

The Commercial Kitchen Filtration Experts

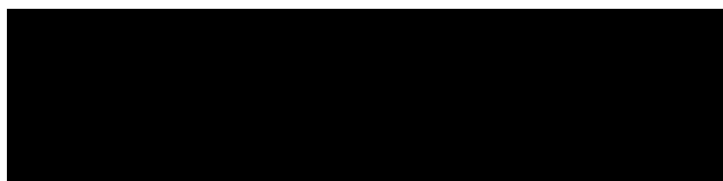
Specification & EMAQ Report

Project: Papa Johns, Little Hampton.

Prepared for: Clint Bateman.

Prepared by: Dave Sears

Date: 11th October 2019





Interpretation of Requirements

Following our conversation today I am pleased to provide an equipment selection for an odour control solution.

As with any project we get involved in we always recommend to our clients that they should closely follow the EMAQ guide for guidance on odour control equipment selection.

This ensures that what they propose will be in line with local authority's requirements and if the system is maintained correctly they will not exhaust nuisance odours leading to complaints from nearby residents.

With this in mind I carried out a risk assessment as detailed in Appendix 3 of the EMAQ Guide.

Taking into consideration the level of discharge, proximity of receptors, size of kitchen and cooking type your project requires a **VERY HIGH** level of odour control to comply.

We have scored as below and as taken from Appendix 3: Risk Assessment for Odour;

Dispersion	= 20
Proximity of receptors	= 10
Size of kitchen	= 3
Cooking type	= 4
Total score	= 37

The type of odour abatement system that complies is as below, taken directly from the EMAQ Guide and must be to a very high level of control;

Odour abatement plant performance

Very High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.4 – 0.8 residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.



CRITERIA	SCORE	SCORE	DETAILS
Dispersion	Very Poor	20	Low level 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 sizes take away
Cooking type (odour and grease loading)	Very High	10	Pub (high level of fried food), fried chicken, burgers or fish and chips, <i>Turkish, Middle Eastern, or any premises cooking with solid fuel.</i>
	High	7	Vietnamese, Thai or Indian, <i>Japanese, Chinese or Steakhouse</i>
	Medium	4	<i>Cantonese, Italian, French, Pizza (gas fired)</i>
	Low	1	Most pubs, (no fried food, mainly reheating and sandwiches etc.), Tea rooms..

The System

The first stage of control should be a standard panel filter. Providing protection from oil, smoke and grease particulate.

Pleated Panels

Our pleated panel filters are constructed using a core of pleated fibrous media designed specifically for use in air filtration. This is then thermally bonded onto a galvanised steel support mesh for maximum rigidity which is then fully bonded into a moisture resistant rigid white lined card frame. These filters are used as stand-alone pre filters or as a pre filter to bag filters filtering oil and grease particles.

The panel filters should be sized to achieve a 0.4s dwell time.



Carbon Filters

The second phase of filtration would be carbon filter.

We manufacture Site Safe carbon filters, these innovative carbon units measure 594x196x597mm, three combining to 594x594x597mm, directly replacing our original carbon blocks whilst providing exactly the same filter performance as an existing full size cell.

Their advantage is that they only weigh 18kg each against the 68kg of our original blocks. This takes the strain out of fitting and servicing, allowing only one engineer to complete the task where two had been previously required.

Our Site Safe carbon filters use panels of activated carbon to remove the malodorous gases within the commercial kitchen extract duct through the process of chemical adsorption. By installing our ESP units before our Site Safe filters, the carbon life span is greatly increased, allowing it to nullify malodours at optimum efficiency for much longer. The carbon filters should be sized to achieve a 0.2s dwell time.

As you can see the system that has been specified is in line with EMAQ guidance.

Specification

Panel and Carbon Filter System providing a 0.4 Second dwell time

2No. 594 x 594 x 95 Panel Filters.

