



Stainless Steel Fabrication

Commercial Kitchen Design and Installation

Ventilation strategy for the below address

Address

292 Bradford Rd
Batley
WF17 5PW

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
4800	1500	500	500

Extraction Filtration Canopy Filters

LONGAR® TYPE 2 PREMIUM BAFFLE FILTER

Supply Air Filtration

Longar G4 Filter

Odour control

1 x Purified Air ESP 6000 electrostatic precipitation unit

1 x Purified Air MFU 1800 A1 Carbon Filter

1 x G4 Pleated filter 495 x 495 50mm (SUPPLY AIR)

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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				
TCBT x2 560	3173	10.0	5.8	15170	78	1390	66
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				
Ruck 355	960	5.4	—	4,940	60	2860	17.3

Extract Attenuation Octave – Band Mid Frequencies (Hz)									
Diameter	Length	63	125	250	500	1000	2000	4000	8000
1 x 560 HP Pre Fan	2d	3	5	9	19	18	14	12	11
2 x 560 HP After Fan	2d	3	5	9	19	18	14	12	11

Supply Attenuation Octave – Band Mid Frequencies (Hz)									
Diameter	Length	63	125	250	500	1000	2000	4000	8000
355	1d	1	2	4	10	12	10	9	7
355	1d	1	2	4	10	12	10	9	7

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Typical extraction canopy's below

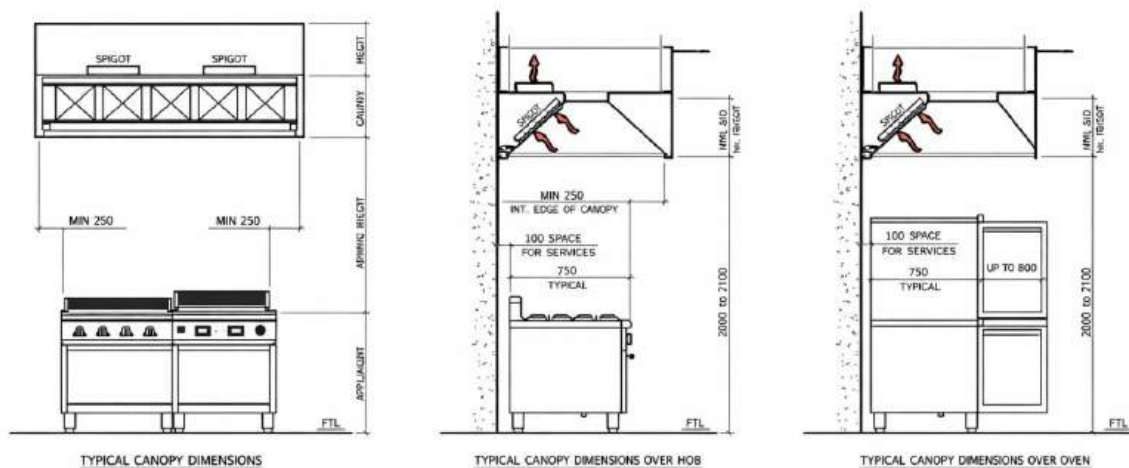


FIGURE X: TYPICAL CANOPY DIMENSIONS

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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
Restaurant	10	10	3	10	33

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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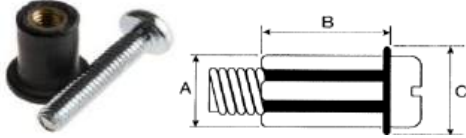
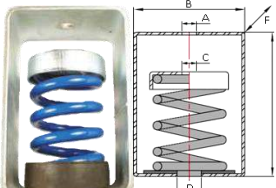
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Av Hanging & Support System

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

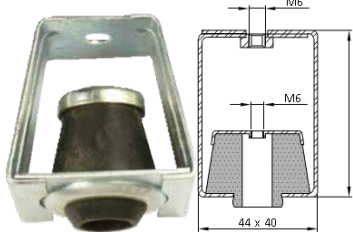
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	Hangers are available in 2 types. Rubber hangers and Steel coil spring hangers. Rubber Hangers are extremely cost effective, whilst steel coil spring hangers offer high performance
	The Durafoot is 350x350mm & weighs 6kg. Designed as a simple "push 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 Weights 6kg 110mm overall height 60/65mm recess
	Tamlex 300/600 mm Long Cantilever Arm for Strut

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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

Kitchen Extraction System – Operation and Maintenance Guidelines

Purified Air Maintenance Contract

A maintenance contract must be set up with Purified Air for all Purified Air equipment installed as part of the kitchen extract system. This contract must be in place prior to the kitchen commencing normal cooking operations.

Purified Air should be contacted directly to arrange the required maintenance contract, servicing schedule and any ongoing equipment support.

Purified Air contact details:

Telephone: +44 (0)1708 755 414

Website: www.purifiedair.com

Initial Testing and Inspection

Following installation and commissioning, the kitchen extraction system should be inspected to confirm that the canopy, grease filters, ductwork, access panels, fan, silencers, ESP, UV ozone system and discharge route are operating correctly.

A wet film test should be undertaken by the appointed cleaning contractor to establish the level of grease production based on the cooking type and daily usage. Cleaning frequencies should then be confirmed in line with the kitchen load and BESA TR19® Grease guidance.

In accordance with BESA requirements, the cleaning contractor must inspect the full installation, identify any inaccessible areas, advise where additional access points may be required, and highlight any high-risk areas where grease accumulation or ignition risk is most likely to occur.

Daily Maintenance by Franchisee / Site Staff

Grease filters must be removed and cleaned daily using a suitable detergent/degreasing method. The canopy internal surfaces, grease collection drawers/trays and condensate channels must also be checked and cleaned

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daily to prevent grease build-up.

The kitchen operator must ensure that filters are refitted correctly after cleaning and that the extract system is switched on and operating correctly whenever cooking takes place.

ESP and Purified Air Equipment Maintenance

The ESP must be cleaned monthly as part of the ongoing maintenance requirements. Monthly ESP cleaning is required to maintain effective removal of smoke, oil and grease particles from the extract air stream and to prevent loss of performance, excessive contamination, nuisance odours or equipment faults.

The ESP and associated Purified Air equipment must also be inspected, cleaned and serviced in accordance with Purified Air's recommendations and the agreed maintenance contract. Service visits should include inspection of the ESP cells, pre-filters, electrical components, drain/sump arrangements, seals and general equipment condition.

The UV ozone system must be maintained in accordance with the manufacturer's instructions. UV lamps, lamp sleeves, seals, electrical components and safety interlocks must be checked during service visits. UV lamps must be replaced at the manufacturer's recommended intervals or earlier if performance is reduced.

The ESP and UV ozone system must not be bypassed, isolated or operated with missing filters, dirty cells, failed lamps or defective safety controls. Any faults must be reported and rectified by Purified Air or a competent approved contractor before normal cooking operations continue.

Supply Air Filter Maintenance

Supply air filters should be visually checked periodically and replaced as required. This is normally every six to twelve months, or sooner if staining, dust loading or airflow restriction is evident.

Fan Operation and System Care

The extract and supply fans must be commissioned and operated at the correct airflow. The system must not be run at excessively low speeds during cooking, as reduced airflow can affect capture, odour control, plume discharge velocity and fan motor cooling.

The extract fan must be inspected and cleaned as part of the planned maintenance regime. Where fan cleaning is required, it must be carried out carefully using suitable non-corrosive cleaning products. Degreasing chemicals must not be sprayed or injected into the system while the fan remains in place, as this can damage

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bearings, motor components and seals, and may invalidate manufacturer warranties.

Ductwork, Access Doors and Silencers

Ductwork must be cleaned in accordance with BESA TR19® Grease. Access doors must be used to inspect and clean the ductwork where physically accessible. Access doors are to be provided at suitable intervals and changes of direction where practicable.

Access doors cannot be fitted directly into fans or silencers. Where fans or silencers are installed, access should be provided in adjacent duct sections where practicable to allow inspection and cleaning.

Silencers should be inspected during routine maintenance to ensure there is no excessive grease contamination, damage or restriction to airflow.

TR19® Grease Cleaning Frequency Guide

Cleaning frequency must be based on actual cooking intensity, grease loading and the findings of the initial wet film test.

For heavy usage of twelve to sixteen hours per day, cleaning is typically required every three months.

For moderate usage of six to twelve hours per day, cleaning is typically required every six months.

For light usage of two to six hours per day, cleaning is typically required every twelve months.

These are minimum guidance frequencies only. Shorter cleaning intervals may be required where grease accumulation, smoke loading or odour-control equipment condition indicates higher system loading.

Client and Operator Responsibilities

The client/operator is responsible for setting up and maintaining the Purified Air maintenance contract, arranging monthly ESP cleaning, and employing competent cleaning and maintenance contractors to maintain the full kitchen extraction system in accordance with Environmental Health requirements, BESA TR19® Grease guidance, manufacturer recommendations and this ventilation strategy.

The franchisee/site staff are responsible for daily cleaning of grease filters, canopy surfaces, grease

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drawers/trays and general housekeeping.

The approved cleaning/maintenance contractor is responsible for TR19®-compliant deep cleaning, ductwork inspection, fan inspection, ESP cleaning, Purified Air equipment servicing, UV ozone system servicing and advising on any additional access or maintenance requirements.

Failure to clean and maintain the system correctly may result in reduced odour control performance, increased fire risk, hygiene issues, nuisance complaints, premature equipment failure, invalidated warranties and non-compliance with Environmental Health requirements.

Notes

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NOTES:

ALL CONTRACTORS AND FURNITURE MANUFACTURERS MUST VERIFY SITE MEASUREMENTS BEFORE COMMENCING WORK. THE ARCHITECT WILL NOT BE RESPONSIBLE FOR ANY DISCREPANCIES OR MISFITS.

