



Stainless Steel Fabrication

Commercial Kitchen Design and Installation

Ventilation strategy for the below address

Address

4 Mitre Road
Manchester
M13 0NU

Installation of extraction system proposed at the above address to *EMAQ Guidance Control of Odour and Noise from Commercial Kitchen Exhaust Systems*

All canopy and ductwork to *BESA DW172 DW144*

If required a noise assessment can be undertaken we recommend noiseharvest.com

Canopy dimensions to Dw172 in mm

Length	Width	Depth Back	Depth Front
4000	1500	500	500

Extraction Filtration

Longar type 3 baffle filters

Supply Air Filtration

Longar G4 Filter

Odour control

1 x Purified Air ESP 4500 electrostatic precipitation unit

1 x Purified Air UVO 500

1 x G4 Pleated filter 495 x 495 50mm

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UNIT 5 FIREFLY SQUARE PLANTATION ROAD BURSCOUGH L408JT

Tel: 01704-893945 Fax: 0844-4122296

Email: sales@fusionhot.co.uk Web: www.fusionhot.co.uk

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Extract Fan Model	Maximum absorbed power (W)	Maximum absorbed current (A)		Maximum air volume (m3/h)	Sound pressure level* (dB(A)3m)	Speed (r.p.m.)	Weight (Kg)
		230v	400v				
TCBB/4-450/H	641	1.9	1.1	6650	63	1405	21
Supply Air Fan	Maximum absorbed power (W)	Maximum absorbed current (A)		Maximum air volume (m3/h)	Sound pressure level* (dB(A)3m)	Speed (r.p.m.)	Weight (Kg)
		230V	400V				
HCBT/4-400/H	288	1.5		4830	62	1360	9

Attenuation Octave – Band Mid Frequencies (Hz)									
Diameter	Length	63	125	250	500	1000	2000	4000	8000
4501D	450	2	3	6	12	13	11	10	6
4501D	450	2	3	6	12	13	11	10	6

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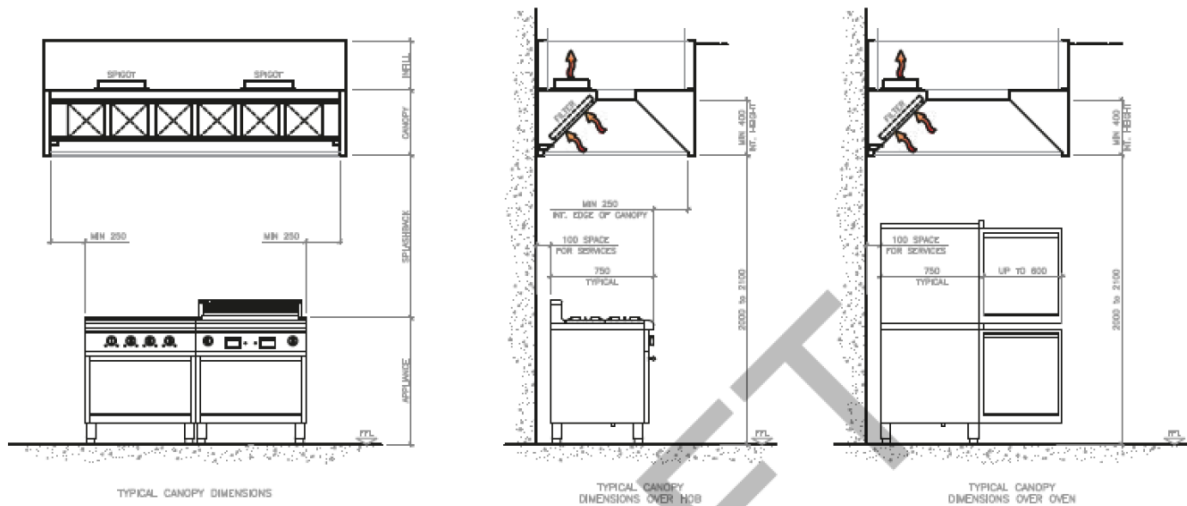
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Typical extraction canopy's below



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Risk Assessment for Odour EMAQ

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach. The odour control requirements considered here are consistent with the performance requirements listed in this report.

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

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Premises type	Dispersion	Proximity of receptors	Size of Kitchen	Cooking Type	Total Score
Restauraunt	10	10	1	4	25

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:		

Odour Arrestment Plant Performance	
Low to medium level control may include:	1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.1 second Residence time). 2. Fine filtration followed by counteractant/neutralising system to achieve the same level of Control as 1.
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 1.
Very high level of odour control may include:	1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.4 0.8 Second residence time). 2. Fine filtration or ESP followed by carbon filtration and by counteractant/neutralising system To achieve the same level of control as 1. 3. Fine filtration or ESP followed by UV ozone system to achieve the same level of control As 1.

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Filtration Filters	
	LONGAR® TYPE 2 PREMIUM BAFFLE 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 safety edges on frame and blades. LONGAR® Type 2 is available in standard depths of 20mm and 45mm depths, 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 and American Standard UL1046. Custom sizes are available on request.
	LONGAR® TYPE 4 FEATURES: • The LONGAR® Type 4 Mesh filter is manufactured using a patented expanded mesh, this offers a unique design based on many years of R&D. This results in a mesh that delivers greater air or grease arrestance, integral strength and low pressure loss. • Comes with a safety edge channel to offer greater strength and safety over conventional products available on the market place. • Using an Expanded metal multi-layer pad we are able to offer a panel with greater rigidity and importantly the pad cannot migrate particles, which can be found in 'knit mesh' filters, these types of panels can be hazardous where strands can break away from the filter. • Due to the nature of the material that we use, its integral strength means when it comes to cleaning it will stand up well, and outlast panels of lesser constructions. • Tested to Eurovent 4/5. • Handles and drain holes are available. • Available in Galvanised Steel, Stainless Steel and Aluminium.
	LONGAR® TYPE 11 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.

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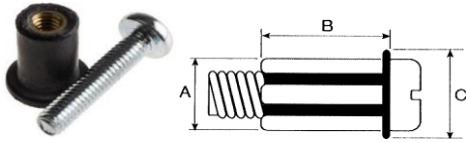
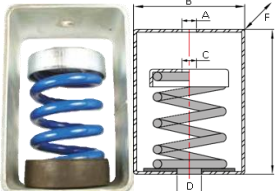
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Av Hanging & Support System

Both the plant and ventilation ductwork will be supported from the structure using non – drill anchors in the slab, drop rods to either a length of 41 x 41 heavy gauge slotted unistrut c/w uninuts and washers (rectangular ductwork) or split rings with locking nuts (Spiral ductwork).

A range of Anti- vibration mounts will be installed with the brackets (type best suited for the purpose intended) to prevent noise penetration to any occupied areas above

Typical anti-vibration shown below.

	The Rawlnut multipurpose fixing consists of a rubber sleeve with a flange at one end and a bonded-in nut at the other
	Metal bracket with rubber isolating bush typically fixed as an acoustic suspension point to the side of ducting or to timber joints.
	Male/female Bobbin Mounts are a low-cost solution to reducing vibration and shock. They can be used in either Compression or Shear or a combination and are available with various thread configurations.
	Hangers are available in 2 types. Rubber hangers and Steel coil spring hangers. Rubber Hangers are extremely cost effective, whilst steel coil spring hangers offer high performance

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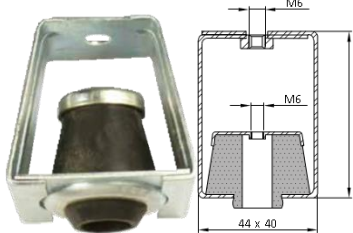
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	Hangers are available in 2 types. Rubber hangers and Steel coil spring hangers. Rubber Hangers are extremely cost effective, whilst steel coil spring hangers offer high performance
	The Durafoot is 350x350mm & weighs 6kg. Designed as a simple "push in and go" solution for 41 x 41 strut. They offer a load spreading solution for ducting, pipework, cable trays & air condition units that are to be installed on flat roofs & surfaces. Made from heavy duty recyclable rubber, the Durafoot can be used over and over again. 350mm x 350mm Weighs 6kg 110mm overall height 60/65mm recess

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Gas Safe Interlock System

In accordance with current regulation the gas range will be supplied with a gas interlock system which prevents the gas solenoid valve from opening if the system canopy extract fan fails to run, or the manual knock off button has been activated.



The VentGuard has a simple key switch operated ON/OFF function and a panel mounted flush emergency stop button to avoid accidental operation.

The panel has interfaces for air DP switches as well as having integral fan current monitors for both the intake and extract. Each channel can be easily setup using the range select jumper (for greater accuracy) and a potentiometer for fine tuning.

If the intake or extract fans are not in operation the panel will still allow gas through until they have been open circuit for a full 30 seconds. As some systems use the valve status to enable the fans this will allow the fans to get up to speed and provide a healthy signal to the VentGuard without any issues.

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Cleaning and maintenance

The correct cleaning and care of your canopy extraction system is required to maintain the warranty of the plant installed.

The cleaning of potential grease laden ducted extract systems is a critical requirement of any installation to prevent such factors as:

- The system igniting putting the building and users at risk to fire
- Hygiene infection
- Vermin infestations
- Mechanical fan failure

Your insurance premiums could be lowered with correct procedures in place and you have a duty and care in law (negligence) to protect your employees in the work place.

Of less importance but extremely costly to replace if it fails is the extraction fan which should be removed from the system and cleaned and not be subjected to the more common practice of injecting de-greasing chemicals into the system, as the chemicals also

attack the grease in the fans bearings causing them to run dry and cease, which in turn puts the motor winding into overload and burns the motor out.

Furthermore, the fan manufacturer's state that warranty will be invalid if the above process is carried out, so all cleaning contractors should be removing the fans and cleaning them with a non-corrosive agent, whilst the duct can be cleaned with a de-grease agent but must be flushed and cleaned before the fan is re-fitted in the system.

All fans (especially the extract system with motors in the air stream) should be commissioned and run at the correct air flow and not run at low speed during quite times.

Too little air flow across the motor will cause high temperature to be generated in the fan housing which will eventually cause it to overheat and burn out.

We strongly recommend a BESA approved hygiene contractor be employed to carry out the main duct and fan installation as they will initially carry out a wet film test to establish the perceived level of grease production being produced by the type and cooking and system daily usage before recommending a cleaning level to suit your kitchen load.

In line with BESA status the contractor has an obligation to inspect the installation and advise the user of any inaccessible cleaning areas that should be addressed with additional access points and advice of areas of high risk where say ignition is most likely to occur.

The more daily routines as listed below can be carried out by the employee's staff or general cleaning contractors.

Canopy and Filter Maintenance (By Franchisee on a Daily Basis)

- Grease Filters to be cleaned daily by soaking in detergent overnight.

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- Grease trap and condense channel must be cleaned daily
- Canopy - extract duct system and extract fan to have professional deep clean, usually 3 to 6 months, as advised by the cleaning contractor after their initial site inspection and testing of the grease layers.

Service Maintenance for ESP's and Carbon Filtration - (BESA Approved Contractor)

Before the restaurant is opened a service maintenance contract should be taken out with Purified Air, to enable their engineers to carry out the necessary service of the ESP4500 unit.

From their expertise and experience gained on current and past service contracts they have provisionally recommended the following service programme.

ESP's

Intervals of cleaning will be every 3 to 4 months, Engineers will visit to clean and service the ESP's, this will keep them working at 100% of design, removing any smoke produced along with the capture of oil and grease from the cooking process.

Carbon Filters

As the Site Safe Carbons are protected by the ESP system, and pre-mesh filters, they should last anything up to 12 months, but obviously the cleaning contractor will check the condition every time they visit and if necessary, will advise and replace. Due care and attention must be followed when changing the main extraction filters, especially the Carbon blocks weigh in the region of 18Kg's each and manhandling will be a problem.

Meaningful access must be provided by the client to carry out the works and under no circumstance should the site engineers attempt to change same through ceiling tiles.

If in doubt the engineer will seek advice before changing or cleaning the filters. Fresh Air Filter Maintenance
Supply air panel filters to be visually checked every few months and changed as required normally in the region of 6 – 12 months be changed every 6 months or when heavy staining is evident.

General Cleaning – wall cladding, tables chairs etc.

- Using a damp cloth with mild detergent diluted in water wipe all stainless-steel services
- Once dry using a mixture of 50% baby oil and 50% white spirits mixed together, applied to a non-abrasive cloth, lightly wipe down following grain to maintain the stainless steel.

DO NOT USE ANY ABRASIVE MATERIAL/CLOTHS TO CLEAN OR CONCENTRATED CHEMICALS
i.e. mild steel wire wool cleaners

Fan Operation System Settings

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The extract and supply systems will be commissioned to achieve optimum ventilation within your kitchen.

Each fan controller should be marked to coincide with the ventilation rates achieved. For guidance the: -
Canopy Extraction – Will be approx. Step 3 - 4 on the controller for normal running – although this will need increased as system pressure increase indicating ESP or more likely the carbon filters need cleaning**

Fresh Air – Will be approx. Step 2 -3 on the controller although again this will be increased as the filters become dirty and in need of change.

** Note running the extraction system below this setting will cause grease problems to occur more regularly and ultimately could lead to fan failure **

Notes



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The builder must check the site and the approved drawings before commencing the works and must take any working measurements as necessary. Any discrepancy in the drawing must be reported to the client .



