48mm
495x395x48mm	495x245x48mm
595x595x48mm	



CLEANING

It is imperative that this product is regularly cleaned according to use. This may be accomplished by steam cleaning, washing in a dishwasher using conventional detergents or cleaners or by using proprietary steeping degreasants.

STAGE 1



Premier commercial kitchens

Design • Supply • Install

**DISPOSABLE
PANEL**

PLEATED DISPOSABLE PANEL

Air Filters / Pre Filtration / FP Pleat Panels

The FP Pleated Panel, combines low air resistance with maximum protection. The pleated core creates a highly extended media area within the filter resulting in low resistance to air.

Available in a large range of standard sizes or manufactured to the dimensions you require

Applications

The FP Pleated Panel is suitable for use as a prefilter for higher grades of air filtration or for use as a simple filter for general use within air handling systems where the use of glass-fibre is unacceptable

Construction

The FP Pleated Panel contains a core of pleated non-hygroscopic and hydrophobic fibrous media designed specifically for use in air filtration. The media is manufactured with a graded fibre density to ensure optimum and even dust retention combined with low initial resistance and is thermally bonded onto a galvanised steel support mesh for maximum physical stability. The aerodynamic pack is then fully bonded into a moisture resistant, rigid, white lined card frame and fitted with an airflow indicator.



Spec sheet overleaf >

STAGE 2



Premier commercial kitchens

Design • Supply • Install

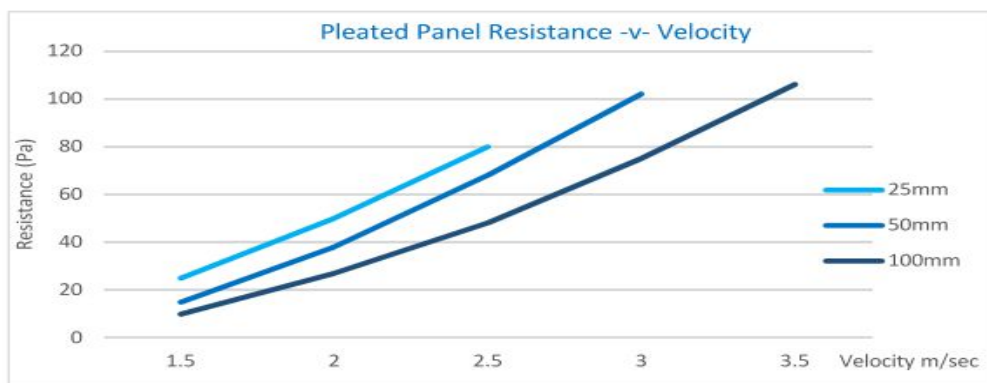
**DISPOSABLE
PANEL**

FP Pleated G4 Panel Filter



- ISO Coarse 60% to ISO 16890
- Pre-filtration with low air resistance yet maximum protection
- Available in a vast range of sizes
- Bespoke sizes readily available
- Long life and robust construction
- Fully incinerable for easy disposal
- Made in Britain

Filter Reference	Nominal size (mm)	Rated Velocity (m/sec)	Efficiency rating (EN779)	Initial resistance at rated Velocity (pa)	Rated final resistance (pa)	Maximum Humidity	Maximum temp (°C)
FP-PL1	25	1.5	G3	25	250	80% RH	80
FP-PL2	50	2.0	G4	38	250	80% RH	80
FP-PL4	100	3.2	G4	78	250	80% RH	80



Please note: In their continuous search for product improvement PremierCK reserve the right to change materials and specifications without prior notice.

STAGE 2



Premier commercial kitchens

Design • Supply • Install

BAG FILTER

Reliance P85 Synthetic Bag

APPLICATIONS

The Reliance P85 Synthetic Bag filter is a fine grade synthetic bag filter ideal for use in ventilation systems when a moderately high standard of cleanliness & protection is required for the removal of atmospheric staining etc. It may be used as part of a multi-stage filtration system and is particularly suitable where fibre shedding is unacceptable

CONSTRUCTION

The pockets are produced from synthetic micro-fibres specifically designed for use in air filtration and provided with a scrim support backing bonded to the exit side of the media. The pockets are provided with inflation spacers to prevent over inflation when in use. Each pocket is fitted with a U profile capping strip to ensure no leakage between pockets. The sets of pockets are retained in a rigid galvanised steel channel, which features a specially roll formed safety edge.



