Kitchen Ventilation
SPECIFICATION
INFORMATION

Requirements for the installation of a complete kitchen ventilation system. Document includes canopy, ventilation and other associated specifics

Springfield Group

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GDK UXBRIDGE

Information Provided By –

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Property Details

GERMAN DONOR KEBAB

138 HIGH STREET

UXBRIDGE

LONDON

UB8 1EB

Site Requirements

Brief description of site requirement

Vertical discharge with high velocity cowl and bird mesh guard on flat roof.

This proposed system to be mounted or hung on anti-vibration mountings to reduce any reverberation type vibration from the extraction system, travelling through the building.

Access doors installed in ducting system for cleaning and maintenance.

We can confirm that the design and specification for the extraction system at the above address is in accordance with DW172 specification.

Summary of detailed information attached in this specification

Extraction:

Volume M3/second	Resistance	Discharge Velocity	Filtration	Noise level
3.10 M3/sec	**495 pascals**	**12.62**	**Activated Carbon 0.43 Seconds**	**53 dba**

Supply:

Volume m3/second	Resistance	Replacement Percentage	Air Filter	Noise level
3.10 M3/sec	**150 pascals**	**80%**	**EU4**	**43dba**

Gas needs a minimum of 0.50 M/Sec Face velocity in order to meet the emissions requirements

Introduction

Canopy design

With the canopy supplied we have based the extraction airflow duty on the cooking type appliances underneath and calculated the volume required to capture the grease-laden air and heat removal over the appliances used.

Our Kitchen extraction Canopies are manufactured out of 430 or 304 grade stainless Steel. Stainless steel baffle filters within the canopy housing fully welded drain channel and complete with grease tap or grease pot.

Grease Tap

A stainless steel ball valve with plastic lever handle, threaded if want to make a permanent grease run off to grease pack.

These are installed at one or each end of the canopy, where the grease runs down the welded drain channel, turn the tap Anti-clockwise and drain off any excess grease or oil and wash with hot soapy water and turn lever clockwise to shut off.

Grease Pot

Installed in bottom plenum a removable pot at one or each end of the canopy, where the grease runs through hole above into the drain pot, remove the pot and dispose of the grease appropriately, wash out with hot soapy water and re-fit by pushing back into the slides, wash drain channel with hot soapy water and drain off any excess grease or oil.

This is for good housekeeping for cleaning grease daily and is easily accessible

Our canopies are installed at a working height of 2000mm underneath the canopy. 300mm overhang on front and sides of appliances.

Proposed system specification

Brief description of site requirement

Stainless steel wall canopy above the Donor kebab machines and fryer, this canopy includes the 250mm overhang requirement on all sides to comply to the gas equipment regulations, which creates a larger capture area and when working in conjunction with the gas interlock system to stop any carbon monoxide poisoning. And good practice with the air replaced with fresh ambient air to give a good cross flow of supply and extraction.

Due to the nature of the building with low ceilings all the equipment to be mounted externally on flat roof level.

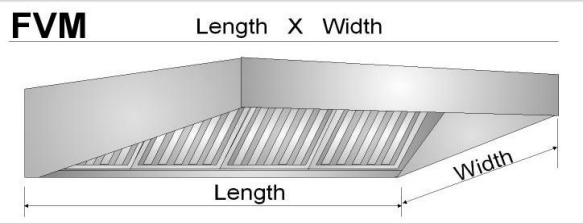
This proposed system to be mounted or hung on anti-vibration mountings to reduce any reverberation type vibration from the extraction system, travelling through the building.

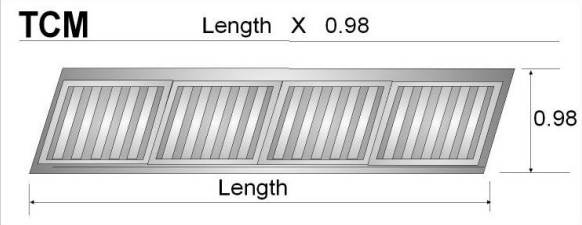
Access doors installed in ducting system for cleaning and maintenance.

Canopy Information

6100mm (long) x 1400 mm (wide) 304 grade, brushed stainless steel wall canopy, complete with stainless steel baffle filters. Incorporated within each canopy would be a full-length plenum, built into the filter housing to accommodate 10off, Coil filters. Air supply plenum in front housing of canopy complete with grilles and air nozzles in canopy to supply fresh ambient air.

Length Metre	Width Metre	Type	Grade	No: of filters	Filter Size	Filter Type	Canopy Style
6.10	1.40	Wall	304	10	500x500	Convolute	Box





FVM Canopy Calculation volume based on total face velocity

Length		Width		M²		Velocity		Volume m3/second
6.10	X	1.10	=	6.71	X	0.50	=	3.35 M/sec

TCM Canopy volume based on face velocity required extraction through sloping filter plenum

Length		Width		M²		Velocity		Volume m3/second
5.50	X	0.98	=	5.39	X	0.50	=	2.69 M3/sec

Average volume required 3.02 M3/sec for canopy capture face area at the required velocity to suit cooking type. Based on the extraction element of the canopy is only 1100mm wide with the remainder made up with the air supply housing and plenum.