REVISION			
no.	date	description	initial

H S H

Engineering Design Services Ltd
428 Cheetham Hill Road Cheetham Manchester
M8 9LE. UK 01617956385,07940197 333

project title

Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.

client

Mr Sheraz Haider

dwg. title

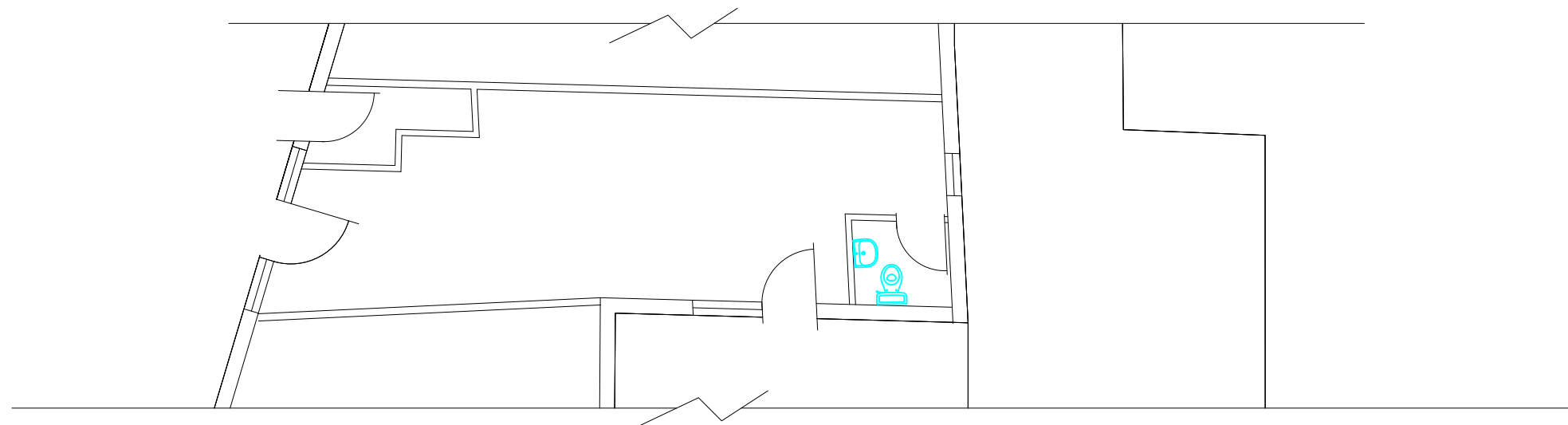
Site Plan

dwg. no.	sheet no.	scale.	job no.
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4 Mitre Road Longsight M13 0NU

drawn by.	checked by.	approved by.	date
TZ			May 2025

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Ground Floor Plan

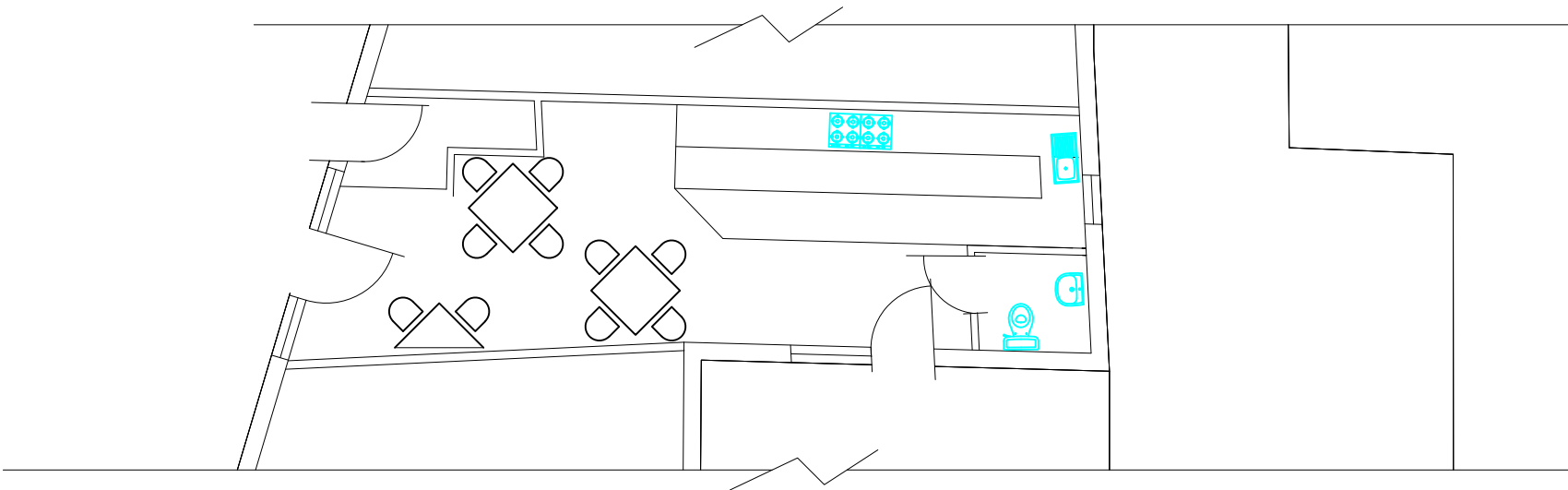
no.	date	REVISION description	initial
H S H  <u>Engineering Design Services Ltd</u> 428 Cheetham Hill Road Cheetham Manchester M8 9LE. UK 01617956385,07940197333			
project title	Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.		
client	Mr Sheraz Haider		
dwg. title	Ground Floor Plan		
dwg.no.	sheet no.	scale.	job no.
02		1:100 @ A3	
4 Mitre Road Longsight M13 0NU			
drawn by.	checked by.	approved by.	date
TZ		-	May 2025



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H S H Engineering Design Services Ltd 428 Cheetham Hill Road Cheetham Manchester M8 9LE. UK 01617956385,07940197 333 			
project title	Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.		
client	Mr Sheraz Haider		
dwg. title	Existing Elevations		
dwg.no.	sheet no.	scale.	job no.
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4 Mitre Road Longsight M13 0NU			
drawn by.	checked by.	approved by.	date
TZ			May 2025

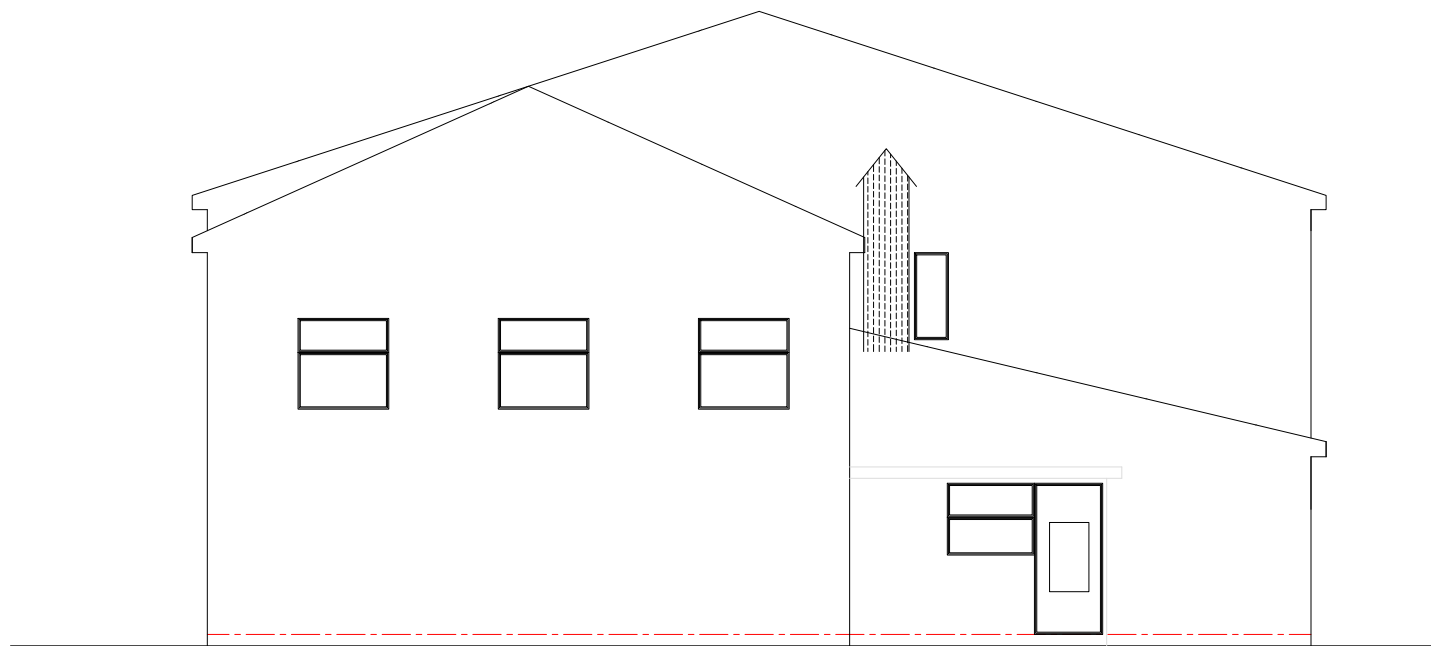
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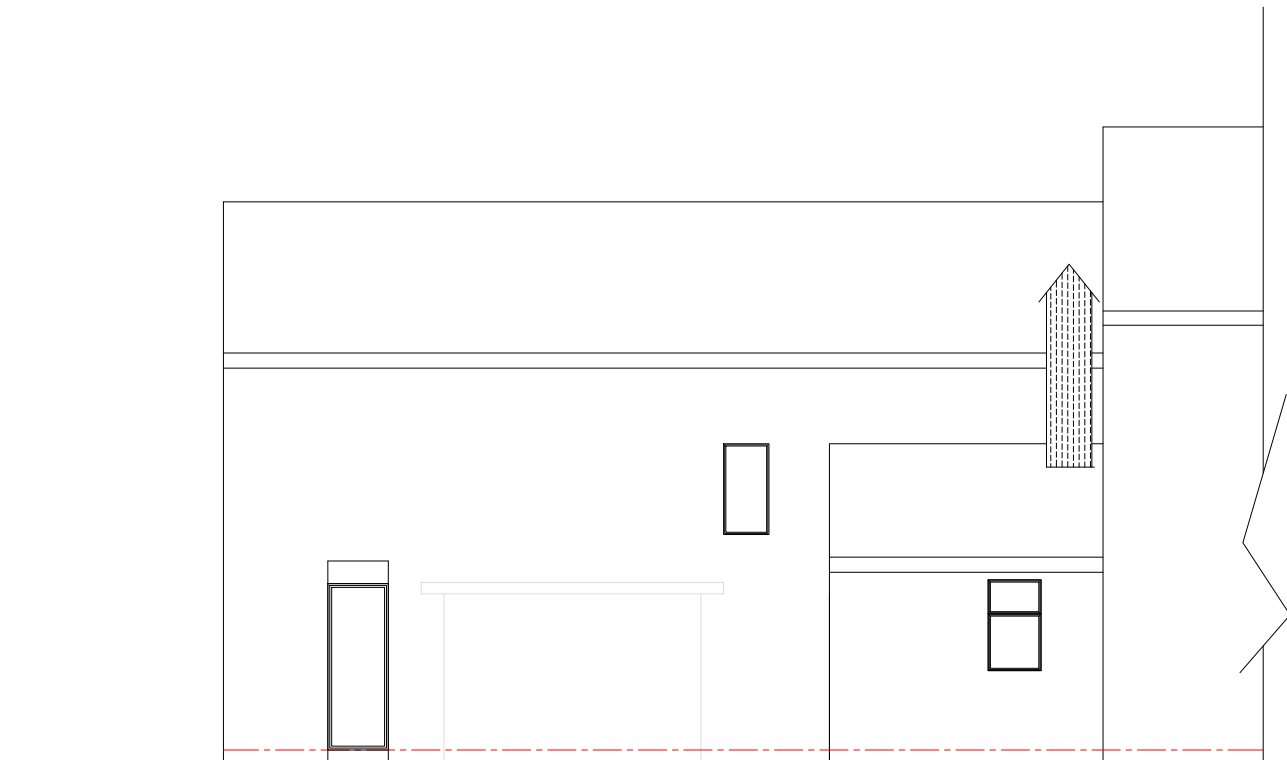
REVISION			
no.	date	description	initial

H S H
Engineering Design Services Ltd
428 Cheetham Hill Road Cheetham Manchester
M8 9LE. UK 01617956385,07940197 333

project title	Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.		
client	Mr Sheraz Haider		
dwg. title	Proposed Ground Floor Plan		
dwg. no.	sheet no.	scale.	job no.
04		1:100 @ A3	
4 Mitre Road Longsight M13 0NU			
drawn by.	checked by.	approved by.	date
TZ			May 2025



