



Rest Assured
Catering Consultancy

2025

Site Reference:

33 Market Place
Devizes
SN10 1JG

Extraction Ventilation System

Summary

Table of Contents

Executive Summary.....	3
Work Introduction.....	4
Brief Description of Site Requirement	4
System Specification.....	5
Duct Work Requirements	5
Canopy Specifications	5
Odour and its Risk	7
Odour and Noise Assessment Recommendation	7
What is Odour.....	7
What are Odour Characteristics and Attributes?	8
System Description and Recommendations	9
Filtration Method and Solution.....	11
Recommended Cleaning Period	12
Conclusion.....	12
Appendix	13
Electrostatic Precipitator (ESP)	14
Filters	17
Extraction Fan	21
Mounting Accessories	25

Executive Summary

This report has been prepared, in accordance with the client's instructions. The site drawing provided by the client (see Appendix) illustrates the layout of the venue, forming the basis of our evaluation.

Our assessment of the project considers both the client's specific requirements and the information furnished by them. The primary objective of this report is to demonstrate the suitability of the proposed extraction system for meeting the specified needs. It is imperative that this project adheres to stringent quality standards and aligns with the DESA Specification for Kitchen Ventilation Systems DW172, as well as BS4142:2014.

The ductwork will be constructed from stainless steel. Additionally, it will be integrated with other essential components, including a Silent Fan designed for efficient odour extraction and noise reduction. Carbon filtration and Electrostatic Precipitator (ESP) are employed to effectively remove fumes, and a separate ductwork will be facilitated for the introduction of fresh air through a dedicated fan. This comprehensive approach ensures that the kitchen environment is well-ventilated, compliant with standards, and conducive to quality food preparation.

Work Introduction

Brief Description of Site Requirement

The takeaway site comprises of a ground floor unit which is located along the 33 Market Place, Devizes, SN10 1JG in a predominantly a residential area.



System Specification

Rest Assured Consultancy has been instructed to conduct a report on the ductwork and plants installation for a takeaway and show if it meets the standards DESA Specification for Kitchen Ventilation Systems DW172 and BS4142:2014.

This ductwork requires a High-Level Discharge from the middle of the property with a discharge to the back of building at the ground level.

The ductwork will be installed in accordance with the guidance of the drawing provided by the client.

Duct Work Requirements

All ductworks should be low-pressure class 'A' and constructed following DESA Specification DW/144 with a minimum thickness of 0.8 or 0.9 mm.

The internal surfaces of the ductwork should be accessible for cleaning and inspection. The access panels (if applicable) should be installed at 2-3m centres and should be grease-tight using a heatproof gasket or sealant.

Duct work should not pass-through fire barriers and where it is not possible to immediately discharge the captured air, fire-rated ductwork may be required.

Canopy Specifications

The stainless-steel extractor hood canopy will stand at 2000mm high from the floor above the cooking equipment with a width canopy of 5000mm and a depth of 1200mm.

The canopy will boast an exterior finish with a subdued matte grain, complemented by an interior filter housing equipped with removable and washable baffle-type grease filters. The baffle filters, serving as the primary filtration stage, should be designed in a reusable stainless-steel format, strategically placed to cover the entire span of the canopy above the cooking ranges. They exhibit exceptional grease removal efficiency.

Moving on to the secondary stage of filtration, carbon box come into play. The Carbon box is connected to the third and final filtration stage of Electrostatic Precipitator (ESP) that can reduce up to 95% of the oil, grease and odour.

As demonstrated in the chart presented in the following chapters, the kitchen assessment score reaches a "High" level.

Additionally, the fresh air supply fan designed for air insertion into the kitchen will boast a capacity of 2.4 m³/s which is sufficient for this kitchen at 80% velocity capacity of the extraction.

Odour and Noise Assessment Recommendation

Offensive and objectionable smells can have a significant negative impact on people's lives and well-being. In urban areas, issues related to bothersome odours emitted from commercial kitchen exhausts are widespread. The responsibility for enforcing legal regulations primarily lies with the Local Authorities, encompassing various regulatory functions such as planning, environmental health, and building control.

The Department for Environment Food and Rural Affairs has published two authoritative documents that serve as essential references for Local Authorities in this field:

- "Odour Guidance for Local Authorities" (March 2010)
- "EMAQ,2018"

This report has been prepared in accordance with the guidance and methodologies provided in the above documents.

What is Odour

Odour, also known as scent or smell, is the perception of molecules in the air or on surfaces that trigger the olfactory system, resulting in a sensation that we interpret as a specific aroma. It is a complex sensory experience influenced by a combination of volatile compounds emitted by various sources.

Commercial kitchen odours refer to the specific smells produced in a professional food preparation environment. These odours arise from the cooking, baking, frying, and grilling processes, as well as from ingredients such as spices, oils, and sauces. The intense heat and continuous food preparation in commercial kitchens enhance the release of volatile compounds into the air, leading to distinct and often strong odours.

While some commercial kitchen odours can be delightful, others can be overwhelming and linger in the surrounding areas, potentially causing discomfort for workers and customers alike. Consequently, managing commercial kitchen odours becomes crucial. Various strategies are employed to mitigate these odours, such as proper ventilation systems, exhaust hoods, air filters, and regular cleaning routines. The aim is to maintain a pleasant and hygienic atmosphere within the commercial kitchen while ensuring a positive dining experience for customers.