Minimum Requirements for Canopy

Velocity requirements:

Heavy loading – 0.5 m/s (applies to char grills, specialist broiler units) Indian, Chinese, kebab shops.

Convolute grease filter information

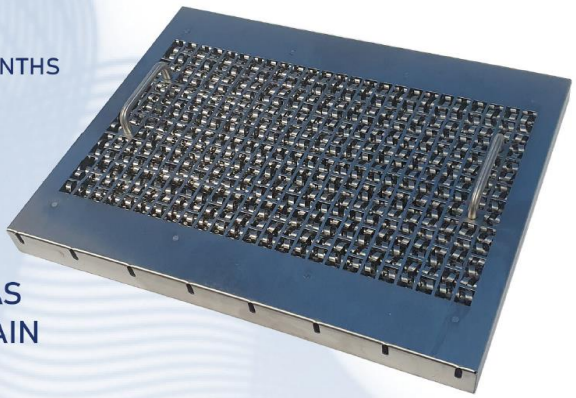
CONVOLUTE FILTERS

SPRINGFIELD GROUP PRODUCTS HIGH EFFICIENCY GREASE FILTERS

The convolute coil type filter is the ultimate high efficiency primary grease filter for your kitchen. The filters are proven to remove up to 90% of grease before it enters the extraction system. They are available in all standard sizes.

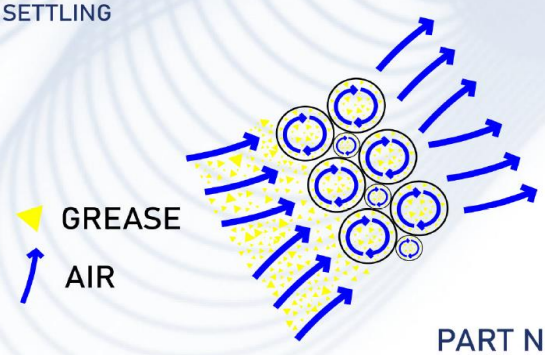
BENEFITS INCLUDE

RETURN ON INVESTMENT AS SHORT AS 12 MONTHS
REDUCES DUCT CLEANING REQUIREMENTS
EXCEPTIONAL FIRE BARRIER
GREASE CAPTURE UP TO 90-95%
REDUCTION IN INSURANCE PREMIUMS
ASSISTS TR19 COMPLIANCE



THE PATENTED FILTER MATRIX WAS DESIGNED TO APPLY THE FOUR MAIN PRINCIPLES OF FILTRATION

CONDENSATION
INERTIAL SEPARATION
IMPINGEMENT
SETTLING



TECHNICAL SPECIFICATION

VOLUME FLOW RATE UP TO 0.28M3/S PER FILTER
4.2 M2/S FACE VELOCITY OPTIMUM
195 Pa PRESSURE DROP
UP TO 3KG WEIGHT
FULL STAINLESS STEEL CONSTRUCTION
50dB NOISE

PART NUMBERS

CONV-2020S SINGLE CONVOLUTE FILTER 495X495X47
CONV-1620S SINGLE CONVOLUTE FILTER 395X495X47

CONV-2020T TWIN CONVOLUTE FILTER 495X495X47
CONV-1620T TWIN CONVOLUTE FILTER 395X495X47

CONVOLUTE FILTERS

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Springfield Group PRODUCTS

It is universally recognised that there is an increasing need to maintain & improve hygiene standards & reduce fire hazards within kitchens. These filters greatly reduce any carry over of grease entering the system, which increases the longevity of the fan and its filtration system.

Extraction System Information

Galvanised mild steel sheet of lock-formed ducting in accordance with DW144. Constructed from hot-dip galvanized steel sheet. Joints and spigots sealed with High-pressure ducting sealant, which complies with HVCA specification DW144.

Discharge off the top of the extraction canopy with galvanised ducting through flat roof with two ozone filtration units mounted underneath the ducting, injecting ozone to neutralise the cooking odour element of the system, this is complete with a ozone control unit and ozone monitoring unit on the discharge, to increase and decrease the ozone production on command to avoid any unnecessary ozone production after the ozone is a activated carbon filter housing which is to neutralise the odour as a second stage filtration, this unit houses six G4 pre-filters and six 600x600x300 activated carbon cells, transposing to a 630mm mixed flow fan with a 1260mm silencer before and after the fan to reduce induct noise by 24 decibels total, ducting terminating with a cut off cowl complete with bird mesh to discharge with a high velocity efflux to dilute high into atmosphere.

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Air supply ducting off the top front of the canopy with supply grilles mounted in front face, Fan mounted on flat roof above complete with silencer and speed controller and bird beak cowl, suppling fresh ambient air back into the kitchen.

Criteria: which our design is based on regarding airflow velocities.

Weather cowl: 10-15 M/sec to disperse high into atmosphere for flue dilution.

Duct velocities should be as follows: Extract (m/s) Main runs 6-8 M/sec with the branch and spigots 5-7 M/sec.

Type of discharge cowl

Cut off cowl with bird mesh 1400mm x 700mm to disperse the air evenly and minimise velocity noise discharging @ 9.71 M/sec.