Elevation From Dencombe Street

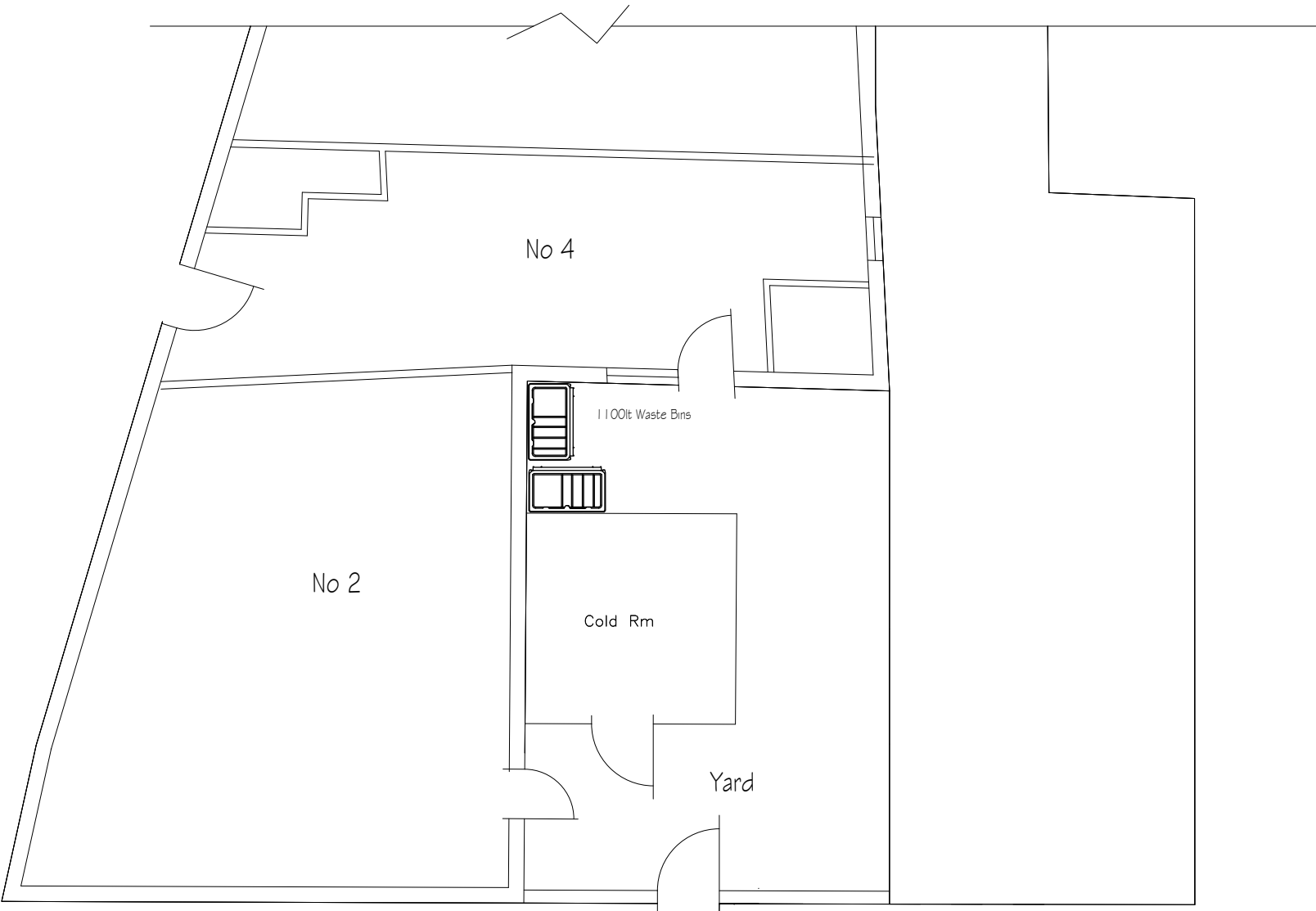


Rear Elevation

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project title	Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.		
client	Mr Sheraz Haider		
dwg. title	Proposed Elevations		
dwg.no.	sheet no.	scale.	job no.
05		1:100 @ A3	
4 Mitre Road Longsight M13 0NU			
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project title
Proposed change of use of the ground floor from a shop to Restaurant Class E including the installation of an external flue pipe.

client
Mr Sheraz Haider

dwg. title
Waste Management Plan

dwg.no.	sheet no.	scale.	job no.
06		1:100 @ A3	

4 Mitre Road Longsight M13 0NU

drawn by.	checked by.	approved by.	date
TZ			May 2025

CYLINDRICAL CASED AXIAL FLOW FANS

COMPACT TCBB / TCBT series - ALUMINIUM IMPELLERS

Range of cylindrical cased axial flow fans fitted with aluminium impellers and manufactured from high grade rolled galvanised steel and protected against corrosion by cataforesis primer and black polyester paint finish.

All models are supplied with pre-wired wiring junction box located on the outside of the fan casing for easy wiring access. Available with 4 pole single or three phase motors.

Motors

Single phase motor (TCBB) or three phase motor (TCBT).

Models 250, 315, 355 and 400:

External rotor motor, IP44, Class F, thermal protection, working temperature from -40°C to $+70^{\circ}\text{C}$.

Models 450, 500, 560 and 630: IP65, Class F, thermal protection, working temperature from -40°C to $+70^{\circ}\text{C}$.

Models 4/710 and 800: IP55, Class F, working temperature from -40°C to $+70^{\circ}\text{C}$.

All motors are speed controllable by autotransformer except models /4-560H, /4-630, 710 and T/800.

Three phase motors are speed controllable by inverter.

Electrical supplies:

Single phase 230V-50Hz.

(Capacitor located inside the wiring terminal box).

Three phase 230/400V-50Hz or 400V-50Hz.



NEXT DAY
delivery*



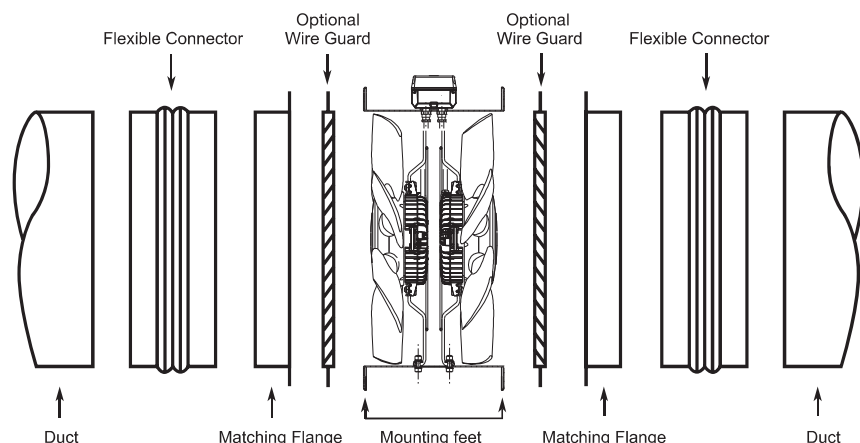
Configuration for models /4-710 and 800.



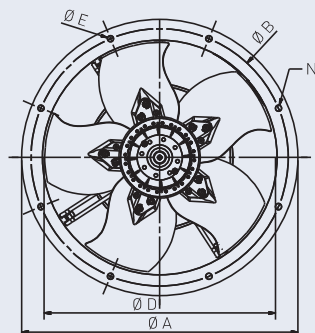
Configuration for models 250, 315, 355 and 400.

Standard airflow direction: Form B (impeller over motor)

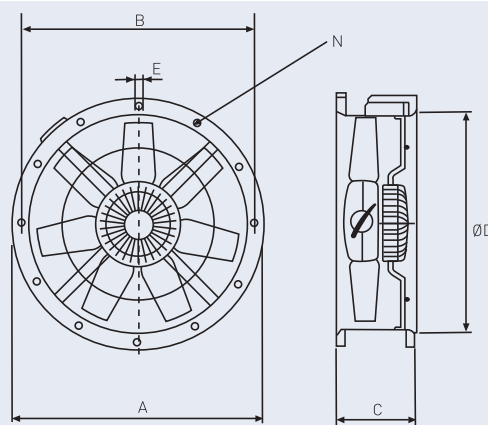
MOUNTING ACCESSORIES



DIMENSIONS (mm)

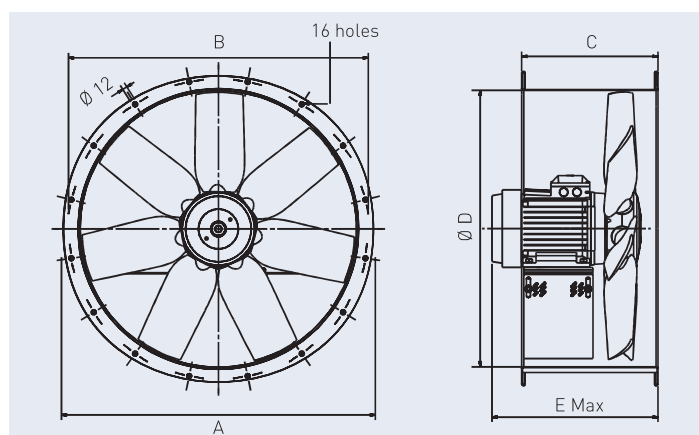


Models 250, 315, 355 and 400



Models 450, 500, 560 and 630

Model	Ø A	Ø B	C	Ø D	Ø E	Number of holes N
250	327	292	170	254	10	4
315	386	355	170	315	10	8
355	426	395	170	355	10	8
400	487	450	210	400	12	8
450	537	500	180	450	12	8
500	595	560	180	500	12	12
560	655	620	240	560	12	12
630	725	690	240	630	12	12



Model	Ø A	B	C	Ø D	E
					4 poles
710/L (4 poles)	806	770	380	710	415
710/H (4 poles)	806	770	380	710	444
800/L	896	860	380	800	437
800/K	896	860	380	800	448
800/G	896	860	380	800	447 (5,5kW) 515 (7,5kW)
800/H	896	860	380	800	515

TECHNICAL CHARACTERISTICS

Model	Speed (r.p.m.)	Maximum absorbed power (W)	Maximum current (A)		Sound pressure level @3m (dB(A))	Max. air volume (m³/h)	Weight (kg)	Speed controller		Variable frequency inverter	
			230 V	400 V				ELECTRONIC	AUTO- TRANSFORMER	S&P VFD*	
SINGLE PHASE 4 POLE											
TCBB/4-250/H	1430	44	0,2	-	42	900	8	REB-1	REV-3N		
TCBB/4-315/H	1435	105	0,6	-	52	1.990	11	REB-1	REV-3N		
TCBB/4-355/H	1420	120	0,6	-	52	2.462	13,2	REB-1	REV-3N		
TCBB/4-400/H	1420	360	1,6	-	60	5.190	15,5	REB-3	REV-5N		
TCBB/4-450/H	1410	594	2,6	-	63	6.810	21	REB-5	REV-5N		
TCBB/4-500/H	1410	636	2,8	-	66	7.500	25	REB-5	REV-5N		
TCBB/4-560/L	1405	1289	6	-	68	11.970	33	REB-6	REV-7N		
TCBB/4-560/H	1390	1461	6,6	-	69	12.960	34,7	-			
TCBB/4-630/L	1365	1707	7,5	-	70	15.730	40	-			

THREE PHASE 4 POLE

TCBT/4-250/H	1470	42	0,3	0,2	42	900	8	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-315/H	1445	99	0,5	0,3	51	1.950	11	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-355/H	1415	117	0,5	0,3	52	2.470	13,2	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-400/H	1410	268	1,0	0,6	60	4.950	15,5	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-450/H	1405	526	1,9	1,1	63	6.650	21	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-500/H	1420	641	2,6	1,5	66	7.590	25	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-560/L	1415	1184	3,8	2,2	68	12.090	33	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-560/H	1390	1348	4,2	2,4	69	13.370	34,7	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-630/L	1410	1770	5,9	3,4	70	16.060	39	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-630/H	1400	1940	6,2	3,6	70	17.030	40	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-710/L	1435	2175	6,4	3,7	73	20.290	46	-	-	S&P VFD-M10A	S&P VFD-T 5A
TCBT/4-710/H	1460	3441	10,6	6,1	73	26.420	54	-	-	S&P VFD-M16A	S&P VFD-T 9A
TCBT/4-800/L	1460	3750	11,3	6,5	76	29.950	65	-	-	S&P VFD-M16A	S&P VFD-T 9A
TCBT/4-800/K	1460	5177	-	8,8	76	34.950	68	-	-	-	S&P VFD-T 13A
TCBT/4-800/G	1470	6146	-	11,1	77	40.040	81	-	-	-	S&P VFD-T 13A
TCBT/4-800/H	1475	7688	-	13	78	42.490	89	-	-	-	S&P VFD-T 17A

* Inverter control: VFD-M - 1-Phase 230V Input, 3-Phase 400V Output.

VFD-T - 3-Phase 400V Input, 3-Phase 400V Output.

