iWantPlans

Kitchen Extraction Specification
Odour Control Details
Noise Impact Analysis (DEFRA)
Rev 1

Report Location:

Coffee Blooms
39 Lambs Condiut Street
London
WC1N 3NG

Name: Candela Kusack

Address: Coffee Blooms

39 Lambs Condiut Street

London

Postcode: WC1N 3NG

Date: 04/09/2016

Ref: **Commercial Kitchen Extraction Specification & Noise Assessment**

Dear Candela Kusack

Following our on site survey and background noise measurements we can now confirm the design and specification for the proposed system at the above address in accordance to DW172 specification.

We have also included details of the recirculating extract canopy, fresh air system Maintenance for the proposed systems, are for your information and convenience.

If you have any questions or require further clarification of any points within this document please do not hesitate to contact ourselves, we will be most happy to assist where possible.

Yours sincerely

Emma Watson

1 General Description

Rear Preparation Kitchen - details

Cooking Equipment	Fuel	Width	Depth	Co-efficient	Extract Volume
Open Top Range & Oven	Electric	900	600	0.25	0.135
Convection Oven	Electric	600	600	0.3	0.108
Bench, Spreader & Workto	Electric	600	600	0.03	0.0108
-	-	0	0	0	0

Kitchen Width	4.5	m	**Velocity Co-efficient**	0.51	
Kitchen Length	3.5	m	**Themal Convection Method**	0.25	m3/s
Kitchen Height	2.4	m	**Extraction Face Area**	3.78	m2
			Wall Mounted Canopy (Open One End)	0.05	m3/s
			Specific Extraction Volume TCM	0.30	m3/s
			Specific Extraction Volume FVM	1.12	m3/s

Total Active Extraction Length			**Material**	T430 0.9mm (20swg) DP2 St. Steel
Canopy Length	2000	mm		
Canopy Width	1100	mm		
Canopy Height	300	mm		

2 Ductwork

Fresh Air Duct Work - Only

The main duct work will be manufactured from galvanised mild steel sheet of a folded lock-formed and flange construction in accordance with DW/144 specification for Class A Ductwork. The class A ductwork will hava a static pressure limit of less than 500Pa positive pressure and 500Pa negative pressure. In-duct velocity should not exceed 10m/s. Ductwork will be constructed from hot-dip galvanized steel sheets confirming to BS EN10142:1991 Grade DX51D+Z, coating type Z275.

The ductwork has been designed to follow the most direct route to atmosphere, whilst minimising bends and pressure. Any gaskets used should be of a no-porous type and be capable of withstanding the necessary heat loads found along the length of the ductwork.

Where required access panels will be cut into the ductwork in order to provide full cleaning access to every internal duct surface and component. Access panels should be located at no more then 3.0metres. Access panels should be sealed with an appropraite heat proof gasket or sealant.

3 Odour Control - Annex B

Information on Premises

The number of meals served per day	30 - 40
The methods of preparation and cooking	Light cooking
The types of meals served	Café products, cooked breakfas and pastries
Proposed hours of operation	07:00 - 18:00

Plans and drawings

Plan dimensions	As shown on planning drawings
Plan route	N/A
Exhaust characteristics	Self colour Zinc Hot Dip Finish - fresh air duct No Exhaust ducting

Prefilters

Manufacturers name	Longar Industries
Filter name and product code	Airgard - Type 11
Dimensions of the prefilter	600mm x 600mm
Nature of the filter media	Pleated panel
Manufacturer's recommendations on frequency and maintenance	Change every 1 month

Electrostatic precipitators

Manufacturers name	N/A
ESP name and product code	N/A
Dimensions of the ESP	N/A
Flowrate rating	N/A

Carbon filters - Extract system

Manufacturers name	Longar
Filter name and product code	Air Guard Type 2
The total number of filter panels	10.2
Carbon type	Fused 207c carbon granules
Frequency of replacement	3 to 6 months
Total volume of carbon expressed in cubic metres	1.0m3
Total mass of carbon expressed in kilograms	11.77632kg
Dwell time of the gases in the filter compartment	0.8 s

Odour counteractions or neutralising system

Manufactures name	N/A
Name of delivery system and product code	N/A
Counteracting tour neutralising chemicals be used	N/A
COSHH datasheets are chemical to be used	N/A
Anticipated counteract and or neutralising delivery right	N/A

Cooker hood

Length of the cooker hood overhangs the appliances	300 mm
Face velocity at cooker hood expressed in metres per second	0.51 m/s
Length of the opening the cooker hood	2000 mm
Depth of the opening the cooker hood	1100 mm

System operation

Extract rate expressed as M3/S at the proposed rate of extract	0.30	m3/s
Dwell time of the gases in the carbon filtration zone	0.8	sec
Volume of the kitchen	37.8	m3
Efflux velocity	3.67	m/s

Flue design

Flue termination point	NA	
Effective Height (inc efflux)	NA	m
Height above ground (inc 1m above highest point)	NA	m

Noise

SPL at known distance @ 3 metres	32.62096255	dB(A)
Hours of operation of the ventilation system	07:00 - 18:00	

Maintenance

Washable primary baffle grease filters	Daily
Frequency of inspection and replacement of all filters	2-4 Weeks Prefilter
Inspection and servicing of fans	Every 3 months

Fresh air replacement system

Input rate expressed as M3/S	0.26	m3/s
Prefilter type	G4 (EU4)	
Method of diffusion	Coanda Effect & Displacement	
Number of diffusers	1	

Risk Assessment For Odour - Annex C

Impact Risk	Odour Control Requirement	Significance Score
Low to Medium	Low level odour control	Less than 20
High	High level odour control	20 to 35
Very High	Very high level odour control	more than 35

Dispersion

Very poor	20	Low-level discharge, discharging to courtyard or restriction on stack
Poor	15	Not low-level but below eaves, or discharge of below 10 M/S
Moderate	10	Discharging 1m above eaves 10 to 15 M/S
Good	5	Discharging 1M above ridge 15 M/S

Proximity of receptors

Close	10	Close sensitive receptor less than 20 metres kitchen discharge
Medium	5	Close sensitive receptor between 20m and100m from kitchen discharge
Far	1	Close sensitive receptor more than 100m and kitchen discharge

Size of kitchen

Large	5	More than 100 covers a large size takeaway
Medium	3	Between 30 and 100 covers or medium sized takeaway
Small	1	Less than 30 covers or small takeaway

Cooking type (odour and grease loading)

Very high	10	Pop high level of fried food, fried chicken, burgers or fish and chips
High	7	Kebab, Vietnamese, Thai or Indian
Medium	4	Cantonese, Japanese or Chinese
Low	1	Most pubs, Italian, French, pizza or steakhouse

Description	Dispersion	Proximity	Size Of Kitchen	Cooking Type	Total
	0	10	1	1	**12**

Classification **Low** **Low Level Odour Control**

Recommendation Recirculation canopy system
Due to site restrictions there are no routes for duct work to atomsphere

Primary Filters
Longar Type 2 Baffle Filters — Cleaned Daily

Second Stage Filtration
Pre-filter G4 – 80 to 90% arrestance — To be changed every 4 weeks

Third Stage Filtration
Bag filter F6 – 60 to 90% efficiency — To be changed every 3 months

Fourth Stage Filtration
HEPA filter F10 – 90 to 95% efficiency — To be changed every 3 months

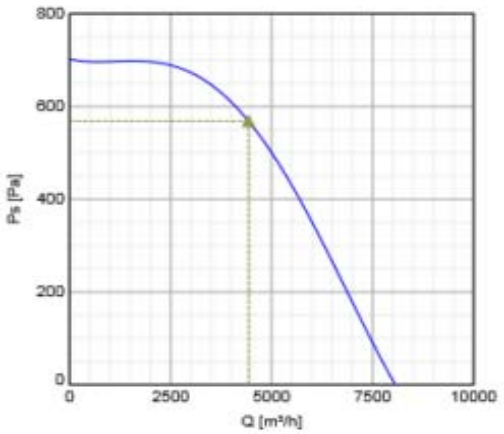
Fifth Stage Filtration
Activated carbon cells — To be changed every 3 to 6 months