Volume 3.02 M3/sec divided by 630mm Diameter ducting 0.31 M2 =9.71 M/sec this will create an efflux velocity to dilute into the atmosphere.

Extraction fan details

Located Internally 4 pole, three-phase mixed flow fan at the designed Duty: 3.02 M3/sec @ 405 Pascal's resistance**.**

System resistance calculations

	Extraction system	**Pascal's**
1	Splitter silencer & system	80 pa
8	Convolute grease filters in canopy	105 pa
1	Activated carbon filters and G4 filters	220 pa
Total static resistance on the system		**405** pa

Range of direct drive backward curved centrifugal cabinet fans designed for ventilation of commercial kitchens and industrial applications.
Cabinet fan manufactured from aluminium profiles and double thickness side panels internally lined with 25 mm thickness of fireproof fiberglass acoustic insulation.
Circular duct connection flange on the inlet and outlet. CVAB-N/CVAT-N incorporates direct drive backward curved centrifugal impeller,manufactured from aluminium (CVAB-N) or steel (CVAT-N) sheet, with motor fitted inside the air stream.

Motors

CVAB-N
Single-phase external rotor motors 230V 50Hz, IP55, class F, with thermal protection, speed controllable by tension.
Working temperature from -40ºC to 60ºC.

CVAT-N
Three-phase 4 and 6 pole motors 230/400V 50Hz, IP55, class F, with thermal protection (PTC), speed controllable by inverter.
Working temperature from -20ºC to 40ºC.

ATEX versions
On request, explosion proof versions in accordance to ATEX Directive, for three phase models.
Working temperature from -20ºC to +40ºC.
- ATEX Flameproof - Gas
  In standard ATEX version flameproof motors are without thermal protection.
  If used with frequency inverter, flameproof motors with a PTC-type thermal protection must be specified at order.
  Ⓔx II 2G Exd IIB T4
  Ⓔx II 2G Exd IIB+H2 T4 (with motor Exd IIC T4)
- ATEX Increased safety - Gas
  Ⓔx II 2G Exe IIC T3

To select CVAT-N ATEX refer to performance curves, or Easyvent.
Note electrical data may vary for ATEX motors.

Backward curved centrifugal impellers
To prevent accumulation of dirtiness. Dynamically balanced.

Low noise level
Double thickness side panels lined with 25 mm thickness of fireproof fiberglass acoustic insulation.

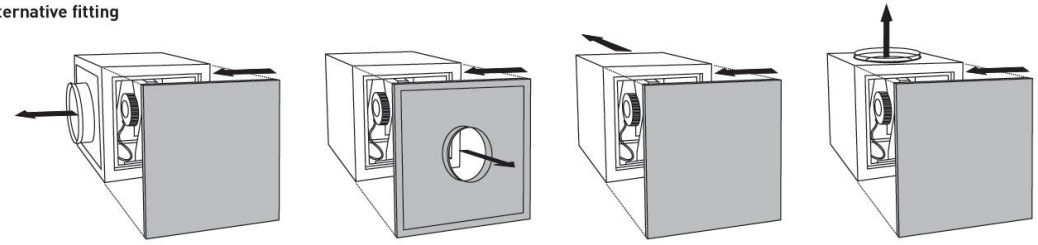
Robustness
Quality finished aluminium profiles and plastic corners providing a great robustness.

IP55 external terminal box
To ease electrical connection. Only available for CVAB single-phase models.
For three-phase models, connection to the motor terminal box.