What are Odour Characteristics and Attributes?

Odour characteristics and attributes refer to the various qualities and properties that define and describe the smell or scent of a substance. These attributes help in understanding and categorizing different odours based on their specific features. Here are some key aspects of odour characteristics and attributes:

Intensity: It denotes the strength or concentration of an odour. Odours can range from faint to strong, with varying degrees of intensity.

Quality: This refers to the nature or character of an odour, such as floral, fruity, woody, or spicy. It describes the overall impression of the scent.

Duration: The length of time an odour lingers in the air or on a surface. Some odours may dissipate quickly, while others can be long-lasting.

Threshold: It indicates the minimum concentration of an odour required for it to be detectable by the human nose. Different individuals may have different thresholds for detecting certain odours.

Hedonic Tone: The pleasantness or unpleasantness of an odour. It represents the subjective perception and emotional response elicited by a particular scent.

Character: This refers to the unique combination of odour notes or elements that distinguish a scent from another. For example, a perfume may have floral, citrus, and musky characters.

Complexity: The number of different odour components or notes present in a scent. Complex odours may have multiple layers or nuances that contribute to their overall character.

Persistence: The ability of an odour to remain perceptible over time, even at lower concentrations. Some odours may persist for an extended period, while others fade quickly.

Overall, odour characteristics and attributes provide a framework for analysing and describing smells. By understanding these aspects, researchers, perfumers, and professionals in various industries can effectively communicate and work with different odours, whether in product development, quality control, or sensory analysis.

System Description and Recommendations

Cafe Kitchen System & Equipment

The risk assessment score level is calculated in table 2 below and it is considered by the rule to be as 'High'.

The list of kitchen equipment located under the designate canopy of 5000mm x 1200mm are of electric and gas supply. They are as follow:

- **Gas Grill** – Mahino brand, 90 cm x1
- **Deep Fryers** – Lincat brand, 30 cm each x2
- **Flat Griddle** – Infernus brand, 60 cm x1
- **Gyros (Doner) Machines** – Archway brand, 50 cm each x2
- **Bain Marie** – Buffalo brand, 30 cm

Cooking Equipment	Power	Size mm	Area m ²	Vel req m/s	Flow Rate m ³ /s
Gas Grill	Gas	900x770	0.693	0.5	0.347
Electric Fryer x3	Electric	3x300x630	0.567	0.35	0.198
Electric Griddle	Electric	747x 400	0.2988	0.35	0.105
Gyros Machine x2	Gas	2x565x655	0.7336	0.5	0.367
Buffalo Bain Marie with Pans	Electric	645x 432	0.279	0.25	0.070

Total flow from equipment		1.086 m ³ /s
x Canopy Factor (one side open) =	1.2	1.303 m ³ /s
Make up flow air rate =	85%	1.108 m ³ /s

TABLE 1: Equipment Flow rate calculation

Following the rule, the canopy must cover 1.2 times that flow rate, and the air flow make up air must be 85% for this case. That means a total canopy flow rate of 1.30 m³/s and an air flow make up rate of 1.11 m³/s.

Silent box fan unit AMF-630/1
Version: 4-pol; 50 Hz; 90°-180°airflow

To achieve that flow rate, a Silent box fan unit AMF-630/1 from “Venton” will be installed in the system, with a maximum capacity of 2.4 m³/s (8704 m³/h). This means that it is going to operate at less than 80% of its capacity, leading to low noise.



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

* Based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:

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 10m/s
	Moderate	10	Discharging 1m above eaves 10-15 m/s
	Good	5	Discharging 1m above eaves 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 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	Pub (high level of fried food), fried chicken, burgers, or fish & chips. Turkish, Middle Eastern or any premises cooking with solid fuel
	High	7	Vietnamese, Thai, Indian, Japanese, Chinese or steakhouse
	Medium	4	Cantonese, Italian, French, Pizza (gas fired)
	Low	1	Most Pubs (no fried food, mainly reheating and sandwiches etc.), Tea rooms**

Note **: A planner may take a pragmatic view when assessing whether certain low risk kitchens require any odour abatement to be fitted. In reaching this decision the Planner may consider the nature of the food being cooked and/or the size of kitchen and/or its location.

TABLE 2: TOTAL RATING: High (31) A high level of odour abatement required for main kitchen canopy system.

The odour risk rating for the delivery outlet is classified as 'High', which is at the middle of the rating scale for this classification. This means that a significant level of odour control would be required to eliminate any potential risk of odour impacts on nearby pedestrians and properties.

Filtration Method and Solution

The odour and grease level for takeaway on 33 Market Place, Devizes, SN10 1JG.
The rule specifies:

High level odour control may include:

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

Table 3 - Solution of High-Level Odour Control

On this work, the first control method was selected, using the ESP + Carbon filtration. The specification of the equipment is in the Appendix.