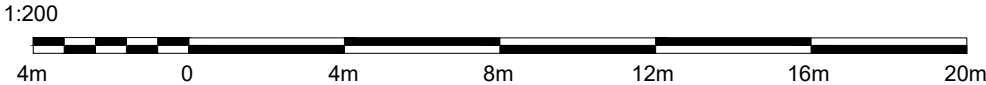
ALL INTERNAL LAYOUT CHANGES REQUIRE CLIENT/ARCHITECT APPROVAL PRIOR TO COMMENCEMENT.

ALL HVAC DESIGN SUBJECT TO SITE SURVEY UNLESS OTHERWISE STATED.

ANTI-VIBRATION MOUNTS MUST BE INSTALLED ON ALL SUPPORTS AND PLANT EQUIPMENT TO PREVENT NOISE TRANSFER THROUGH THE STRUCTURE.

EXTRACT DUCTWORK MUST BE FITTED WITH ACCESS DOORS AT A MAXIMUM SPACING OF 2 METERS TO FACILITATE FUTURE CLEANING. CLEANING CONTRACTORS MAY RECOMMEND ADDITIONAL ACCESS DOORS AS NECESSARY.

SYSTEM CLEANING MUST BE CARRIED OUT BY A BESA-APPROVED CLEANING CONTRACTOR IN ACCORDANCE WITH TR19 GUIDELINES. THE CONTRACTOR SHOULD BE APPOINTED WITHIN SIX WEEKS OF STORE OPENING TO CONDUCT A RISK ASSESSMENT OF THE SYSTEM. REFER TO THE SPECIFICATION FOR RECOMMENDED MAINTENANCE INTERVALS AND ADDITIONAL REQUIREMENTS.



REVISION		DATE 02-04-26
PROJECT		
292 BRADFORD RD, BATLEY WF17 5PW		
TITLE		
-	EXISTING ELEVATIONS	
SCALE @ A3	1:200	
DATE	-	
JOB NO.	-	
FUSIONHOT		
COMMERCIAL KITCHEN DESIGN & INSTALLATION 01704893945		
SALES@FUSIONHOT.CO.UK		

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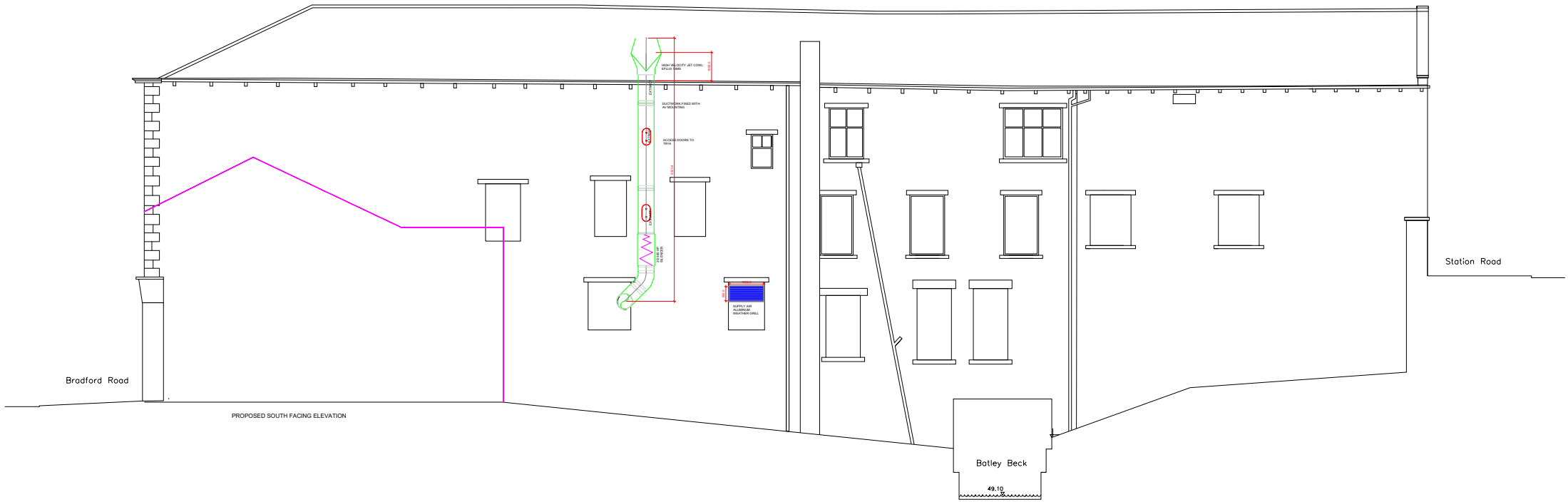
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REVISION		DATE 05-06-26
PROJECT		
292 BRADFORD RD, BATLEY WF17 5PW		
TITLE		
-	PROPOSED ELEVATIONS	
SCALE @ A3	1:200	
DATE	-	
JOB NO.	-	
FUSIONHOT		
COMMERCIAL KITCHEN DESIGN & INSTALLATION 01704893945		
SALES@FUSIONHOT.CO.UK		

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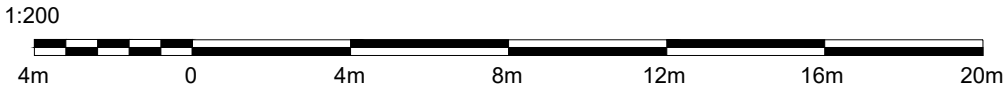
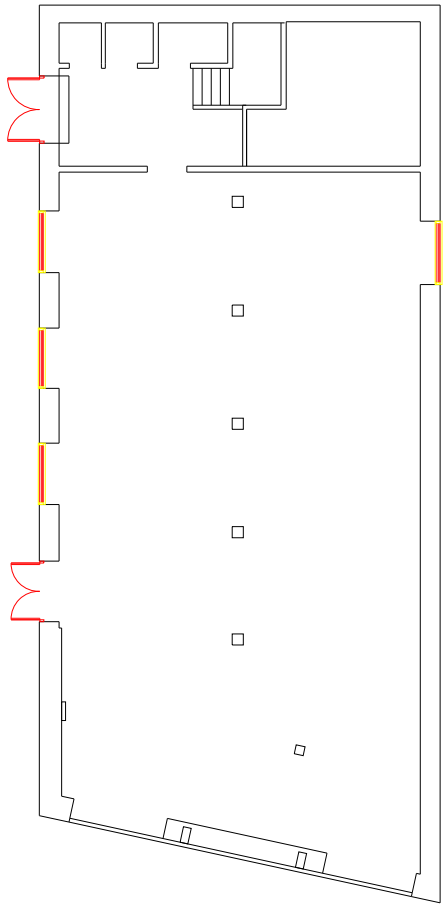
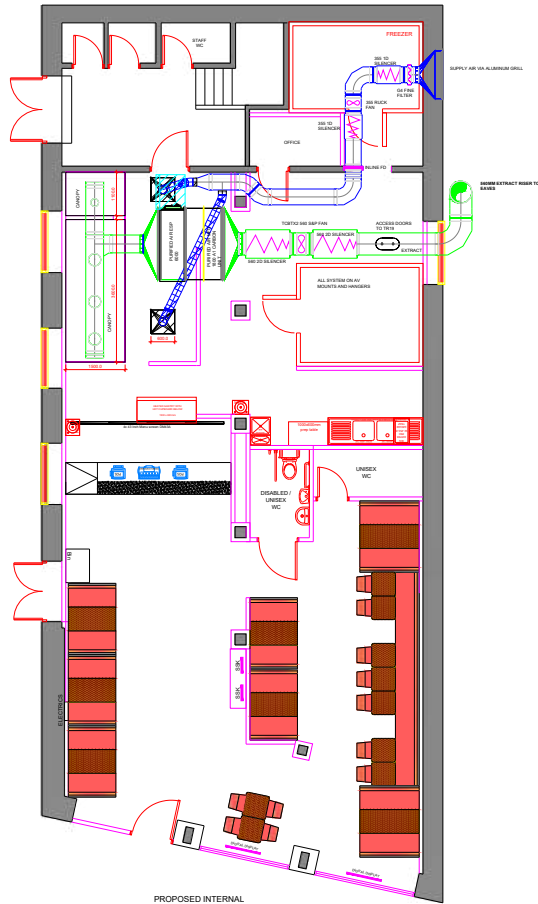
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REVISION		DATE 05-06-26
PROJECT		
292 BRADFORD RD, BATLEY WF17 5PW		
TITLE		
- PROPOSED INTERNAL		
SCALE @ A3	1:200	
DATE	-	
JOB NO.	-	
FUSIONHOT		
COMMERCIAL KITCHEN DESIGN & INSTALLATION 01704893945		
SALES@FUSIONHOT.CO.UK		



Range of cylindrical cased axial 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. Fitted with 2 contra rotating complementary impellers manufactured from die-cast aluminium. All models are supplied with pre-wired wiring junction box located on the outside of the fan casing for easy wiring access. Available with single or three phase 4 poles motors.

Motors

All the motors are IP65, Class F insulation (1), equipped with thermal protection. Single phase motors are variable voltage [Excepted TCBBX2/4-630]. Three phase motors suitable for inverter control.

Electrical supplies:

Single phase 230V-50Hz (Capacitor located inside the wiring terminal box)
Three phase 230/400V-50Hz.

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



Contra rotating: High pressure

Contra rotating system with two complementary impellers allowing the duplication of the pressure with the same air volume.



Corrosion resistance

Rolled steel casings and motor support protected by cataforesis primer and black polyester paint finish. Stainless steel screws.



Terminal box

Wiring terminal box with cable gland PG-11.



Impeller dynamically balanced

Impellers are dynamically balanced, according to ISO 1940 standard, giving vibration free operation.

CONTRA ROTATING CASED AXIAL FANS

TCBBx2 / TCBTx2 Series



TECHNICAL CHARACTERISTICS

Before installation check that the product electrical characteristics listed on the data plate label (voltage, power, frequency, etc.) match those of the intended electrical supply.