6No. 594 x 196 x 597 Site Safe Carbon Filters

Side access casing measuring 610 mm H x 1200mm W x 750mm in direction of airflow





Sitesafe Carbon Units

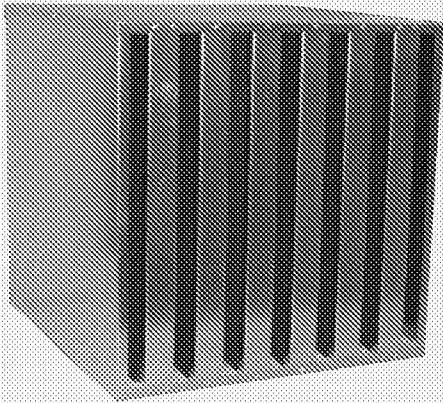
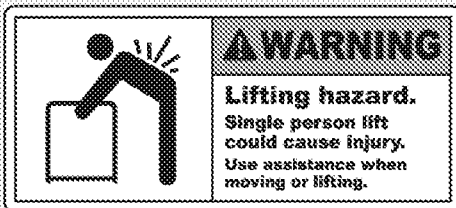
General Description

Standard Carbon multipanel carbon units have been in circulation for many years and there are many tens of thousand of units in service today. These filters are very heavy and nearly always installed in situations with very poor access.

With the new appreciation of risk which we have in the 21st Century it has become apparent that these units represent a real danger to health and potentially offer risk in the work place when a filter change is required.

The new Sitesafe Carbon cells provide exactly the same filter performance with a set of filters which will retrofit exactly for an existing full size cell.

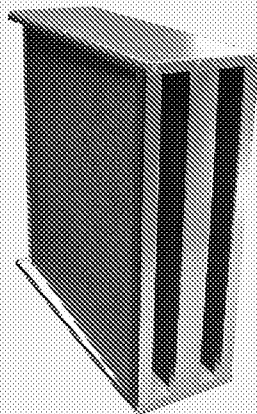
Will require two people plus lifting gear to carry and install



Carbon PA242424

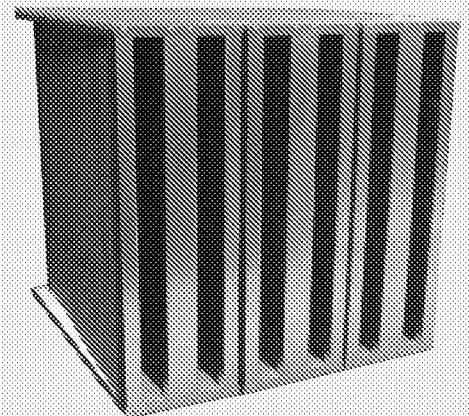
Size 594x594x597
Gross Weight 68.2Kg
Carbon Weight 50kg
Rated Airflow 3600m³/hr*
Pressure Drop 120Pa

Safe for one person to carry, no special lifting gear required.



Sitesafe PA240824

Size 594x196x597
Gross Weight 17.95Kg
Carbon Weight 16.6kg
Rated Airflow 1200m³/hr*
Pressure Drop 120Pa



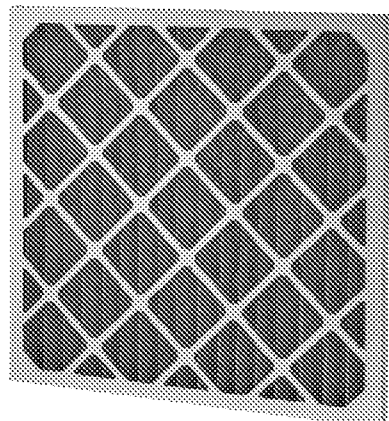
Sitesafe 3xPA240824

Size 594x594x597
Gross Weight 53.85Kg
Carbon Weight 50kg
Rated Airflow 3600m³/hr*
Pressure Drop 120Pa

*Rated Airflow based on a dwell time of 0.1 seconds.

Available in all sizes to retrofit carbon cells

LONGAR® Type II Pleated Panel Filters



LONGAR® TYPE II FEATURES

- Moisture resistant cardboard frame.
- G4 efficiency to provide a good base level of filtration.
- Fully supported media bonded to expanded mesh grid.
- The filtering media is bonded to the case to eliminate air by-pass.
- Strong, robust construction.
- Extended surface area.
- High dust holding capacity.
- Dimensions of product are part marked into frame for positive ID.

APPLICATIONS

- Hotels
- Offices
- Food production
- Air conditioning
- Hospitals
- Pre-filtration asbestos removal

LONGAR® TYPE II PLEATED PANEL FILTER

Used in a variety of HEVAC applications where higher level air cleanliness is needed over the standard pre filters. Glass media is unacceptable in food and pharmaceutical industries and in some hospital areas. Especially useful where 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.

CONSTRUCTION / MATERIAL SPECIFICATIONS

The LONGAR® Type II is manufactured with pleated synthetic media, and an expanded diamond grid with 97% open area. The casing is constructed from a heavy duty rigid 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 area, the case is also crease formed to stop moisture ingress. The product can be manufactured in a variety of depths from 22mm to 97mm deep. Optional metal frame available as shown above.

