Architecture - Town Planning - Licensing

ODOUR RISK ASSESSMENT

Camden Council

311 Finchley Road, London NW3 6EH

March 2025

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1.0 EXECUTIVE SUMMARY

This report was commissioned by the Client for the installation of a kitchen extraction system at **311 Finchley Road. London, NW3 6EH**. Se & Se Consultancy has been commissioned to assess the odour controls associated with the premises.
The extraction system has been assessed, and recommendations have been made to ensure that the “best practicable means” to mitigate any odour nuisance from the extraction system have been employed. Additionally, compliance with the requirements of city Council and the EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems 2018 has been achieved.

2.0 GUIDANCE AND POLICY

The following legislation and guidance have been used in this assessment:

• EMAQ, (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems, an amendment of the original DEFRA document published in 2005, deals specifically with the control of kitchen odours.

• Guidance on the Assessment of Odour for Planning, Version 1.1 Institute of Air Quality Management (IAQM), 2018. The IAQM published the 'Guidance on the Assessment of Odour for Planning’ document in July 2018. This guidance specifically deals with assessing odour impacts for planning purposes, namely potential effects on amenity.

The magnitude of odour impact depends on several factors and the potential for adverse impacts varies due to the subjective nature of odour perception. The FIDOL acronym is a useful reminder of the factors that can be used to help determine the degree of odour pollution:

• Frequency of detection - frequent odour incidents are more likely to result in adverse impacts.

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• Intensity, as perceived - intense odour incidents, are more likely to result in adverse impacts.

• Duration of exposure - prolonged exposure is more likely to result in adverse impacts.

• Offensiveness - more offensive odours have a higher risk of resulting in adverse impacts; and,

• Receptor sensitivity - (The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor.)

It is important to note that even infrequent emissions of odours may cause loss of amenity if odours are perceived to be particularly intense or offensive.

3.0 ASSESSMENT METHODOLOGY

3.1 BASELINE SURVEY

A desktop survey has been undertaken to review the ventilation system and the potential impact on the surrounding properties. This assessment has been conducted using EMAQ (2018) Control of Odour and Noise from Commercial Kitchen Exhaust Systems.

3.2 ASSESSMENT FOR ODOUR (HIGH DISCHARGE)

Risk Assessment for Odour - Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, 2018, EMAQ+ guides determining the level of odour control required in a commercial kitchen. The initial assessment is based on this approach.

The proposed kitchen extraction system at **311 Finchley Road. London, NW3 6EH** has a high-level discharge point located 1m above the roof eaves. The flue discharges vertically through a high-velocity cowl. The nearest sensitive residential receptor is located less than 20m from the discharge point of the flue.

Annex C: Risk Assessment for Odour - Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems, 2018, EMAQ+

Odour control must be designed to prevent odour nuisance in each situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach.

IMPACT RISK	**ODOUR CONTROL REQUIREMENT**	**SIGNIFICANCE SCORE**
Low to Medium	Low level of odour control	Less than 20
High	High level of odour control	20 to 35
Very high	Very high level of odour control	More than 35

Criteria	**Score**	**Score**	**Details**
Dispersion	Very poor	20	Low-level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10m/s
	Moderate	10	Discharging 1m above eaves at 10-15m/s
	Good	5	Discharging 1m above ridge at 15 m/s
Proximity of receptors.	Close	10	The closest sensitive receptor is less than 20m from kitchen discharge.

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	Medium	5	The closest sensitive receptor is between 20 and 100m from kitchen discharge.
	Far	1	The closest sensitive receptor is more than 100m from kitchen discharge.
Size of kitchen	Large	5	More than 100 covers or large-sized takeaways.
	Medium	3	Between 30 and 100 covers or medium-sized take away.
	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.
	High	7	Kebab, Vietnamese, Thai or Indian.
	Medium	4	Cantonese, Japanese or Chinese.
	Low	1	Most pubs, Italian, French, Pizza, or steakhouses.

Based on the guidance shown this example score shows there is a high odour control requirement for the system.

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3.3 PROPOSED KITCHEN EXTRACTION SYSTEM

The proposed extraction system includes:

Baffle Filters: Baffle filters are the primary grease filters, of a re-usable stainless-steel baffle type design. There is sufficient primary grease filters fitted to cover the complete length of the canopy face above the cooking ranges which are highly efficient at grease removal.

Electrostatic Precipitator (ESP): A single-pass system for grease and smoke removal, rated to remove up to 95% of grease and smoke at airflow rates of 1.36 to 2.08 m^3/s (ESP model 1Hx3W). For settings requiring higher efficiency, a double-pass system could be used to achieve 99% efficiency.

Ozone Injection System: Equipped to neutralize odours, the system uses multiple ozone injectors for high-level odour control, treating air volumes up to 4-6 m^3/s. This system achieves optimal odour reduction with a minimum contact time of 1.5 seconds in the ductwork, as per EMAQ+ standards.

Helios GigaBox 450mm GBD 450dal/4/4 centrifugal: The Gigabox GBD 450/4/4 comes complete with discharge adaptor and flexible connector. This is an acoustically lined cubic ventilation box complete with intake and extract spigots and with flexible connectors to reduce vibration transmission. Variable applicable side panels can be arranged to suit almost any installation requirement. Simple positioning by use of standard crane hooks. External use possible with weather protection hood accessory.

Ductwork access hatches are to be installed every 1.5-meter centre for ongoing duct cleaning, there must be sufficient access inside the building to allow the duct to be cleaned regularly.

The system will be designed and installed in accordance with DW172 and EMAQ Guidelines.