Model	Speed (rpm)	Diameter (mm)	Maximum absorbed power (W)	Maximum absorbed current (A)		Sound pressure level* (dB(A))	Maximum air volume (m³/h)	Weight (kg)	Speed controller RMB/T	Variable frequency inverter			
				to 230 V	to 400 V					VFTM		VFKB	
										1/230V**	3/400V	1/230V**	3/400V
SINGLE PHASE													
TCBBx2/4-450	1420	450	1316	5,7	–	74	7.430	42	RMB-8	–	–	–	–
TCBBx2/4-500	1370	500	1957	9,0	–	76	9.950	50	RMB-10	–	–	–	–
TCBBx2/4-560	1370	560	2972	13,6	–	78	13.930	66	–	–	–	–	–
TCBBx2/4-630	1400	630	3671	16,3	–	79	16.560	80	–	–	–	–	–
THREE PHASE													
TCBTx2/4-450	1430	450	1309	5,2	3	74	7.250	42	RMT-5	VFTM MONO 1,1	VFTM TRI 1,1	VFKB 27	VFKB 45
TCBTx2/4-500	1390	500	1700	5,8	3,4	76	9.800	50	RMT-5	VFTM MONO 1,1	VFTM TRI 1,5	VFKB 27	VFKB 45
TCBTx2/4-560	1390	560	3173	10,0	5,8	78	15.170	66	–	VFTM MONO 2,2	VFTM TRI 3	–	VFKB 48
TCBTx2/4-630	1445	630	4014	–	7,4	79	17.810	80	–	–	VFTM TRI 4	–	VFKB 48

* Sound pressure level, measured in free field condition at a distance equivalent of three times the diameter of the impeller or a minimum of 1.5 meters whichever is the greater.

** Only for fans fitted with three phase motors 230/400V.

ACOUSTIC CHARACTERISTICS

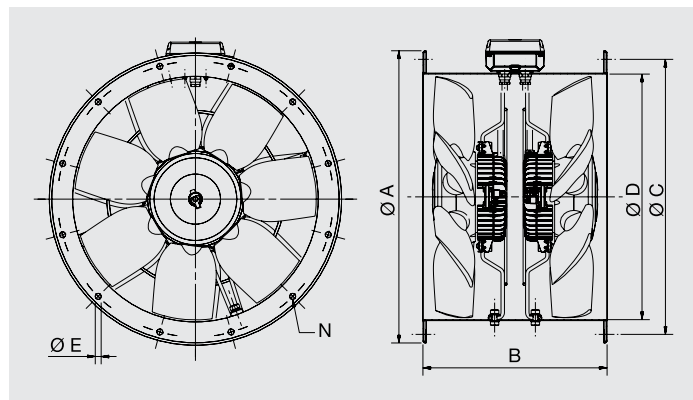
The sound levels –NPS– shown in the technical characteristic chart, correspond to the value of sound pressure dB(A), measured in free field conditions at a distance equivalent to three times the diameter of the impeller with a minimum of 1.5 meters.

The following table shows the sound power level spectrums in dB(A) measured with the fan ducted, at both inlet and discharge sides.

Model	Air volume m³/h	63	125	250	500	1000	2000	4000	8000	Global
450 Inlet	6.600	46	73	85	82	85	79	72	64	90
	5.850	46	73	84	81	83	79	71	64	88
	4.300	58	70	80	80	83	79	71	64	87
450 Outlet	6.600	63	75	86	85	87	82	74	67	92
	5.850	53	73	85	84	87	81	74	67	91
	4.300	58	70	82	83	86	82	74	67	90
500 Inlet	9.000	48	78	87	85	87	81	74	67	92
	7.500	52	76	85	85	85	80	73	65	90
	6.000	60	73	83	82	85	80	73	66	89
500 Outlet	9.000	65	76	87	88	90	84	77	70	94
	7.500	62	75	86	87	88	83	76	69	92
	6.000	59	72	86	85	88	83	76	69	92

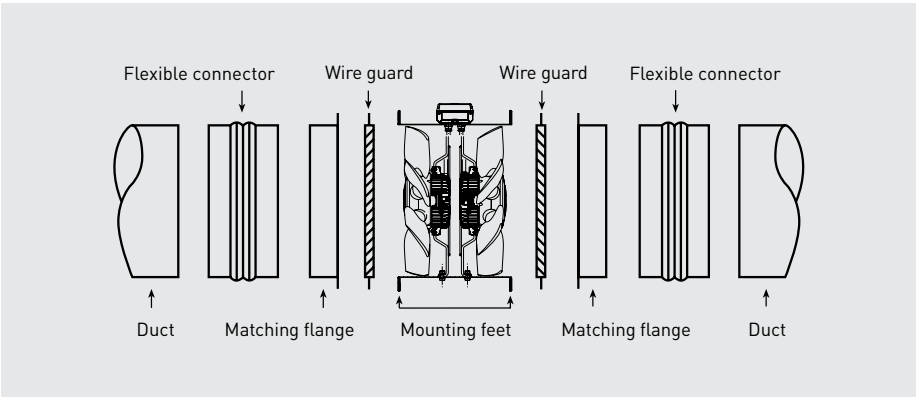
Model	Air volume m³/h	63	125	250	500	1000	2000	4000	8000	Global
560 Inlet	13.720	50	85	87	88	91	85	78	73	95
	10.800	57	79	83	86	89	84	78	72	93
	9.000	63	79	81	86	89	84	78	72	92
560 Outlet	13.720	74	86	85	91	94	88	81	75	97
	10.800	70	82	84	88	92	87	81	74	95
	9.000	74	81	85	89	92	87	81	74	95
630 Inlet	17.500	51	85	91	89	93	87	80	74	97
	15.600	55	85	85	88	91	86	80	73	95
	12.000	64	80	84	88	90	86	80	73	94
630 Outlet	17.500	73	87	88	93	95	89	83	77	99
	15.600	71	87	86	91	94	89	83	76	98
	12.000	67	84	86	90	94	89	84	76	97

DIMENSIONS (mm)



Model	Ø A	B	Ø C	Ø D	Ø E	Number of holes N
450	537	375	500	450	12	8
TCBBx2/4-500	595	520	560	500	12	12
TCBTx2/4-500	595	375	560	500	12	12
560	655	520	620	560	12	12
630	725	520	690	630	12	12

MOUNTING ACCESSORIES

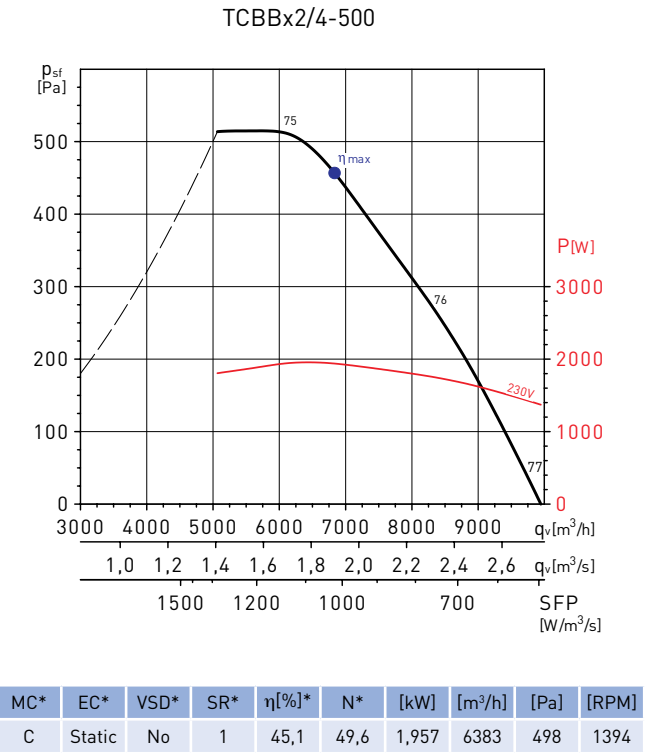


PERFORMANCE CURVES TCBBx2 / TCBTx2

- q_v : Air volume in m^3/h and m^3/s .
- p_{st} : Static pressure in Pa.
- SFP: Specific fan power in $W/m^3/s$.
- P: Input power in W.
- Measurement category: C or D depending on the models.
- Efficiency category: Static or Total depending on the models.
- Fan tested with inlet bellmouth.
- Fan efficiency without VSD.
- Air flow data in accordance with ISO 5801.
- Sound pressure level dB(A), measured in a free field distance equal to 3 times the diameter, with a minimum of 1,5 m.

MC	Measurement category
EC	Efficiency category
VSD	Speed control: supplied with the fan
SR	Specific ratio
η [%]	Efficiency
N	Efficiency grade
[kW]	Absorbed power
[m^3/h]	Air volume
[Pa]	Static pressure
[RPM]	Speed

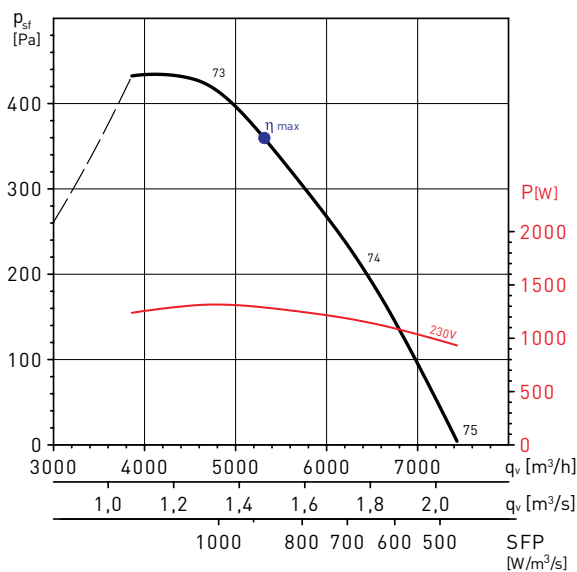
EXAMPLE CURVE



* See example curve.