22mm (1") Filters are 9 Pleats per 300mm (1ft)

47mm (2") Filters are 9 Pleats per 300mm (1ft)

97mm (4") Filters are 9 Pleats per 300mm (1ft)

TYPE II HIGH CAPACITY PLEATED PANEL

We are able to manufacture the Type II with increased filter media over the standard product, for situations where an increase in air volume is required.

22mm (1") Filters are 12 Pleats per 300mm (1ft)

47mm (2") Filters are 12 Pleats per 300mm (1ft)

97mm (4") Filters are 12 Pleats per 300mm (1ft)

TYPE 11 HIGH EFFICIENCY PLEATED PANEL

Where situations arise we manufacture the Type II with a higher grade of filter media, F6, F7, F8 are available.

LONGAR® TYPE II IMPREGNATED CARBON PLEATED PANELS

For less demanding situations the use of impregnated media can be considered. They utilise non-woven synthetic media, which is then impregnated with activated carbon. They offer an alternative to our granular carbon systems however they cannot offer either the life span or dwell time that can be found with the rest of the range.

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

LONGAR® Type II Pleated Panel Filters

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.

TECHNICAL SPECIFICATIONS

SIZE ORDERING GUIDE (TOLERANCES +/- .2mm)				
Part Number	Actual Size HxWxD	Nominal Size HxWxD	Weight	Available Efficiencies: †
PPF24824822	248 x 248 x 22mm	254 x 254 x 25mm	0.07kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	9.76 x 9.76 x 0.87"	10 x 10 x 1"	0.15lbs	
PPF49624822	496 x 248 x 22mm	508 x 254 x 25mm	0.14kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 9.76 x 0.87"	20 x 10 x 1"	0.31lbs	
PPF29329322	293 x 293 x 22mm	304 x 304 x 25mm	0.09kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	11.54 x 11.54 x 0.87"	12 x 12 x 1"	0.21lbs	
PPF59429422	594 x 294 x 22mm	609 x 304 x 25mm	0.19kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.39 x 11.57 x 0.87"	24 x 12 x 1"	0.41lbs	
PPF37537522	375 x 375 x 22mm	381 x 381 x 25mm	0.15kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	14.76 x 14.76 x 0.87"	15 x 15 x 1"	0.34lbs	
PPF49637522	496 x 375 x 22mm	508 x 381 x 25mm	0.19kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 14.76 x 0.87"	20 x 15 x 1"	0.41lbs	
PPF49639622	496 x 396 x 22mm	508 x 406 x 25mm	0.20kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 15.59 x 0.87"	20 x 16 x 1"	0.43lbs	
PPF62039622	620 x 396 x 22mm	635 x 406 x 25mm	0.24kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 15.59 x 0.87"	25 x 16 x 1"	0.53lbs	
PPF44844822	448 x 448 x 22mm	457 x 457 x 25mm	0.19kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	17.64 x 17.64 x 0.87"	18 x 18 x 1"	0.42lbs	
PPF49649622	496 x 496 x 22mm	508 x 508 x 25mm	0.24kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 19.53 x 0.87"	20 x 20 x 1"	0.52lbs	
PPF59649622	596 x 496 x 22mm	609 x 508 x 25mm	0.27kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 19.53 x 0.87"	24 x 20 x 1"	0.60lbs	
PPF62049622	620 x 496 x 22mm	635 x 508 x 25mm	0.28kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 19.53 x 0.87"	25 x 20 x 1"	0.63lbs	
PPF59659622	596 x 596 x 22mm	609 x 609 x 25mm	0.31kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 23.46 x 0.87"	24 x 24 x 1"	0.68lbs	
PPF24824847	248 x 248 x 47mm	254 x 254 x 50mm	0.12kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	9.76 x 9.76 x 1.85"	10 x 10 x 2"	0.26lbs	