The first control method was selected for this project. The carbon filters PA242424-7C were selected. They have a capacity of 3800 m³/hr which means 1.05 m³/s, considering a 0.1 dwell time (see Table 5 below). Considering that the airflow rate is 1.3 m³/s, **3** PA242424-7C are required to achieve a residence time above 0.24 seconds (which follows the framework).

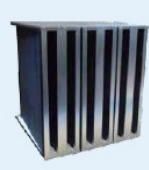
Will require two people plus lifting equipment to carry and install.




Carbon PA242424

Size	594 x 594 x 597
Gross Weight	68.2Kg
Carbon Weight	50Kg
Rated Airflow	3600m ³ /hr*
Pressure Drop	120Pa

Safe for one person to carry.
No special lifting equipment required.

Sitesafe PA240824

Size	594 x 196 x 597
Gross Weight	17.95Kg
Carbon Weight	16.6Kg
Rated Airflow	1200m ³ /hr*
Pressure Drop	120Pa

Sitesafe 3 x PA240824

Size	594 x 594 x 597
Gross Weight	53.85Kg
Carbon Weight	50Kg
Rated Airflow	3600m ³ /hr*
Pressure Drop	120Pa

Carbon Filter Cell Part Number	Nominal Size (inches)	Height (mm)	Width (mm)	Depth (mm)	Weight of Encased Carbon (Kg)	Weight of Entire Cell (Kg)	Capacity @ 0.1 Second Dwell Time M3/h
PA-240824-7C "Site Safe"	24 x 08 x 24	594	196	597	17	18	1266
PA-242412-7C	24 x 24 x 12	594	594	297	25	36	1900
PA-242424-7C	24 x 24 x 24	594	594	597	50	61	3800

Table 4. Carbon Filter Spec Sheet

Recommended Cleaning Period

The risk assessment score demonstrates that the risk is considered as 'HIGH' according to the table 2. The fans (extraction & insertion) and ductwork are installed to maximise the full extraction potential, and we would recommend the following procedures are carried out regularly:

1. The canopy must be externally cleaned on weekly basis.
2. The canopy filters must be cleaned at least twice a week.
3. The carbon filter should be replaced once every 6 months.
4. The canopy and the duct work to be professionally deep cleaned every 6-12 months.

Conclusion

In conclusion, the proposed takeaway at **33 Market Place, Devizes, SN10 1JG** has been designed with an efficient and high-standard extraction and ventilation system that aligns with the **DESA Specification for Kitchen Ventilation Systems DW172** and **BS4142:2014**. Given the nature of the shop, the impact on the surrounding, will be low.

The extraction fan will operate at less than **80% of its total capacity**, ensuring low noise levels. Furthermore, **silencers** will be installed on both sides of the fan to further minimize noise emissions. The ductwork and ventilation system will be carefully designed to prevent disturbances while maintaining optimal air quality within the premises.

The client has proactively committed to installing an **Electrostatic Precipitator (ESP)**, which will reduce odour emissions by up to **95%**, ensuring compliance with local authority guidelines on air quality.

Taking all these considerations into account, we recommend that the **discharge point be located at the back of the building**, as this setup will have no adverse impact on the pedestrians or in the surrounding area. The combination of **high-performance filtration, noise reduction measures, and responsible discharge placement** ensures that this takeaway shop will operate in a manner that is environmentally conscious, compliant with regulations, and considerate of its residential surroundings.



prudens
Engineering & Design

Project Name: Medical Centre & Hub
Project Owner: St. Luke's Hosp
Project Location: St. Michael's Street,
Widnes, Warrington, Cheshire, WA14 0JL

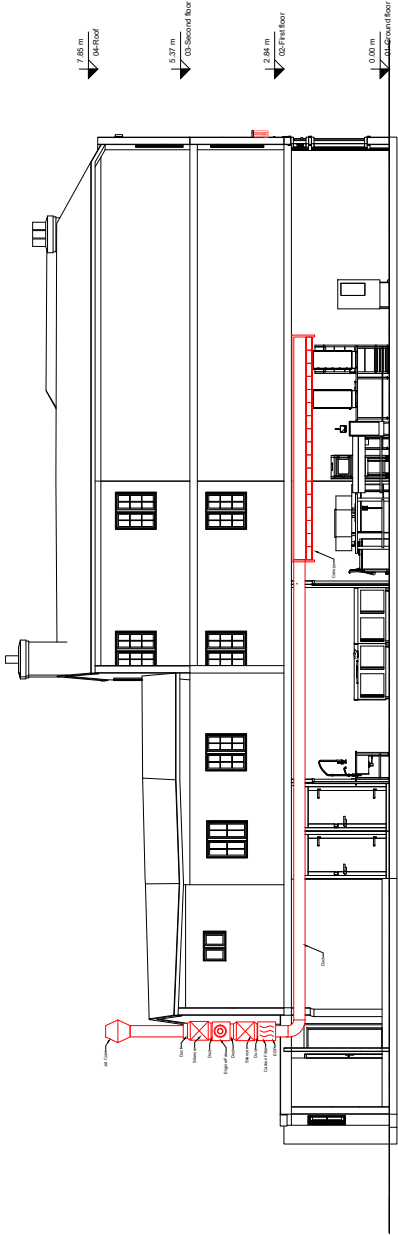
Project Number: 2020/1114
Date: 12.12.2023
Project Manager: [Redacted]
Client: [Redacted]