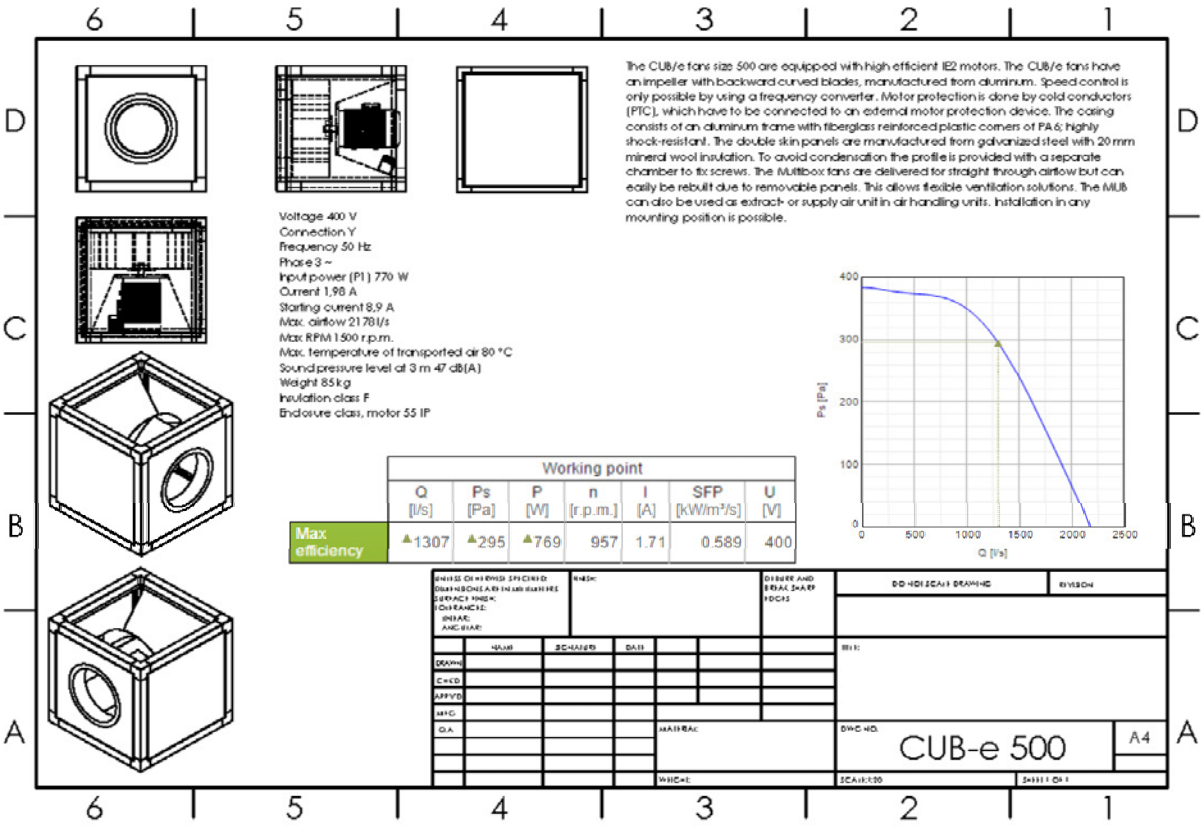
Efflux
Grease laden air to be filter through 5 stage system and reintroduced back into the kitchen

4 Fan Details

Based on the following system requirements:-

Specific Extraction Volume TCM (Based on the Thermal Convection Method)	**0.30 m3/s**	**1096.4 m3/h**	**645.36 cfm**
Baffle Filter Loss @ 0.51 m/s	30 Pa		
Ductwork Pressure Loss	0 Pa		
Pre Filter	50 Pa		
Bag Filter	50 Pa		
Hepa Filter	150 Pa		
Carbon Loss	120 Pa		
Total Pressure	**400 Pa**		





5 Noise Assessment

Measured Background Noise
LA90 42.5 dB
(Measured 1m from façade)

Fan Located Internally - Yes

Survey Equipment
G078359, CR:171C

Date of Survey:	13/08/2016
Time of Survey:	7.44am
Wind Speed & Direction:	
Precipitation	Dry
Fog / Mist	Clear
Ground	
Temperature	19 Celsius
Cloud Cover:	Clear
Presence of Conditions:	

Calculations

Extract and Fresh Air Fan

Description		63	125	250	500	1k	2k	4k	8k	Total	Unit
CUB/e 500 Outlet		64	66	70	72	71	68	63	56	77	L_w
Duct Loss		3	2	1.5	0.5	0.5	0.5	0.5	0.5	10	L_w
Bend Loss		0	3	15	24	12	9	9	9	25	L_w
SIL 1D		2	5	6	9	13	11	6	8	18	L_w
Directivity loss		0	0	0	0	0	0	0	0	9	L_w
Distance loss (m)	3	10	10	10	10	10	10	10	10	19	L_w
Acoustic Enclosure		0	0	0	0	0	0	0	0		
Sound pressure level at receiver		49	46	38	29	36	38	38	29	52	L_w
Sound pressure level at receiver		0	35	27	18	25	27	27	18	41	L_p
A Weighting		-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1	7	dB
dB(A) corrected		-26	19	18	15	25	28	28	17	**32.6**	**dB(A)**

Design

Due to site restriction there are no duct work routes to atomsphere.

It is recommend that a **recirculation unit** is installed with a 5 stages sytem to remove grease laden air and disperse filtered air back into the kitchen

Stage 1
Longar Type 2 Baffle Filters Cleaned Daily

Stage 2
Pre-filter G4 – 80 to 90% arrestance - To be change every 4 weeeks

Stage 3
Bag filter F6 – 60 to 90% efficiency - to be changed every 3 months

Stage 4
HEPA filter F10 – 90 to 95% efficiency - to be changed every 3 to 6 months

Stage 5
Activated carbon filters - to be changed every 3 to 6 months

Fresh Air System

Pre-filter to be installed after the fan to be cleaned every 4 to 6 weeks

Cirrus Research plc

Measurement Summary Report

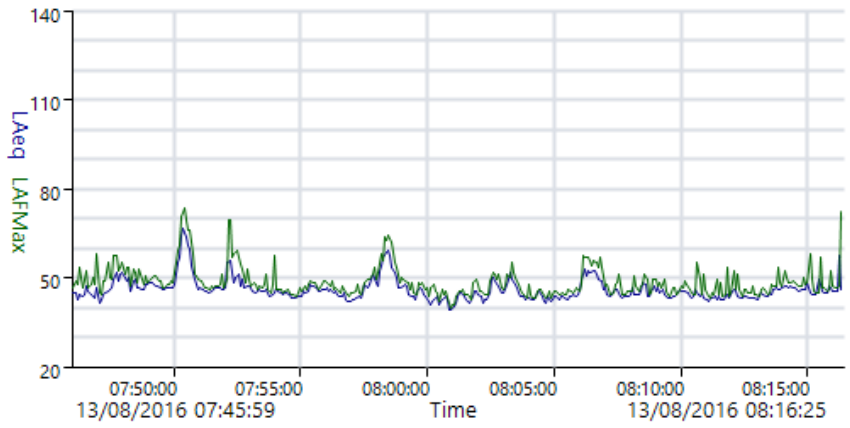
Name	1				
Time	13/08/2016 07:45:59	Person		Place	Project
Duration	00:30:26			39 Lambs Condiut St	Coffee Blooms
Instrument	G078359, CR:171C				