Specific applications

Versions

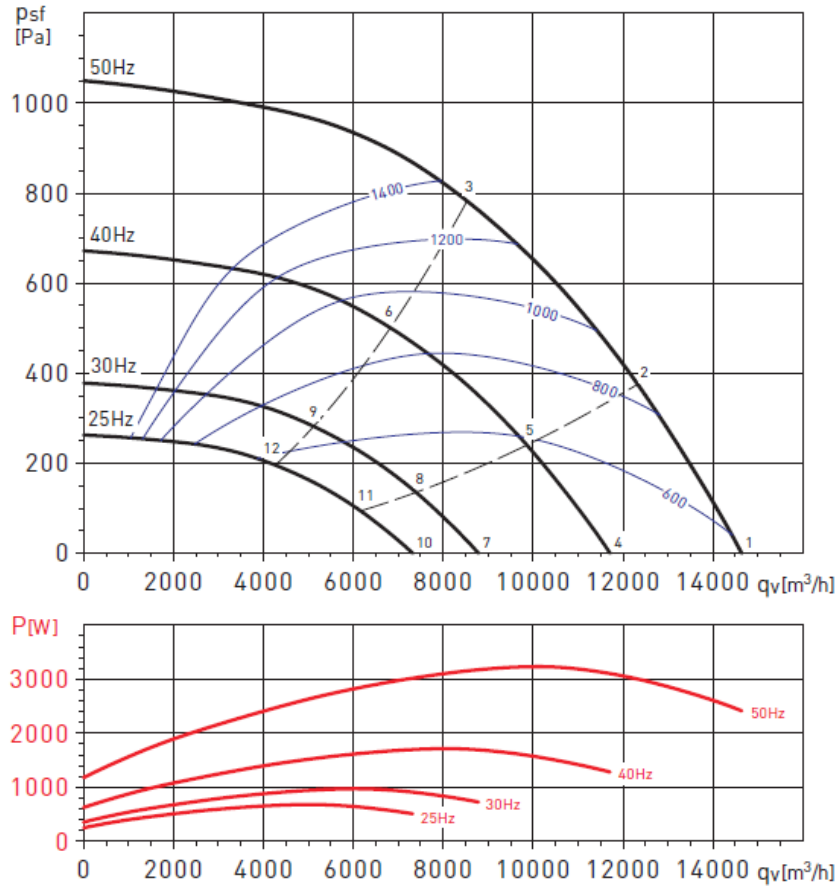
Alternative fitting



PERFORMANCE CURVES - ACOUSTIC CHARACTERISTICS

- q_v: Airflow in m^3/h.
- p_{sf}: Static pressure in Pa.
- P: Input power in W.
- SFP: Specific fan power in $W/m^3/s$ (blue curves).
- Performance data in accordance with ISO 5801 and AMCA 210-99 Standards.

CVAT/4-16000/630N D 3kW



Working point		63	125	250	500	1000	2000	4000	8000	LwA
2	Inlet	53	79	82	80	78	78	71	66	87
	Outlet	64	81	84	81	85	76	70	64	89
	Break-Out	48	68	71	66	64	60	53	47	74

Model	Speed (rpm)	Maximum absorbed power (W)	Maximum absorbed current (A)		Maximum airflow (m^3/h)	Sound pressure level* (dB(A))			Weight (kg)
			230V	400V		Inlet	Radiated	Outlet	
CVAT/4-16000/630N D 3	1460	3234	10,3	5,9	14.640	72	60	75	113,0

Induct outlet noise of 75dbA minus 24 decibels podded silencer reduces to 51 decibels

CASED AXIAL ACCESSORIES

SILENCER

PERFORMANCES

The performances are derived from tests to BS848. Measurements of fan noise are made with and without the silencer in position. The difference between recorded levels is the dynamic (with airflow) attenuation or insertion loss of the silencer. Type B silencers may be directly coupled to both inlet and outlet flanges of the fan. When type C silencers are directly coupled to the fan flanges they are most effective on the outlet. A spacer duct of 1D length between the fan inlet flange and a type C silencer is necessary to ensure maximum performance.

Note: C type silencers mounted close to a fan may effect the aerodynamic performance.

CONSTRUCTION

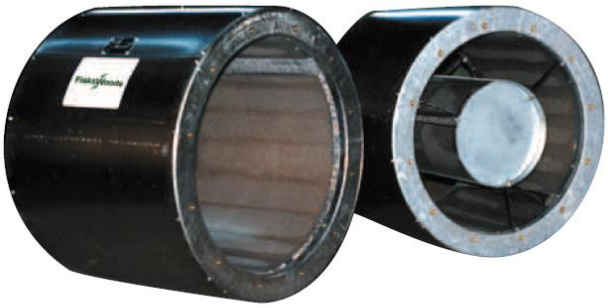
Casings are of rolled, pre-galvanised sheet steel with spun end rings incorporating tapped inserts for fixing. Suitable fixing screws are provided with all steel silencers.

The absorbent material is acoustic grade mineral fibre with an erosion resistant facing. It is protected and contained by a pre-galvanised perforated steel sheet formed to match the fan diameter.

Cylindrical silencers shall be suitable for air pressures up to a maximum of 1000 Pa. For duct pressures in excess of 1000 Pa please enquire.

A Melinex Lining (variant code M) can be supplied for critically clean applications such as hospitals to ensure no fibre migration. The lining may also be used in moisture or grease laden conditions, such as kitchen extract systems where the material is used to stop the ingress of grease etc. into the acoustic media.

The use of the lining also allows the silencers to be low pressure steam cleaned. Some reduction of attentuation due to the lining will be experienced.



SIZE RANGE

Type B silencer bore diameters range from 280 mm to 1000 mm metric range in lengths equal to or twice the bore diameter (ID or 2D) Pressure loss for type B silencers is the same as a plain duct.

Type C silencers have a centrally mounted absorbent pod in the airway for increased attenuation. The pressure loss due to the pod is provided in Fan Selector when selecting the C type silencer as an accessory.

The diameter range is 315 mm to 1000 mm metric range.

FINISHES

Standard finish is galvanised zinc coating to BS2989 Z2. Other finishes including epoxy paint are available to special order.

TEMPERATURE RANGE

Standard silencers are suitable for temperatures from -40°C to 200°C. When moisture resistant lining is used the continuous air handling temperature is limited to 80°C. Special treatments enable silencers to operate at temperatures up to 600°C. For smoke applications, please enquire.

MOUNTING

Galvanised steel mounting feet and matching flanges corresponding to those supplied for Aerofoil fans are available.