PERFORMANCE CURVES – 4 POLE MOTOR

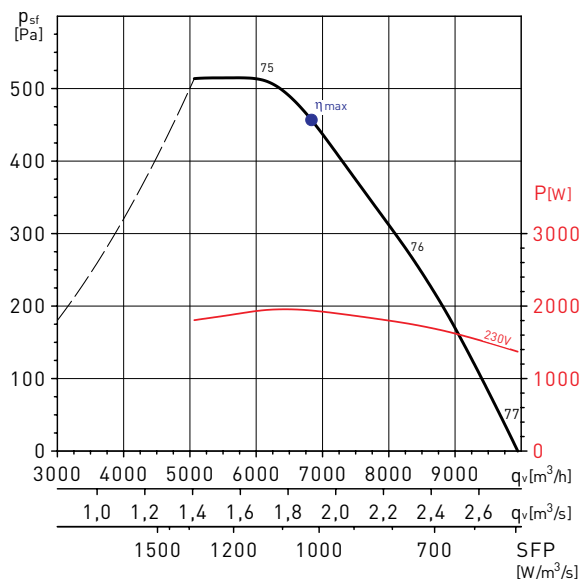
TCBBx2/4-450



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	41,9	47,5	1,316	4842	411	1349

* See example curve.

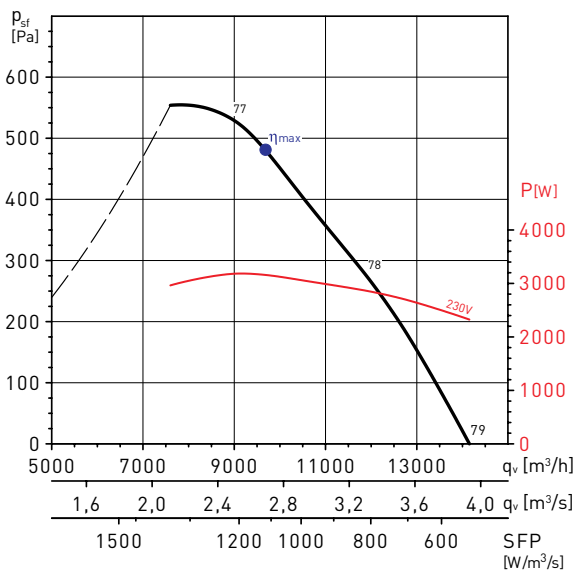
TCBBx2/4-500



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	45,1	49,6	1,957	6383	498	1394

* See example curve.

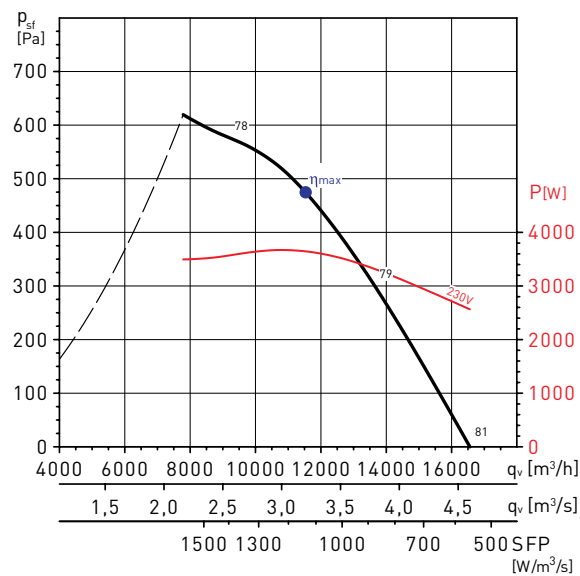
TCBBx2/4-560



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	41,9	45,2	2,970	8741	513	1311

* See example curve.

TCBBx2/4-630

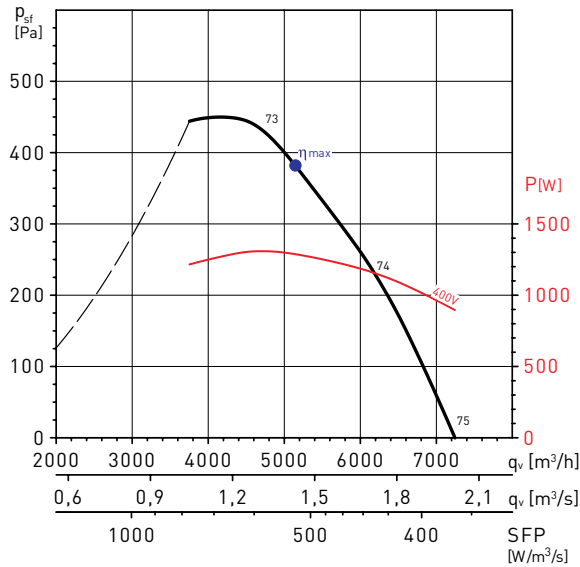


MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	42,4	45,2	3,665	10542	536	1285

* See example curve.

PERFORMANCE CURVES – 4 POLE MOTOR

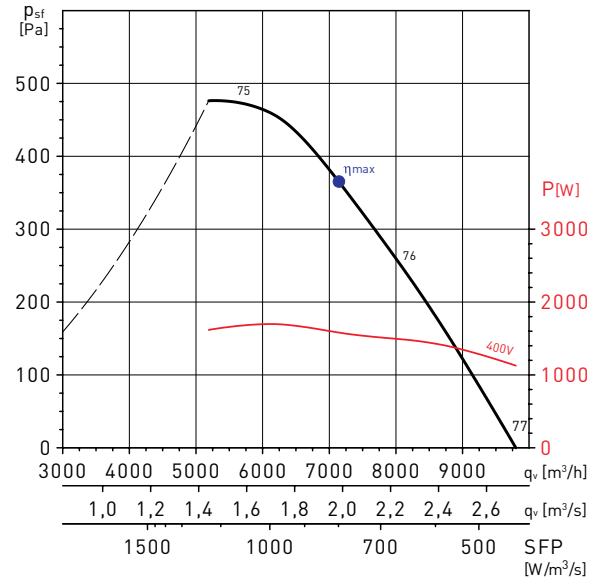
TCBTx2/4-450



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	43,0	48,6	1,309	4705	432	1375

* See example curve.

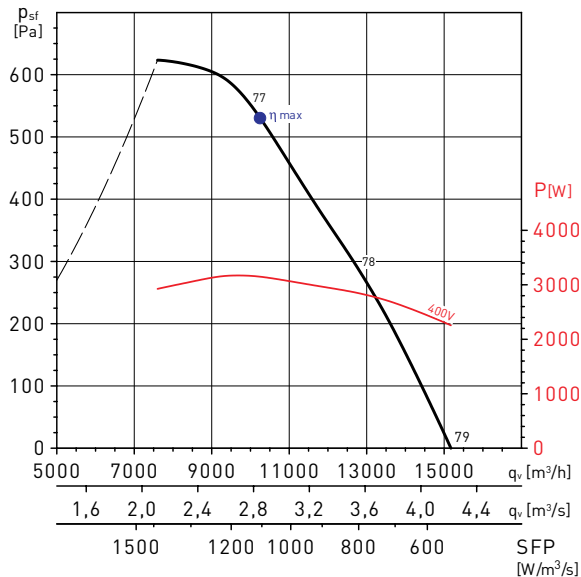
TCBTx2/4-500



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	53,5	58,6	1,581	7145	427	1348

* See example curve.

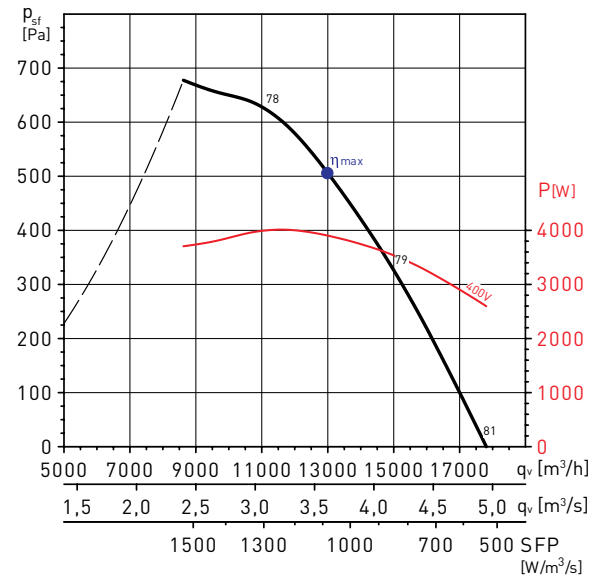
TCBTx2/4-560



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	55,0	58,2	3,148	10254	611	1365

* See example curve.

TCBTx2/4-630



MC*	EC*	VSD*	SR*	η[%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	54,2	56,8	3,903	12997	587	1387

* See example curve.