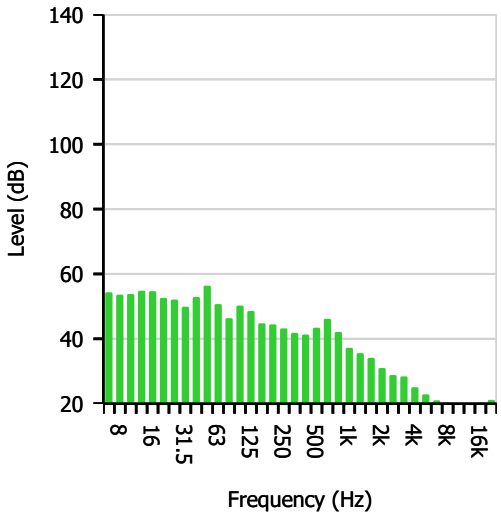
Calibration

Before	13/08/2016 07:44	Offset	0.22 dB	After	13/08/2016 08:17	Offset	0.25 dB

Basic Values	
LAeq	49.3 dB
LAE	81.9 dB
LAFMax	73.6 dB

Statistical Levels (Ln)	
LAF1	60.4 dB
LAF5	52.5 dB
LAF10	49.7 dB
LAF50	45.0 dB
LAF90	42.5 dB
LAF95	41.9 dB
LAF99	40.2 dB





ReportId

Cirrus Research plc

Overall Values Report

Name	1				
Time	13/08/2016 07:45:59	Person		Place	Project
Duration	00:30:26			39 Lambs Condiut St	Coffee Blooms
Instrument	G078359, CR:171C				

Calibration							
Before	13/08/2016 07:44	Offset	0.22 dB	After	13/08/2016 08:17	Offset	0.25 dB

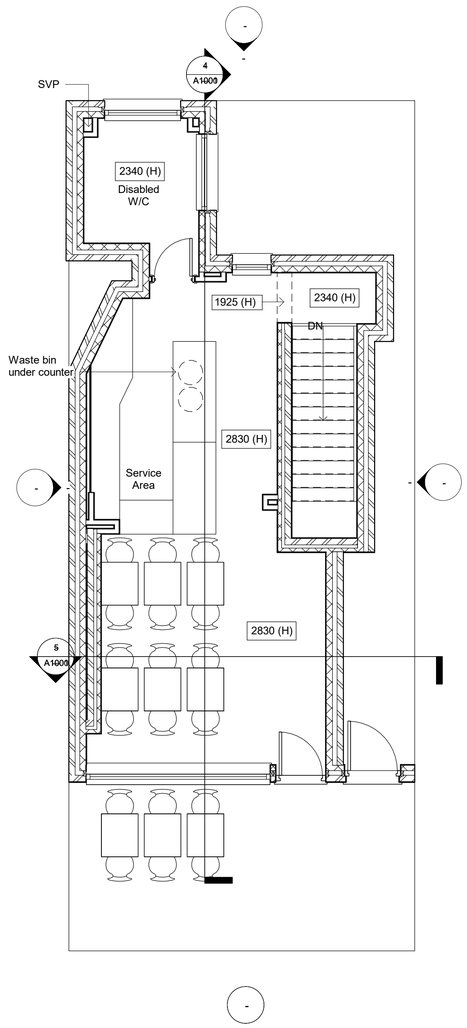
Name	Value	Units
Leq		
LAeq	49.3	dB
LCeq	60.6	dB
LZeq	66.9	dB
LAeqI	53.3	dB
C-A	11.3	dB
Dose		
LAE	81.9	dB
LCE	93.2	dB
LZE	99.5	dB
LEPd	37.3	dB
LEX8	37.3	dB
Peak		
LAPeak	97.7	dB
LCPeak	97.6	dB
LZPeak	101.4	dB
SPL (Max)		
LAFMax	73.6	dB
LCFMax	81.0	dB
LZFMax	94.9	dB
LASMax	70.0	dB

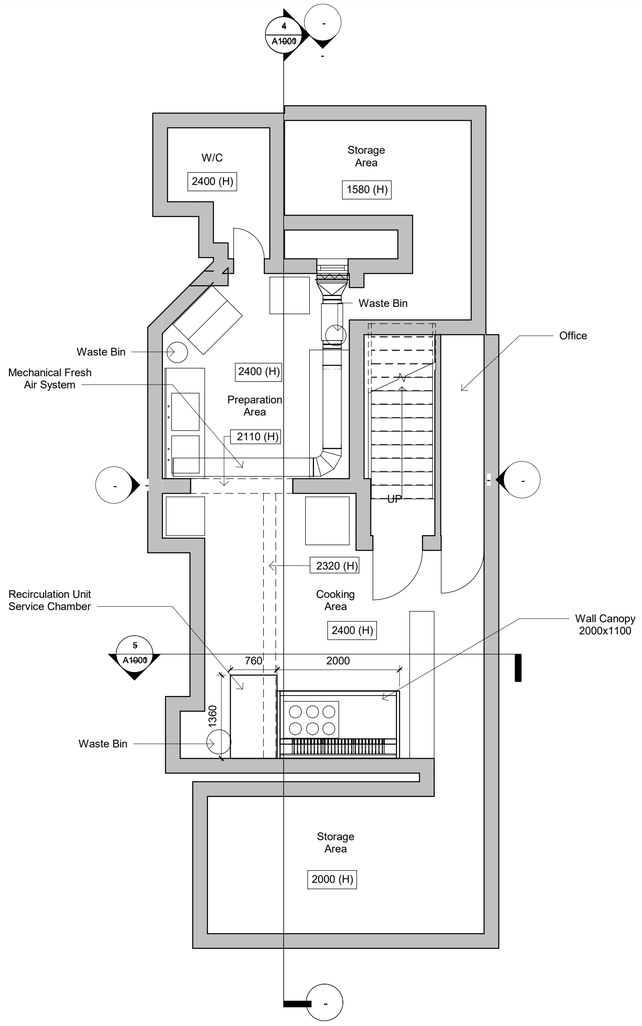
LCSMax	74.5	dB
LZSMax	88.6	dB
LAIMax	77.5	dB
LCIMax	84.3	dB
LZIMax	98.2	dB
SPL (Min)		
LAFMin	37.6	dB
LCFMin	50.0	dB
LZFMin	53.3	dB
LASMin	38.7	dB
LCSMin	51.7	dB
LZSMin	55.3	dB
LAIMin	38.0	dB
LCIMin	52.8	dB
LZIMin	56.4	dB
Miscellaneous		
30 Minutes	37.3	dB
1 Hour	40.3	dB
2 Hours	43.3	dB
3 Hours	45.0	dB
4 Hours	46.3	dB
5 Hours	47.3	dB
6 Hours	48.1	dB
7 Hours	48.7	dB
8 Hours	49.3	dB
10 Hours	50.3	dB
12 Hours	51.1	dB
Statistical Levels (Ln)		
LAF1	60.4	dB
LAF5	52.5	dB
LAF10	49.7	dB
LAF50	45.0	dB
LAF90	42.5	dB
LAF95	41.9	dB
LAF99	40.2	dB