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4.0 MAINTENANCE

Adhering to manufacturers' instructions for system maintenance and cleaning is crucial to ensure compliance with the Best Practicable Means under statutory nuisance provisions. Effective maintenance not only helps minimize harm to the amenity under planning regulations but is also a requirement of food hygiene regulations, significantly reducing fire risks. Detailed guidance on maintaining commercial kitchen extraction systems can be found in NAAD-21 Edition 1 2021 from the National Association of Air Duct Specialists UK. For optimal operation, the HVCA publication TR19 Guide to Good Practice – Cleanliness of Ventilation Systems outlines essential maintenance procedures.

Regular maintenance per NAAD-21 Edition 1 and HVCA TR19 guidelines is crucial for this high-discharge system.

- Extractor hood canopy and baffle filters to be cleaned weekly.
- The ductwork cleaning schedule should follow:

  Low levels of grease:

  Low use: Every 12 months

  Medium: Every 6 - 12 months

  Heavy use: Every 6 months

  Medium levels of grease:

  Low use: Every 12 months

  Moderate use: Every 4 - 6 months

  Heavy use: Every 3 months

  High levels of grease:

  Low use: Every 6 months

  Moderate use: Every 3 months

  Heavy use: Every 2 months

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This is adapted from the Building Engineering Services Association's Internal Cleanliness of Ventilation Systems TR 19

- ESP: Periodic inspection of the unit to determine cleaning frequency is recommended. Red light on the side of the unit to indicate when cell is dirty and maintenance / cleaning of the cells are required.
- Ozone: A six-monthly maintenance should be carried out by an accredited engineer. No operator maintenance is necessary. Maintenance schedule to include visual inspection of all indicator lamps, cleaning of generator ceramic plates, cleaning of air pressure breather pipe, checking of the calibration of the control panel.

Effective maintenance is vital for compliance and reduces fire risk, supporting system longevity and odour control.

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Baffle Type Grease Filters
for Kitchen Extracts and Canopies

Applications

The Airclean Baffle Type Grease Filter is designed for use in commercial kitchens to remove airborne grease prior to entering the extraction system.

It is recognised that there is an increasing need to maintain and improve hygiene standards in kitchens and to reduce the fire hazards above the heat source.

The Airclean Baffle Type Grease Filter reduces fire hazard with their unique design concept of non-grease loading (negligible grease accumulation), and interlocking baffle walls which restrict the passage of flames into the ductwork.

The Baffle Type Grease Filter's smooth surface enables deposited grease to run off via the drainage holes, to grease collecting trays in the canopy or grease filter housing, where it can be easily disposed of. Efficient grease removal by Baffle Type Grease Filters minimises grease build-up in the kitchen extract ductwork system and ensures that duct cleaning requirements are kept to a minimum.

Description

Airclean Baffle Type Grease Filters are manufactured in either Aluminium or Stainless Steel (Mirrored Finish Stainless Steel Grade 430, or Dull Polished Finish Stainless Steel Grade 304).

Housed in a channel framework, a series of vertical air baffles are strategically aligned to change the direction of the grease-laden air. This action causes the deposition of the grease quickly, without re-entrainment onto the baffles, whilst the grease-free air passes through the filter. The Baffle Type Grease Filter's smooth surface enables deposited grease to run off via the drainage holes into collecting trays within the housing, minimising grease build-up.

Baffle type Grease Filters each have layflat handles to facilitate easy removal from the kitchen canopy or grease filter housing.

Size		Flow Rate		Part Numbers	
OT Inches	**Actual mm**	**m^3/s based on FV 1.5m/s**	**Pressure Drop Pa**	**ST STEEL ECO *2" (47mm)* Grade 430 St/St**	**ST STEEL HD 2" (47mm) Grade 304 St/St**
16 x 16	394 x 394	0.25	125	1321119	1320119
20 x 10	495 x 242	0.19	125	1321120	1320120
20 x 16	495 x 394	0.31	125	1321121	1320121
20 x 20	495 x 495	0.39	125	1321122	1320122
18 x 18	445 x 445	0.31	125	1321123	1320123
24 x 24	597 x 597	0.54	125	1321124	1320124

FOR NON-STANDARD SIZES CONTACT THE SALES TEAM

Notes
* Actual sized filters will be manufactured as ordered +/- 3mm
* Handles and Drain Holes come as standard
* Handles are located on the shortest side of the grease filter as standard.

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Grease Filter Cleaning Tanks and Agents

To ensure the prolonged efficiency and life of a kitchen Baffle Type Grease Filter they must be cleaned regularly (according to use).

Airclean offer a range of suitable Grease Filter Cleaning Tanks (Heated and Non Heated), and Non Caustic Cleaning Agents (See Catalogue Section 3, Page AC3.8).

Alternative cleaning solutions for grease filters include steam cleaning or an automatic dishwasher.

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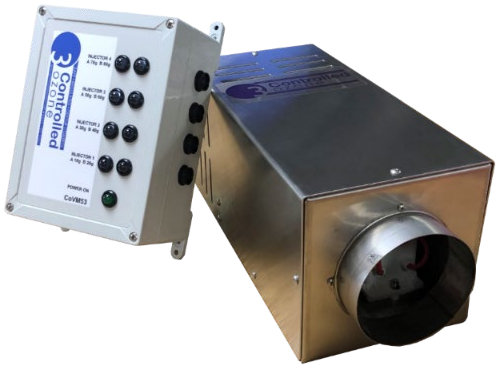
Ozone Odour Control System for the reduction and elimination of odour

- Ozone injection system for the control of nuisance odours from kitchen extract systems
- Can operate on airflows from 0.8m³/s to 8m³/s
- 1.5 to 2 second dwell time required in ductwork system
- Simple to install, and can be retrofitted
- Optional monitor to control ozone discharge levels to within safe limits
- Ability to add additional ozone injectors in the future
- Low maintenance