TCBB/T AXIAL CASED FAN PERFORMANCE DATA

Airflow m³/s @ Static Pressure Pa

Model	0	25	50	75	100	125	150	175	200	250	300	350	400
SINGLE PHASE 4 POLE													
TCBB/4-250/H	0.249	0.176											
TCBB/4-315/H	0.553	0.501	0.425										
TCBB/4-355/H	0.684	0.623	0.554	0.324									
TCBB/4-400/H	1.402	1.312	1.218	0.980									
TCBB/4-450/H	1.928	1.864	1.782	1.618	1.512	1.425							
TCBB/4-500/H	2.084	2.015	1.942	1.860	1.762	1.633	1.465						
TCBB/4-560/L	3.325	3.241	3.154	3.060	2.954	2.829	2.671	2.474	2.249				
TCBB/4-560/H	3.384	3.298	3.211	3.121	3.027	2.920	2.777	2.558					
TCBB/4-630/L	4.439	4.322	4.203	4.080	3.951	3.808	3.646	3.460	3.247				

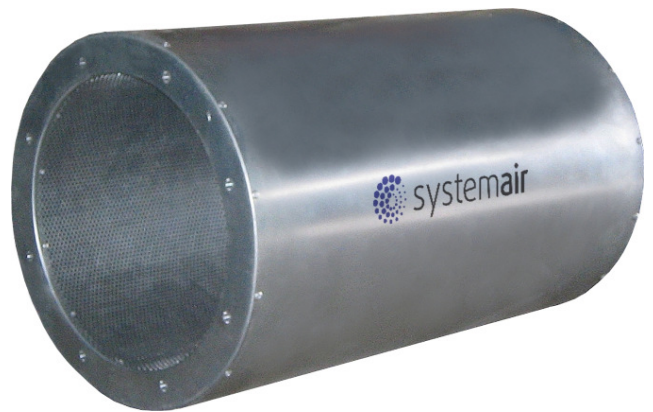
THREE PHASE 4 POLE

TCBT/4-250/H	0.248	0.136											
TCBT/4-315/H	0.540	0.507	0.459										
TCBT/4-355/H	0.686	0.622	0.538										
TCBT/4-400/H	1.376	1.276	1.181	0.976									
TCBT/4-450/H	1.848	1.763	1.674	1.575	1.462	1.330							
TCBT/4-500/H	2.108	2.037	1.964	1.884	1.795	1.686	1.539						
TCBT/4-560/L	3.359	3.272	3.180	3.083	2.971	2.837	2.663	2.451	2.192				
TCBT/4-560/H	3.714	3.616	3.515	3.403	3.265	3.080	2.838	2.603					
TCBT/4-630/L	4.547	4.431	4.312	4.187	4.053	3.904	3.739	3.557	3.363	2.819			
TCBT/4-630/H	4.731	4.627	4.519	4.406	4.281	4.136	3.959	3.733	3.492	3.052			
TCBT/4-710/L (1,5kW)	5.636	5.493	5.349	5.206	5.064	4.921	4.776	4.628	4.469	4.052	3.030		
TCBT/4-710/H (3kW)	7.338	7.193	7.047	6.898	6.743	6.580	6.406	6.220	6.018	5.587	5.170		
TCBT/4-800/L (3kW)	8.319	8.170	8.020	7.868	7.712	7.550	7.380	7.200	7.005	6.544	5.926	4.634	
TCBT/4-800/K (4kW)	9.708	9.549	9.390	9.228	9.064	8.895	8.719	8.536	8.343	7.912	7.364	6.363	
TCBT/4-800/G (5,5kW)	10.695	10.496	10.297	10.095	9.889	9.679	9.461	9.236	9.000	8.493	7.939	7.266	
TCBT/4-800/H (7,5kW)	11.804	11.587	11.371	11.154	10.937	10.719	10.501	10.283	10.066	9.630	9.162	8.540	

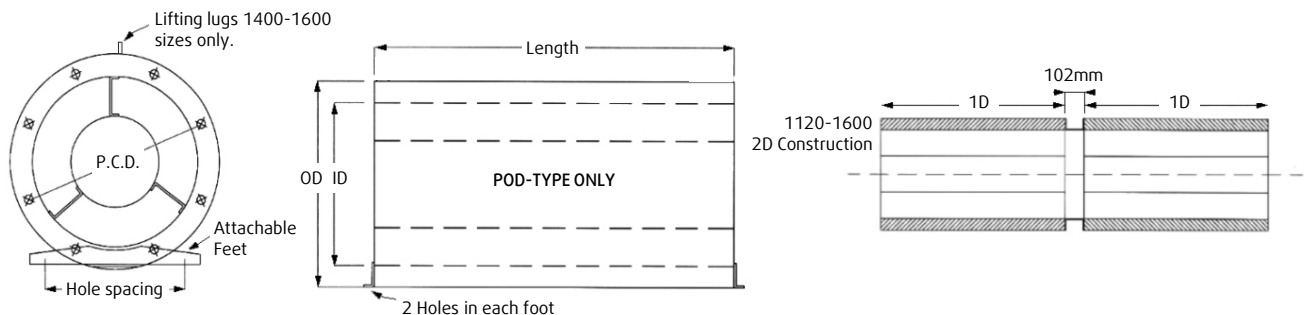
CYLINDRICAL SILENCERS (TYPE LP AND HP)

Features

- Casing are rolled, pre-galvanised sheet steel with spun end rings incorporating tapped inserts for fixing.
- Absorbent material is acoustic grade mineral fibre with a layer of erosion resistant facing and is further protected by a sheet of pre-galvanised perforated steel.
- Moisture resistant lining available for wet conditions or critically clean applications.
- Type LP silencer bore diameters range from 315mm to 1600mm in lengths of equal to or twice the bore diameter (1D or 2D). Pressure loss for type LP silencers is the same as a plain duct.
- Type HP silencers have a centrally mounted absorbent pod in the airway for increased attenuation.



Dimensions



In metric

Metric (mm)									Weight (kg)			
Sizes		No. of Holes	P.C.D.	Thread	Mounting Foot		Length		Type LP		Type HP	
ID	OD				Holes Dia.	Spacing	1D	2D	1D	2D	1D	2D
315	415	8	355	M8	10	265	315	630	10	17	13	19
355	455	8	395	M8	10	305	355	710	12	20	15	24
400	500	8	450	M8	12	350	400	800	15	25	18	30
450	600	8	500	M8	12	400	450	900	20	33	24	39
500	650	12	560	M8	12	450	500	1000	25	41	29	48
560	710	12	620	M8	12	510	560	1120	30	50	35	58
630	780	12	690	M8	12	580	630	1260	35	61	42	72
710	860	16	770	M8	12	660	710	1420	44	76	53	90
800	1000	16	860	M8	12	750	800	1600	55	96	66	116
900	1100	16	970	M12	14	850	900	1800	70	129	84	150
1000	1200	16	1070	M12	14	950	1000	2000	82	157	100	182
1120	1320	20	1160	M12	14	1070	1120	2342	100	211	118	247
1250	1450	20	1320	M12	18	1150	1250	2540	127	266	147	306
1400	1600	20	1470	M12	18	1300	1400	2902	193	399	220	453
1600	1800	24	1680	M16	18	1500	1600	3302	311	637	362	739

Acoustic Performance

TYPE LP Attenuation

Metric (mm)									
Bore Dia. mm	Length	Octave – Band Mid Frequencies (Hz)							
		63	125	250	500	1000	2000	4000	8000
315	1D	1	2	4	9	11	10	9	7
	2D	1	2	5	11	16	12	11	10
355	1D	1	2	4	10	12	10	9	7
	2D	1	3	6	13	17	14	11	11
400	1D	1	3	5	10	13	11	9	8
	2D	2	4	7	14	18	15	11	12
450	1D	2	3	6	12	13	11	10	6
	2D	3	4	8	17	18	15	11	11
500	1D	2	3	6	13	14	10	10	5
	2D	3	4	8	19	18	14	11	10
560	1D	2	4	7	14	14	9	10	7
	2D	3	5	9	19	18	14	12	11
630	1D	2	5	7	15	13	8	9	8
	2D	3	6	9	19	19	14	13	12
710	1D	2	5	7	15	13	9	9	8
	2D	4	6	9	19	17	13	12	11
800	1D	3	5	8	16	12	9	9	8
	2D	4	6	10	19	15	12	11	10
900	1D	3	5	10	17	13	11	10	8
	2D	4	6	12	19	15	12	11	10
1000	1D	3	5	11	16	11	10	8	9
	2D	4	6	13	19	14	12	11	11
1120	1D	4	5	11	17	11	9	8	8
	2D	4	6	13	19	14	12	11	8
1250	1D	4	6	12	17	10	9	8	7
	2D	4	6	14	19	14	11	11	9
1400	1D	4	6	12	16	10	8	7	6
	2D	4	7	14	18	13	10	10	8
1600	1D	4	7	12	16	10	8	7	6
	2D	4	8	15	18	12	10	9	7

TYPE HP Attenuation

Metric (mm)									
Bore Dia. mm	Length	Octave – Band Mid Frequencies (Hz)							
		63	125	250	500	1000	2000	4000	8000
315	1D	2	5	5	9	18	20	18	15
	2D	2	6	6	12	20	25	20	17
355	1D	2	5	6	9	18	22	19	16
	2D	2	6	7	13	25	27	21	17
400	1D	2	6	6	10	19	24	20	17
	2D	3	7	8	14	29	29	23	18
450	1D	2	4	7	13	20	23	22	17
	2D	2	5	9	16	29	29	21	20
500	1D	2	3	8	16	21	22	21	17
	2D	2	4	10	20	29	30	20	26
560	1D	3	5	8	16	20	18	19	15
	2D	4	5	10	20	29	28	21	23
630	1D	3	5	8	15	19	16	14	12
	2D	5	6	10	19	29	25	21	20
710	1D	3	5	8	15	19	15	14	12
	2D	5	6	10	20	26	23	18	17
800	1D	4	5	8	16	19	15	14	13
	2D	5	7	11	22	23	21	16	14
900	1D	4	5	9	17	19	15	14	13
	2D	5	7	12	24	23	21	16	15
1000	1D	5	5	12	18	19	15	14	13
	2D	5	7	13	26	24	20	16	16
1120	1D	5	7	11	19	18	14	13	12
	2D	5	8	13	25	23	18	16	13
1250	1D	5	8	12	19	17	14	12	10
	2D	5	8	14	25	17	17	17	12
1400	1D	5	8	12	18	16	13	11	9
	2D	5	9	15	23	22	17	15	10
1600	1D	5	8	13	17	16	13	11	8
	2D	6	10	17	21	20	17	14	9

PLATE MOUNTED AXIAL FLOW FANS

COMPACT HCBB / HCBT series

Range of low profile plate mounted axial fans fitted with aluminium impellers and single phase motor (HCBB) or three phase motor (HCBT) IP65 (1) Class F insulation (2), equipped with thermal protection (3).

(1) Models 800, 900 and 1000 are IP55.

(2) Working temperatures from -40°C up to +70°C.

Except models Ø 800, 900 and 1000 suitable for usage in environments from -20°C to +40°C.

(3) Except models Ø 800 to 1000.



Motors

Available, depending upon the model, with single or three phase motors in 4 poles. All motors are speed controllable by auto-transformer except models /4-630, B/710, T/4-710, T/800, T/900 and T/1000. Three phase models are speed controllable by inverter.

Electrical supplies:

Single phase 230V-50Hz.(except HCBB/4-250H 230~50/60Hz.

(Capacitor located inside the wiring terminal box).

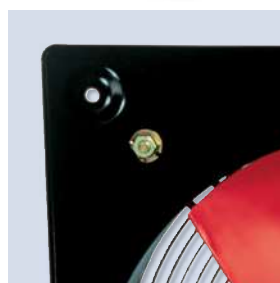
Three phase 230/400V-50Hz or 400V-50Hz.

Standard air direction: form (A) configuration. (Motor over Impeller).



Configuration for models Ø 800 to 1000

Special design of motor over impeller, which provides compactness and tightness IP55.



Corrosion resistance

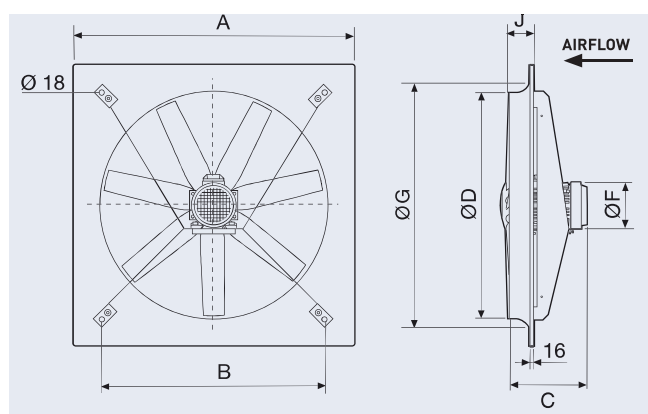
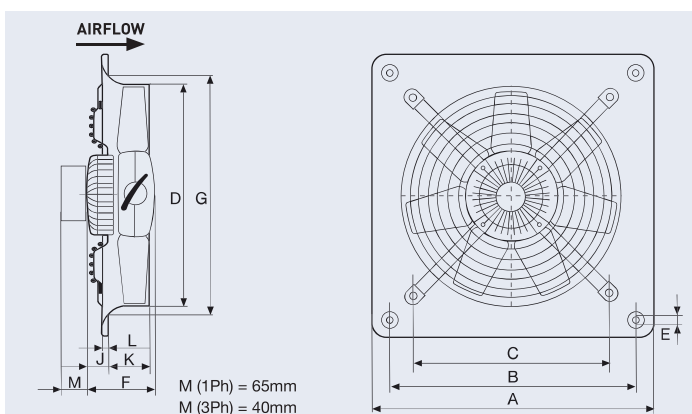
Mounting plate, motor support and finger proof guard protected by cataforesis primer and black polyester paint finish. Stainless steel screws.



Terminal box

Wiring terminal box with cable gland PG-11.