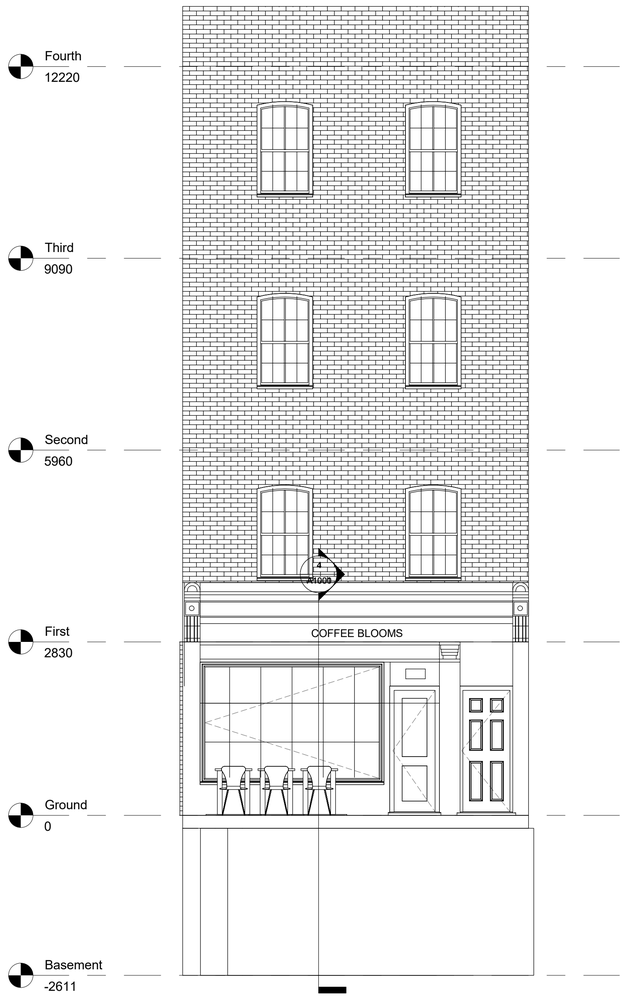
1:1 Octave		
31.5Hz	56.5	dB
63Hz	57.7	dB
125Hz	53.1	dB
250Hz	48.0	dB
500Hz	48.8	dB
1kHz	44.0	dB
2kHz	36.6	dB
4kHz	30.8	dB
8kHz	24.4	dB
16kHz	24.3	dB
6.3Hz	54.4	dB
8Hz	53.6	dB
10Hz	53.8	dB
12.5Hz	54.8	dB
16Hz	54.7	dB
20Hz	52.6	dB
25Hz	52.1	dB
31.5Hz	49.9	dB
40Hz	52.9	dB
50Hz	56.4	dB
63Hz	50.7	dB
80Hz	46.4	dB
100Hz	50.3	dB
125Hz	48.6	dB
160Hz	44.8	dB
200Hz	44.5	dB
250Hz	43.2	dB
315Hz	41.9	dB
400Hz	41.3	dB
500Hz	43.4	dB
630Hz	46.2	dB
800Hz	42.1	dB
1kHz	37.2	dB
1.25kHz	35.6	dB

1.6kHz	34.2	dB
2kHz	31.0	dB
2.5kHz	28.8	dB
3.15kHz	28.4	dB
4kHz	25.1	dB
5kHz	22.9	dB
6.3kHz	21.1	dB
8kHz	19.7	dB
10kHz	17.8	dB
12.5kHz	17.5	dB
16kHz	19.3	dB
20kHz	21.2	dB
Miscellaneous		
Temperature	21.0	°C

Appendix A - Drawings







1 Ground - 1
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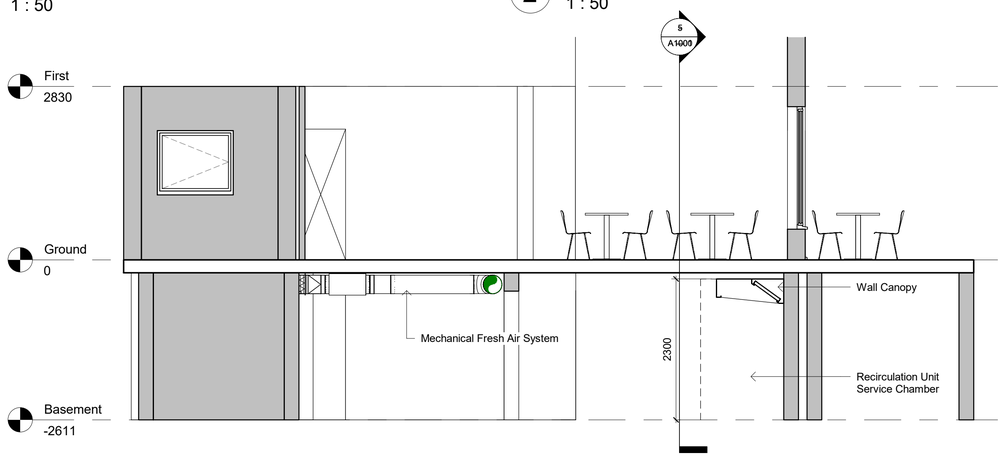
2 Basement - Proposed
1 : 50



3 Front Elevation - 2
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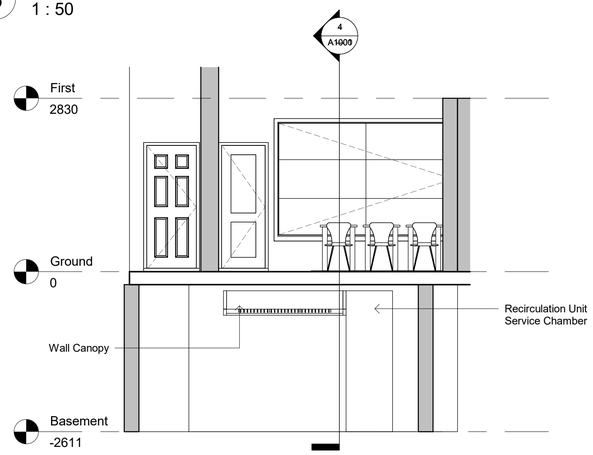

4 Section 1 - 2
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Please Note:

All Dimensions to be verified on site by contractor to ensure accuracy prior to any installation

All design work and drawings produced by iWantPlans are for indicative purposes only.

It is the clients/contractors responsibility to ensure that Building Control & Fire Officer Approval have been met before commencement of site works.

DO NOT SCALE FROM THIS DRAWING

Rev	Description	Date

CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE

PROJECT
Coffee Blooms

TITLE
Proposed Layout

CLIENT
Candela Kusack

DRAWN BY	CHECKED BY	DATE
Author	Checker	04/09/2016

SCALE (@ A1)	PROJECT NUMBER
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DRAWING NUMBER	REV
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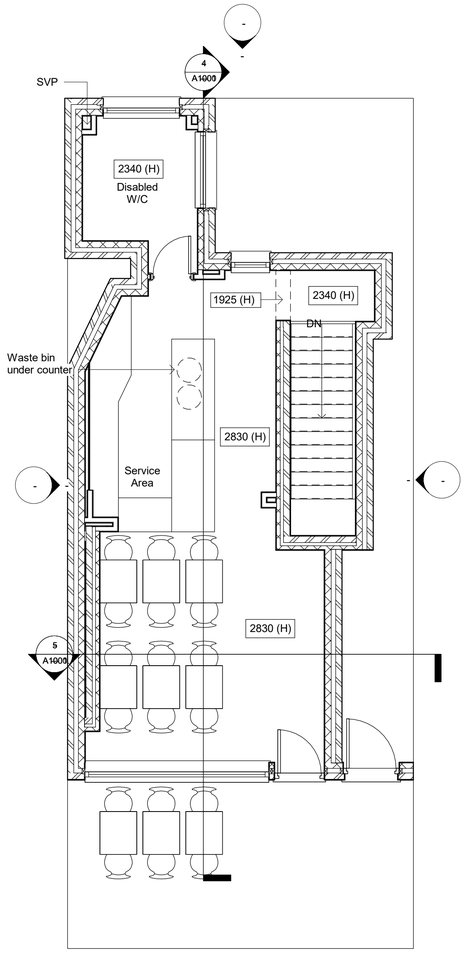