Spec sheet overleaf >

STAGE 3



Premier commercial kitchens

Design • Supply • Install

BAG FILTER

Reliance P85 Synthetic Bag Filter



- 85% Dust spot efficiency
- Synthetic product fitted with aerodynamic spacers
- Low replacement cost
- Robust construction
- Available in standard and bespoke sizes
- Made in Britain

Filter Reference	Rated Velocity m/s	ASHRAE Efficiency	Max Temp °C	Max Humidity	Initial Resistance at RV (pa)	Rated Final Resistance (pa)
Reliance P85	Dependent on pocket length	80-90%	60	100%RH	80	300
Standard Header Dimensions (HxW)	Standard Pocket No.s	Standard Pocket lengths				Standard Header Depths
592x592mm	6,7 or 8	305mm 381mm 508mm 610mm 762mm				20, 25 or 30mm
592x492mm	5 or 6					
592x287mm	3 or 4					

Please note: In their continuous search for product improvement premierck reserve the right to change materials and specifications without prior notice.

STAGE 3



Premier commercial kitchens

Design • Supply • Install

**ODOUR
CONTROL**

OC₂ UNIT

Process Information

Oxidation using ozone and activated oxygen ions is used to treat odour emissions from commercial and industrial kitchen processes (DEFRA, 2005: Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems).

The OC1 has been specifically designed for use in commercial kitchens. The system injects ozone into the kitchen extraction canopy or associated duct work where it reacts with odours, which are oxidized in a chemical reaction, which results in the production of carbon dioxide and water vapour. The ozone itself is consumed during the process and is converted back into oxygen.

The benefits of purchasing an OC1 unit over traditional UV/Ozone systems are as follows:

- Compact, lightweight and quiet operation so is less obtrusive
- Quick and easy low cost installation
- Low capital and running costs – up to 50% less than traditional UVC systems
- Injection into ductwork – adding negligible back pressure to the system so requiring less energy to push air through the air handling system. This means less ductwork modifications
- The OC1 maintains efficiency as they remain outside of the air stream, they also require less maintenance and require less cleaning.
- Tested to EN13725:2003, CE Approved



Spec sheet overleaf >

STAGE 4



Premier commercial kitchens

Design • Supply • Install

**ODOUR
CONTROL**

OC₂ UNIT (SPECIFICATIONS)

TECHNICAL INFORMATION

Ozone Output	24g/hr ozone output
Housing dimensions	300mm wide x 300mm length x 150mm height
Housing material	Stainless Steel powder coated white/grey
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	5Kg approx.
Two individual Light Indicators	Green Power On / Green Ozone On
Electrical requirements	240V / 1 ph / 50/60Hz
Power requirements	168W
Safety	Built in Air pressure switch

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 units in built air pressure switch is activated by the installation of the black three pinned connector to the unit to the sensor lock connector.

MAINTENANCE

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

STAGE 4



Premier commercial kitchens

Design • Supply • Install

OC₂ TEST

OC₂ TEST

Oxidation using ozone and activated oxygen ions is used to treat odour emissions from commercial and industrial kitchen processes (DEFRA, 2005: Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems).

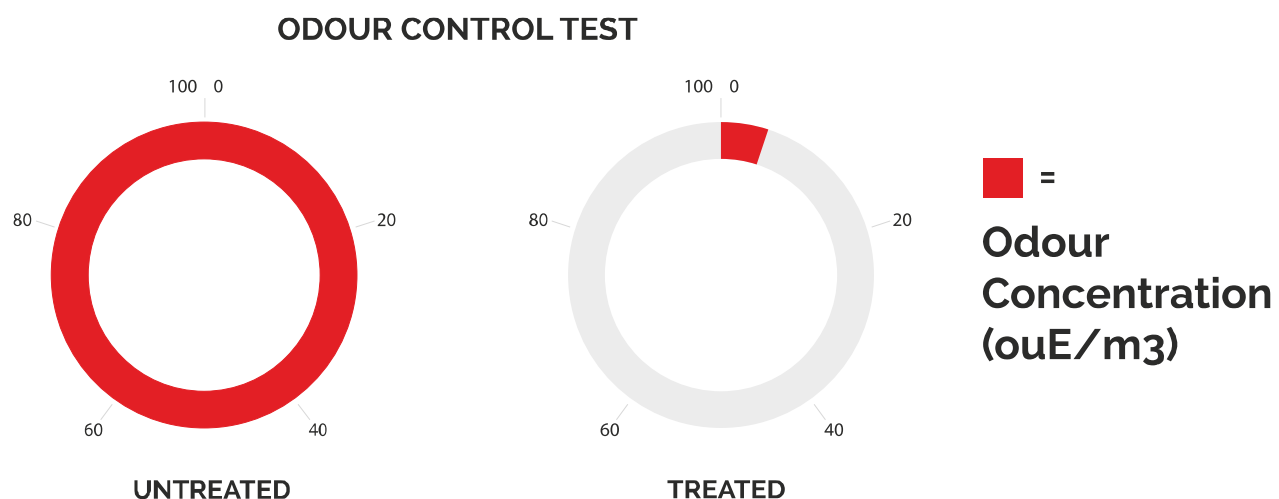
The OC₂ has been specifically designed for use in commercial kitchens. The system injects ozone into the kitchen extraction canopy where it reacts with odours, which are oxidized in a chemical reaction, which results in the production of carbon dioxide and water vapour. The ozone itself is consumed during the process and is converted back into oxygen.