DIMENSIONS (mm)



Model	□A	□B	C	ØD	ØE	F	ØG	J	K	L
250	315	260	220	254	10	122	294	59	53	12
315	400	330	280	315	10	122	329	32	68	12
355	450	380	315	355	10	129	371	45	75	12
400	500	420	355	400	10	129	422	40.5	78	12
450	560	480	400	450	10	150	476	48	91	12
500	630	560	450	500	10	150	536	44.5	97	12
560	710	630	510	560	10	218.5	596	110.5	98.5	12
630	800	710	580	630	12	218.5	674	110.5	103	12
710	900	800	636	710	12	218.5	733	134	91.5	16.5

Model	□A	□B	ØD	J	ØG	C		ØF	
						L	H	L	H
800	1000	800	800	92	926	345	380	181	203
900	1120	900	900	120	1060	392	439	203	280
1000	1250	1000	1000	110	1154	380	485	203	280

TECHNICAL DATA

Model	Speed (r.p.m.)	Maximum absorbed power (W)	Maximum current (A)		Sound pressure level @3m (dB(A))	Maximum air volume (m³/h)	Weight (Kg)	Speed controller		Inverter Control	
			230 V	400 V				ELECTRONIC	AUTO- TRANSFORMER	S&P VFD*	
SINGLE PHASE 4 POLE											
HCBB/4-250/H	1325	84	0,4		49	1.130	5	REB-1	REV-3N		
HCBB/4-315/H	1295	140	0,7		55	2.310	7	REB-1	REV-3N		
HCBB/4-355/H	1385	193	0,9		59	3.560	8	REB-3	REV-3N		
HCBB/4-400/H	1360	315	1,5		62	4.830	9	REB-3	REV-5N		
HCBB/4-450/H	1410	626	2,8		65	7.180	13	REB-3	REV-5N		
HCBB/4-500/H	1365	787	3,4		68	8.810	16	REB-5	REV-5N		
HCBB/4-560/H	1370	1266	5,7		70	12.580	22	REB-8	REV-7N		
HCBB/4-630/H	1360	1879	8,3		71	16.550	25	–	–		
THREE PHASE 4 POLE											
HCBT/4-250/H	1330	81	0,3	0,2	49	1.120	5		–	-M 10A	-T 5A
HCBT/4-315/H	1320	162	0,7	0,4	55	2.370	7		–	-M 10A	-T 5A
HCBT/4-355/H	1370	182	0,8	0,5	59	3.480	8		–	-M 10A	-T 5A
HCBT/4-400/H	1320	288	1,1	0,6	62	4.880	9		–	-M 10A	-T 5A
HCBT/4-450/H	1350	511	1,6	0,9	65	6.310	13		–	-M 10A	-T 5A
HCBT/4-500/H	1390	809	2,7	1,6	68	9.030	16		–	-M 10A	-T 5A
HCBT/4-560/H	1390	1287	4,0	2,3	70	12.760	22		–	-M 10A	-T 5A
HCBT/4-630/H	1385	1736	5,4	3,1	73	16.840	25		–	-M 10A	-T 5A
HCBT/4-710/H	1350	2554	7,6	4,4	74	22.330	27		–	-M 10A	-T 6.8A
HCBT/4-800/L-X (1,5 kW)	1410	2632	7,3	4,2	78	23.290	37		–	-M 10A	-T 5A
HCBT/4-800/H-X (3 kW)	1440	4595	12,8	7,4	84	33.100	52		–	-M 16A	-T 9A
HCBT/4-900/L-X (3 kW)	1450	3909	12,0	6,9	82	34.270	96		–	-M 16A	-T 9A
HCBT/4-900/H-X (5,5 kW)	1455	7893		13,4	87	46.270	112		–		-T 17A
HCBT/4-1000/L-X (3 kW)	1415	5048	14,2	8,2	86	39.910	67		–	-M 16A	-T 9A
HCBT/4-1000/H-X (7,5 kW)	1470	8675		14,6	93	53.700	101		–		-T 17A

* Inverter control: VFD-M - 1-Phase 230V Input, 3-Phase 400V Output.
VFD-T - 3-Phase 400V Input, 3-Phase 400V Output.

PERFORMANCE DATA

Airflow m³/s @ Static Pressure Pa

Model	0	25	50	75	100	125	150	175	200	250	300	350	400
SINGLE PHASE 4 POLE													
HCBB/4-250/H	0.314	0.268											
HCBB/4-315/H	0.633	0.567	0.439										
HCBB/4-355/H	0.996	0.921	0.836	0.718									
HCBB/4-400/H	1.394	1.299	1.191	1.045	0.839								
HCBB/4-450/H	1.889	1.807	1.720	1.613	1.470	1.326	1.194						
HCBB/4-500/H	2.458	2.369	2.271	2.150	1.993	1.824	1.651	1.463					
HCBB/4-560/H	3.721	3.620	3.512	3.390	3.245	3.074	2.886	2.685	2.482	2.283			
HCBB/4-630/H	4.604	4.495	4.346	4.194	4.039	3.879	3.707	3.514	3.278	2.969			
THREE PHASE 4 POLE													
HCBT/4-250/H	0.311	0.263											
HCBT/4-315/H	0.661	0.593	0.481										
HCBT/4-355/H	0.979	0.896	0.812	0.673									
HCBT/4-400/H	1.394	1.299	1.191	1.045	0.839								
HCBT/4-450/H	1.889	1.807	1.720	1.613	1.470	1.326	1.194						
HCBT/4-500/H	2.539	2.450	2.356	2.247	2.097	1.909	1.744						
HCBT/4-560/H	3.598	3.485	3.368	3.242	3.096	2.916	2.705	2.483	2.202				
HCBT/4-630/H	4.677	4.543	4.405	4.258	4.093	3.906	3.694	3.462	3.224				
HCBT/4-710/H	6.203	6.024	5.842	5.653	5.452	5.235	4.992	4.714	4.379	3.488			
HCBT/4-800/L-X (1,5kW)	6.468	6.314	6.156	5.993	5.817	5.624	5.408	5.159	4.882	4.315	3.525	2.862	2.395
HCBT/4-800/H-X (3kW)	9.193	9.029	8.862	8.690	8.511	8.319	8.107	7.871	7.601	6.925	6.117	5.268	4.475
HCBT/4-900/L-X (3kW)	9.519	9.312	9.103	8.890	8.668	8.435	8.188	7.922	7.635	6.982	6.227	5.395	4.386
HCBT/4-900/H-X (5,5kW)	13.819	13.566	13.314	13.061	12.809	12.555	12.298	12.033	11.757	11.137	10.401	9.545	8.591
HCBT/4-1000/L-X (3kW)	11.193	10.924	10.655	10.384	10.110	9.831	9.546	9.249	8.936	8.226	7.408	6.561	5.760
HCBT/4-1000/H-X (7,5kW)	14.855	14.551	14.287	13.661	13.970	13.388	13.099	12.756	12.406	11.688	11.004	10.166	9.246

KITCHEN EXTRACT

ON100

ODOUR CONTROL UNIT

purified[®]air

COMMERCIAL KITCHEN FILTRATION EXPERTS

Purified Air Ltd. has been manufacturing and servicing market-leading technology to filter and control oil, grease, smoke and odour from commercial kitchens since 1984.

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KITCHEN EXTRACT

ON100

ODOUR CONTROL UNIT

Purified Air use patented technology to scientifically treat cooking odours emitted by commercial kitchen and restaurant exhausts.

Once the airstream in the exhaust duct has had the majority of the particulates removed by one of our ESP units the gaseous phase or malodour can then be treated by the ON100.

The vapour from a specially blended neutralising agent, ELIMINODOR®, is mixed with ambient air drawn into the ON100 and ionised to a negative potential of 15,000 volts.

This ionised vapour then passes along a nonconductive tube to be discharged into the centre of the duct via a venturi spigot, the metal ducting is earthed through the same high tension circuit which makes the contaminant at an opposite potential to the negatively charged ELIMINODOR® vapour.

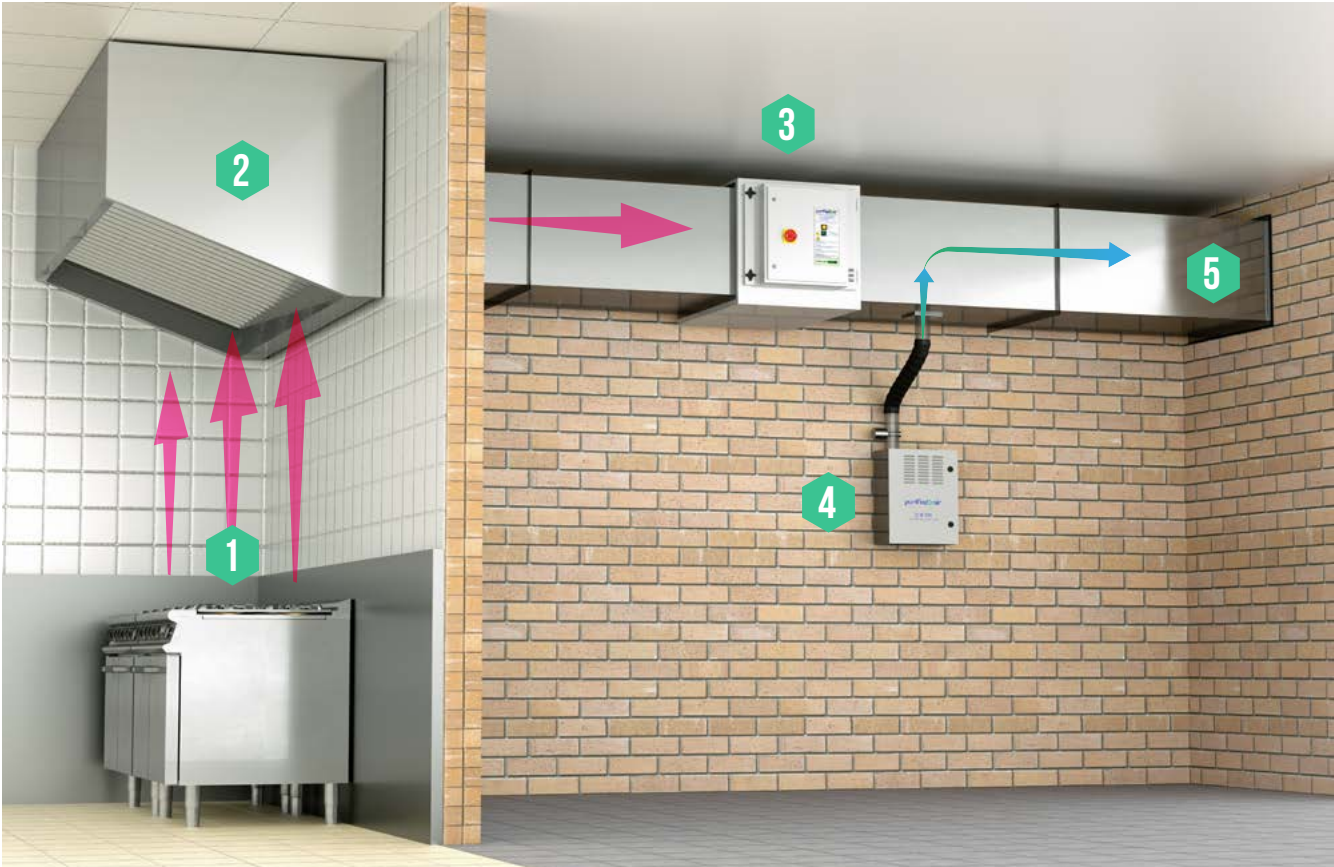
This then causes the negative and positive particles to combine, so treating the malodour by chemical reaction.



KEY FEATURES

- ➔ Compact Design
- ➔ Easy to maintain
- ➔ Simple to install
- ➔ No airflow resistance
- ➔ Energy efficient

HOW IT WORKS



- 01 Cooking particulates and odours
- 02 Canopy Grease Filter
- 03 ESP - Particulate Control Unit
- 04 ON100 Odour Control Unit
- 05 Eliminodor® joins airflow

THE BENEFITS OF ON100

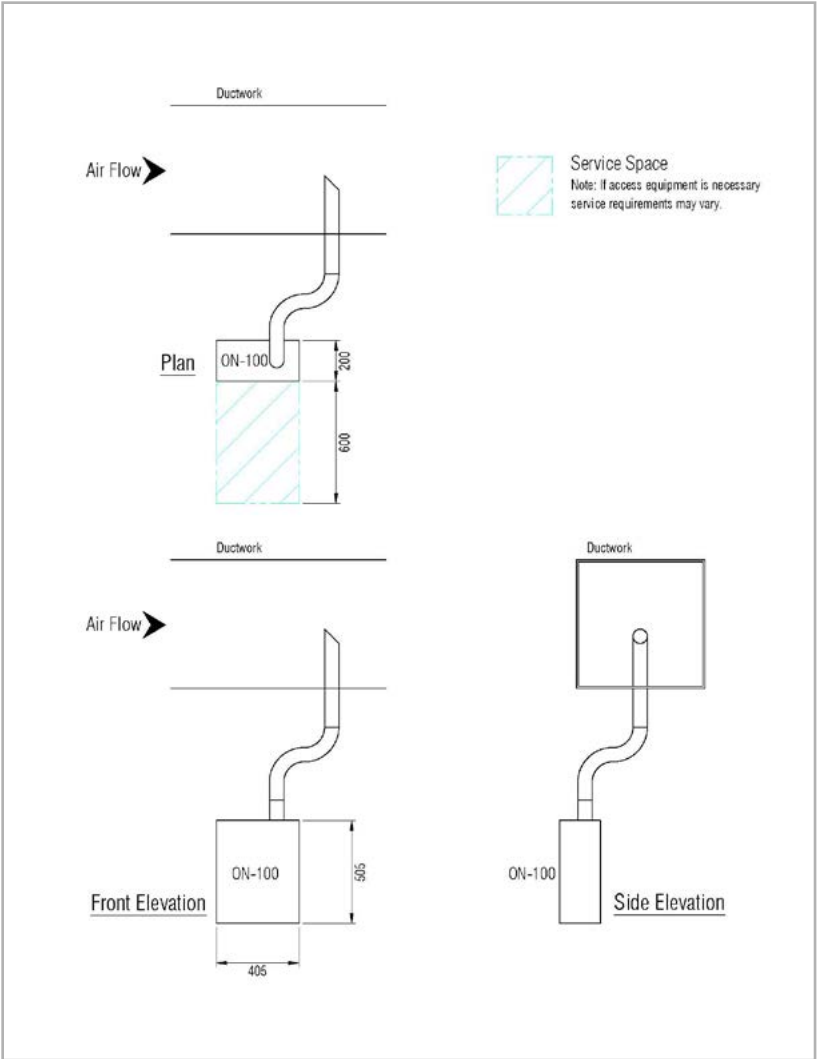
- Reduces odours up to 75%
- Low pressure loss
- Easy to retro fit
- Energy efficient

TECHNICAL SPECIFICATION

	ON100
Supply	220-240 V 50-60HZ
Power Consumption	40 _w
Ionisation voltage	15KV negative
Maximum Airflow	4.16 M ³ /SEC (UP TO)
Dimensions (mm)	W 400 H 500 D 200
Weight	12.25 KG (APPROX)

DRAWINGS

ON100



ELIMINODOR®

This product has been specifically developed and blended for use in Purified Air’s ON100 unit.