1 Ground
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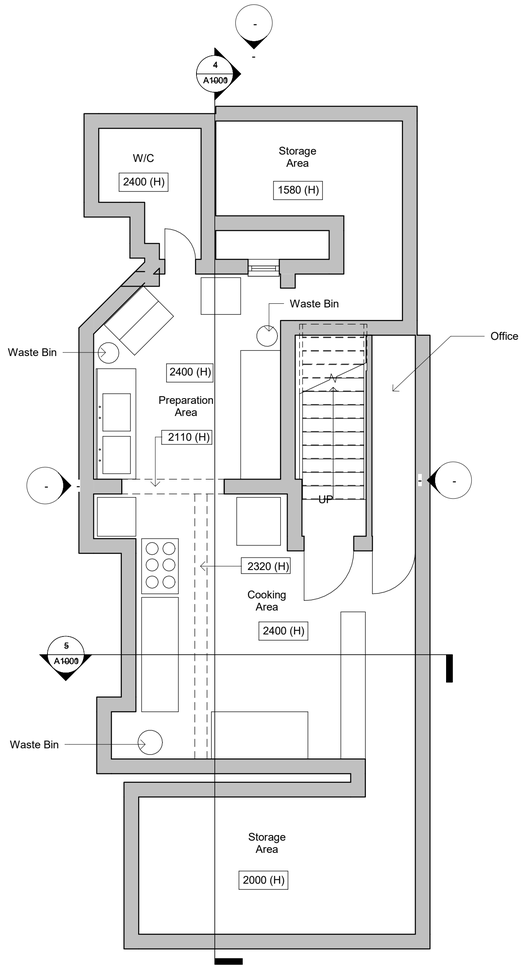

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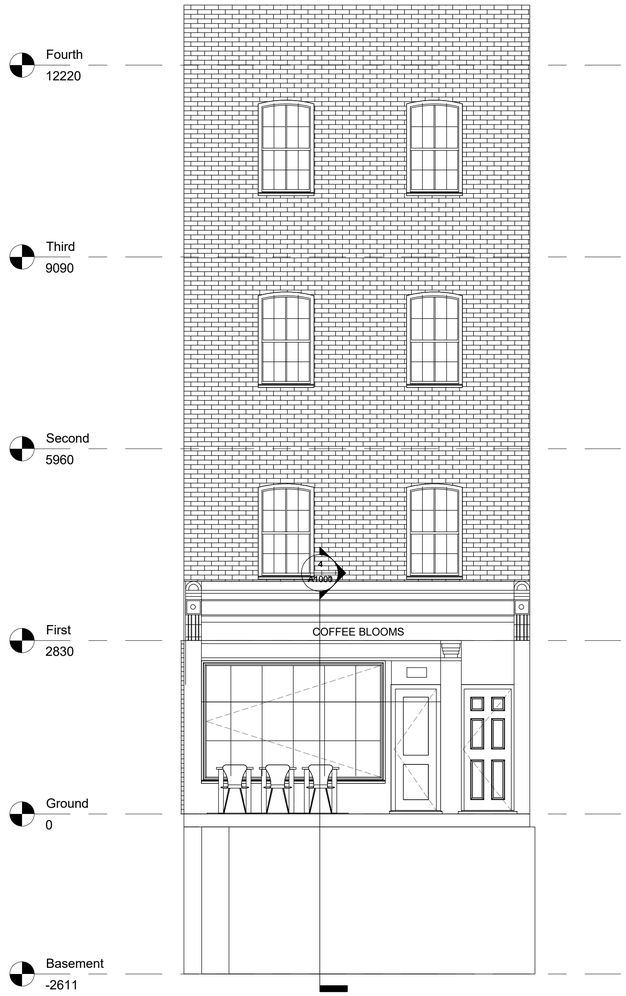

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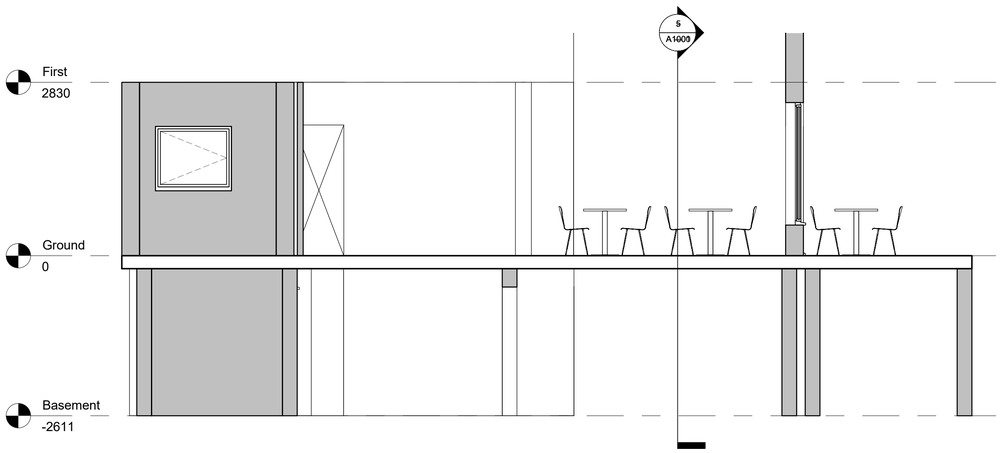

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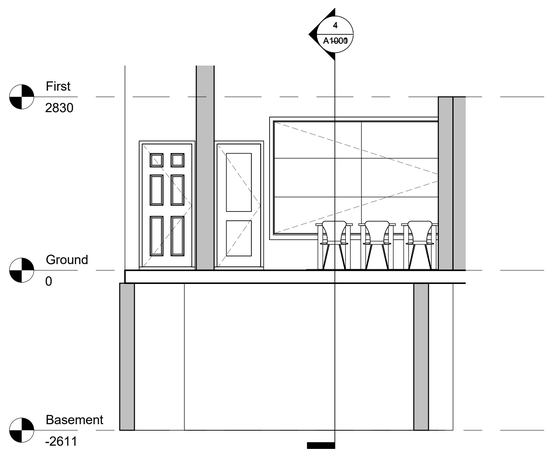

5 Section 2 - 1
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PROJECT
Coffee Blooms

TITLE
Existing Layout

CLIENT
Candela Kusack

DRAWN BY	CHECKED BY	DATE
Author	Checker	04/09/2016

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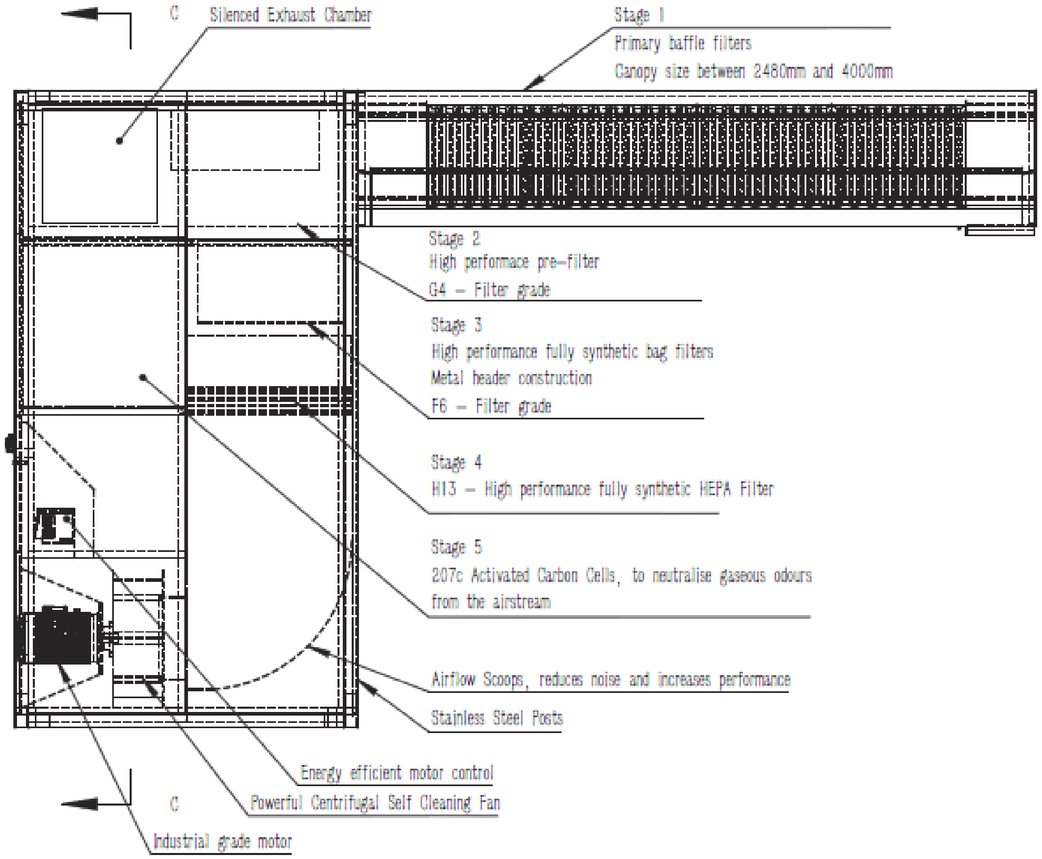