TESTING PROCEDURE

Independent tests were carried out using olfactometry. A number of individual contaminated air samples were taken and then examined.

During the tests foods with the following cooking odours (fish, garlic, onions, curry spices, bacon, burgers, various fried foods) were used in order to provide a varied and accurate results with both, with and without treatment with an OC₂ unit.

Air samples which were treated with the OC₂ unit, produced an **odour reduction** of up to **95%**, for clear and easy to understand results we have shown this in terms of the graph/chart below.



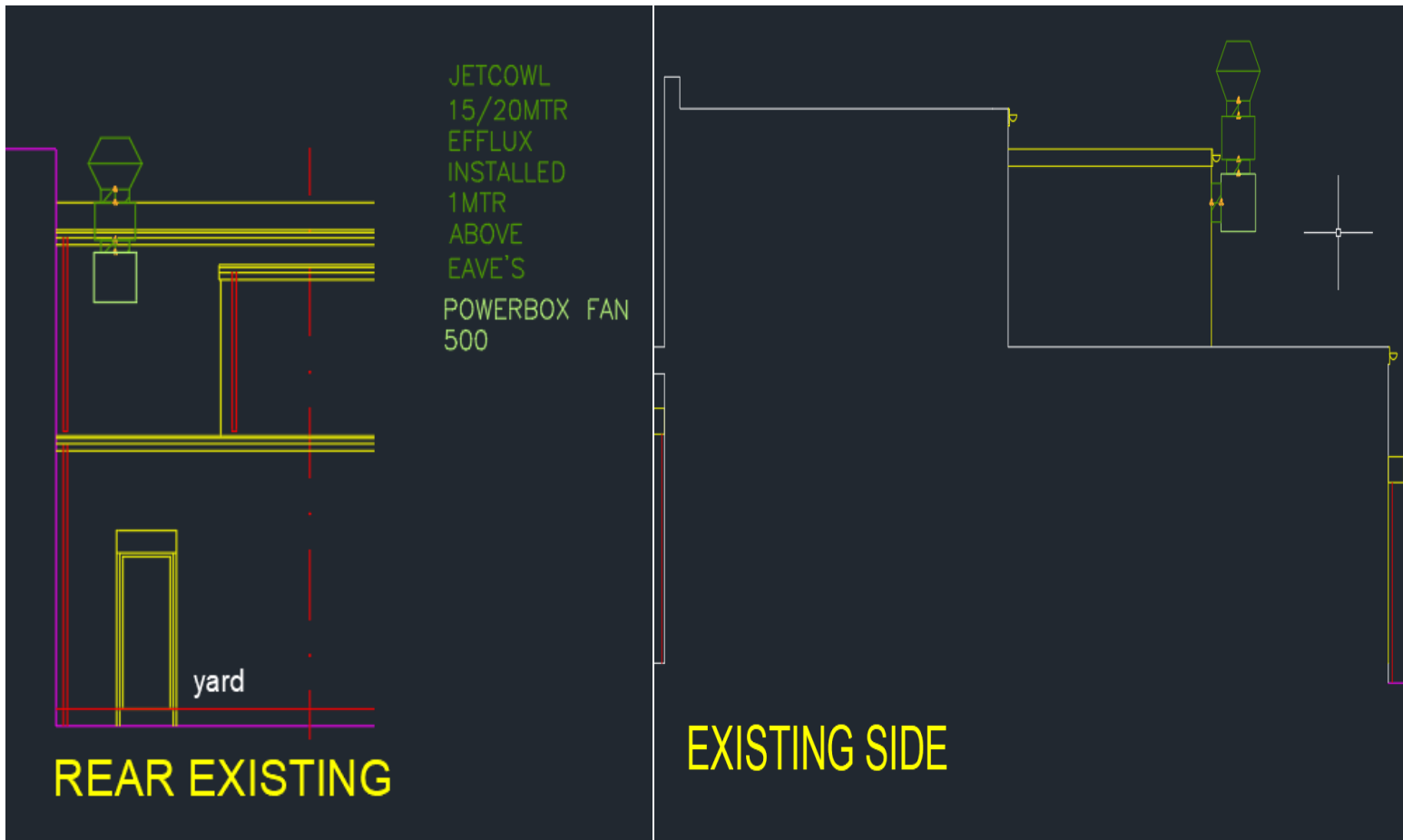
STAGE 4



Premier commercial kitchens

Design • Supply • Install

PROPOSED ELEVATIONS



DUCT - ILLUSTRATIVE ONLY

internal housed duct/filtration system

Building control/fire safety regulations to be adhered to



Premier commercial kitchens

Design • Supply • Install

FLAKT WOODS POWERBOX 500

EXTRACT FAN SPECS

Technical Information										
Fan Code	ePowerBox 67-500-1-4 (6HF)									
Fan Diameter / Size	500									
Velocity	7.2 m/s									
Form of Running	B (Horizontal)									
Requested Duty (147V)	1.4m³/s @ 300 Pa (static)									
Control Adjustment	147V									
Full speed (230V)	1.71m³/s @ 446 Pa (static) no controller									
Outlet Dynamic Pressure	31 Pa									
Duty Shaft Power	1.12 kW									
Max Shaft Power	1.38 kW									
Motor Frame	Integral [Class F]									