Notes:
1. This drawing is intended for use by the client and is not to be used for any other purpose.
2. This drawing is not to be used for any other purpose.
3. This drawing is not to be used for any other purpose.
4. This drawing is not to be used for any other purpose.
5. This drawing is not to be used for any other purpose.
6. This drawing is not to be used for any other purpose.
7. This drawing is not to be used for any other purpose.
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050535 :
Y16 1526

Drawing Title & Sheet Number:
Ventilation
schematic elevation
A138

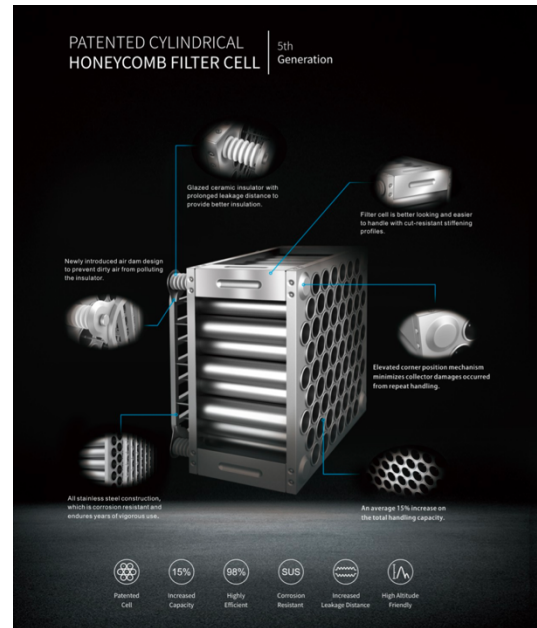
Scale: A1@1:50



Ventilation schematic elevation

Electrostatic Precipitator (ESP)

An electrostatic precipitator (ESP) is a filterless device that removes fine particles, like dust and smoke, from a flowing gas using the force of an induced electrostatic charge minimally impeding the flow of gases through the unit.[1] In contrast to wet scrubbers, which apply energy directly to the flowing fluid medium, an ESP applies energy only to the particulate matter being collected and therefore is very efficient in its consumption of energy (in the form of electricity)



ESP enables smokeless emission at street level, lowers cooking odour, reduces grease build-up in the duct, minimizes smoke pollution in the air. A single filter handling capacity ranges from 2000 to 7200 m³/h so it can be configured to accommodate almost any air flow.



Our ESP Range

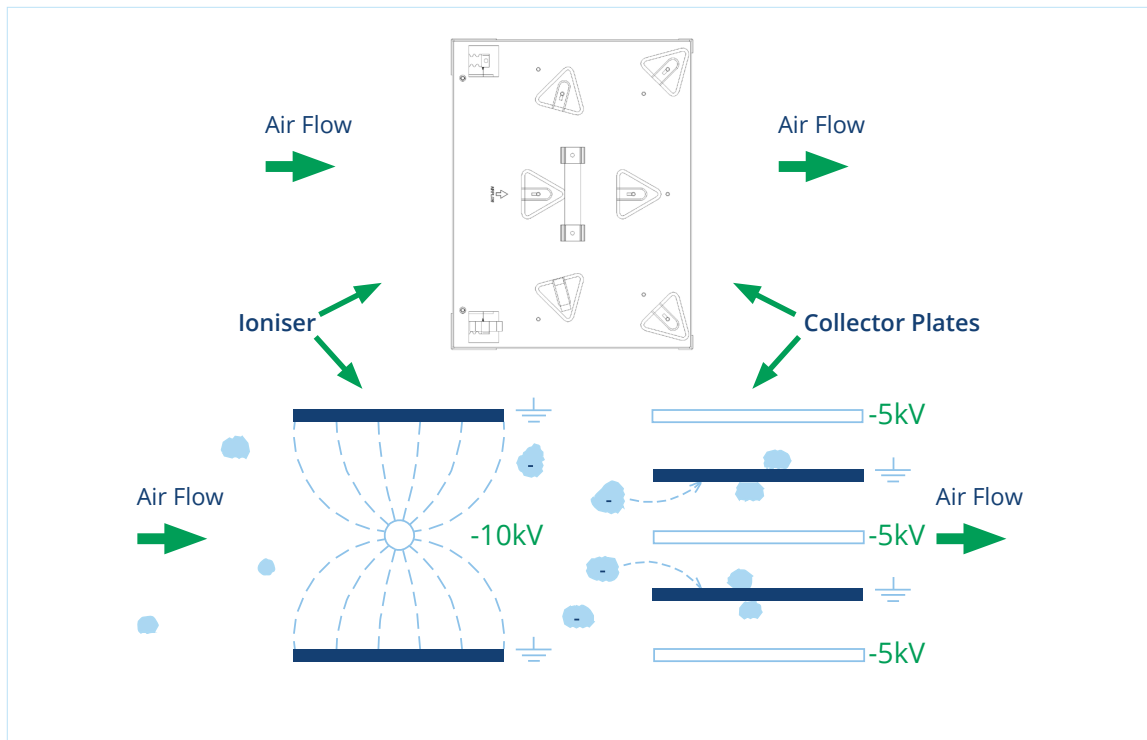


ESP 4500

- ESP 1500E which can handle up to 0.7m³/sec of air flow
- ESP 3000E which can handle up to 1.4m³/sec of air flow
- ESP 4500E which can handle up to 2.1m³/sec of air flow
- ESP 6000E which can handle up to 2.8m³/sec of air flow