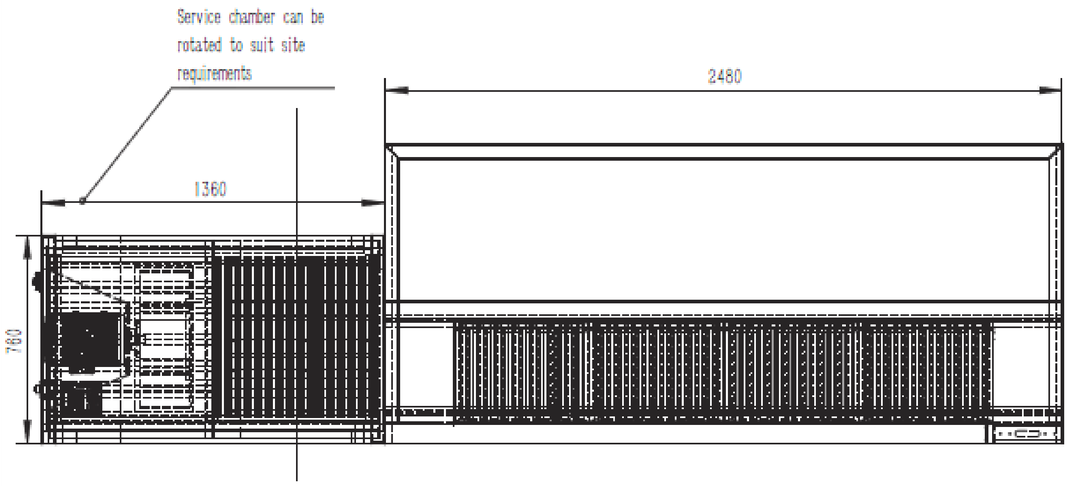

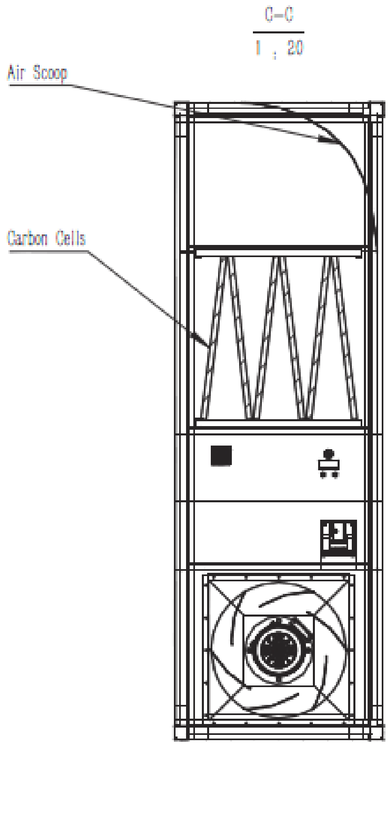

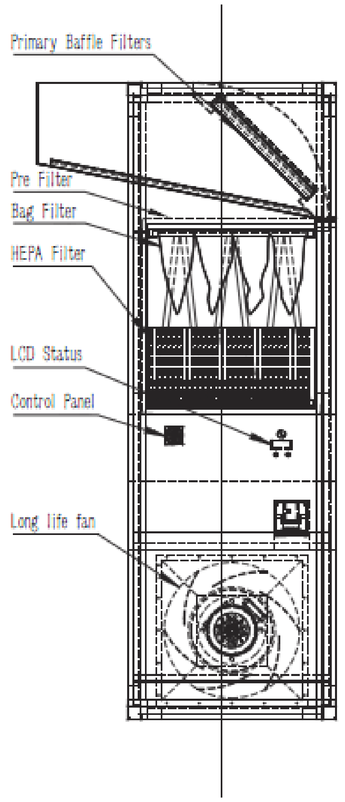

Recirculation canopy principles:

Stage 1
Primary baffle filters to remove grease from the air stream

Stage 2
Pre-filter G4 – 80 to 90% arrestance

Stage 3
Bag filter F6 – 60 to 90% efficiency

Stage 4
HEPA filter F10 – 90 to 95% efficiency

Stage 5
Activated carbon filters

Please Note:

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CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE

PROJECT
Coffee Blooms

TITLE
Recirculation Unit

CLIENT
Candela Kusack

DRAWN BY	CHECKED BY	DATE
Author	Checker	04/09/2016

SCALE (@ A1)	PROJECT NUMBER
	2016/09/04

DRAWING NUMBER	REV
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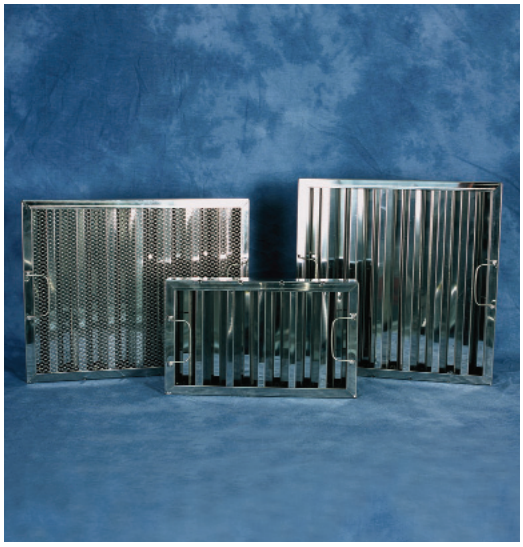
Appendix B - Datasheets

AIRGARD TYPE 2 BAFFLE FILTER

LONGAR
INDUSTRIES LIMITED



AIRGARD™ FEATURES

- Rolled stainless steel section with safety edge on frame and blades.
- Welded construction.
- Folding handles.
- Drain holes.
- Optional mesh to front and rear.

TYPE 2 COMMERCIAL KITCHEN FILTER

For use in commercial kitchens and ventilation to extract grease laden air and act as a fire barrier.
Fire barriers prevent any cooking flames traveling past the extract canopy. The new Type 2 is a development of customers requesting certain attributes for the baffle filter, the main ones being rolled edges on frame and blades.
The Type 2 is available in 20mm or 45mm depths only, this is required for the filter to operate at a constant efficiency and to protect the system as a flame barrier as tested to European Standard DIN 18869-5.
The Type 2 Baffle design has a higher grease filtration efficiency than other baffle filters on the market due to the blade design and spacing.

Pressure drops and test results please see the enclosed chart below.

MATERIAL SPECIFICATIONS

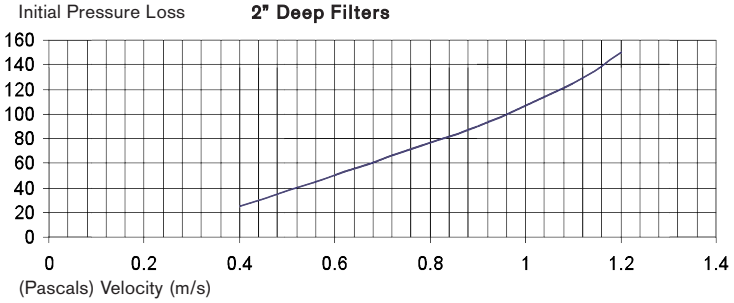
As standard, all baffles are Stainless Steel 430 with a polished finish. (Other finishes and material are available)

TECHNICIAL SPECIFICATIONS

Longar specifies the Baffle Filter as height x width x thickness. The handles are fixed to the height and drain holes punched on the width. The length of the baffle is the height, please ensure correct orientation is given when ordering.