TYPE C DYNAMIC ATTENUATION

		OCTAVE-BAND MID FREQUENCIES HZ							
BORE DIA. MM (D)	LENGTH	63	125	250	500	1K	2K	4K	8K
315	1D	2	5	5	9	18	20	18	15
	2D	2	6	6	12	20	25	20	17
355	1D	2	5	6	9	18	22	19	16
	2D	2	6	7	13	25	27	21	17
400	1D	2	6	6	10	19	24	20	17
	2D	3	7	8	14	29	29	23	18
450	1D	2	4	7	13	20	23	22	17
	2D	2	5	9	16	29	29	21	20
500	1D	2	3	8	16	21	22	21	17
	2D	2	4	10	20	29	30	20	26
550	1D	3	5	8	16	20	18	19	15
	2D	4	5	10	20	29	28	21	23
630	1D	3	5	8	15	19	16	14	12
	2D	5	6	10	19	29	25	21	20

C TYPE SILENCER (PODDED)

Bore Dia. mm (A)	Product Number (C1D)	OD	No of holes	PCD	Thread	Mounting Foot holes		A Length		Weight (kg)	
						Dia	Spacing	1D	2D	1D	2D
315	SC211401	415	8	355	M8	10	265	315	630	13	19
355	SC221401	455	8	395	M8	10	305	355	710	15	24
400	SC241401	500	8	450	M10	10	350	400	800	18	30
450	SC251401	600	8	500	M10	10	400	450	900	24	39
500	SC271401	650	12	560	M10	10	450	500	1000	29	48
560	SC281401	710	12	620	M10	10	510	560	1120	35	58
630	SC301401	780	12	690	M10	12	580	630	1260	42	72
710	SC311401	860	16	770	M10	10	660	710	1420	53	90
800	SC331401	1000	16	860	M10	12	750	800	1600	66	116
900	SC341401	1100	16	970	M12	12	850	900	1800	84	150
1000	SC351401	1200	16	1070	M12	12	950	1000	2000	100	182

Ozone Filtration

First stage

CONTROLLED
OZONE
PRODUCTS

OZONE INJECTOR UNIT

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 \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 \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.

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SYSTEM 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 \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

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TYPICAL SYSTEM & ORDER CODES

The BMS System comprises of 1 off BMS\VM Control Panel and between 1 and 4 BMS 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.

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.

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

BMS-OZINJ

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

BMS-OM

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

BMS-CP

BMS / VM Control Panel
155 x 200 x 95 mm
LED Indicator Lamps
Electronic Air Pressure Sensor
4 x 5 pin Monitor Output Sockets
1 x 5 Pin BMS Output Socket
1 x 5 Pin Data Logger Output Socket

C3 CONTROLLED OZONE PRODUCTS
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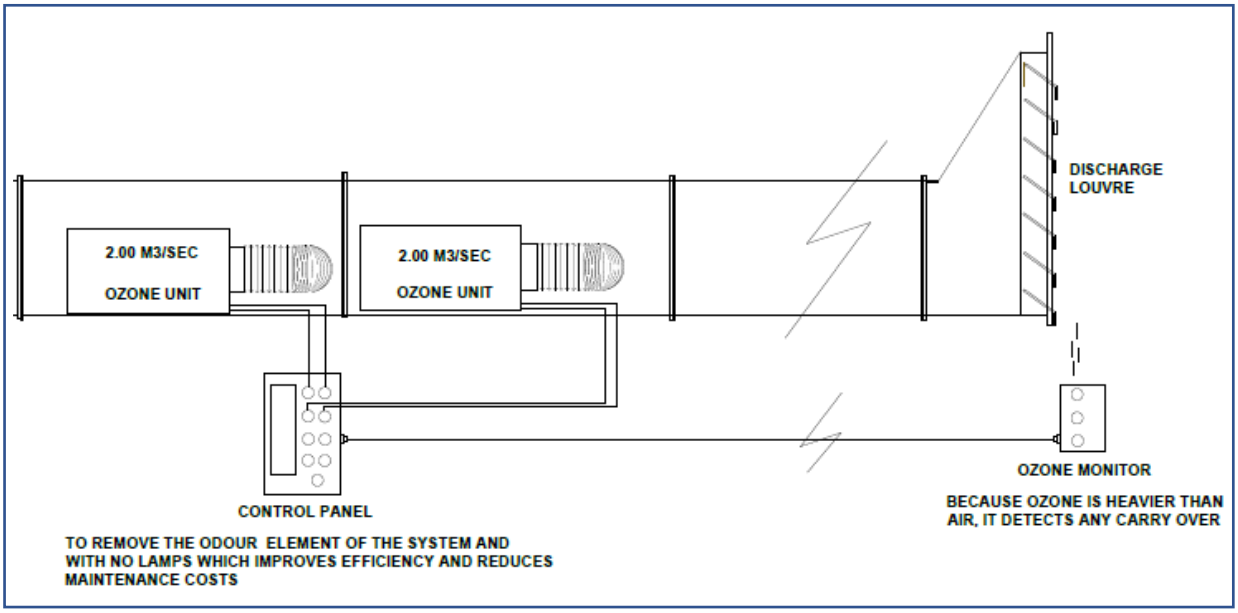


Carbon Filtration

Second stage

The carbon filter is the ideal solution for a modular approach to fume removal. Activated carbon dates back many years. In the First World War, gas masks were filled with activated carbon to remove chlorine gas.