Motor Rating	1.38 kW									
Full Load Current	6.22 A									
Starting Current	19.9 A									
Electrical Supply	220-240 Volts 50 Hz 1 Phase									
Start Type	Enquire									
Motor Winding	Standard									
Regulation 1253/2014										
UVU Efficiency	53.5%									
UVU Target Efficiency	44.0%									
Nominal Flow Rate	1.61 m³/s @ 461 Pa									
Effective Input Power	1.38 kW									
Nominal RPM	1383 rpm									
SFP value	0.80 W/(l/s) @ Requested Duty									
Sound Information										
☒ Lw	☐ LwA									
	63	125	250	500	1k	2k	4k	8k	Lw* LpA @ 3 m**	
Inlet*	67	68	67	62	59	54	51	47	73	44
Outlet*	65	81	75	68	65	57	54	51	82	51
Breakout*	59	65	54	38	31	<20	<20	<20	66	30
* Lw dB re 10 ⁻¹² W ** dBA re 2x10 ⁻⁵ Pa										

How Loud Is It?

The Following Chart (How Loud Is It?) Provides A Useful Reference For Anyone Who Wishes To Know What Typical Decibel Levels They Are Experiencing When They Are In The Close Proximity Of The Sated Noise Emitting Item, Or Alternatively Are Within The Stated Noise Environment Or Room.

The Decibel Levels Within The Chart Have Been Colour Coded, Their General Perceived Loudness Can Be Described As Follows....

- 0dB to 45dB = Very Quiet to Quiet Noise Levels
- 50dB to 75dB = Moderate Noise Levels
- 80dB to 90dB = Moderate to High Noise Levels
- 95dB to 110dB = Very High Noise Levels
- 115dB to 180dB = Extremely High Noise Levels

How Loud Is It?