H × W × D Actual Size (mm)	
243 × 395 × 45	496 × 395 × 45
243 × 496 × 45	496 × 496 × 45
395 × 395 × 45	597 × 597 × 45
395 × 496 × 45	624 × 395 × 45
444 × 444 × 45	Custom sizes are available

Air Flow (velocity) versus pressure loss



PACKAGING

All filters are packed in secure corrugated cardboard cartons, tape sealed for protection against dust and other contaminates.

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AIRGARD TYPE 11 Pleated Panel Filters

LONGAR
INDUSTRIES LIMITED

FEATURES

- Moisture resistant cardboard frame.
- Fully supported media bonded onto a wire support grid.
- The filtering media is bonded to the case to eliminate air by-pass.
- Strong and robust construction.

CONSTRUCTION

The Airgard Type 11 filter is manufactured with pleated synthetic media, and an 'expanded diamond' grid with 97% open area. The casing frame is constructed from a heavy duty, rigid, high water resistant card with support members along the diagonals. The media is bonded to the support grid and the frame in order to avoid the possibility of air bypass. The case is designed for minimum resistance and maximum free filter media area and it is also crease-formed to stop moisture ingress.

The media within the case is of high performance and provides maximum dust holding capacity, minimum pressure loss and extended filter service life.

APPLICATIONS

Used in all HVAC systems where:

- a higher level of air cleanliness is needed over the standard pre-filters for better protection.
- glass media is unacceptable.
- the nature of the installation requires a combination of high arrestance, coupled with control over smaller particles. The high capacity version is selected when space is at a premium. Filter sizes match the rated capacities of Bag Filters.

Eurovent Rating	G4 (EU4) 2" Thickness	G4 (EU4) 4" Thickness
Efficiency	>25%<35%	>25%<35%
Initial Pressure Drop (Pa)	70	55
Final Recommended PD (Pa)	225	225
Average Arrestance	>90%	>90%

AIRGARD TYPE 14

MEDIUM/HIGH EFFICIENCY EXTENDED SYNTHETIC BAG FILTERS

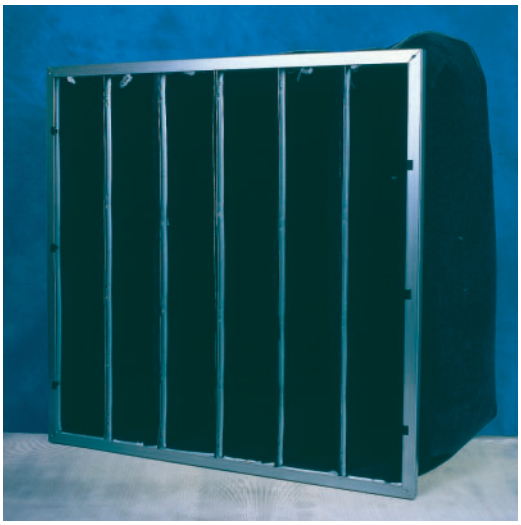
LONGAR
INDUSTRIES LIMITED

FEATURES

- Very strong metal header frame
- Long life
- Airtight header
- Low Pressure drops
- Stock sizes available for quick delivery

CONSTRUCTION

- The filter media is thermally bonded, non-woven, non-toxic synthetic fibre.
- Strong airtight header frame for trouble free use and ease of maintenance.
- Special bend at pocket inlet to prevent media disintegration.
- Distance ribbon to guarantee space between the pockets.
- All filter pockets have strings of glue to cover the sewing holes.
- Controlled media spacing means long life and low pressure drops.



APPLICATIONS

The Type 14 Bag Filters are medium to high efficiency filters which benefit installations by combining high air-cleaning efficiencies with a long filter life.

There is a range of efficiencies to choose from, designed to:

- Achieve high levels of air cleanliness required in the manufacture of many products.
- Protect equipment in air-conditioning plants, computer suites and gas turbine intake equipment.

The air cleaned by these filters benefits people, processes and equipment.

Rating	Efficiency
F5	>40%<50%
F6	>55%<65%
F7	>80%<85%
F8	>90%<95%

PACKAGING

All panel filters are packed in secure corrugated cardboard cartons, tape sealed for protection against dust and other contaminants. All parcels are marked with international handling symbols. Filters are packed 3 or 4 to the carton depending on header size and pocket depth. Individual filters are protected with wrapper bands.

Size (W × H × D) mm	Filter Grade EN 779	Number of pockets	Media Surface Area m^2	Airflow/Pressure Drop m^3/hr/Pa	Unit Weight kg
592 × 592 × 600	F5	6	4.7	3400/55	2.4
592 × 592 × 380	F5	6	2.9	2700/70	2.0
287 × 592 × 600	F5	3	2.3	1700/55	1.5
287 × 592 × 380	F5	3	1.5	1350/70	1.3
592 × 592 × 600	F6	6	4.7	3400/70	2.4
592 × 592 × 380	F6	6	2.9	2700/95	2.0
287 × 592 × 600	F6	3	2.3	1700/70	1.5
287 × 592 × 380	F6	3	1.5	1350/95	1.3
592 × 592 × 600	F7	6	4.7	2700/105	2.4
592 × 592 × 380	F7	6	2.9	2150/135	2.0
287 × 592 × 600	F7	3	2.3	1350/115	1.5
287 × 592 × 380	F7	3	1.5	1100/145	1.3
592 × 592 × 600	F8	6	4.7	2700/175	2.4
592 × 592 × 380	F8	6	2.9	2150/220	2.0
287 × 592 × 600	F8	3	2.3	1350/170	1.5
287 × 592 × 380	F8	3	1.5	1100/215	1.3

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H × W Nominal Size (inches)	H × W Actual Size (mm)	Recommended Airflow/Pressure Drop (2" Thickness) $m^3/hr/Pa$	Recommended Airflow/Pressure Drop (4" Thickness) $m^3/hr/Pa$
20 × 10	496 × 248	1145/70	1145/55
18 × 18	444 × 444	1877/70	1877/55
20 × 16	495 × 395	1830/70	1830/55
20 × 20	496 × 496	2290/70	2290/55
24 × 20	596 × 496	2750/70	2750/55
24 × 24	596 × 596	3240/70	3240/55
24 × 12	596 × 292	1640/70	1640/55

PRODUCT DETAILS

Special sizes (inc 1" nom) can be supplied to customer's specification.

Tolerances +/– 2mm on height and width measurements.

+/– 2mm on depth measurement. High capacity only available in 2" depth.

PACKAGING

All panel filters are packed in secure corrugated cardboard cartons, tape sealed for protection against dust and other contaminants. The parcels are all marked with international handling symbols.

- 22mm (1") deep filters packed 20 to a carton.
  Carton containing 20 filters = 8Kg.
- 47mm (2") deep filters packed 10 to a carton.
  Carton containing 10 filters = 10Kg.
- 97mm (4") deep filters packed 5 to a carton.
  Carton containing 5 filters = 7Kg.

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AIRGARD® Type 16
Standard & High Capacity HEPA Filters

AIRGARD® TYPE 16 FEATURES:
- High efficiency, glass fibre media, large face area, low pressure
- Efficiencies from H10 to H14
- Nominal air flow up to 4200m3/h per cell
- Standard & custom sizes made to order
- Rigid construction with fully sealed filter packs
- Tested to Ashrae 52.2 / EN779 2012
- Fire requirements to DIN 53438-3 (F1)
- Frame choices of galvanised steel, aluminium and MDF wood

APPLICATIONS
- Nuclear establishments
- Pharmaceutical production
- Hospitals
- Electronics
- Clean rooms
- Laboratories

AIRGARD® TYPE 16 HEPA FILTERS
Our high efficiency particulate air filters operate in the highest range of efficiencies; the product has been specifically developed for the collection of low micron and sub-micron particles. The product is used extensively in critical industries to contain contaminant and assist in aseptic conditions.