Today a wide range of carbon filters to deal with many noxious fumes and gases, whilst maintaining high levels of strength and low-pressure loss.
Manufactured from several carbon biscuits held in a vee formation within a corrosion-proof metal casing, these are sealed into the frames of our filters using polymer, which eliminates the possibility of any air bypass around the carbon.
Type 8 carbon filter features: High quality carbon – all grades available
Robust modular construction: Low-pressure losses: High carbon content.

Typical required residence dwell times for various cooking Premises

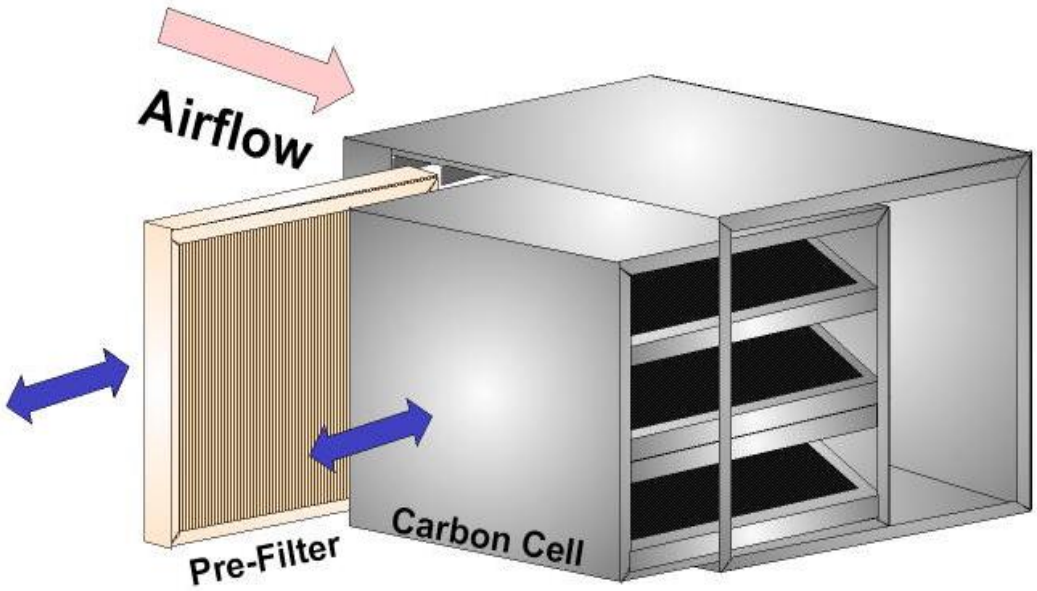
Cooking Establishment	Capacity Required	Residence Time (seconds)
Canteen, Cafes, English style normal kitchen and restaurants, pizza and bread shops	Normal'	0.10 – 0.15
Kitchens producing large amounts of fried foods or Concentrated cooking of burgers	2 times 'normal'	0.20 – 0.35
Indian restaurants, Chinese, Kebabs etc. (spices etc.)	3 times 'normal'	0.40 – 0.60

Dwell time Calculation

600mm x 600mm Carbon face 0.36 M2 X 6 = 2.16 M2

2.16 M2 x 0.80 long = 1.73 M3 divided by 3.02 M3/sec = 0.57 Seconds dwell time
Fine grade EU4 pre-filters 0.2 seconds dwell time

Total 0.59 seconds



Air supply system (Replacement air)

This canopy has an air supply plenum built into the front to supply fresh ambient air through perforated grilles into the kitchen, this helps with extraction efficiency and a better working environment for staff. It is advisable to install an air supply system with the fan and ducting mounted on flat roof supplying fresh ambient air through canopy face supply grilles.

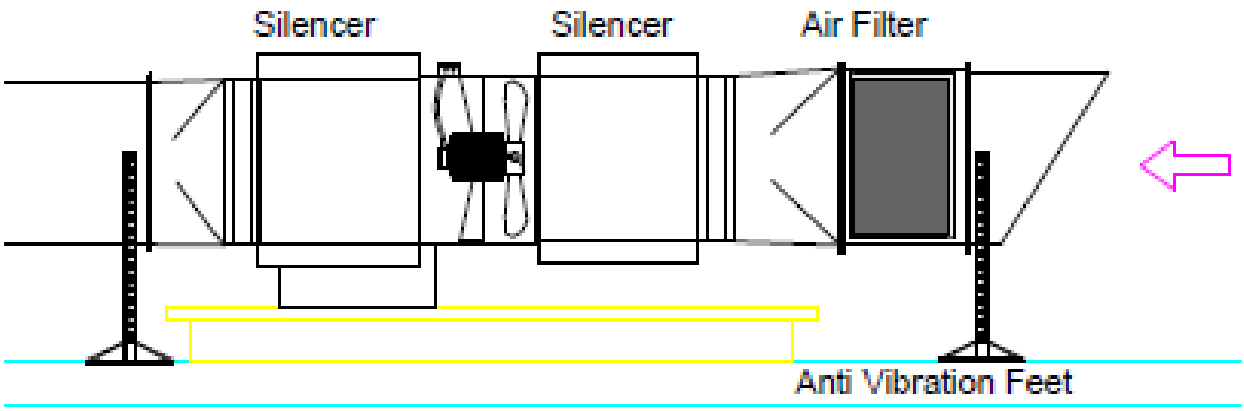
The requirement is to supply fresh ambient air to replace approximately 80% of the extract flow rate volume of the extracted air.