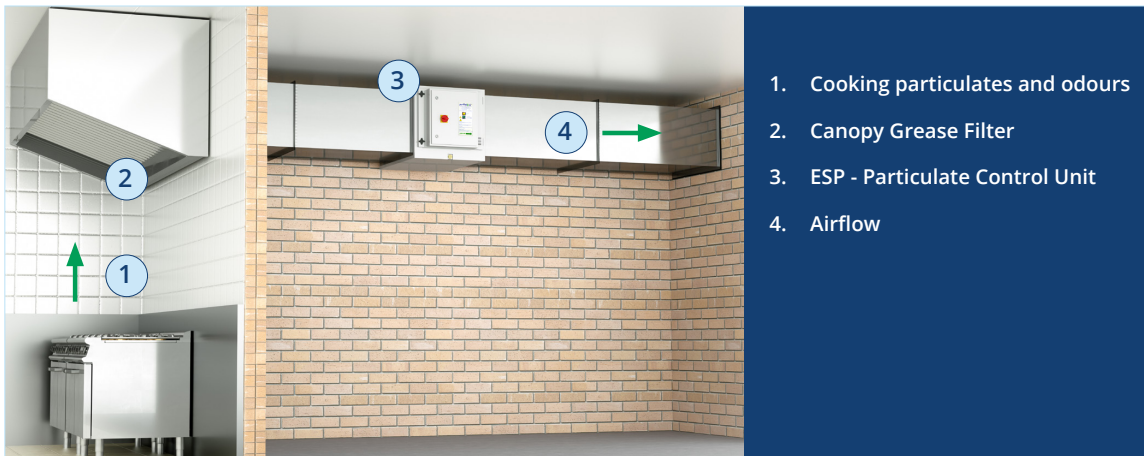
Our ESP's have been specifically designed for kitchen extract systems; they have integral sumps to collect the oil, grease and smoke particles filtered out of the exhaust. This not only simplifies servicing but eradicates potentially dangerous spillage from the bottom of the units and greatly cuts down on build-ups of grease within the ducting.

The ionisation voltage has been designed to run at a negative potential which enhances the ionisation of particles and also produces more ozone which is helpful in reducing cooking odours.



The above diagram shows, in a basic visual, how an electrostatic precipitator works. As air passes into the combined ioniser / collector cell, the particulates in the air stream are polarised to a negative potential. As they continue through the ioniser and between the collector cell plates, the polarised particulates are repelled away from the negatively charged plates and attracted to the earthed plates where they stick and so are filtered out of the air flow.

Our ESP units fit in-line with the kitchen ducting and can be configured modularly to cope with all extract volume requirements.



KEY FEATURES

- Eliminates up to 98% of oil, grease and smoke particles
- Filters particles down to sub-micron levels
- Produces Ozone to help reduce malodours
- Designed with an integral sump
- Modular in design
- Specifically designed for commercial kitchen application
- Energy efficient: - uses no more than 50W
- Greatly reduces grease build-up within the duct run



3 ESP Units Stacked in modular formation



4 ESP Units Stacked in modular formation with a double pass

Technical Specification

	ESP 1500E	ESP 3000E	ESP 4500E	ESP 6000E
Electrical Supply	220/240V 50Hz	220/240V 50Hz	220/240V 50Hz	220/240V 50Hz
Power Consumption	20 Watts	30 Watts	40 Watts	50 Watts
Max Air Volume	up to 0.7m ³ /sec	up to 1.4m ³ /sec	up to 2.1m ³ /sec	up to 2.8m ³ /sec
Dimensions W/H/D	450mm/630mm/ 640mm	900mm/630mm/ 640mm	1350mm/630mm/ 640mm	1800mm/630mm/ 640mm
Weight	55Kg	85Kg	118Kg	153Kg



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enq@purifiedair.com | www.purifiedair.com

AIRCLEAN

YOUR AIR FILTER MANUFACTURER

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MAIDSTONE, ME14 2LA.

TEL:01622 832777
FAX:01622 832507

sales@airclean.co.uk www.airclean.co.uk

Pleated Panel Filters

Applications

The Pleated Panel is a medium efficiency disposable filter, suitable for ventilation and air conditioning systems which require a higher efficiency and greater dust holding capacity than can be achieved with glass or synthetic panels.

The Pleated Panel can be used where glass panels are undesirable, such as in the food industry and hospitals.

Construction

Pleated filters consist of a dry non-woven fabric media, pleated to give an extended surface area, producing a low initial resistance for the same air volume.

The pleated assembly is contained within either a rigid all cardboard casing, or a cardboard frame with perforated cap-punch retaining grids.



Technical

Filter Classification:

Pleated Material Flamability :

Maximum operating temperature:

Dust Holding Capacity:

Grade G4 to EN779.