ELIMINODOR® is a finely balanced blend of essential oils and other chemicals which neutralise odorous gases found in the exhausts of commercial kitchens and restaurants.

Purified Air have designed this unique system to ensure that only minimal quantities of ELIMINODOR® are required for optimum results.

Approximate dosage: one



GUARANTEED PROCESS

Purified Air’s ON100 unit in conjunction with ELIMINODOR® can reduce malodour in your commercial kitchen exhaust by up to 90%.

The contamination of ELIMINODOR® with any other ingredients will cause its blend to become unstable and could render ELIMINODOR® completely ineffective, it will also nullify all and any manufacturer’s warranty supplied by Purified Air Limited for the ELIMINODOR® and the ON100 unit that it is used in.

OUR SERVICES


Design


Manufacture


Maintain

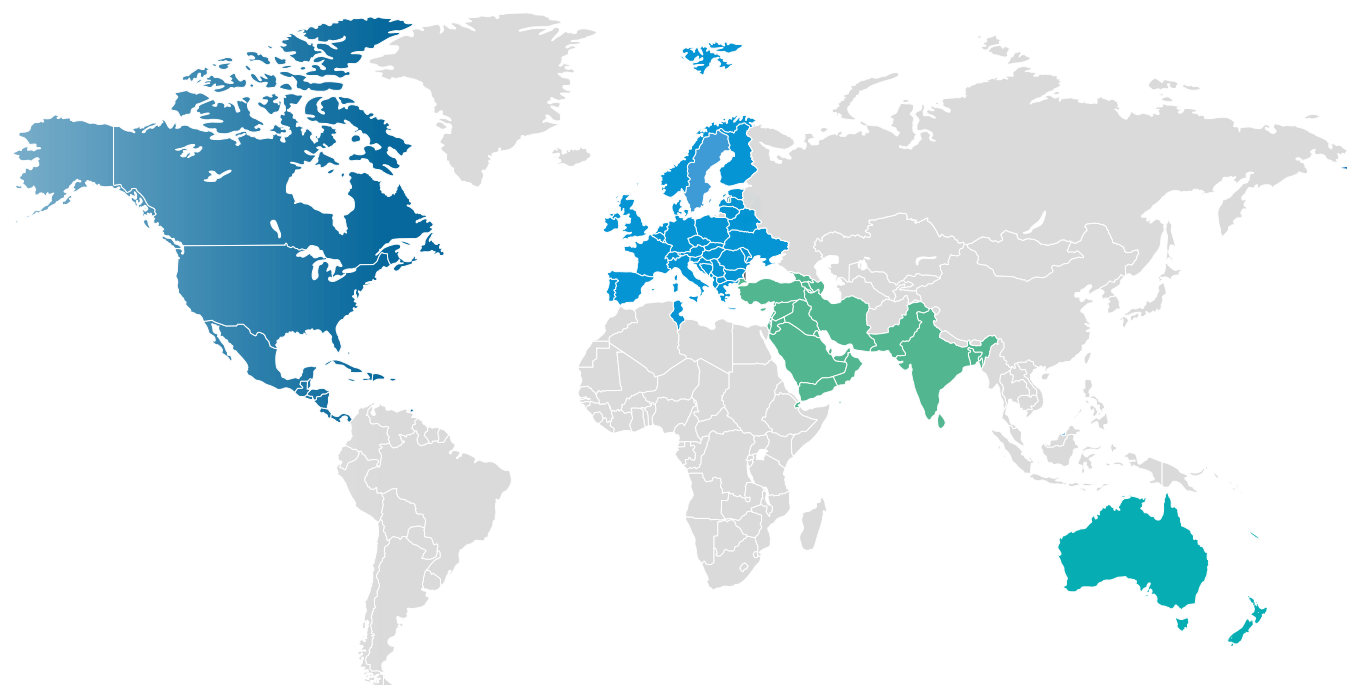
ABOUT US

Purified Air Ltd. has been striving to find the best and most cost-effective way to filter and control oil, smoke, fat and odour produced by commercial kitchens and service since 1984.

Purified Air manufactures filtration and odour control products for stock and bespoke systems, supplying systems to many sectoral brands. The design of each solution is based on the type of food cooked, the cooking process used, and the extracted air volume providing tried and tested purified kitchen exhaust air for Fast Food, Casual Dining and Luxury Concept Restaurant (Fine Dining) markets. By working with these variables, we can design and supply some of the world's best commercial kitchen filtration and odour control systems.

WORLDWIDE COVERAGE

- United Kingdom
- Middle East
- Europe
- North America
- Asia
- Australasia



GET IN TOUCH

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purifiedair®

purifiedair.com

KITCHEN EXTRACT

ESP RANGE

1500 | 3000 | 4500 | 6000

purified[®]air

COMMERCIAL KITCHEN FILTRATION EXPERTS

Purified Air Ltd. has been manufacturing and servicing market-leading technology to filter and control oil, grease, smoke and odour from commercial kitchens since 1984.

CONTENTS

02

TECHNICAL OVERVIEW

Key Features	02
ESP Technology	03
How It Works	04
Benefits of ESP	05
Technical Specification	06

08

ABOUT US

An Overview
Our Coverage

09

GET IN TOUCH

Contact Details

KITCHEN EXTRACT

ESP RANGE

1500 | 3000 | 4500 | 6000



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.



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
- IP65 rated for outside location

FILTERS REMOVE



Smoke



Steam

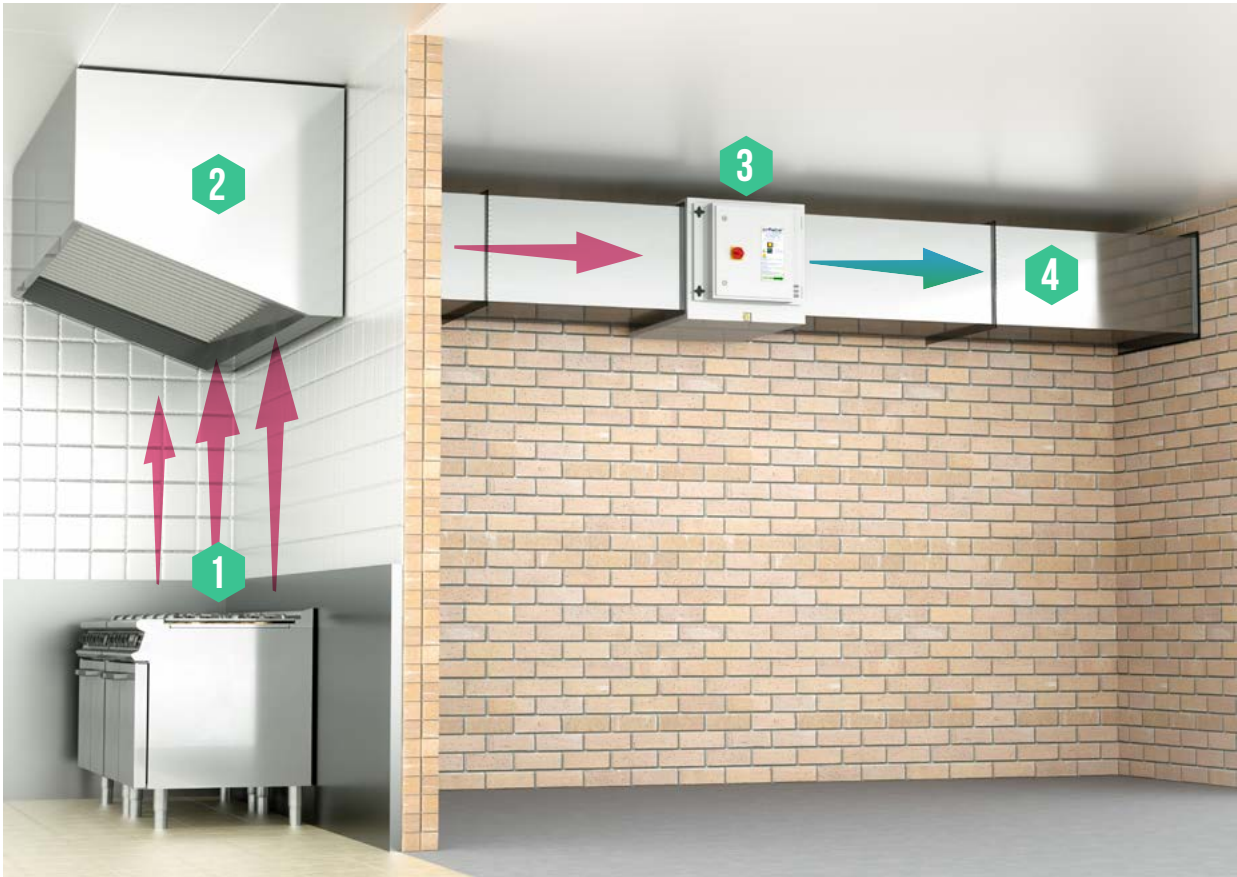


Oil



Grease

HOW IT WORKS



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

- 01

Cooking particulates and odours
- 02

Canopy Grease Filter
- 03

ESP - Particulate Control Unit
- 04

Airflow

OUR SERVICES



Design

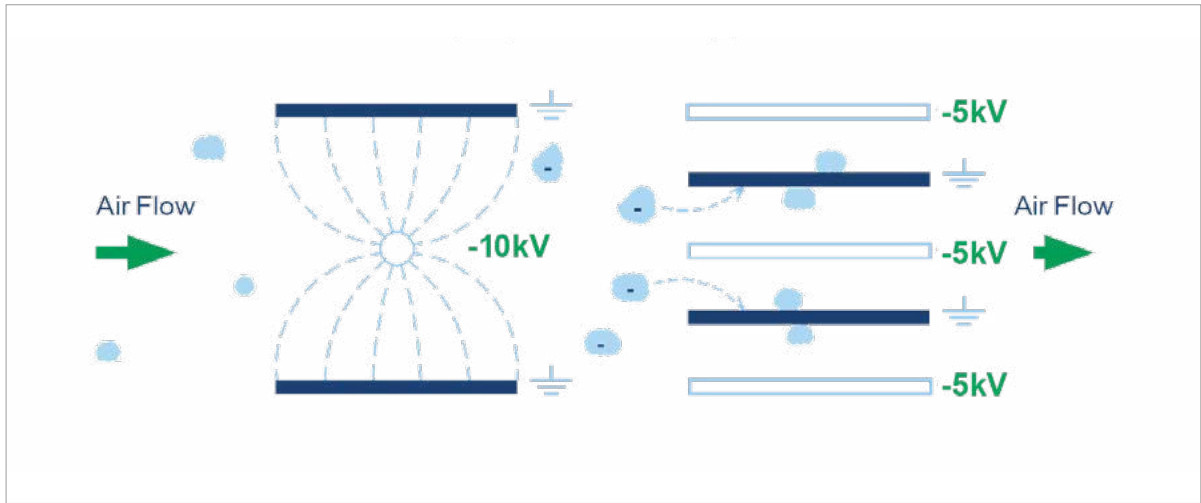


Manufacture



Maintain

THE ELECTROSTATIC PROCESS



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. 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.

THE BENEFITS OF ELECTROSTATIC TECHNOLOGY



Eliminates up to 99% of particles



Filters particles down to sub-micron levels



Modular design



Energy efficient

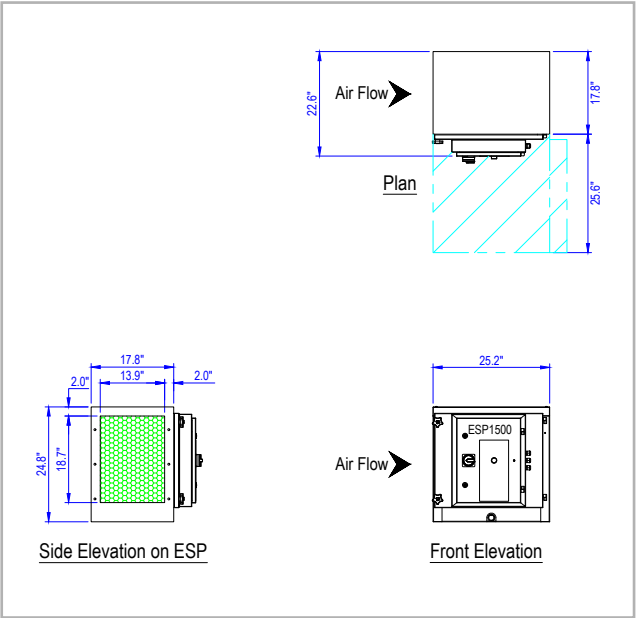
TECHNICAL SPECIFICATION

	ESP 1500	ESP 3000	ESP 4500	ESP 6000
Supply	115 _{V/1PH 50-60HZ}	115 _{V/1PH 50-60HZ}	115 _{V/1PH 50-60HZ}	115 _{V/1PH 50-60HZ}
Power Consumption	20 _W	30 _W	40 _W	50 _W
Maximum Airflow	1500 _{CFM (UP TO)}	3000 _{CFM (UP TO)}	4500 _{CFM (UP TO)}	6000 _{CFM (UP TO)}
Dimensions (Inches)	W 17.7 H 24.8 D 25.2	W 35.4 H 24.8 D 25.2	W 53.1 H 24.8 D 25.2	W 70.9 H 24.8 D 25.2
Dimensions (mm)	W 450 H 630 D 640	W 900 H 630 D 640	W 1350 H 630 D 640	W 1800 H 630 D 640
Weight (lb)	122 _{LBS}	188 _{LBS}	260 _{LBS}	338 _{LBS}

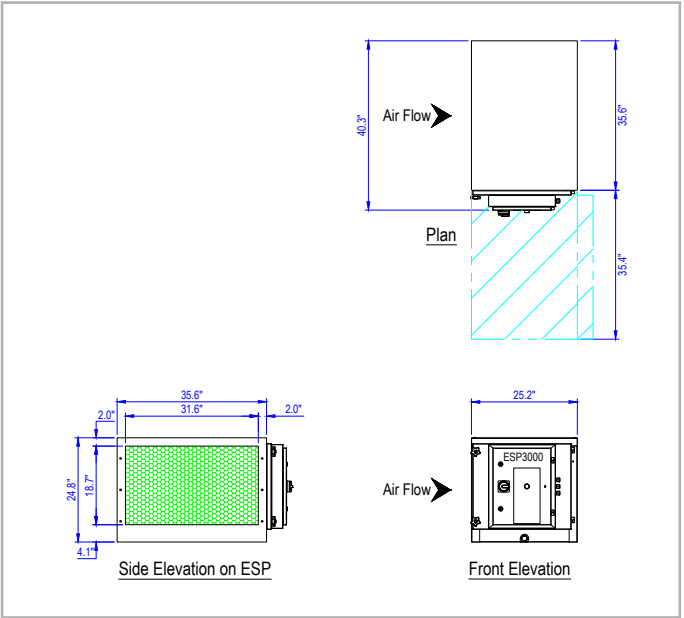
Please note: This equipment needs to be interlocked with the extract fan.