Extraction Duty: 3.02 M3/sec 80% of extraction volume = 2.41 M3/sec Supply air required for canopy and additional volume required for customer area, added to the main system Giving an overall air replacement of 3.00 M3/sec @ 150 pascals

System resistance calculations

	Supply system	**Pascal's**
	Ducting, weather cowl & Grilles	150
Total system resistance		**150**

Selected Fan Details



Silencers inline will reduce the induct noise by 18 decibels combined

Fans induct noise 61Dba Minus 18 Decibels giving a noise of 43 Decibels

G4 fine filtration filters on inlet.

Air supply system

Flakt Woods 63JM 20/4/6/20 3 Phase Axial fan

Fläkt Woods Limited
Technical Data Sheet
JM Aerofoil

FläktWoods

Quotation Number	:	Project Code	:
Project Name	:	Customer	:
Item Reference:	:	Date:	: Monday, March 21, 2022

Fan Code	63JM/20/4/6/20
Fan Diameter / Size	630 Size / mm
Blades	6
Fan Speed	1420 rpm
Velocity	9.9 m/s
Blade Angle	20°
Installation Type / Form of Running	D / B (Horizontal)
Fan Casing	Long
Requested Duty	3m³/s @ 150 Pa (static)
Actual Duty	3.09m³/s @ 160 Pa (static)
Outlet Dynamic Pressure	59 Pa
Duty Shaft Power	1.000 kW
Max Shaft Power	1.13 kW
Total Efficiency	67.7 %
Motor Frame	F22 [Class F]
Motor Rating	2.10 kW
Full Load Current	5 A
Starting Current	27 A
Motor Mounting	Pad
Electrical Supply	380-420 Volts 50 Hz 3 Phase
Start Type	DOL
Motor Winding	Standard
Enclosure	Standard All
ErP [FMEG] Rating	N 59 (ErP Compliant)
ErP [FMEG] Target	N 58
FMEG Blade Angle [Range]	24° [8° - 30°]
Measurement Category	D (Total)
VSD	N
Fan + Motor Efficiency	54.5% (3.41 m³/s @ 265 Pa)
Motor Input Power (ErP)	1.65 kW
SFP value	0.42 W/(l/s) @ Actual Duty
Power from mains	1.29 kW
Energy Consumption	3870 kWh (3000 h/year)
Running Cost / Year	£464
Air Density	1.2 kg/m³ / 20 °C / 0 m / 50% RH
Smoke Venting	Non Smoke Venting
Product Number	DX661454

Performance data has been derived from tests carried out in a Flakt Woods laboratory, in accordance with ISO 5801 and is specifically applicable for Ducted installations. When an electronic controller is incorporated, enhanced motor noise can occur - particularly when the operating speed is well below maximum. FWL therefore recommend using an auto transformer speed controller for noise sensitive applications. Bifurcateds are Erp exempt when used continuously at >100C. They are not for use in the EEA at lower temperatures.

Acoustic data has been derived from tests carried out in a Flakt Woods laboratory, in accordance with BS 848 Pt 2, 1985 / ISO 5136 under Ducted conditions. The LpA figure provided is the overall Inlet sound pressure level calculated at the specified distance, under spherical, free field conditions. Breakout levels stated are estimated from induct sound power levels and are provided for guidance.

Acoustic figures for adjusted running speeds have been interpolated and are for reference only.

This Offer is made subject to the latest version of our A100-19 Terms and Conditions, a copy of which can be made available on request. Our lead times will be re-confirmed on receipt of manufacturing release and may be subject to change.

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m**
Inlet*	80	84	82	78	76	74	70	64	88	61
Outlet*	80	84	82	78	76	74	70	66	88	61
Breakout*	70	63	56	53	51	47	51	42	71	37

* Lw dB re 10^{-12} W ** dBA re $2x10^{-5}$ Pa
Sound data at actual duty.