Pressure drop and airflow information available on request

LONGAR® Type II Pleated Panel Filters

TECHNICAL SPECIFICATIONS

SIZE ORDERING GUIDE (TOLERANCES +/- .2mm)				
Part Number	Actual Size HxWxD	Nominal Size HxWxD	Weight	Available Efficiencies **
PPF49724347	497 x 243 x 47mm	508 x 254 x 50mm	0.21kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.57 x 9.57 x 1.85"	20 x 10 x 2"	0.45lbs	
PPF29329347	293 x 293 x 47mm	304 x 304 x 50mm	0.15kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	11.54 x 11.54 x 1.85"	12 x 12 x 2"	0.33lbs	
PPF59628947	596 x 289 x 47mm	609 x 304 x 50mm	0.28kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 11.38 x 1.85"	24 x 12 x 2"	0.61lbs	
PPF37237247	372 x 372 x 47mm	381 x 381 x 50mm	0.22kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	14.65 x 14.65 x 1.85"	15 x 15 x 2"	0.48lbs	
PPF39439447	394 x 394 x 47mm	406 x 406 x 50mm	0.25kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	15.51 x 15.51 x 1.85"	16 x 16 x 2"	0.54lbs	
PPF49637547	496 x 375 x 47mm	508 x 381 x 50mm	0.27kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 14.76 x 1.85"	20 x 15 x 2"	0.60lbs	
PPF49639647	496 x 396 x 47mm	508 x 406 x 50mm	0.29kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 15.59 x 1.85"	20 x 16 x 2"	0.63lbs	
PPF62039647	620 x 396 x 47mm	635 x 406 x 50mm	0.34kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 15.59 x 1.85"	25 x 16 x 2"	0.75lbs	
PPF44644647	446 x 446 x 47mm	457 x 457 x 50mm	0.28kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	17.56 x 17.56 x 1.85"	18 x 18 x 2"	0.61lbs	
PPF49649647	496 x 496 x 47mm	508 x 508 x 50mm	0.34kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 19.53 x 1.85"	20 x 20 x 2"	0.75lbs	
PPF59639647	596 x 396 x 47mm	609 x 406 x 50mm	0.33kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 15.59 x 1.85"	24 x 16 x 2"	0.73lbs	
PPF59649647	596 x 496 x 47mm	609 x 508 x 50mm	0.39kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 19.53 x 1.85"	24 x 20 x 2"	0.87lbs	
PPF62049647	620 x 496 x 47mm	635 x 508 x 50mm	0.39kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 19.53 x 1.85"	25 x 20 x 2"	0.87lbs	
PPF59659647	596 x 596 x 47mm	609 x 609 x 50mm	0.47kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 23.46 x 1.85"	24 x 24 x 2"	1.02lbs	
PPF24824897	248 x 248 x 97mm	254 x 254 x 102mm	0.22kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	9.76 x 9.76 x 3.82"	10 x 10 x 4"	0.49lbs	
PPF49624897	496 x 248 x 97mm	508 x 254 x 102mm	0.38kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 9.76 x 3.82"	20 x 10 x 4"	0.84lbs	
PPF29329397	293 x 293 x 97mm	304 x 304 x 102mm	0.28kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	11.54 x 11.54 x 3.82"	12 x 12 x 4"	0.61lbs	
PPF59728997	597 x 289 x 97mm	609 x 304 x 102mm	0.48kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.50 x 11.38 x 3.82"	24 x 12 x 4"	1.06lbs	

Pressure drop and airflow information available on request.

LONGAR® Type II

Pleated Panel Filters

TECHNICAL SPECIFICATIONS

SIZE ORDERING GUIDE (TOLERANCES +/- 2mm)				
Part Number	Actual Size HxWxD	Nominal Size HxWxD	Weight	Available Efficiencies *
PPF37537597	375 x 375 x 97mm	381 x 381 x 102mm	0.41kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	14.76 x 14.76 x 3.82"	15 x 15 x 4"	0.90lbs	
PPF39639697	396 x 396 x 97mm	406 x 406 x 102mm	0.44kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	15.59 x 15.59 x 3.82"	16 x 16 x 4"	0.97lbs	
PPF49637597	496 x 375 x 97mm	508 x 381 x 102mm	0.49kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 14.76 x 3.82"	20 x 15 x 4"	1.08lbs	
PPF49639697	496 x 396 x 97mm	508 x 406 x 102mm	0.52kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 15.59 x 3.82"	20 x 16 x 4"	1.15lbs	
PPF62039697	620 x 396 x 97mm	635 x 406 x 102mm	0.61kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 15.59 x 3.82"	25 x 16 x 4"	1.33lbs	
PPF44644697	446 x 446 x 97mm	457 x 457 x 102mm	0.52kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	17.56 x 17.56 x 3.82"	18 x 18 x 4"	1.14lbs	
PPF49649697	496 x 496 x 97mm	508 x 508 x 102mm	0.66kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	19.53 x 19.53 x 3.82"	20 x 20 x 4"	1.46lbs	
PPF59639697	596 x 396 x 97mm	609 x 406 x 102mm	0.59kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 15.59 x 3.82"	24 x 16 x 4"	1.29lbs	
PPF59649697	596 x 496 x 97mm	609 x 508 x 102mm	0.69kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 19.53 x 3.82"	24 x 20 x 4"	1.52lbs	
PPF62049697	620 x 496 x 97mm	635 x 508 x 102mm	0.71kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	24.41 x 19.53 x 3.82"	25 x 20 x 4"	1.56lbs	
PPF59659697	596 x 596 x 97mm	609 x 609 x 102mm	0.79kgs	G4, F6, F7, F8, High Capacity, Carbon Impregnated Pleated Panels
	23.46 x 23.46 x 3.82"	24 x 24 x 4"	1.74lbs	
FINAL RECOMMENDED PRESSURE LOSS: 250 PASCALS				