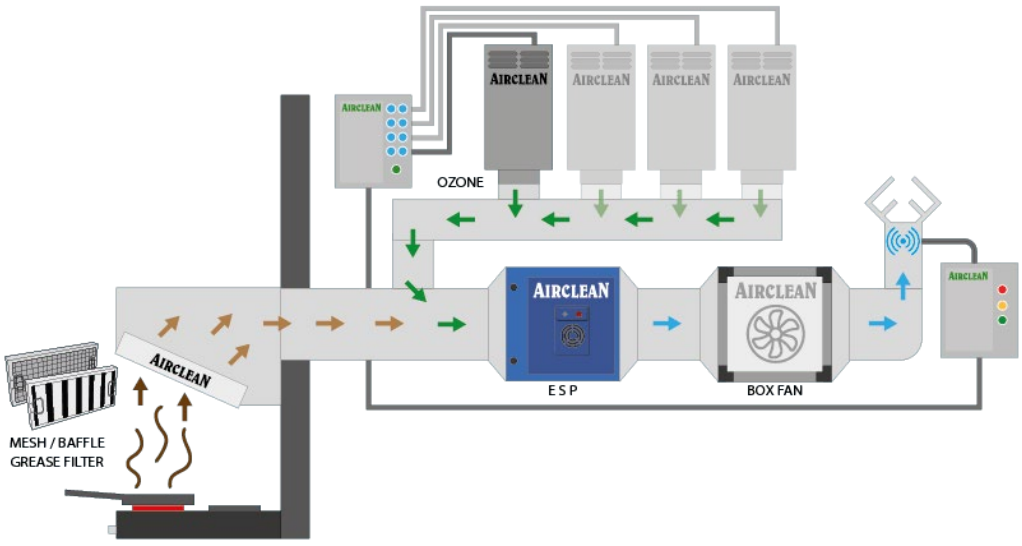
Applications

The Ozone Odour Control System can neutralise nuisance odours which emit from cooking in commercial kitchen extract systems, with airflows ranging from 0.8m³/s to 8m³/s.

A number of Ozone Injectors will be required depending on the airflow volume, contact time, and style of cooking from the kitchen. Ozone injectors should be positioned alongside the canopy plenum or kitchen extract duct run on the negative air pressure side, at the earliest possible point to ensure the maximum contact time (minimum of 1.5 seconds from point of injection).

An Ozone Injector Control Box should be located next to the injectors to indicate the correct operation of each injector and control ozone discharge when used in conjunction with a Controlled Ozone Sensor Module.

The injectors will generate ozone when a negative pressure in the duct is detected by the control Box.



Controlled Ozone Monitor

Whilst ozone is a useful tool to reduce odours, it is hazardous to health in excess concentration / quantity, and ensuing safe discharge must be considered with each installation.

An optional Controlled Ozone Monitoring Module is available which uses an onboard ozone sensor to detect the ozone level at the point of discharge. The Controlled Ozone Monitoring Module feeds back excess readings to the Injector Control Box, and will reduce ozone input, until the discharge reaches a safe ozone discharge level.

Injectors should be interlocked with the kitchen extract ventilation system.

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Description

Ozone Injectors and Control Box

The Ozone Odour Control System compromises of a series of Ozone Injectors which are linked to a Control Box. The Ozone Injector Control Box can operate between one to four injectors, with each injector capable of injecting up to 20 grams of ozone in 10 gram increments. The Ozone Injector Control Box contains a series of lights which indicate the ozone level being injected.

Ozone Injectors are to be mounted on the negative pressure side of the kitchen extract (typically before the fan) allowing for ozone to be injected into the air stream by the natural draw of the system pressure. Negative pressure is detected and monitored from a pressure tube between the Control Box and the kitchen extract duct work.

Optional Ozone Monitor for Controlled Ozone

An optional Ozone monitor can be added to the end of the duct, just before the discharge point to measure and control ozone output levels.

The Ozone Monitor and Injector Control Box are linked together by a supplied communication cable. The Ozone Injector Control Box uses sensor readings from the Ozone Monitor to then automatically lower or raise the ozone injectors output in 10 gram intervals until the Ozone monitor registers the correct ozone levels.

Component	Dimensions	Details
Ozone Injector	150 x 150 x 330 mm	Stainless Steel Case 2x 10 Gram per Hour Gaseous Ozone Reactors 1x Power on Indicator Lamp 1x Ozone Production Lamp Single Phase, 240V
Ozone Injector Control Panel (1 supplied with every system)	155 x 200 x 95 mm	LED Indicator Lamps Electronic Air Pressure Sensor 4x 5 pin Monitor Output Sockets 1x 5 Pin BMS Output Socket 1x 5 Pin Data Logger Output Socket
Ozone Monitor	150 x 150 x 330 mm	1x Power on Indicator Lamp 1x Monitoring Indicator Lamp 1x Dwell Indicator Lamp Includes long fly lead for connection back to Ozone Injector Control Panel (Length TBA on Order)

Part Number	Air Volume	Number of Injectors	Required Dwell Time (Seconds)	Ozone Delivery
1913221	1 - 2 m³/s	1 Injector*	1.5 - 2s	10 - 20g
1913222	2 - 4 m³/s	2 Injectors*	1.5 - 2s	30 - 40g
1913223	4 - 6 m³/s	3 Injectors*	1.5 - 2s	50 - 60g
1913224	6 - 8 m³/s	4 Injectors*	1.5 - 2s	70 - 80g

*1x Injector Control Box is included and required to control up to 4No. Injectors

Contact / dwell time from the point of injection must be a minimum of 1.5 seconds for effective odour control.