Fire Resistant to :-

Underwriters Laboratories

Standard 900 class 2

100°C (212°F)

840 g/m² (2") and 1260 g/m² (4") to EN779

Resistance to Airflow

Face Velocity										
m/s fpm	1.25 250		1.50 300		2.0 400		2.5 500		3.0 600	
Pressure Drop	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
2" Panel	22	0.09	27	0.11	50	0.20	70	0.28	-	-
1" Panel	25	0.10	30	0.12	55	0.22	75	0.30	87	0.35

Recommended discard resistance is 125 Pa (0.5"wg) in excess of clean resistances shown above for a 2" panel and 150 Pa (0.6"wg) for 4" panel.

Code AC1/3a Ref 06/11

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Capacity Chart (2" Pleated Panels)

Data based on Face Velocity of 2.5 m/s (500 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m ³ /s
10 x 10	242 x 242	0.14
12 x 12	289 x 289	0.20
15 x 15	369 x 369	0.33
18 x 18	445 x 445	0.48
20 x 10	495 x 242	0.29
20 x 16	495 x 394	0.48
20 x 20	495 x 495	0.60
25 x 16	620 x 394	0.60
25 x 20	620 x 495	0.76
24 x 12	594 x 289	0.43
24 x 20	594 x 495	0.73
24 x 24	594 x 594	0.88

Actual Face Size = Nominal Size less 6mm (0.25")

Capacity Chart (4" Pleated Panels)

Data based on Face Velocity of 3.0 m/s (600 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m ³ /s
10 x 10	242 x 242	0.18
12 x 12	289 x 289	0.25
15 x 15	369 x 369	0.41
18 x 18	445 x 445	0.60
20 x 10	495 x 242	0.36
20 x 16	495 x 394	0.58
20 x 20	495 x 495	0.73
25 x 16	620 x 394	0.72
25 x 20	620 x 495	0.91
24 x 12	594 x 289	0.51
24 x 20	594 x 495	0.87
24 x 24	594 x 594	1.05

Holding Frames and Casings

Holding frames and casings for Disposable Pleated Panels are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications. See leaflets (code AC8) for full technical information.

Code AC1/3b Ref 06/11

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Metal Cased Discarbs

The metal cased 'Discarb' cells have the highest carbon loading in our range, and have standard or heavy-duty carbon panels permanently sealed into a galvanised sheet steel casing. This construction gives a very strong unit capable of handling large air volumes or where conditions dictate, increased contact time. The advantage of this unit is that with panels sealed in, there is no possibility of air leakage. Also, these units can be manufactured to almost any reasonable size, the limiting factors being the overall weight for handling purposes and the size of individual panels. When the unit has finished its useful life it is discarded and replaced with a complete new cell.



Standard Duty Cells							
Nominal Size	Actual Size mm	Number of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	Weight	Weight	m ³ /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	5 kg	9 kg	0.10	212	75
12" x 12" x 18"	292 x 292 x 445	6	8 kg	14 kg	0.15	318	95
12" x 12" x 24"	292 x 292 x 597	6	10 kg	18 kg	0.22	466	140
18" x 18" x 12"	445 x 445 x 292	8	10 kg	17 kg	0.21	445	55
18" x 18" x 18"	445 x 445 x 445	8	15 kg	25 kg	0.31	657	70
18" x 18" x 24"	445 x 445 x 597	8	21 kg	33 kg	0.41	868	105
24" x 24" x 12"	597 x 597 x 292	12	20 kg	31 kg	0.41	868	70
24" x 24" x 18"	597 x 597 x 445	12	31 kg	45 kg	0.61	1292	90
24" x 24" x 24"	597 x 597 x 597	12	42 kg	59 kg	0.81	1716	130
12" x 24" x 24"	298 x 597 x 597	6	21 kg	35 kg	0.40	847	130

Extra Duty Cells							
Nominal Size	Actual Size	No. of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	weight	weight	m ³ /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	6 kg	10 kg	0.13	275	125
12" x 12" x 18"	292 x 292 x 445	6	9 kg	15 kg	0.20	424	175
12" x 12" x 24"	292 x 292 x 597	6	12 kg	20 kg	0.27	572	250
18" x 18" x 12"	445 x 445 x 292	8	12 kg	19 kg	0.30	635	95
18" x 18" x 18"	445 x 445 x 445	8	19 kg	28 kg	0.41	868	125
18" x 18" x 24"	445 x 445 x 597	8	25 kg	37 kg	0.54	1144	185
24" x 24" x 12"	597 x 597 x 292	12	25 kg	35 kg	0.54	1144	125
24" x 24" x 18"	597 x 597 x 445	12	38 kg	52 kg	0.80	1694	150
24" x 24" x 24"	597 x 597 x 597	12	51 kg	68 kg	1.06	2245	225
12" x 24" x 24"	298 x 597 x 597	6	26 kg	46 kg	0.53	1122	225

The company reserves the right to change the specifications without notice. E & OE.

Code AC6/2a Ref 02/09

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Technical

The capacities shown are based on a dwell time of 0.1 seconds .

For contact times of 0.3 seconds, reduce rated airflow to 1/3rd, pressure drop will also reduce to 1/3rd.