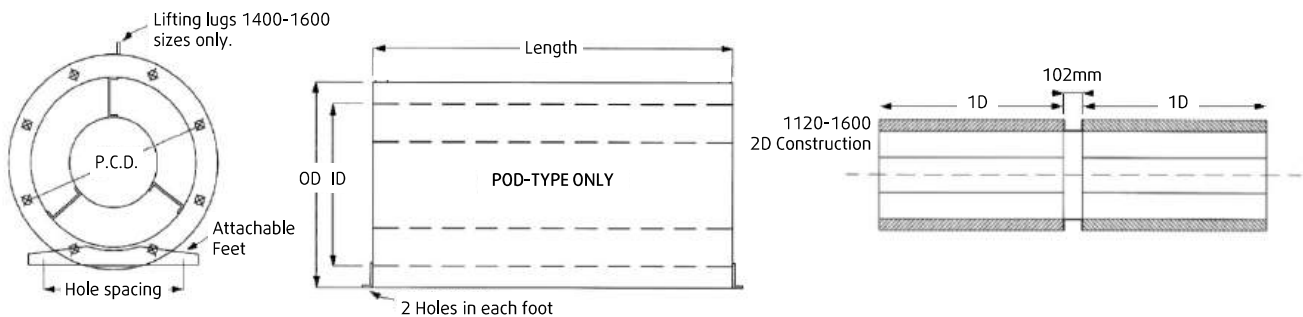
CYLINDRICAL SILENCERS (TYPE LP AND HP)

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

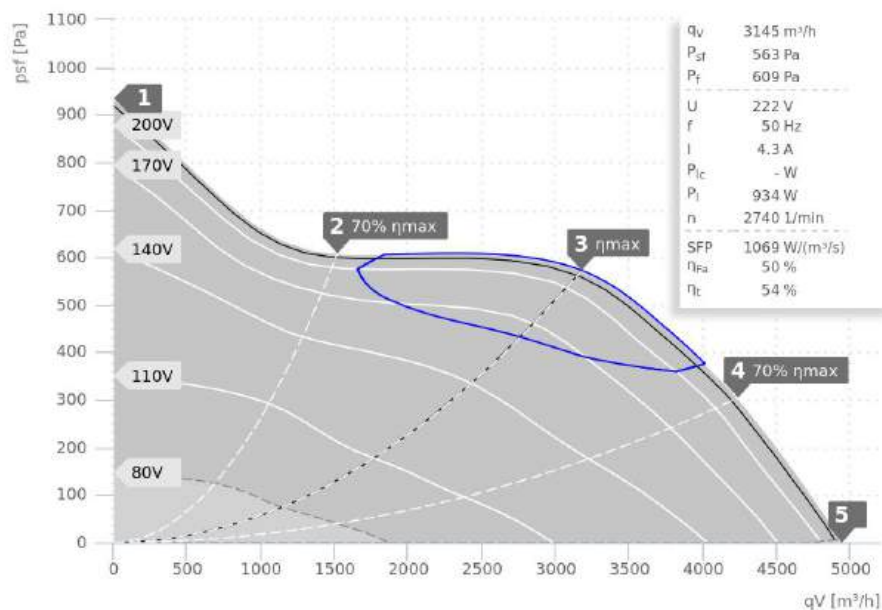
TYPE HP Attenuation

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

DATA SHEET

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VENTILATOREN

EL 355 E2 01 | 112757



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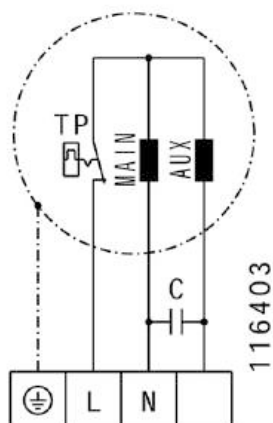
• T

— ErP compliant range

Operating Point		1	2	3	4	5
Current I	A	3,7	3,0	4,2	4,2	3,8
Power consumption P_1	W	842	694	955	957	856
RPM n	1/min	2802	2866	2776	2776	2810
SWL inlet L_{WA5}	dB(A)	88	83	79	80	84
SWL outlet L_{WA6}	dB(A)	91	87	83	85	87
SWL casing break out L_{WA2}	dB(A)	72	69	63	64	66

Sound power (L_W) dB(A)		Medium Frequency Band								
		Σ	63	125	250	500	1k	2k	4k	8k
Inlet	L_{WA5}	79	-	47	65	69	74	73	71	64
Outlet	L_{WA6}	83	-	54	69	76	80	77	72	63
Casing	L_{WA2}	63	-	45	53	54	58	56	55	44

EL 355 E2 01 112757	
Voltage U_N	230 V 1~
Current I_{max}	5,4 A
Ambient temperature t_A	45 °C
Medium temperatures t_M	45 °C
Speed Control	V
Motor protection	TMI
Insulation class motor	F
Weight	17,3 kg
Poles	2
IP motor	IP00
IP terminal box	IP44
IP complete unit	-
Min. operating temperature	-25 °C



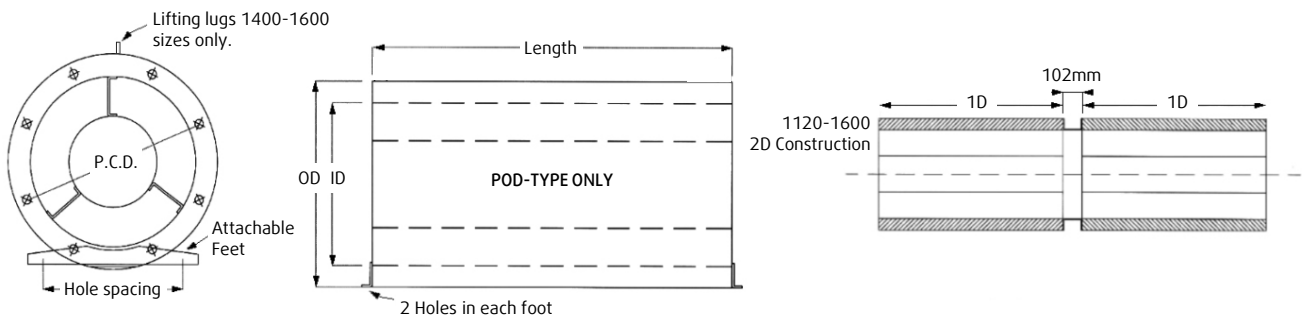
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Dimensions



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

KITCHEN EXTRACT

MFU RANGE

MULTI FILTRATION 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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Our Coverage

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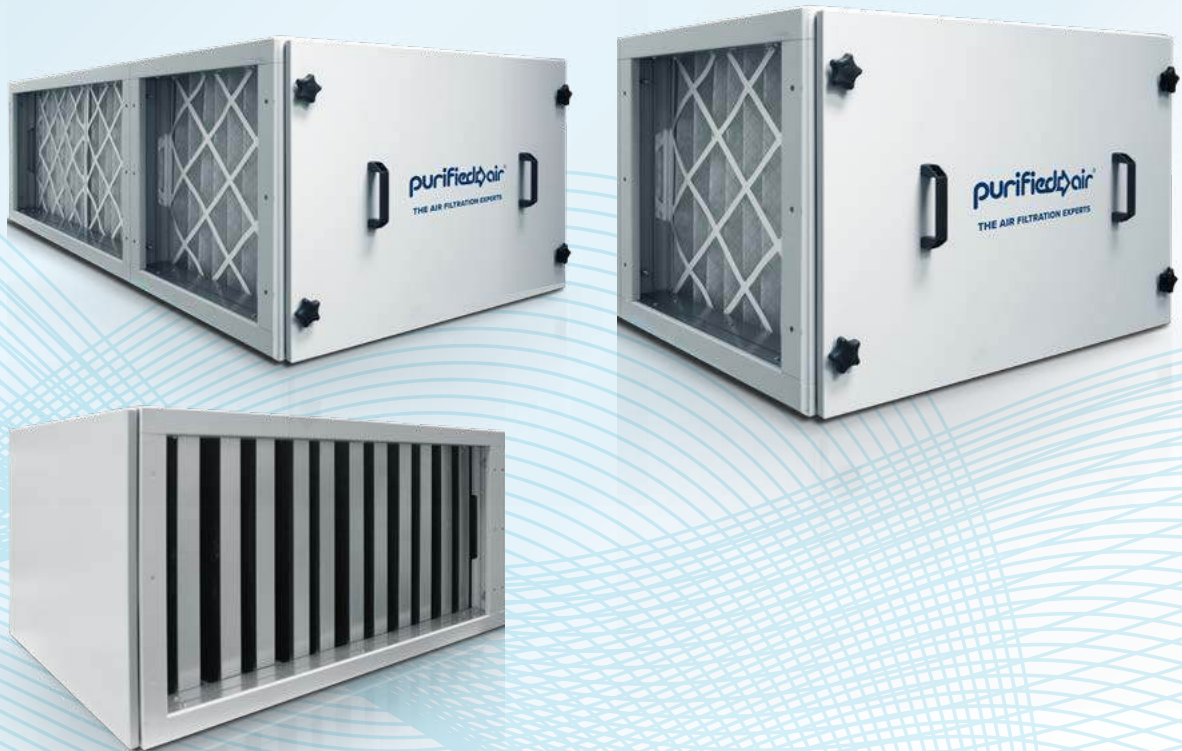
GET IN TOUCH

Contact Details

KITCHEN EXTRACT

MFU RANGE

MULTI-FILTRATION UNIT



Our MFUs are designed explicitly for kitchen extract systems; they collect the oil, grease and smoke particles filtered out of the exhaust through a combination of passive air filters, including panel, bag, HEPA and carbon.

The high-quality unit can house multiple filter combinations and is effortlessly serviced, replaced or even re-configured to provide continually effective and affordable kitchen extract particulate control. Additionally, the units help reduce grease build-up within the ducting and reduce odours.

Its modular design means units can be configured in various ways to handle any required flow rate, providing effective and efficient kitchen extract filtration.

KEY FEATURES

- ▶ Built for stock
- ▶ Multiple configurations
- ▶ Eliminates oil, grease, smoke particles and odours
- ▶ Modular in design
- ▶ Filters particles down to submicron levels
- ▶ Endless combinations of passive filtration
- ▶ Specifically designed for commercial kitchen application
- ▶ Greatly reduces grease build-up within the duct run

FILTERS REMOVE



OUR FILTERS



PANEL FILTERS

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



BAG FILTERS

Our general purpose bag filters are manufactured using a galvanised steel header to retain the pocket sets.

The pockets are produced from synthetic micro-fibres specifically designed for use in air filtration. They can be applied as a pre filter to carbon cells in malodour extraction, taking out oil and grease particles ahead of the carbon filter stage.