Part Number	Description	Size
1913229	Controlled Ozone Monitor (Optional)	155 x 200 x 95 mm

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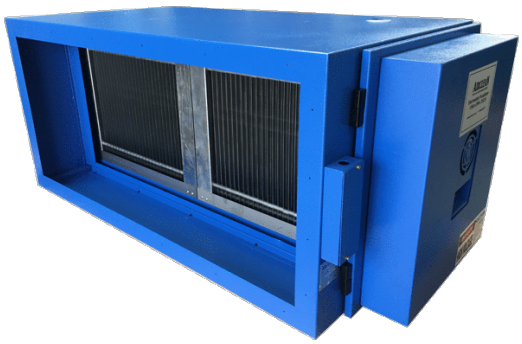
ELECTROSTATIC PRECIPITATOR
Kitchen Grease and Smoke Particle Removal



- Filter system for the removal of grease and smoke
- Cleanable Filter system and grease drainage
- Modular System to suit low - high air volumes
- Can remove up to 99% of grease and smoke

Applications

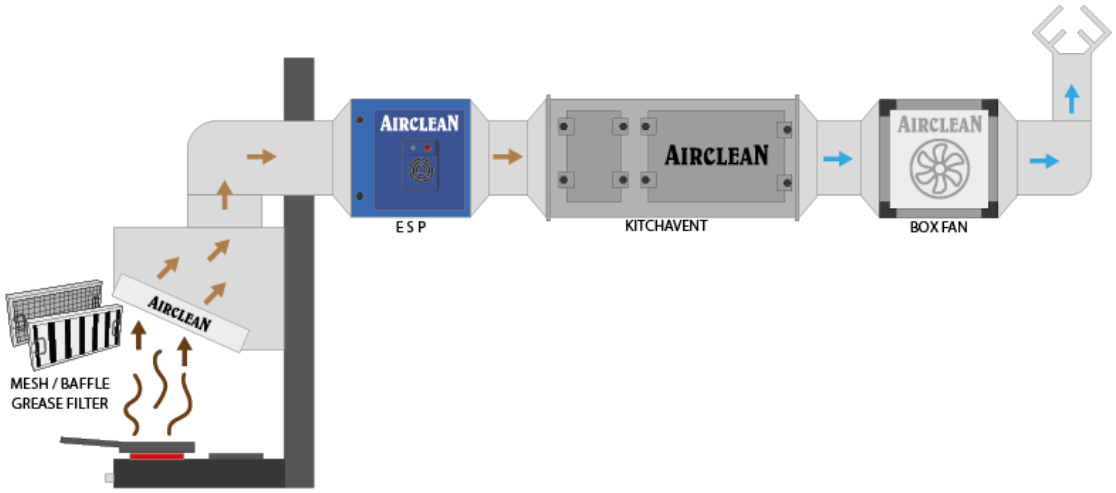
The Airclean **Electrostatic Precipitator (ESP)** can be used in kitchen extract systems or industrial applications for the efficient removal of grease, smoke, and airbourne oil / coolant mist.

A single pass ESP will achieve a grease and smoke removal efficiency of 95% at rated airflow. Where efficiency is critical (eg. Low level kitchen extract) a double pass ESP is recommended to achieve a 99% efficiency. Running at max capacity will result in drop of efficiency to 85%

Sizing Options

1H x 1W	1H x 2W	1H x 3W
		
540 x 694 x 620mm Rated: Up to 0.69 m^3/s Max Capacity: 1.27 m^3/s	540 x 1243 x 620mm Rated: 0.69 – 1.36 m^3/s Max Capacity: 2.55 m^3/s	540 x 1790 x 620mm Rated: 1.36 – 2.08 m^3/s Max Capacity: 3.83 m^3/s

Positioning and Mounting



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Description

The Airclean **Electrostatic Precipitator** is manufactured from 1.5mm Galvanised Steel and finished with an Epoxy Powder Coat. The two metal washable filters within the ESP are manufactured with an aluminium frame and an aluminium knitted mesh filter pad.

The Ioniser and Collector in the unit are combined in a single aluminium cell, which can be removed to be cleaned and replaced as required by the operator.

Technical

Power: 220V, 50Hz, Single Phase
Controls: Auto cut off switch when door is open. Fault indicator and operation lights.
Maximum recommended face velocity: 2.5m/s
Maximum operating temperature: 60°C

For high grease / oil applications drainage is required. A minimum of 150mm below the unit should be allowed for a suitable drainage system to be installed.

To treat airflows larger than those stated, multiple units are used together in parallel. An ESP joining kit is required to connect drains and flanges for ducting.

Units are to be mounted horizontally only, with access one side only. ESP's can be handed with airflow left to right, or right to left.

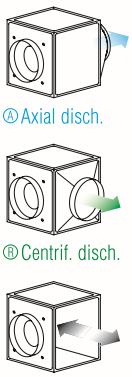
ELECTROSTATIC PRECIPITATORS

Dimensions			Style	Weight	Flow Rate	Max Capacity*	P.D.	Part Numbers
H	W	D			m^3/s		Pa	
540	694	620	1Hx1W	55kg	Up to 0.69	1.27	80	1912125
540	1243	620	1Hx2W	80kg	0.69 – 1.36	2.55	80	1912126
540	1790	620	1Hx3W	120kg	1.36 – 2.08	3.83	80	1912127

**Running at max capacity will result in drop of efficiency to 85%*

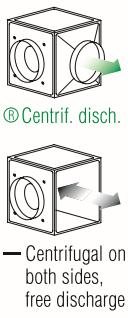
GB

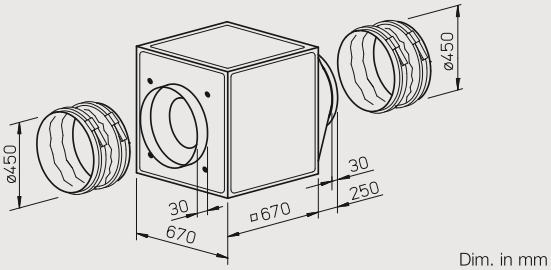
Arbitrary installation position and flexible assembly by five possible discharge directions.