Max Temperature 40 Deg C

Max Humidity 80% RH

Non-standard sizes

Other sizes are available to suit individual requirements. Our Technical Department will be pleased to



Silent box fan unit AMF-630/1

Version: 4-pol; 50 Hz; 90°-180° airflow



Silent box fan unit AMF-630/1

Variable direction discharge, backward curved centrifugal fan.

High efficiency IE2 external rotors motor and IE3 for induction rotor motors. Highest quality Electric motors with thermal protection will guarantee the long life and trouble free operation due to its construction and air cool system.

Free running High density HD backward curved Impeller is made of aluminium and dynamically balanced according to ISO10816 two plane CLASS 1.

The double skin Acoustic panels with 25 mm flame-retardant mineral wool noise and temperature insulated will help to reduce the noise level, they are easily removable which make it easy to install in any direction as well as easy to clean and maintain.

Aluminium frame and corners are highly shock-resistant.

Speed controllable 0 to 100% only by High efficiency variable frequency drive, pre-programmed and fully protecting the fan against any sort of harm.

Low sound level due to the 25mm thick acoustic panels, to absorb the noise to the highest level.

Casing and all corners are made of corrosion resistance aluminium for longer life.

Silent box fans can be used as extract and supply unit

Technical Data

Voltage	230 V
Frequency	50 Hz
Phase(s)	3~
Input power	3700 W
Input current	14.2 A
Impeller speed	1450 r.p.m.
Efficiency	IE 2
Air flow max	14100 m³/h
Maximum ambient Temperature	max 60 °C
Enclosure class	IP54
Insulation class	F
Motor type	AC
Weights	Weight 143 kg

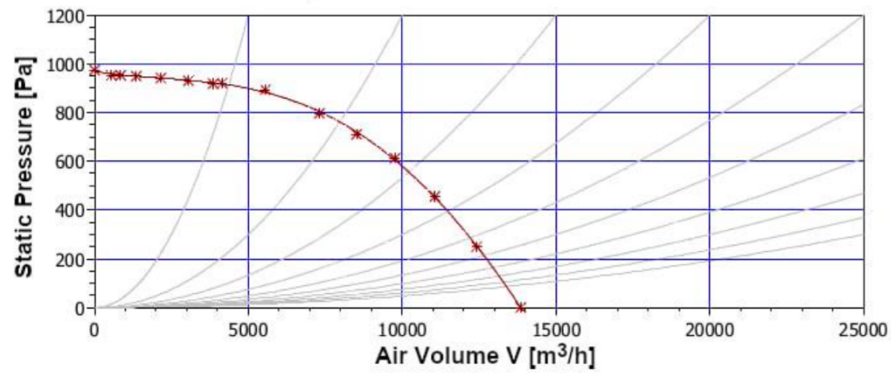
Speed control Data

Principle of control	Variable frequency Drive
Input voltage	1~ 200-240V
Input current	20 A
Output current	14.2 A
Output voltage	3~ 0-250V
Frequency	0 – 50 Hz
Enclosure class	IP20

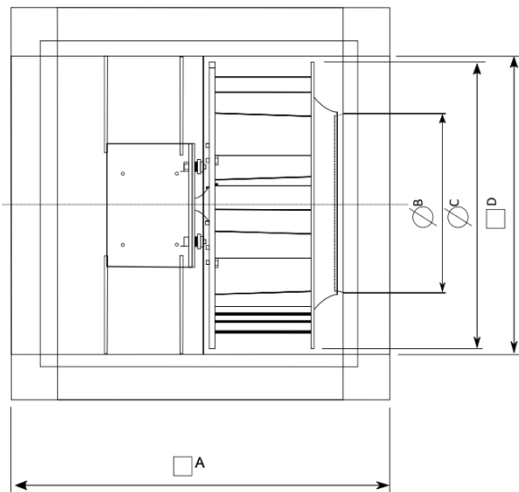
Mechanical characteristic

Name	V m³/h	Δp_{sV} Pa	Δp_{tV} Pa	P _{we} W	η s %	L _{p(A)} dB(A)	n 1/min	ErP
AMF630/1	14100	8	114	3700	1,6	87,4	1450	2018

Air volume flow rate



Dimensions



□ A	=	800 mm
□ B	=	360 mm
□ C	=	630 mm
□ D	=	720 mm

Sound data

Sound pressure level at 3m Mid-frequency band Hz

500/4	Hz	Tot	63	125	250	500	1k	2k	4k	8k
LwA Inlet	dB(A)	80	67	69	73	75	74	71	66	59
LwA Outlet	dB(A)	81	69	71	75	77	76	73	68	61
LwA Surrounding	dB(A)	64	52	54	58	60	59	56	51	44

Measuring point: $q_v = 2.78 \text{ m}^3/\text{s}$, $P_s = 761 \text{ Pa}$

Principle of control and protection:

Fully programmed and wired up ready to use inverters are the way we control the speed of our fans, Inverters are by far the best way to control the speed of fans, by using inverters you have the benefits of :

- High efficiency energy saving
- 0 to 100% controlling speed
- Fully protection of the fan