HEPA FILTERS

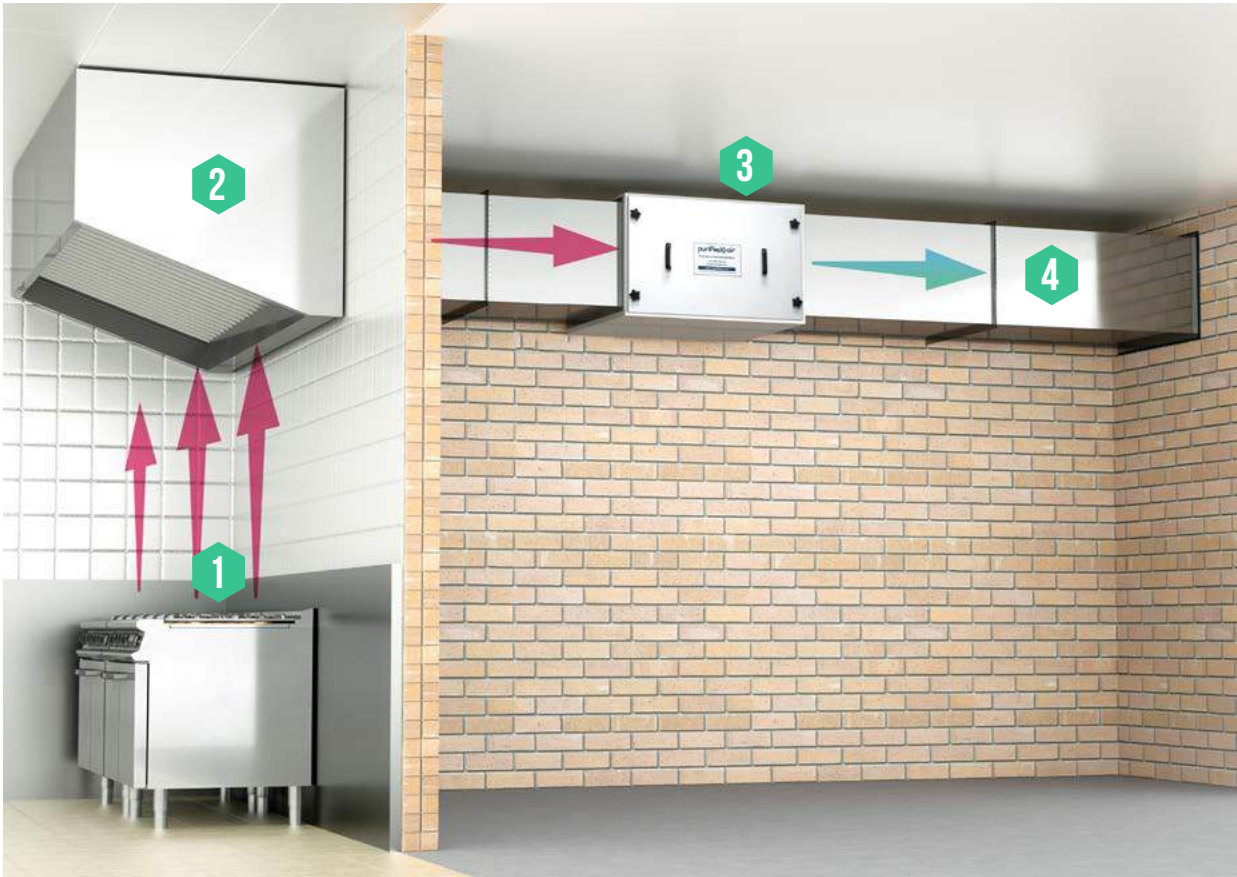
To qualify to be called a High-Efficiency Particulate Air or HEPA filter, the filter must be able to remove, from the air that passes through it, 99.97% of particles down to a sub-micron level. Our main use of HEPA filtration is the removal of smoke particles. We do supply many different sizes and grades of HEPA filters so please contact us with your requirements.



CARBON FILTERS

Our site safe carbon filters use panels of activated carbon to remove the malodorous gases within the commercial kitchen extract duct through the process of chemical adsorption. By installing adequate pre-filtration before our site safe filters, the carbon life span is greatly increased, allowing it to nullify malodours at optimum efficiency for much longer.

HOW IT WORKS



Our MFUs fit in line with the kitchen ducting and can be configured modularly to cope with all extract flow rates.

- 01 Cooking particulates and odours
- 02 Canopy Grease Filter

- 03 MFU Unit
- 04 Airflow

OUR SERVICES



Design



Manufacture



Maintain

MODULAR SYSTEM

Our system allows specifiers and installers to create a wide range of configurations which contain a customisable combination of different air filters. This provides a tailored, cost-effective air filtration solution.

MFU 600



MFU 1200



MFU 1800



SAMPLE CONFIGURATIONS

2 X MFU 600



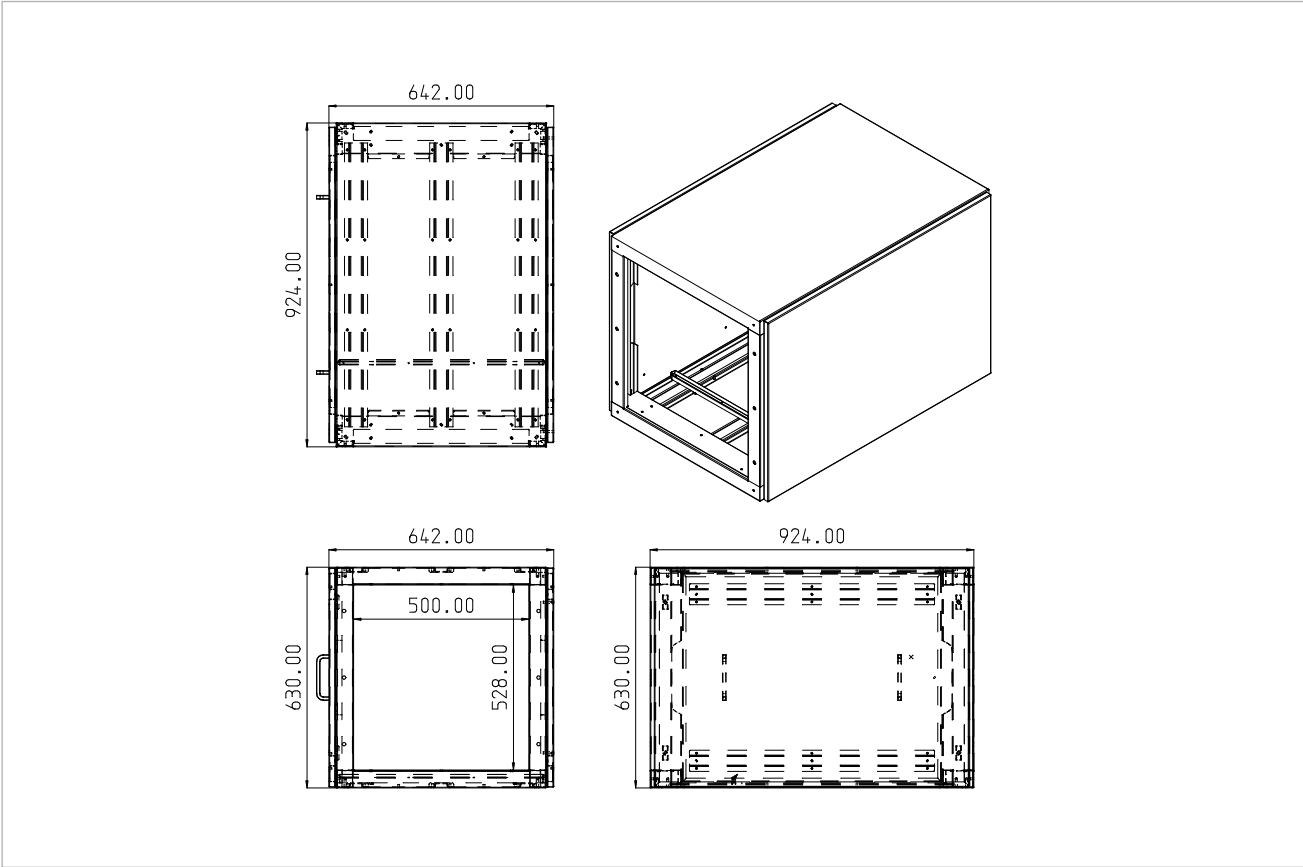
2 X MFU 1800



TECHNICAL SPECIFICATIONS

GLOBAL SPECIFICATIONS					
FILTERS		Width(mm)	Height	Depth	Weight (kg)
Panel	45mm	595	595	45	0.5
	95mm	595	595	95	0.5
Bag	300mm	592	592	300	1.5
HEPA	300mm	592	592	300	18
Carbon	Half	594	597	292	25
	Site safes	594	594	597	54
CASINGS ONLY					
MFU 600		640	630	925	55.5
MFU 1200		1245	630	925	78
MFU 1800		1885	630	925	133.5