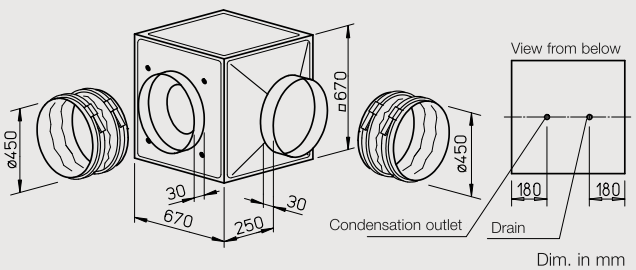


GB T120

Designed for moving dirty, humid and hot air up to max. 120° C.
Motor located outside the air flow.







■ Special features of types GB T120

- Designed for moving dirty, humid and hot air volumes up to max. 120° C.
- Motor located outside of air flow.
- Temperature insulated partition panel between motor and impeller, lined with 20 mm thick, flame-retardant mineral wool.
- Easily accessible motor and impeller unit, removable without disassembling the system components.
- Inspection cover with handle, simply remove for cleaning and maintenance.
- Condensate collector with condensate spigot included in delivery. Drill hole for rain drainage (accessories) for outdoor installation is prepared.

□ Assembly GB T120

Installation must be carried out with condensation discharge showing downward. Flexible assembly by three possible centrifugal discharge directions via the discharge adapter.
Outdoor installation is possible using outdoor cover hood and external weather louvers (accessories).

■ Feature

□ Assembly of types GB

Arbitrary installation position and flexible assembly by five possible discharge directions via the discharge adapter.
For wall mounting the wall bracket (accessories) have to be used. Outdoor installation is possible using outdoor cover hood and external weather louvers (accessories).

■ Specification of both types

□ Casing

Self-supporting frame construction from aluminium hollow profiles. Double-walled side panels from galvanised sheet steel, lined with 20 mm thick temperature insulating and flame-retardant mineral wool. Intake cone for ideal inflow as well as spigot and flexible sleeve (for the respective max. permissible air flow temperature) for duct connection. With discharge adapter (from square to circular) on the pressure side for low-loss discharge and flexible sleeve to reduce vibration transmission. Simple positioning by standard crane hooks.

□ Impeller

Smooth running backward curved centrifugal impeller highly efficient with polymer blades on galvanised steel disc (with GB T120 aluminium impeller), direct driven. Energy efficient with a low noise development. Dynamically balanced together with the motor to DIN ISO 1940 Pt.1 – class 6.3.

□ Motor

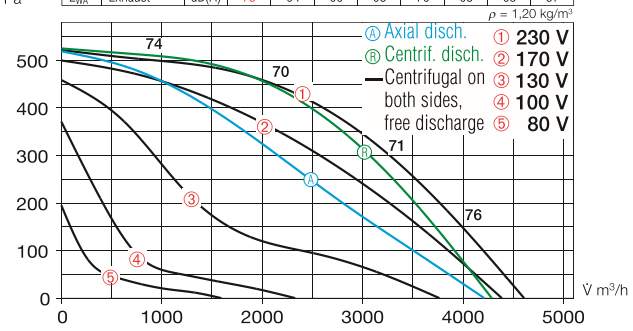
Maintenance-free external rotor motor or IEC-standard motor protected to IP 54. With ball bearings and interference-free as standard.

Type	Ref. no.	Air flow volume (FID)	R.P.M.	Sound press. case breakout	Motor power (nominal)	Current full load	Current speed controlled	Wiring diagram	Maximum air flow temperature Full load	Maximum air flow temperature controlled	Weight (net) kg	5 step transformer controller with mot. protect. unit Type	Ref. no.	5 step transformer controller without mot. protect. unit Type	Ref. no.	Full motor protection unit using the thermal contacts Type	Ref. no.
		$\dot{V}$ m³/h	min⁻¹	dB(A) in 4 m	kW	A	A	No.	+°C	+°C	kg						
1 Phase motor, 230 V / 1 ph. / 50 Hz, capacitor motor, protection to IP 54																	
GBW 450/4	5515	4600	1380	40	0.66	2.90	4.0	864	45	45	49.0	**MWS 5**	1949	**TSW 5,0**	1497	**MW** [1]	1579
2 speed motor, 3 Phase motor, 400 V / 3 ph. / 50 Hz, Y/△ wiring, protection to IP 54																	
GBD 450/4/4	5516	4350/5450	880/1240	40	0.36/0.67	0.67/1.33	1.30	867	55	55	49.0	**RDS 2**	1315	**TSD 1,5**	1501	**MD**	5849
1 Phase motor, 230 V / 1 ph. / 50 Hz, capacitor motor, protection to IP 54																	
GBW 450/4 T120	5774	7110	1370	45	1.00	4.60	5.50	935	120	100	74.0	**MWS 7,5**	1950	**TSW 7,5**	1596	**MW** [1]	1579
2 speed motor, 3 Phase motor, 400 V / 3 ph. / 50 Hz, Y/△ wiring, protection to IP 54																	
GBD 450/4/4 T120	5775	6210/7180	1100/1350	45	0.65/0.90	1.10/1.60	1.80	947	120	110	74.0	**RDS 2**	1315	**TSD 3,0**	1502	**MD**	5849