CONSTRUCTION / MATERIAL SPECIFICATIONS
Manufactured to exacting standards, our HEPA filters are manufactured using the highest quality glass fibre paper. Deep pleated and mini pleated medias are water repellent and treated with an anti-fungicide solution. Careful selection of the appropriate media for each filter type provides a product range to meet the most stringent application requirements. Framework is available in galvanised steel, aluminium or MDF.

SERVICE LIFE AND PRE-FILTRATION
The service life of the Airgard Type 17 HEPA is dependent on the air flow rate, final resistance and dust concentration in the air supply. Operating costs can be reduced through the effective use of pre-filtering. Using low grade pre filters will only marginally extend the life of the HEPA filters, however if finer filters are used, it is possible to increase the service life considerably. It is not unusual to add several years to the service life, through the use of an effective pre filter. As a guide, a good pre filter should have a minimum dust spot efficiency of F7 and preferably F8 in conformance with ASHRAE 52-76 (EN779).

FITTING INSTRUCTIONS
- Fit products, observe direction of airflow indicator

HANDLING
- Handle with care when unpacking.
- Store in dry and frost protected place.

MAINTENANCE
- All maintenance and replacement schedules will be set by the original equipment installer. Please refer to this for more information.
- When handling any components suitable PPE should be used – gloves, eye protection and access equipment should be used where required.
- Filters should not be cleaned but replaced when required in accordance with maintenance schedule set by the installation contractor.

PACKAGING
All units are packaged in double wall boxes, glued closed for protection whilst in transit against contamination.

For technical specifications, part numbers and ordering information, please see overleaf.

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AIRGARD® Type 16
Standard & High Capacity HEPA Filters

TECHNICAL SPECIFICATIONS

SIZE ORDERING GUIDE (TOLERANCES +/- 2mm)					
Part Number	Filter Grade	Height	Width	Depth	Weight
HEPA242412HICAP	H13	610mm	610mm	292mm	20.00kgs
		24.02"	24.02"	11.50"	44.00lbs
HEPA241212HICAP	H13	610mm	305mm	292mm	12.00kgs
		24.02mm	12.00"	11.50"	26.40lbs
FINAL RECOMMENDED PRESSURE LOSS: 600 PASCALS					

Pressure drop and airflow information available on request.

LONGAR INDUSTRIES

FILTERS AND FABRICATIONS FOR A CLEANER ENVIRONMENT

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AIRGARD TYPE 8 THE CARBON FILTER

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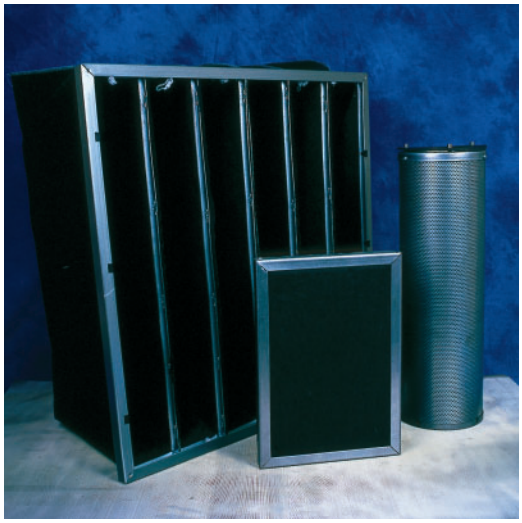


FEATURES

- High quality carbon
- Robust modular construction
- High carbon content
- Special sizes available on request
- Available with handles and seals
- Low pressure losses

ACTIVATED CARBON UNITS (ACU)

For a modular approach to fume removal the ACU is the ideal solution. The ACU unit is manufactured from a number of carbon biscuits held in a vee formation within a corrosion proof metal casing. The carbon biscuits inside the units are 25mm thick and are also sealed into the frames using polymer which eliminates the possibility of any air by-pass around the carbon.

PRE-FILTRATION

Carbon filters are designed to remove fumes and odours and are therefore not able to filter fine particles and dust. If left unprotected, the life of the carbon is severely reduced. To protect the filters use pleated and bag filters to the correct grade; this will depend on the environment.

SIDE ACCESS HOUSINGS

These are housings which encompass the Activated Carbon Unit along with the Pre-Filtration (such as Bag/Panel Filters). All housings have a side panel which is removable so that access can be gained easily to replace the filters.

This type of housing is ideal for adding to existing installations such as catering extracts or industrial ventilation systems.

Options are available depending on the application.

APPLICATIONS

Activated Carbon dates back many years. In the first World War gas masks were filled with activated carbon granules to remove chlorine gas. Today Longar produces a wide range of carbon filters to deal with many noxious fumes and gases, whilst maintaining high levels of strength and low pressure loss.

Major uses of carbon are in areas where toxic or offensive odours need eliminating. For example sewage works, hospitals, slaughterhouses, restaurant kitchens, airports, toilets, wash rooms, laboratories, office blocks and many more.

ACTIVATED CARBON

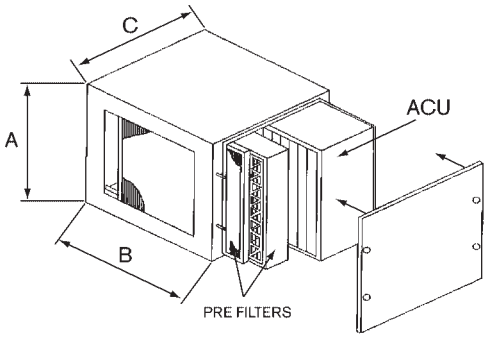
Activated carbon is different from the normal type of loose carbon granule panel in some ways. Firstly, and most importantly, activated carbon granules are fixed and set in position through a thermo-chemical process. With the loose fill granule carbon filters there is a tendency for the granules to rub against each other causing bedding down of the granules and excess dust which would need further filtration.

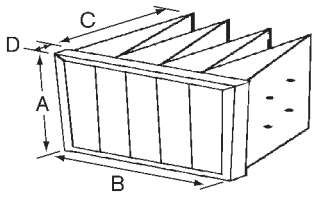
In addition, bedding down will also allow odours and toxic fumes to by-pass the filter.

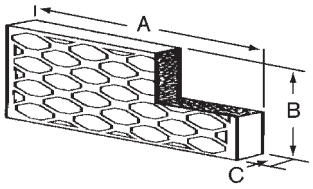
The bonding process in our activated carbon filters joins the carbon granules by the points, leaving the pores free to absorb the unwanted contaminants.

This type of construction produces a strong carbon biscuit, which requires no internal structure to support the filter.

Width	Height	Depth	Panels	Flow and pressure loss @ 0.12 secs contact time		Flow and pressure loss @ 0.24 secs contact time	
mm	mm	mm		M^3/sec	PA	M^3/sec	PA
597	597	147	12	0.230	125	0.115	40
597	597	297	12	0.450	125	0.225	40
597	597	447	12	0.705	125	0.353	40
597	597	597	12	0.940	125	0.470	40
292	597	147	6	0.115	125	0.058	40
292	597	297	6	0.225	125	0.113	40
292	597	447	6	0.353	125	0.176	40
292	597	597	6	0.470	125	0.235	40







CARBON PLEATED PANEL & BAG FILTERS

The Pleated Panels like the Carbon Bag filters are made from non-woven synthetic filter media which is impregnated with activated carbon.

This type of filter is a good solution for less demanding applications, and an inexpensive alternative to the granular carbon filters.

Due to the nature of the product, they can not offer the same life or dwell time associated with ACUs or the Carbon panel filters.

Available in various sizes.

ACTIVATED CARBON PANELS

The carbon biscuits are sealed into steel frames, a scrim is then added to protect the carbon surface from dust contamination. Sealing the carbon blocks in a frame stops any air by-pass, whilst protecting and supporting the carbon block. Please view the price list for stock sizes. Custom sizes are also available.

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