DRAWINGS

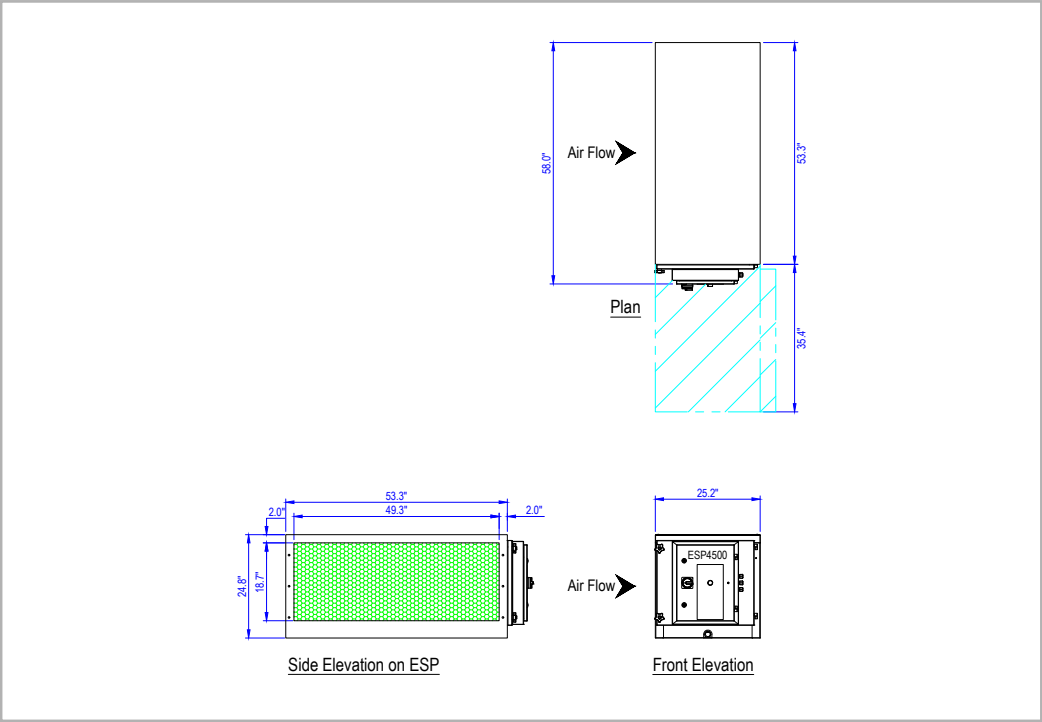
ESP 1500



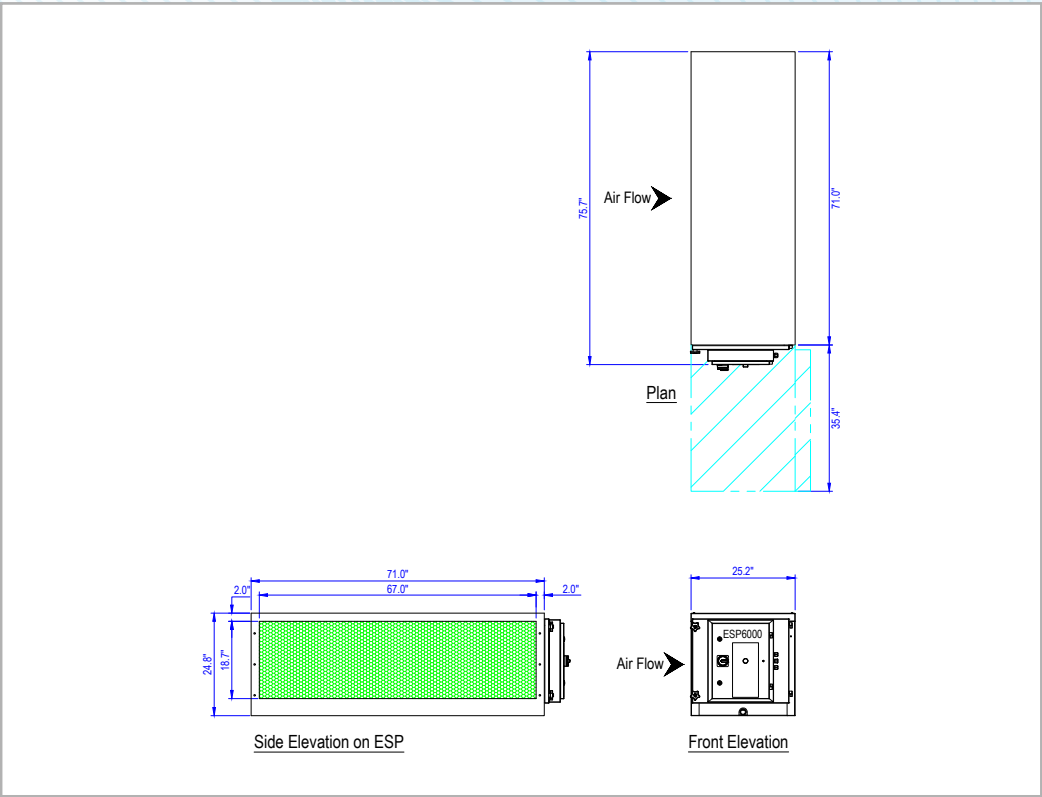
ESP 3000



ESP 4500



ESP 6000



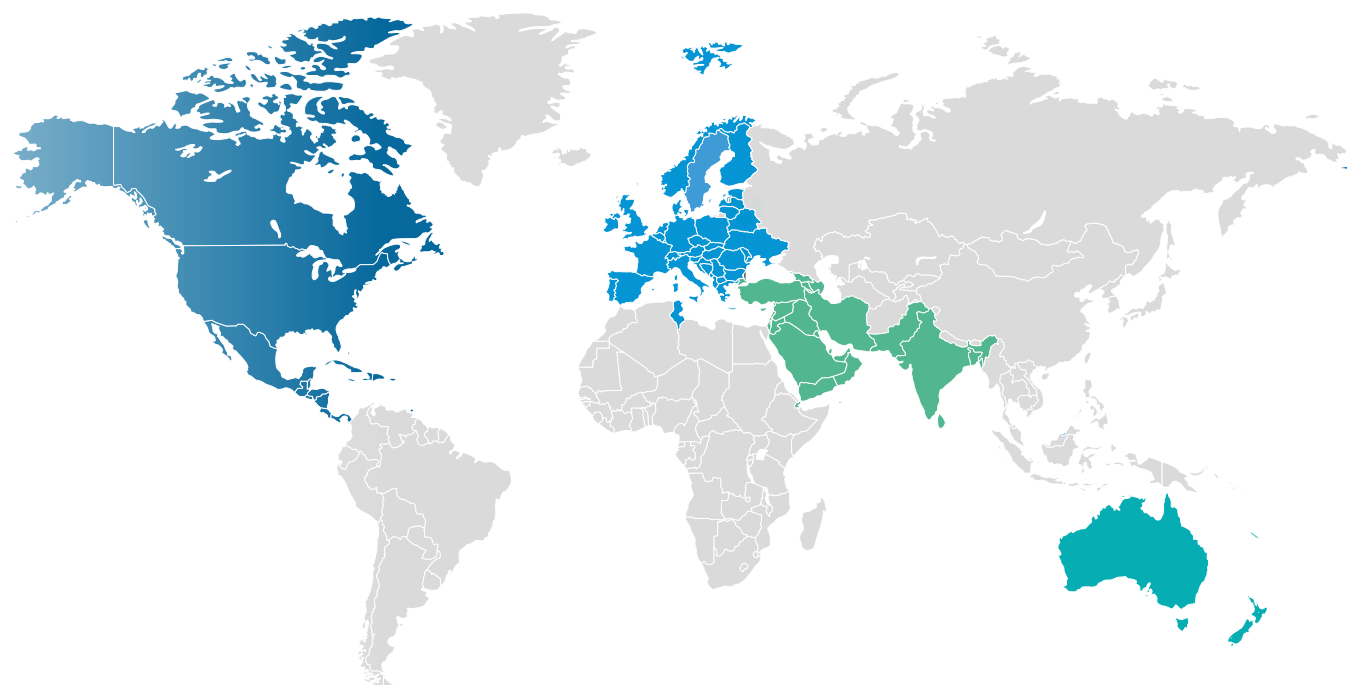
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purifiedair®

purifiedair.com

Roof hood

HF



Description

Ventilation hood for air exit above roof, suitable for both industrial and comfort ventilation. The air is ejected in an upwards-directed jet. This avoids contaminating the air in the vicinity of the hood, and soiling of the area around the hood. The ejection is so effective that you can install a fresh air inlet in the immediate vicinity of the hood, without any special precautions.

The hood is made of galvanised sheet steel, and can also be supplied in other materials such as stainless steel sheet 1.4301, stainless acid-resistant steel sheet 1.4404, aluzinc AZ185 and painted in various colours, to special order. It has a net over the opening and an internal rain funnel to collect rainwater and snow, which is drained out of the hood through a hose. The hose can withstand temperatures of between -45 and +65 °C.

The hood has a flange connection, which includes a mating flange.

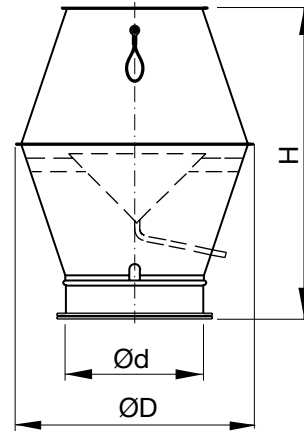
To avoid damage to the net in the opening the hood is supplied with transport protection. This must be removed before the hood is taken into service.

The hood is delivered with three turnable lifting and anchoring wire-loops. A single wire-loop shall not be exposed for forces exceeding 1500 N.

Ordering example

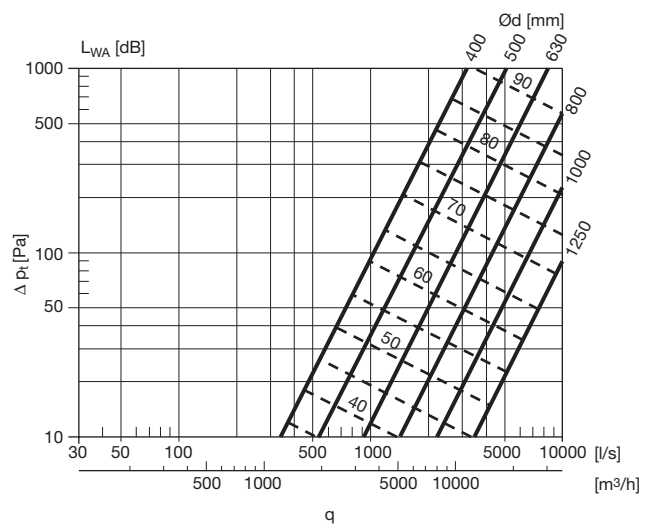
Product code **HF**
Dimension $\varnothing d$ **630**

Dimensions



Ød nom	ØD mm	H mm	m kg	Roof through con- nection TGR	
				50 mm	100 mm
				Size	
400	685	905	11,1	5	6
500	855	1055	20,0	6	7
630	1075	1295	38,0	8	9
800	1360	1640	63,0	9	10
1000	1600	2110	89,1	11	12
1250	2020	2615	118	14	15

Technical data



Circular duct

SR



Description

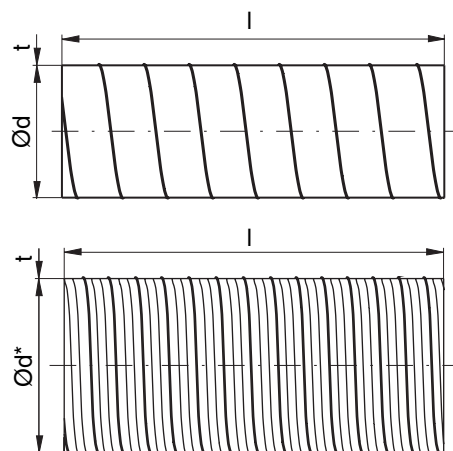
Circular duct.

Ducts are always produced locally and can therefore have different thicknesses and other specifications per country.