1) incl. operation switch

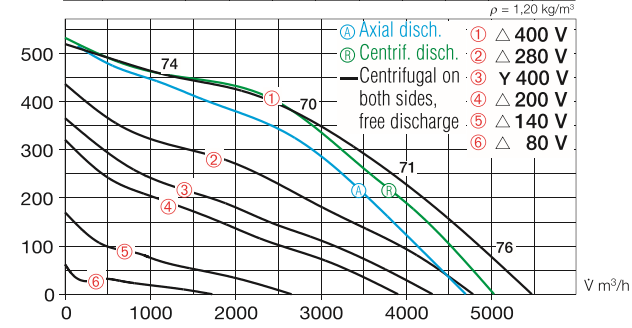
GBW 450/4

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L_{WA}	Case breakout	dB(A)	60	56	56	51	47	44	39	31
L_{WA}	Intake	dB(A)	69	61	63	65	67	65	60	54
L_{WA}	Exhaust	dB(A)	75	64	66	68	70	68	63	57



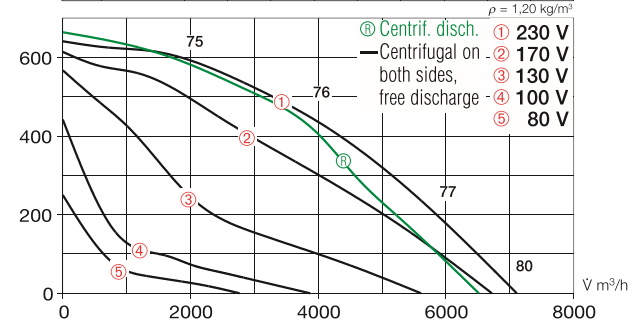
GBD 450/4/4

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L_{WA}	Case breakout	dB(A)	60	56	56	51	47	44	39	31
L_{WA}	Intake	dB(A)	72	62	63	65	68	63	58	49
L_{WA}	Exhaust	dB(A)	75	60	69	71	67	65	62	55



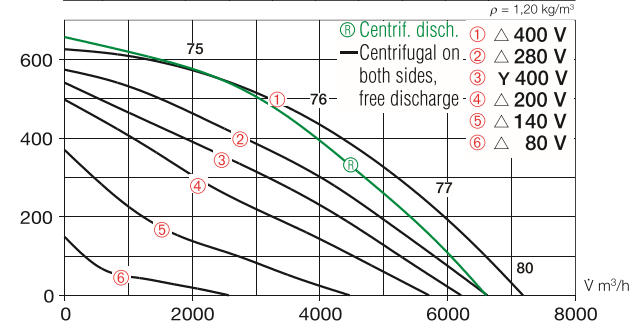
GBW 450/4 T120

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L_{WA}	Case breakout	dB(A)	65	61	58	56	57	55	52	44
L_{WA}	Intake	dB(A)	77	62	64	67	72	73	67	56
L_{WA}	Exhaust	dB(A)	80	67	68	70	76	75	72	59



GBD 450/4/4 T120

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L_{WA}	Case breakout	dB(A)	65	61	58	56	57	55	52	44
L_{WA}	Intake	dB(A)	77	62	64	67	72	73	67	56
L_{WA}	Exhaust	dB(A)	80	67	68	70	76	75	72	59



Electrical connection

Standard terminal box (IP 54) fitted on the motor; with GB T120 fitted on the motor support plate.

Motor protection

Motors have thermal contacts wired to the terminal block and must be connected to a motor protection unit.

Speed control

All types are speed controllable by voltage reduction using a transformer controller.
The 3-phase models can also be 2 speed controlled by star/delta switch (accessories DS 2 or full motor protection unit M 4). The duties at different speeds are given in the performance curve.

Sound levels

Total sound power levels and the spectrum figures in dB(A) are given for:
- Sound level case breakout
- Sound level intake
- Sound level exhaust

In the table below as well as underneath the performance curve you can find additionally the sound pressure levels at 4 m (free field conditions).

Accessories of both types

Anti vibration mounts for installation indoors. Set of 4.
SDD-U Ref. no. 5627

Wall bracket for wall mounting.
GB-WK 450 Ref. no. 5626

External weather louvers to cover exhaust opening.
GB-WSG 450 Ref. no. 5639

Outdoor cover hood for outdoor installation.
GB-WSD 450 Ref. no. 5748

On/Off and 2-speed switch for 3-phase Y/△ motors.
Type DS 2 [2] Ref. no. 1351

[2] full motor protection unit recommended: MD Ref. No. 5849

Specific accessories

for types GB
Condensate collector with condensate spigot for pipe connection.
GB-KW 450 Ref. no. 5644
(Condensate collector with condensate spigot included in delivery with GB T120).

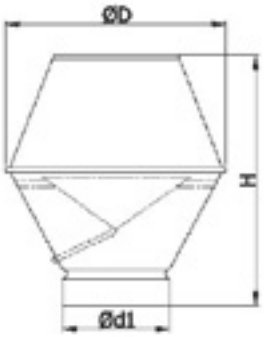
for types GB T120
Rain drainage for outdoor installation (drill holes for rain drainage is already prepared).
GB-RA Ref. no. 9418

Information	Page
Information for planning	10 on
General techn. information, speed control	15 on

Accessory-Details	Page
Speed controller and full motor protection unit	525 on

HVC - High Velocity Cowls

Dimensions



H = installation height

Ød, [mm]	ØD [mm]	H [mm]	HVC weight [kg]
100	180	220	0,7
125	225	240	0,9
140	245	280	1,0
150	265	315	1,3
160	280	340	1,3
180	310	375	1,6
200	345	420	2,1
224	385	475	2,3
250	430	505	2,9
280	480	585	4,2
300	515	600	5,0
315	550	620	6,4
355	615	705	7,9
400	685	905	14,1
450	775	970	16,5
500	855	1055	19,3
560	955	1170	23,4
600	1015	1255	29,3
630	1075	1300	30,7
710	1215	1490	43,1

Description

HVC roof exhaust units are suitable for both industrial and housing ventilation systems.