Pressure drop and airflow information available on request.

* Efficiency required to be confirmed at a time of ordering.



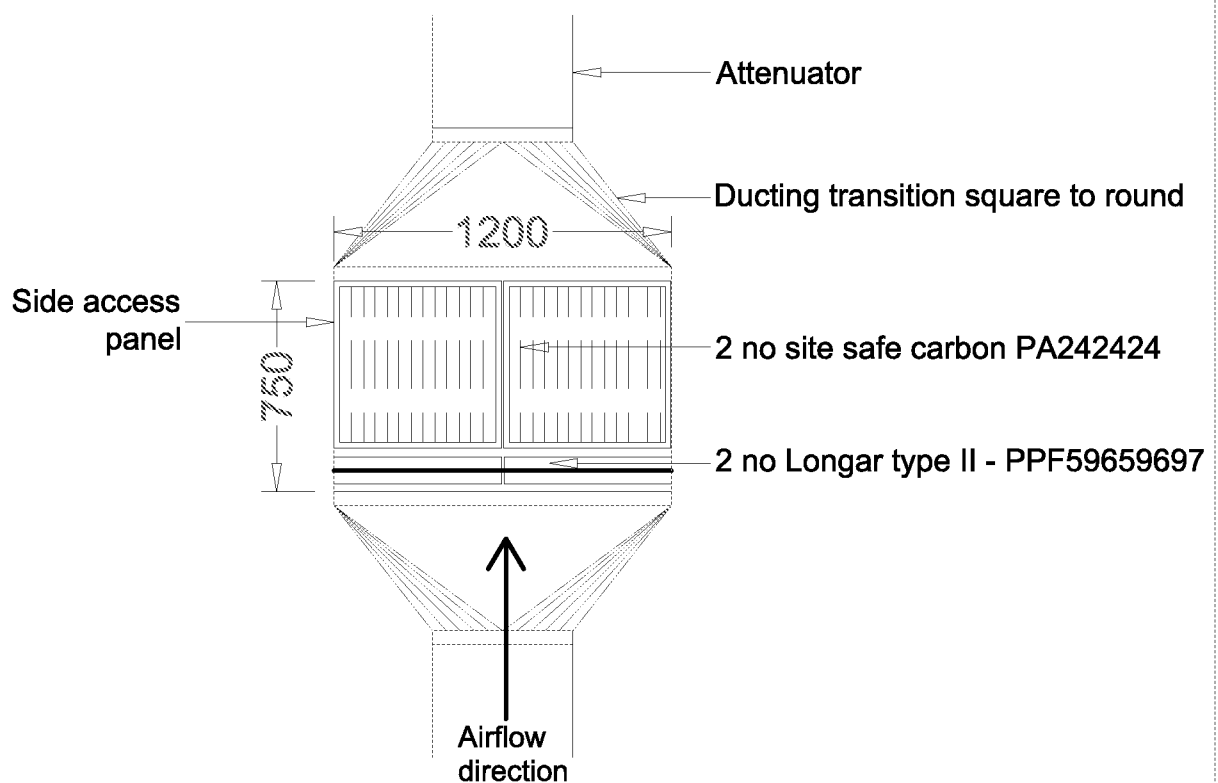
LONGAR INDUSTRIES

FILTERS AND FABRICATIONS FOR A CLEANER ENVIRONMENT

Longar Industries Limited, Unit 25, Glenmore Business Park, Colebrook Way, Weyhill Road, Andover, Hampshire SP10 3GZ United Kingdom

PPF37537597 003756 1/2215/10000

As part of our program for continuous improvement, Longar Industries reserves the right to change specifications without notice.



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