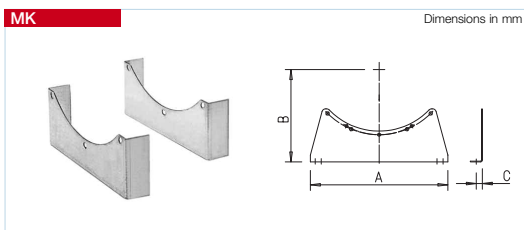
Speed control Data

Principle of control	Variable frequency Drive
Input voltage	1~ 200-240V
Input current	15 A
Output current	6.1 A
Output voltage	3~ 0-250V
Frequency	0 – 50 Hz
Enclosure class	IP20

Mounting Accessories



Mounting accessories for Axial- and VAR-fans



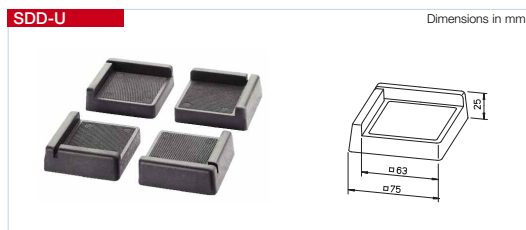
Mounting feet

To fix Axial/VAR cased fans on ceiling, wall or floor. Made from galvanised sheet steel or hot dipped galvanised steel. Fixing holes fit casing flanges. Set includes a pair of feet, nuts and bolts.

Note:

If motors of high weight are installed, an extension duct (VR...) is recommended to move the centre of gravity within the mounting feet. Mount feet on the outer flange.

Type	Ref. No.	A	B	C	Weight in kg
MK 200-225	1446	310	208/220	20	1.5
MK 250-280	1447	340	227/245	20	1.7
MK 315-355	1448	380	281/300	25	2.2
MK 400-450	1449	360	311/335	25	2.6
MK 500-560	1450	570	383/415	25	5.3
MK 630	1333	600	465	30	8.5
MK 710	1372	670	515	35	10.5
MK 800	1373	680	565	35	15.5
MK 900	1374	760	625	35	18.0
MK 1000	1375	840	690	35	19.5

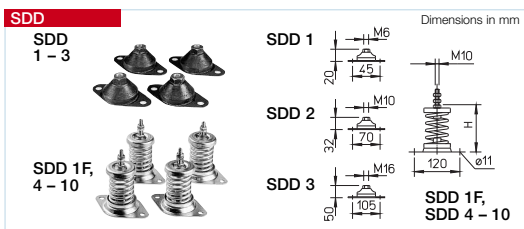


Anti vibration pads

The rubber mounting pads SDD-U are suitable as a base for installation of fans on flat, horizontal surfaces. They reduce the direct noise and vibration transmission to the building structure.

One set consists of 4 elements, which are positioned individually under the corners of the fan unit. Maximum compression: 40 kg/pad = total 160 kg.

SDD-U Ref. No. 5627



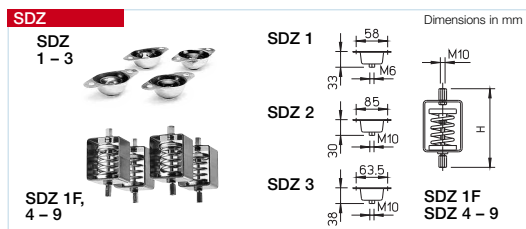
Anti vibration mounts for compression

To reduce noise and vibration transmission of fans installed on horizontal surfaces. Simple installation in combination with feet MK (accessory). Select size according to fan weight (see table).

Rubber elements are suitable for small to middle weights and ambients up to +60 °C. Spring elements are suitable for higher temperatures above +60 °C (e.g. smoke extraction).

Type	Ref. No.	Maximum fan weight in kg	H Height in mm	Spring element	Contents 1 set = 4 pieces
SDD 1	1452	80	*		
SDD 1F	1942	70	112 - 82	•	
SDD 2	1453	180	*		
SDD 3	1367	750	*		
SDD 4	1944	130	112 - 86	•	
SDD 5	1924	210	112 - 86	•	
SDD 6	1926	400	112 - 80	•	
SDD 7	1928	580	112 - 82	•	
SDD 8	1930	900	112 - 82	•	
SDD 9	1934	1300	112 - 85	•	
SDD 10	1951	1800	112 - 88	•	

* shown in dimensional drawing



Anti vibration mounts for suspension

To reduce noise and vibration transmission of fans installed hanging from ceilings. Specification as model SDD.

Important note for installation!

Make sure that fan system is well balanced (centre of gravity of heavy motor may cause uneven loading of mounts).

Type	Ref. No.	Maximum fan weight in kg	H Height in mm	Spring element	Contents 1 set = 4 pieces
SDZ 1	1454	60	*		
SDZ 1F	1943	70	190 - 220	•	
SDZ 2	1455	160	*		
SDZ 3	1366	300	*		
SDZ 4	1945	130	190 - 216	•	
SDZ 5	1925	210	190 - 216	•	
SDZ 6	1927	400	190 - 221	•	
SDZ 7	1929	580	190 - 220	•	
SDZ 8	1931	900	190 - 220	•	
SDZ 9	1935	1300	190 - 217	•	

* shown in dimensional drawing