The air is exhausted in a vertical stream to avoid contamination of the air and the nearby roof surface. This roof exhaust unit is so efficient that roof air intakes can be installed very close by.

The standard version is made from galvanized steel sheet. The roof exhaust unit is topped with a 1/2-inch wire mesh and has an inner deflector flange for protection against snow and drainage of water to the outside of the vent.

Standard HVC roof exhaust units are manufactured with male flanges, female flanges, and double-sided female connections (for sliding over a duct).

Available materials - Product code examples
HVC-... - galvanized steel sheet

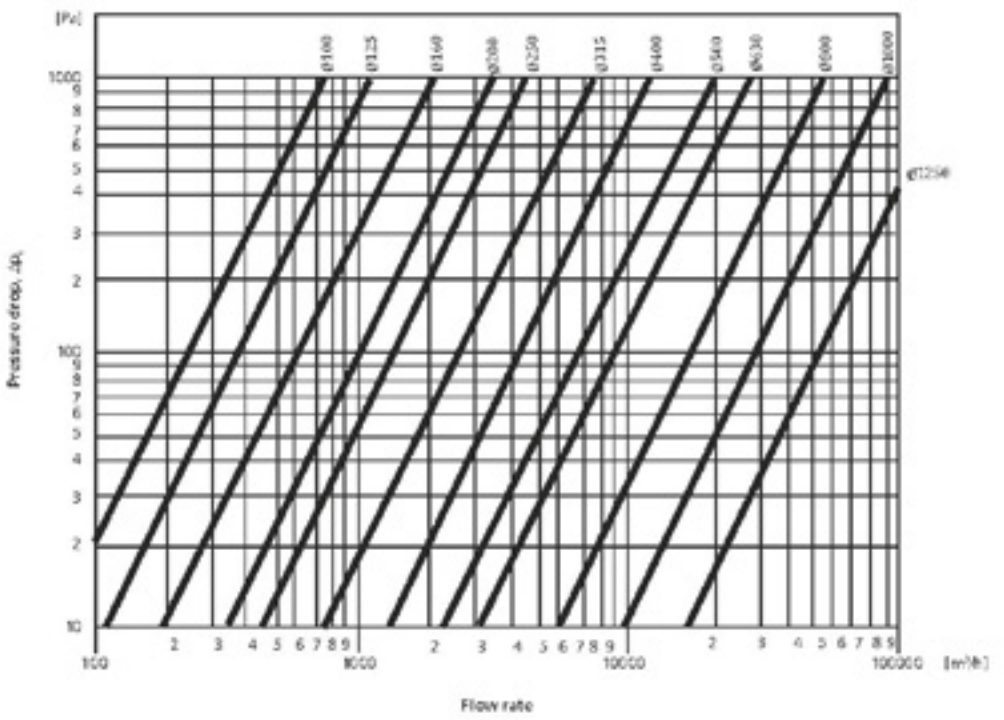
Product code example
Product code: **HAN - aaa**

type
Ød$_1$

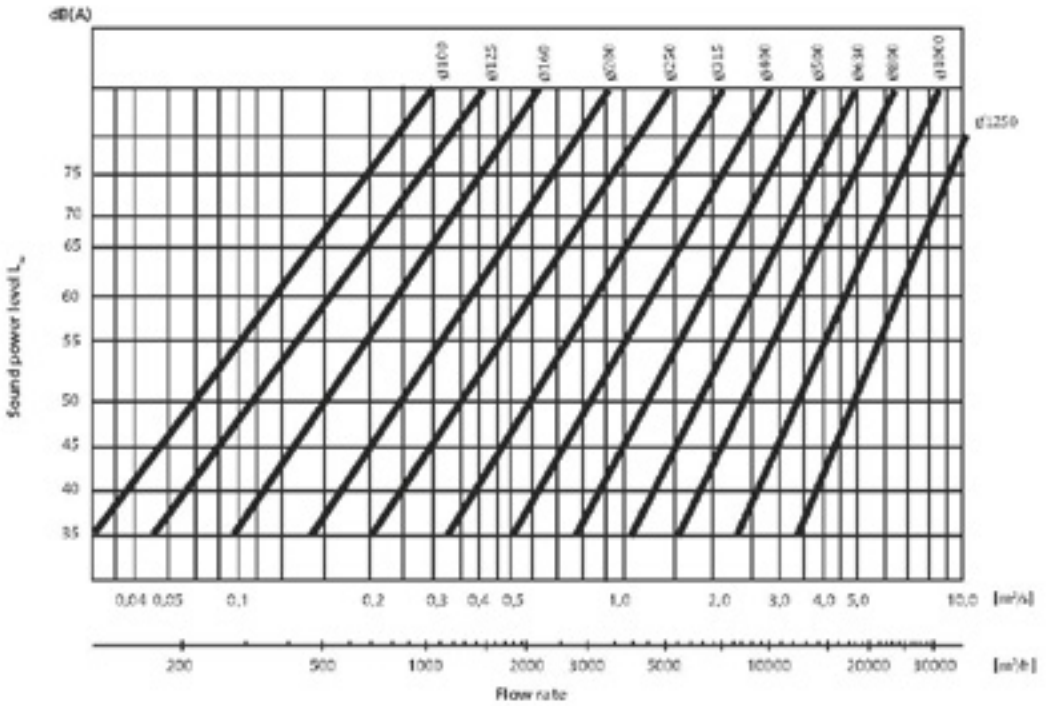
HVC - High Velocity Cowls

Technical specifications

Pressure drop

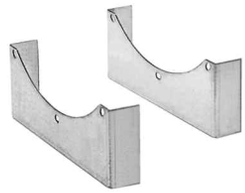


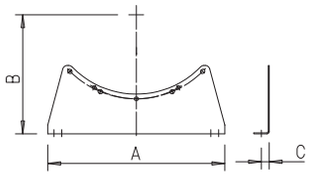
Sound ratings



MK

Dimensions in mm





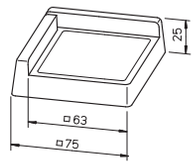
Mounting feet
To fix Axial/VAR cased fans on ceiling, wall or floor. Made from galvanised sheet steel or hot dipped galvanised steel. Fixing holes fit casing flanges.
Set includes a pair of feet, nuts and bolts.