Reference	Decibels dB(A)	Reference
Saturn Rocket @ Lift-off	180	
	160	Instant Physical Hearing Damage
Jumbo Jet @ Take-off Thrust	150	
	140	Private Jet @ Take-off Thrust
The Threshold Of Pain	130	
Open Air Rock Concert	125	Light Aircraft On Take-off
Engine Test Cell	120	Loud Thunder Clap
Steam Turbine Generator	115	Industrial Air Compressor
Pneumatic Drill	110	Fire/Burglar Alarm
Chainsaw, Smoke Alarm	105	Car Alarm
Car Horn	100	Baby Crying Intensely
Passing High-Speed Train	95	Circular Saw
Noisy Factory, Heavy Goods Vehicle	90	Electric Drill (Drilling into masonry)
Lawn Mower, Leaf Blower	85	Busy Main Road
Telephone Ringing	80	Hair Dryer, Kitchen Blender
Low Level Street Traffic	75	Vacuum Cleaner, Alarm Clock
Typical Car Setting Off	70	Radio On Normal Volume
Car On Idle, Electric Kettle	65	Living Room With TV On
Microwave Oven	60	Kitchen Cooker Extractor Fan
Medium Volume Speech	55	High Daytime Background Noise
Low Volume Speech, Central Heating Boiler	50	Low Daytime Background Noise
Domestic Oven Fan	45	Small Aquarium Air Pump
Inside A Quiet Library	40	Domestic Fridge Motor, Computer Cooling Fan
In A Quiet Living Room During Daytime	35	A Bee Or Wasp In Flight
A Low Whisper	30	Outdoors In A Semi Rural Area During A Very Calm Night
A Ticking Clock	25	A Typical Quiet Bedroom
TV Broadcast Studio	20	In The Country During A Very Calm Night
Recording Studio, Pin Falling	15	The Audible Threshold For Most Adults
Shallow Breathing	10	Inaudible To Most Adult An Infant
Anechoic Test Cell	5	
Threshold Of Sound	0	Absolute Anechoic Condition

The Decibel Levels Shown Are Those That Could Typically Be Expected If The Stated Noise Emitting Item And Or Noise Environment Was Measured Using A Sound Level Meter Set With The Decibel 'A' Weighting Facility Enabled.

DECIBEL READINGS:

@ 3MTR = 51DB(A) (excluding silencer)

@ 3MTR = 41DB(A) (including silencer)



Premier commercial kitchens

Design • Supply • Install

AIR SUPPLY N/A



Premier commercial kitchens

Design • Supply • Install

1 D SILENCER

SILENCER SPECS - extract only

1D straight through silencer (generally reduces a fan noise level by 7 – 10dB (A)* Can be supplied to either bolt directly to any manufacturer of cased axial or with spigots to mount inline with ducting.



The addition of this silencer to a system will act in the same way a silencer does on a car, so if you've ever heard a car with no silencer fitted, this gives you an idea of the impact a silencer can have on a system.

Please Note — for a straight through silencer to work to have the maximum impact on a system, a silencer should be fixed either side of the fan, this will give 3 benefits to the overall noise level of the system.

1. System side (usually the noise level inside a building) noise level is reduced
2. Atmospheric side (usually the noise level outside a building) noise level is reduced
3. The breakout from the fan is reduced, this could be a big factor depending where the fan is fitted, such as a false ceiling in a class room or office area

DECIBEL READINGS (at max load):



Premier commercial kitchens

Design • Supply • Install

**EXTRACT &
AIR IN**

TERMINATION POINTS

JET COWL

Ventilation hood for air exit above roof, suitable for both industrial and comfort ventilation. The air is ejected in an upwards-directed jet. This avoids contaminating the air in the vicinity of the hood, and soiling of the area around the hood. The ejection is so effective that you can install a fresh air inlet in the immediate vicinity of the hood, without any special precautions.



WEATHER LOUVRE

A louvred grille for installation in external walls. is used for both fresh air intake and discharge. is supplied as standard with a water stop at the rear edge, drip nose and bird netting.





Premier commercial kitchens

Design • Supply • Install

GALV DUCT

DUCTING

DUCTWORK

Ductwork on a kitchen ventilation system may include:

Galvanised duct 1.2mm

Straight ducts of various lengths, rectangular or circular

Bends (elbows), right angled or curved

Branches which may have 1 or more outlets

Termination Grills

Transition Pieces

SPECIAL REQUIREMENTS

ADDITIONAL OPTIONS

IN INSTANCES - UNLESS SPECIFIED BY THE RESTRICTIONS OF CONDITIONS. OPTIONS AVAILABLE (MARKED RELEVANT TO APPLICATION):

FIRE RATED DUCT ☒

POWDER COATED DUCT ☐

COLOUR



END OF DOCUMENT

FOR QUOTE - PLEASE EMAIL office@premierck.co.uk (document sent separate)