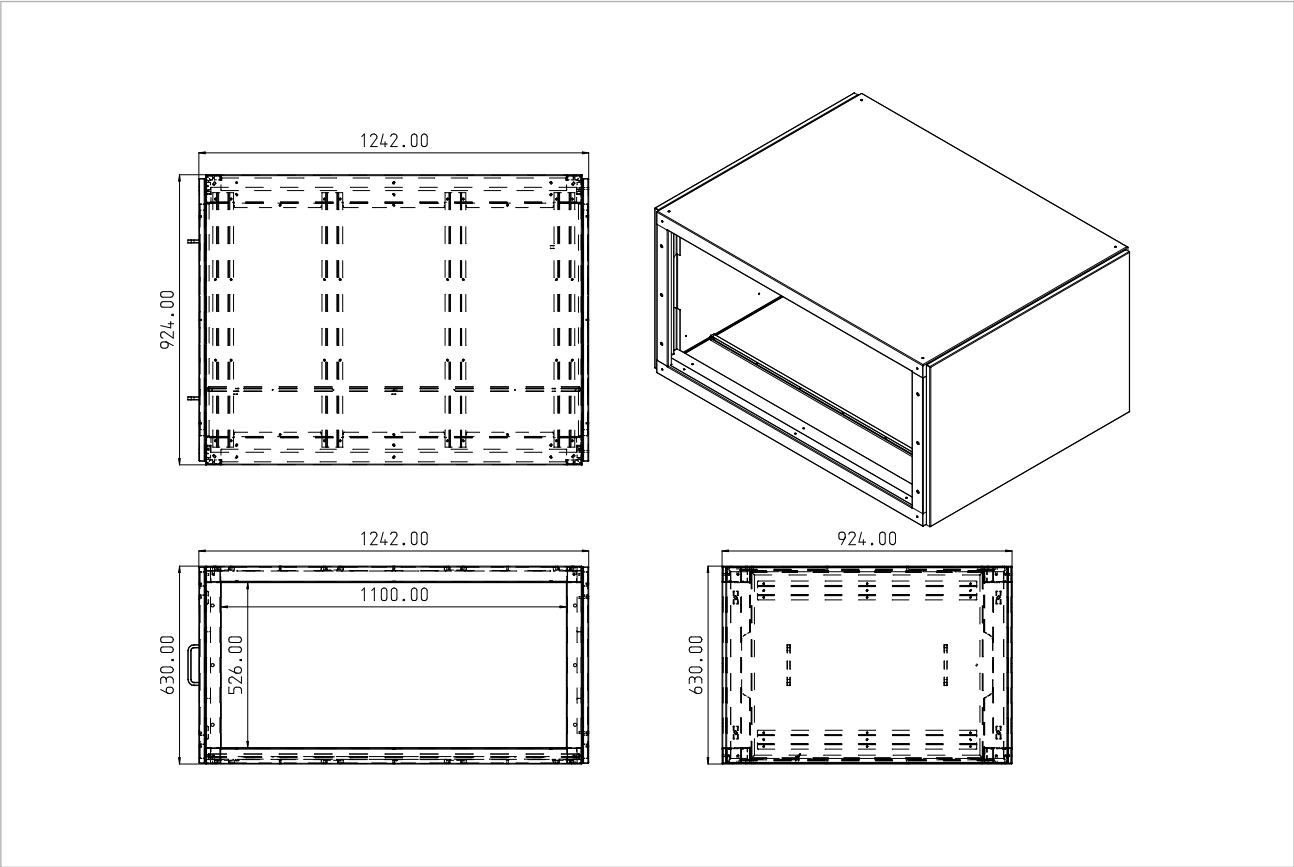
MFU 600



MFU 600							
		Model A1	Model B1	Model C1	Model D1	Model E2	Model F2
Panel	45mm						
	95mm	1	1	1	1	1	1
Bag	300mm		1	1			1
HEPA	300mm		1		1		1
Carbon	Half			1	1		
	Site safes	3				6	3
Flow Rate*		1m³/s	1m³/s	1m³/s	1m³/s	1m³/s	1m³/s
Weight		110	76	89	106	220	186
No. Units		Single	Single	Single	Single	Double	Double
Dimensions							
Height		630	630	630	630	630	630
Width		640	640	640	640	640	640
Depth (Direction of airflow)		925	925	925	925	1850	1850

* Flow Rate – unit selection dependent on air flow rate and cooking style

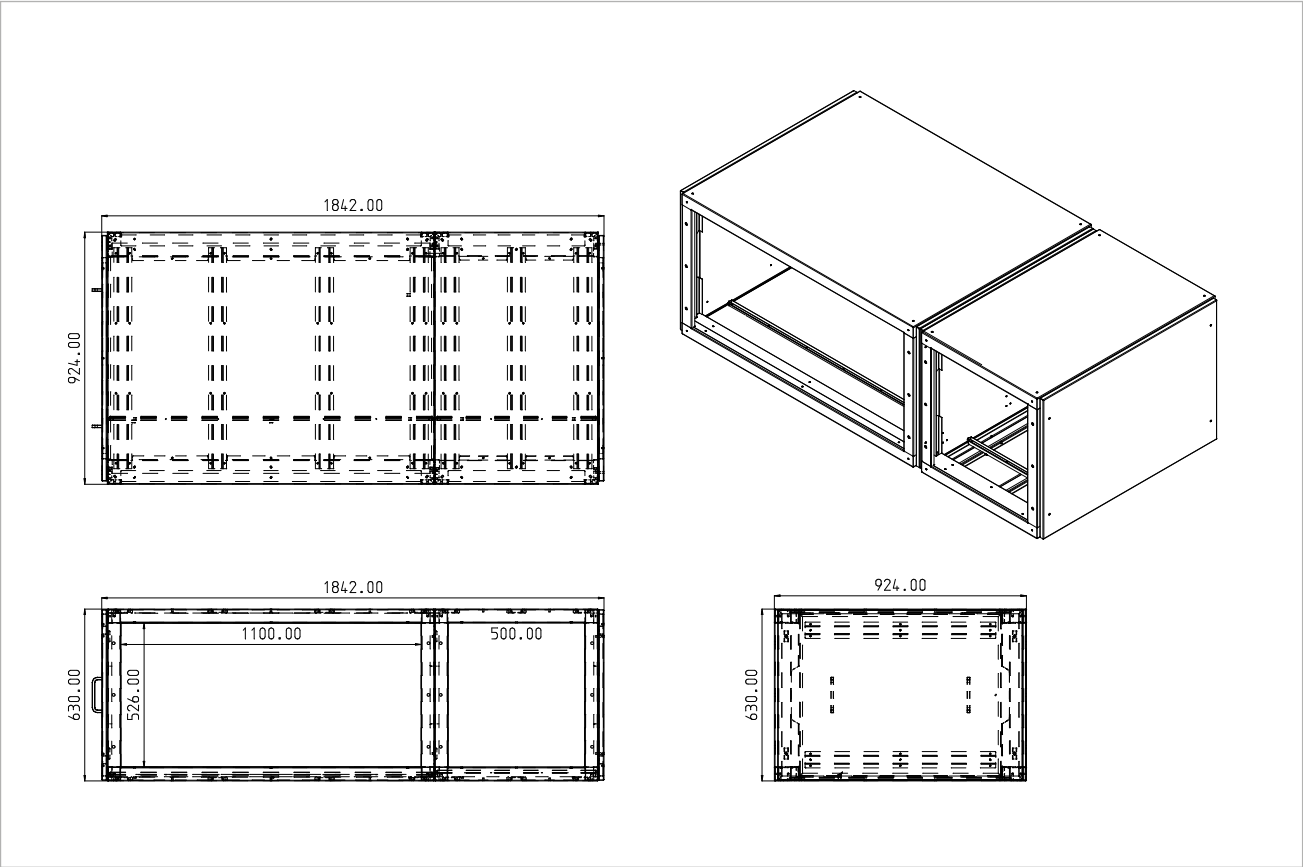
MFU 1200



MFU 1200							
		Model A1	Model B1	Model C1	Model D1	Model E2	Model F2
Panel	45mm						
	95mm	2	2	2	2	2	2
Bag	300mm		2	2			2
HEPA	300mm		2		2		2
Carbon	Half			2	2		
	Site safes	6				12	6
Flow Rate*		2m³/s	2m³/s	2m³/s	2m³/s	2m³/s	2m³/s
Weight		187	118	145	181	373	304
No. Units		Single	Single	Single	Single	Double	Double
Dimensions							
Height		630	630	630	630	630	630
Width		1245	1245	1245	1245	1245	1245
Depth	(Direction of airflow)	925	925	925	925	1850	1850

* Flow Rate – unit selection dependent on air flow rate and cooking style

MFU 1800



MFU 1800							
		Model A1	Model B1	Model C1	Model D1	Model E2	Model F2
Panel	45mm						
	95mm	3	3	3	3	3	3
Bag	300mm		3	3			3
HEPA	300mm		3		3		3
Carbon	Half			3	3		
	Site safes	9				18	9
Flow Rate*		3m³/s	3m³/s	3m³/s	3m³/s	3m³/s	3m³/s
Weight		297	194	234	284	485	489
No. Units		Single	Single	Single	Single	Double	Double
Dimensions							
Height		630	630	630	630	630	630
Width		1885	1885	1885	1885	1885	1885
Depth	(Direction of airflow)	925	925	925	925	1850	1850

* Flow Rate – unit selection dependent on air flow rate and cooking style



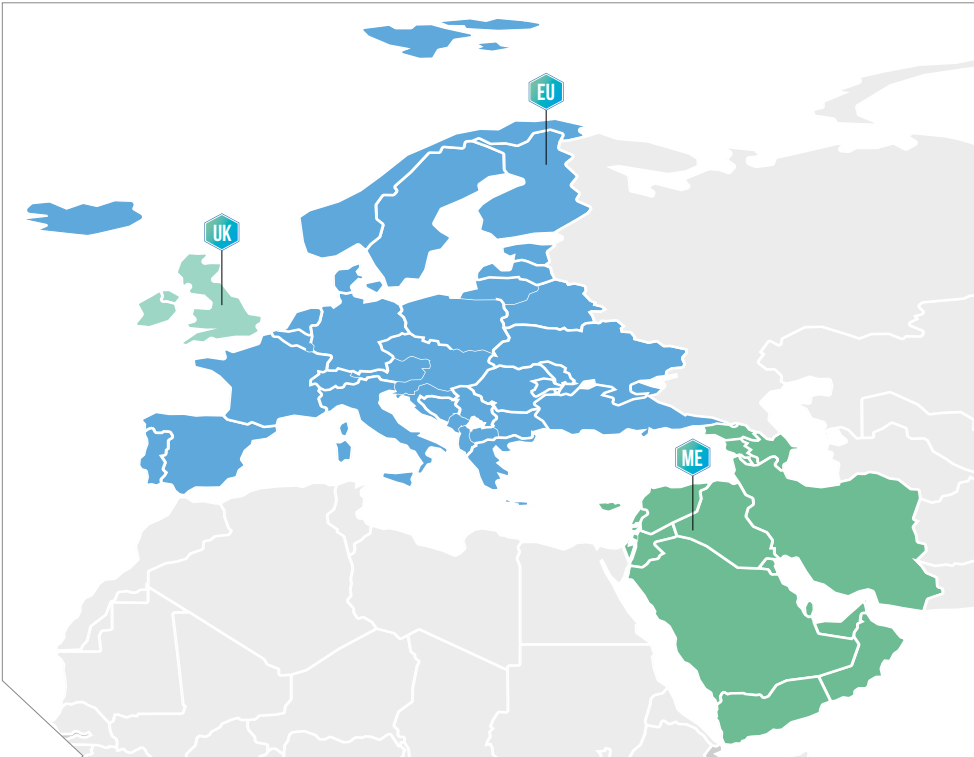
ABOUT US

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 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
- Asia
- Australasia