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

SDD-U

Dimensions in mm



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.

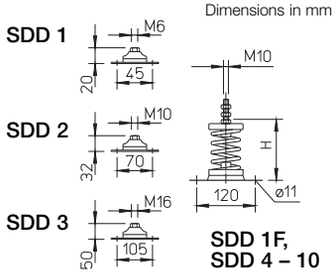
SDD-U Ref. No. 5627

SDD

Dimensions in mm

SDD 1 – 3

SDD 1F, 4 – 10



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	●	

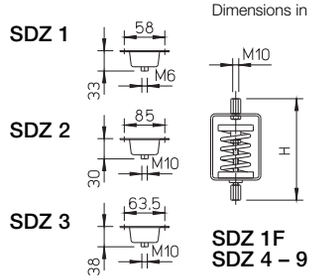
* shown in dimensional drawing

SDZ

Dimensions in mm

SDZ 1 – 3

SDZ 1F, 4 – 9



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).

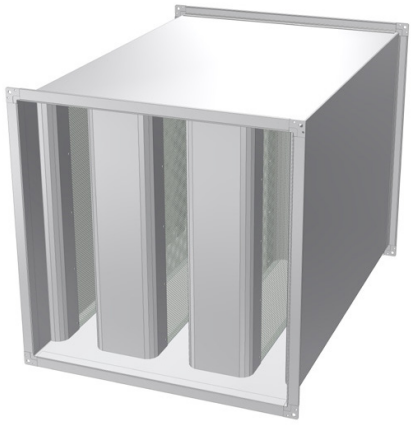
Type	Ref. No.	Maximum fan weight in kg	H Height in mm	Spring element	Contents 1 set = 4 pieces
SDZ 1	1454	60	*		
SDZ 1F	1943	70	190 – 220	●	
SDZ 2	1455	160	*		
SDZ 3	1366	300	*		
SDZ 4	1945	130	190 – 216	●	
SDZ 5	1925	210	190 – 216	●	
SDZ 6	1927	400	190 – 221	●	
SDZ 7	1929	580	190 – 220	●	
SDZ 8	1931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

* shown in dimensional drawing

R02 – 5 – ATTENUATOR

Product Overview

Available in seven standard lengths R02 5 Rectangular Duct Mounted Silencers have excellent attenuation properties, achieved with sound absorbing infill splitters, retained in the attenuator casing by a perforated liner. The resistance to airflow is a function of the face velocity and length. It is not recommended to select the R02 5 Silencers with a face velocity above 3.5 metres per second without asking advice regarding re-generated self noise. We can advise on the selections and can perform system analysis to ensure the correct unit is specified.



- High performance rectangular duct silencer
- Seven standard lengths
- Many connection options
- Cross section dimensions in 1mm increments
- System pressure within ducted systems to 1500 Pa
- Special lengths on request

Acoustic Performance (dB) - Centre Band Frequency

Product Code	Length (mm)	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
R02 - 5 - 600	600	4	6	11	19	24	23	18	12
R02 - 5 - 900	900	4	6	12	26	30	31	22	16
R02 - 5 - 1200	1200	5	9	18	32	40	39	28	19
R02 - 5 - 1500	1500	7	11	23	37	45	45	32	22
R02 - 5 - 1800	1800	8	13	25	44	50	50	37	24
R02 - 5 - 2100	2100	9	16	28	50	50	50	45	29
R02 - 5 - 2400	2400	11	19	33	50	50	50	50	32

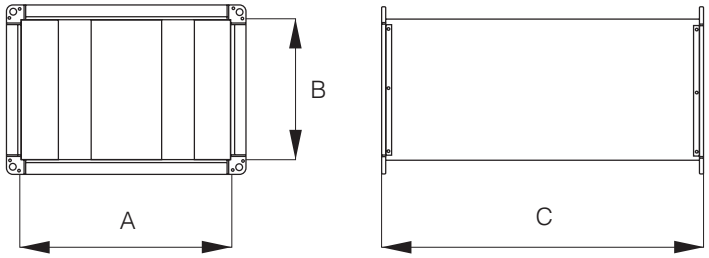
Insertion loss data is derived from continual testing to BS4718 and other standards in independent UKAS certified laboratories, which includes where appropriate, re-generated or self noise testing in both forward and reverse flow conditions. If you request system analysis from our technicians all predictions will be assessed using the relevant certified insertion loss data together with relevant dynamic corrections.

R02 - 5 - ATTENUATOR

Product Overview

Dimensional Data

Product Code	A Min	A Max	B Min	B Max	C Min	C Max
R02 - 5	100	1200	100	1200	400	2400



Resistance to Airflow (Pa)

Product Code	1.0m/s	1.5m/s	2.0m/s	2.5m/s	3.0m/s
R02 - 5 - 600	10	16	22	39	60
R02 - 5 - 900	10	16	23	40	62
R02 - 5 - 1200	11	16	24	40	64
R02 - 5 - 1500	11	17	25	40	66
R02 - 5 - 1800	11	18	26	42	67
R02 - 5 - 2100	12	19	26	43	69
R02 - 5 - 2400	13	19	28	48	71

Dimensions are in mm.