The ducts can be produced both with and without click function (notches).

Please specify when ordering.

Dimensions



Ød std nom	O πd m	A $\pi d^2/4$ m ²	t std [mm]	l std [mm]	ml std kg/m
63	0,198	0,003	0,5	3000	0,89
80	0,251	0,005	0,45	3000	0,91
100	0,314	0,008	0,45	3000	1,14
112	0,352	0,010	0,5	3000	1,42
125	0,393	0,012	0,45	3000	1,41
140	0,440	0,015	0,5	3000	1,76
150	0,471	0,018	0,5	3000	1,89
160	0,503	0,020	0,5	3000	2,02
180	0,565	0,025	0,5	3000	2,26
200	0,628	0,031	0,5	3000	2,56
224	0,704	0,039	0,6	3000	3,42
250 *	0,785	0,049	0,5	3000	3,18
280	0,880	0,062	0,55	3000	3,92
300 *	0,942	0,071	0,55	3000	4,20
315 *	0,990	0,078	0,55	3000	4,41
355 *	1,115	0,099	0,55	3000	4,96
400 *	1,257	0,126	0,55	3000	6,01
450 *	1,414	0,159	0,7	3000	8,60
500 *	1,571	0,196	0,7	3000	9,54
560 *	1,759	0,246	0,8	3000	12,2
600 *	1,885	0,283	0,7	3000	13,1
630 *	1,979	0,312	0,7	3000	12,0
710 *	2,231	0,396	0,8	3000	15,5
800 *	2,513	0,503	0,8	3000	17,4
900 *	2,827	0,636	0,9	3000	21,7
1000 *	3,142	0,785	0,9	3000	24,1
1120 *	3,519	0,985	0,9	3000	27,0
1250 *	3,927	1,227	0,9	3000	30,2
1400 *	4,398	1,539	1,25	2400	48,0
1500 *	4,712	1,767	1,25	2400	51,4
1600 *	5,027	2,011	1,25	2400	54,8

* With outturned stiffening corrugation.

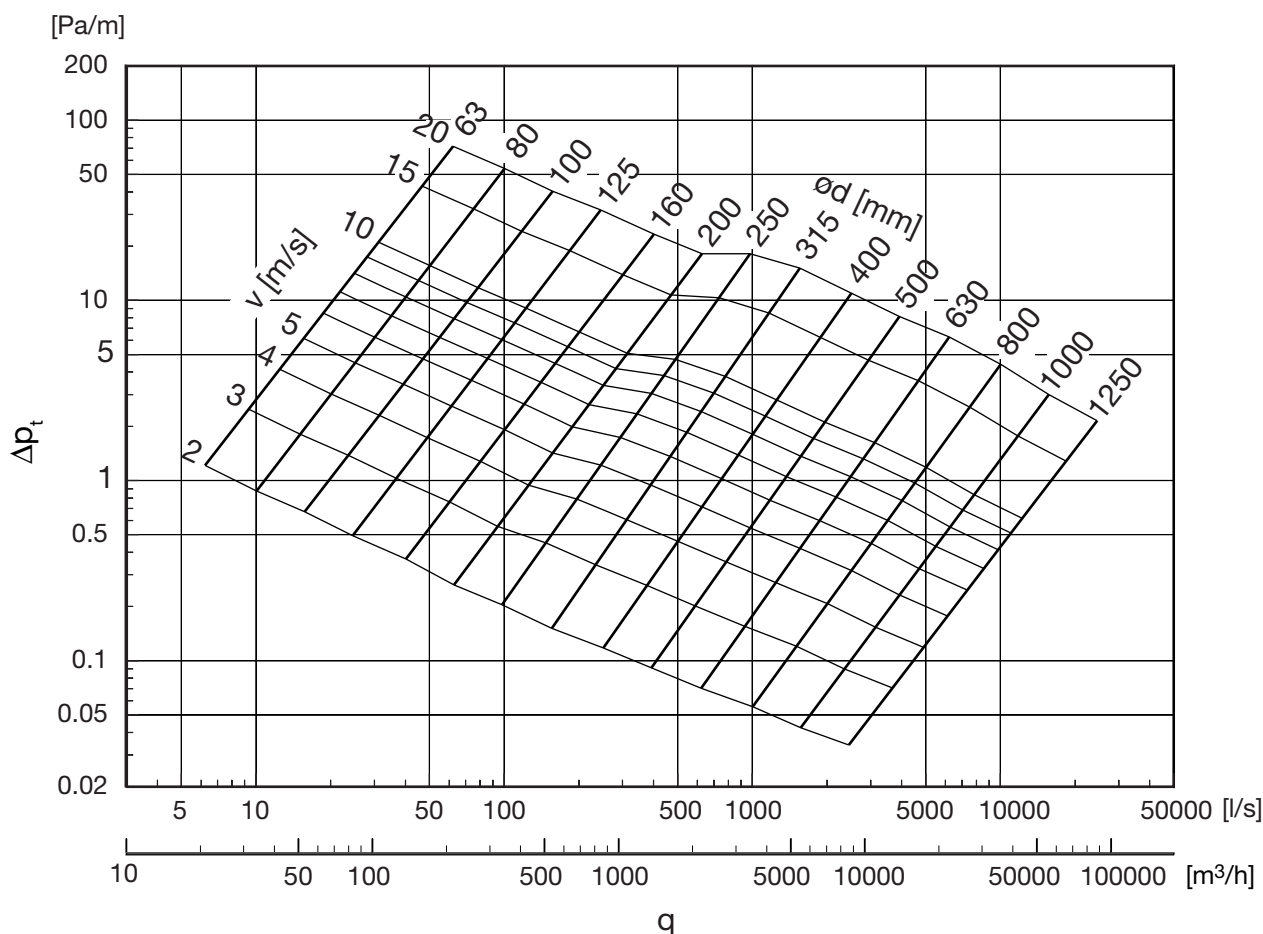
Ordering example

	SR	200	3000	CLIC
Product				
Dimension Ød				
Length l				
Type				

Circular duct

SR

Technical data



Special versions

We can supply ducts with the following special designs:

- In intermediate dimensions, see page 15.
- Extra tight, with nitrile rubber seal in the lock seam
- In other sheet metal thicknesses

Extra tight, with seam seal

When extremely good sealing is required in the spiral seam, the ducts can also be supplied with a special rubber seal in the seam.

This seal is very effective at stopping leakage of vegetable oils and greases, and most petroleum products including white spirit.

Other sheet metal thicknesses

If extra stability is needed in ducts, because of high negative pressure etc., they can be supplied with thicker sheet metal than standard. Remember that the thickness increase always reduces the inner diameter. Fittings for such special ducts must be specified separately and sometimes have to be made specially.

Reinforcement corrugations

Ducts of Ø250 mm and above are normally given stiffening corrugations to increase radial stiffness.



Circular duct

SR

Technical data

Strength

Positive pressure

In case of high positive pressure, the seal moulding lips will first start to whistle. At considerably higher pressure, the joints between the ducts will be forced apart. If you manage to fix the connections very well, the ducts will burst at their seams at even higher pressure. The high pressures needed for this to happen are not relevant to ventilation installations.

Negative pressure

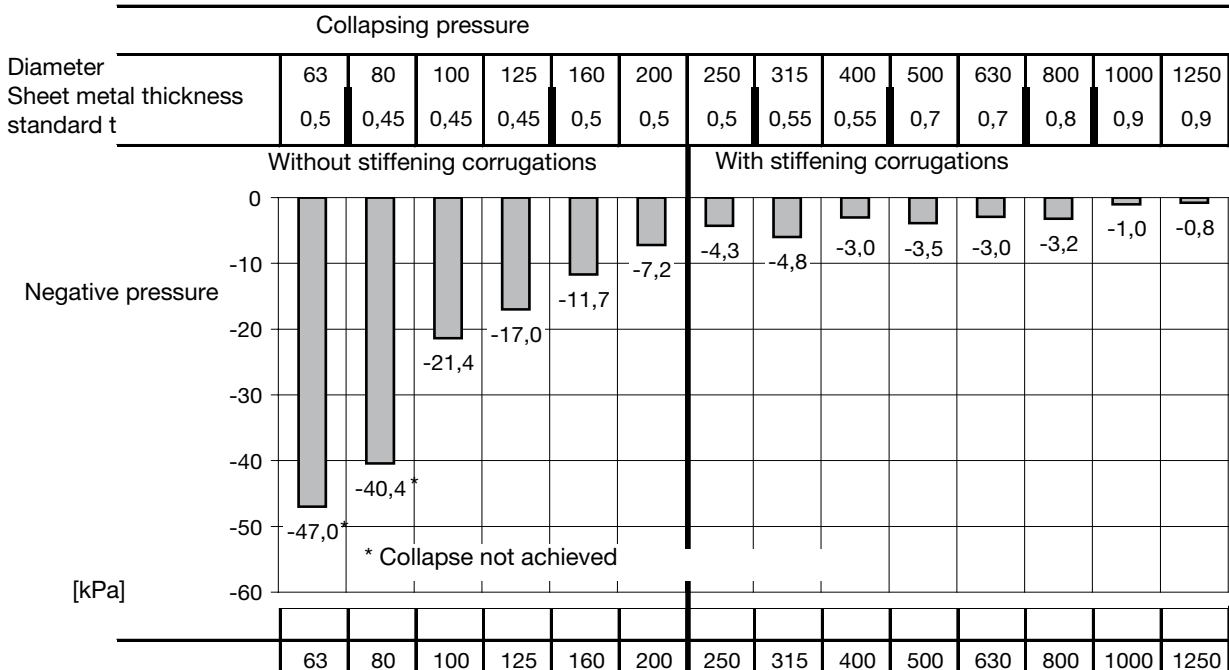
In installations with high negative pressure, there is a risk that the ducts could collapse.

This phenomenon is referred to as buckling, and can suddenly happen at the weakest point in the system. Buckling wanders along the duct, which can be completely flattened. The weakest point is frequently a "transport dent" on a duct. For this reason, only use undamaged ducts in systems which are close to the critical pressure!

Strength and leakage

The performance of the gasket ability for tightness is different from the pressure limits and is shown in the table below.

In exceptional cases, additional strong ducts and fittings are needed. Lindab has developed a system that can withstand down to 5000 Pascal's negative pressure. To minimize costs and to be sure of the performance of the specific system, contact Lindab for precise dimensioning.



	Min Dim [nom]	Max Dim [nom]	Max Negative pressure [Pa]	Min Positive pressure [Pa]
Safe Gasket stability	63	1600	-5000	3000
Duct system Eurovent certified	63	315	-5000	2000
Duct system Eurovent certified	400	1250	-750	2000
Duct system according to EN 12237	63	1250	-750	2000
Duct system - Strong solution on request	63	1600	-5000	3000

TERMS AND CONDITIONS

By ordering the goods you agree to be bound by our terms and conditions below and recognise the services/products we have not included in our quotation for you unless otherwise stated.

- Ventilation system to EMAQ Guidelines (subject to further quotation).
- Odour control.
- Noise management.
- Fire rated ductwork.
- Fire rated insulation.
- Fire rating of walls that ductwork passes through.
- Planning permission (client's responsibility – work will not start without sufficient authority approval).
- Hanging of canopies over 4500mm from FFL.
- Infill panels to make good between the top of the canopy and ceiling.
- Masking gaps that occur during canopy installation due to inaccuracies in the building structure.
- Any specialist fixings to suit building structure.
- Balancing and commissioning of canopies.
- All electrical works.
- Final electrical connections and controls commissioning.
- Gas works including gas valve (interlock).
- Pipe work and inclusion of valves.
- Builders works and weather proofing of openings (scaffolding or lifting equipment).
- Structural works to roof area.
- Protection to flooring internal.
- Lifting of plant to roof level / scaffolding.
- Edge protection.
- Thermal insulation.
- Boarding to ceiling void areas.
- Canopy protection on completion of installation.
- Fire suppression.
- Strip out / Removal of existing canopies / ductwork.
- Any items not specifically itemized within your quotation are excluded.
- Earth bonding.
- Out of hours working (Normal working hours being Mon-Fri 8.30-5.30pm excluding bank holidays, hours include travelling time) any extra hours due to any unforeseen circumstances will be charged at £50ph payable direct to fitters.
- Notifications to local authorities, building, planning, fire etc.
- Builders, joiners, scaffolding, electrical, plumbing, roofing works.
- Waterproofing of walls and roofs where ductwork terminates exits (roofer will be required to seal roofs).
- Ductwork insulation.
- Inspection hatches to TR19 to be installed by others.
- Extraction canopy fan/speed control wiring to mains/board.
- All new fans are covered under manufactures warranty if claiming for a fault a new fan must be purchased and the fan in question sent back to the manufacture for inspection at your cost, if fan is found at fault under warranty, they will reimburse the cost of the fan.
- Fan inspection and warranty call outs to inspect/replace fans are not covered, and labour costs paid by the client.
- Extraction fan / controller fail due to incorrect wiring, replacement parts to be paid by client and parts send back to manufacturer for inspection at clients cost.
- Heater battery for air input system.
- Provision of grease traps if required.
- Finding of asbestos all works must stop until made safe by others.
- Return visit to site due to services being incorrect or not live and enabled for commissioning, a chargeable site instruction. would be required for any visits beyond our control.
- We specifically exclude any works not mentioned.
- VAT.
- Once payment made any refund will be subject to a 25% restocking charge and fee incurred.
- The company (FUSIONHOT LTD) is suppliers. Fitting is carried out by a third-party company and is the customer's responsibility to check all relevant details of that company, any problems with the fitting is between the customer and the third-party company. All correspondence should be between these two and not FUSIONHOT LTD.