Description	Qty
Fan	
DX661454 - 63JM/20/4/6/20	1
Accessories	
Thermostat	1

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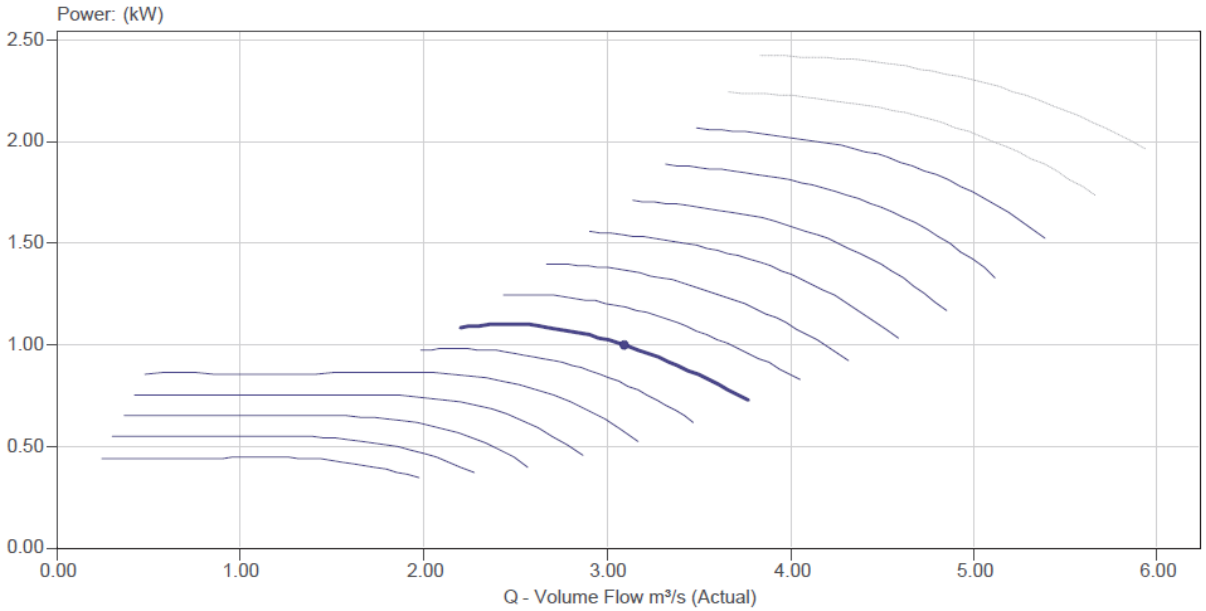
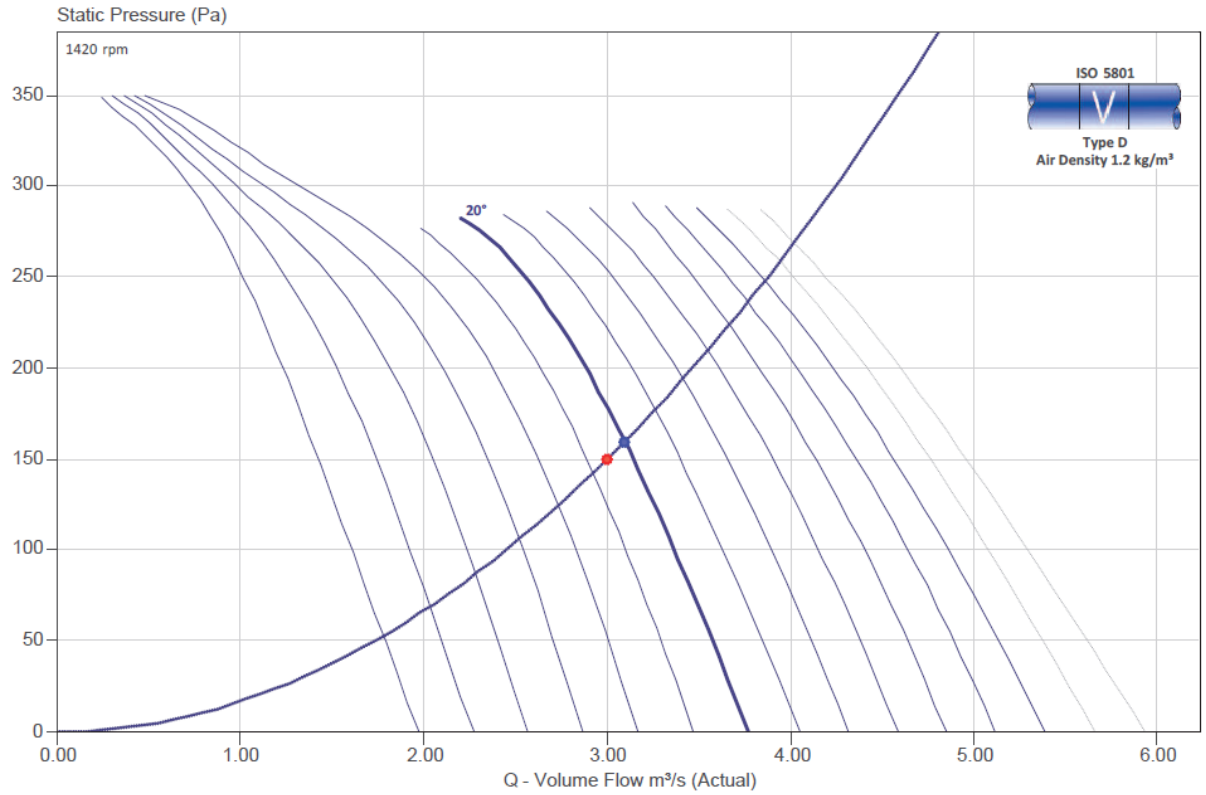
Printed on 21 March 2022
Selection Engine: 3.1.3.51p

ıotation Number	:	Project Code	:
oject Name	:	Customer	:
ım Reference:	:	Date:	: Monday, March 21, 2022
		Fan Code	: 63JM/20/4/6/20





Schematic drawing of proposed system