GET IN TOUCH

- 01708 755 414
- enq@purifiedair.com
- Purified Air Limited, Lyon House
Lyon Road, Romford,
Essex RM1 2BG

purifiedair.com



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, smoke, fat and odour produced by commercial kitchens and residential installation and service 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

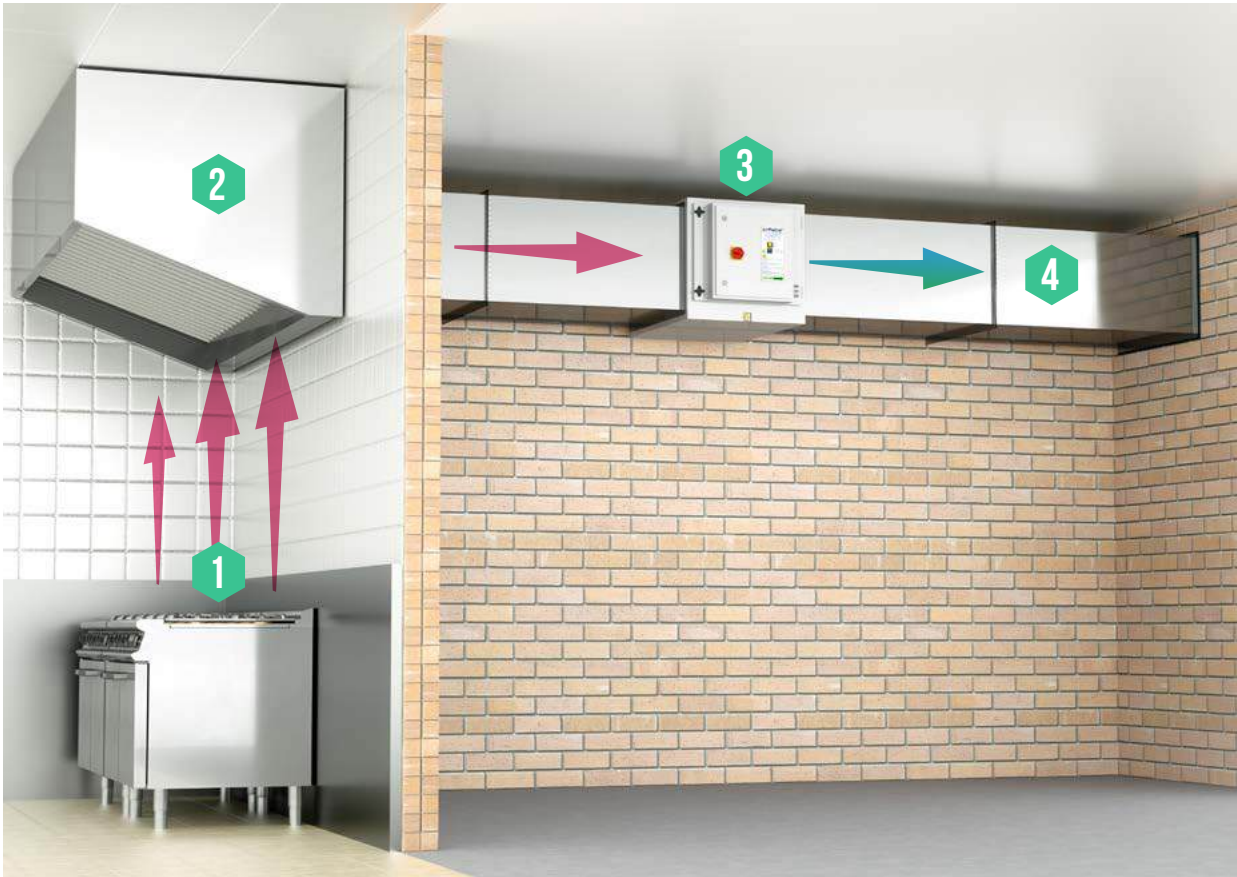


Oil



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

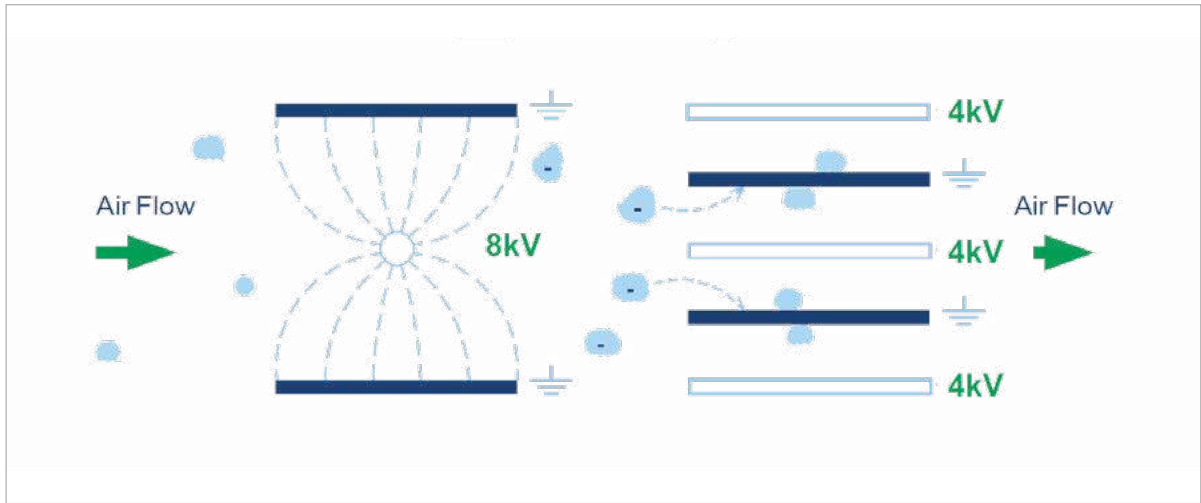


Manufacture



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 positively 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

- %

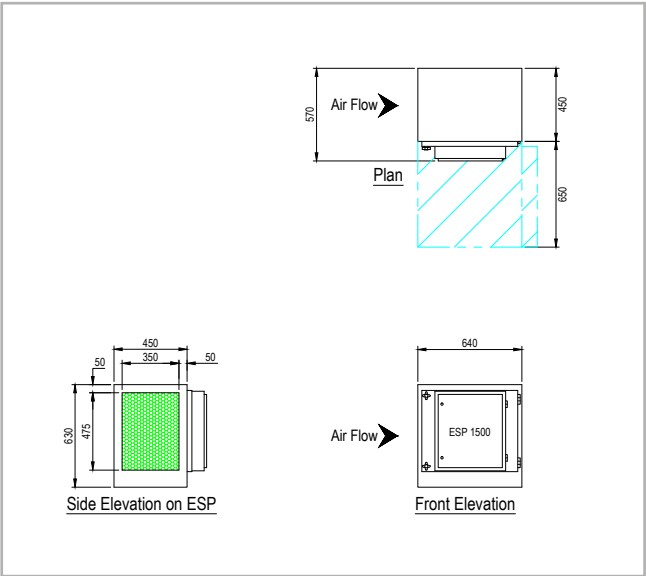
Eliminates up to 99% of particles
- Filters particles down to sub-micron levels
- Modular design
- Energy efficient

TECHNICAL SPECIFICATION

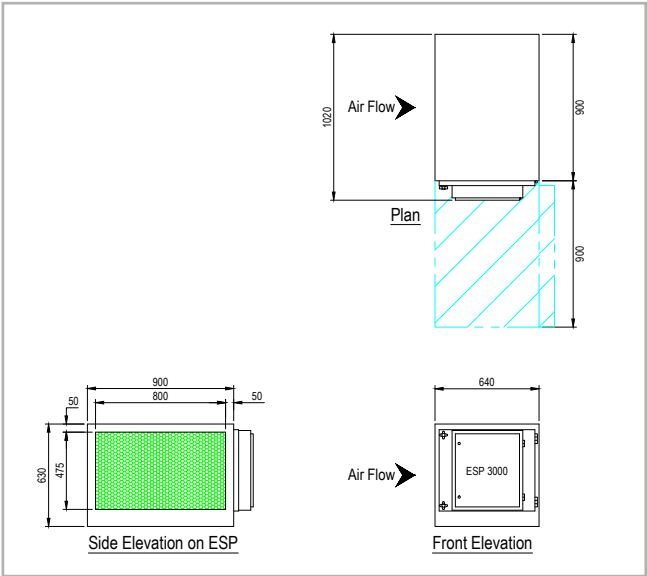
	ESP 1500	ESP 3000	ESP 4500	ESP 6000
Supply	220-240 _{V 50HZ}	220-240 _{V 50HZ}	220-240 _{V 50HZ}	220-240 _{V 50HZ}
Power Consumption	20 _W	30 _W	40 _W	50 _W
Maximum Airflow	0.7 _{M³/SEC (UP TO)}	1.4 _{M³/SEC (UP TO)}	2.1 _{M³/SEC (UP TO)}	2.8 _{M³/SEC (UP TO)}
Dimensions (mm)	W 450 H 630 D 640	W 900 H 630 D 640	W 1350 H 630 D 640	W 1800 H 630 D 640
Weight	55 _{KG}	85 _{KG}	118 _{KG}	153 _{KG}

DRAWINGS

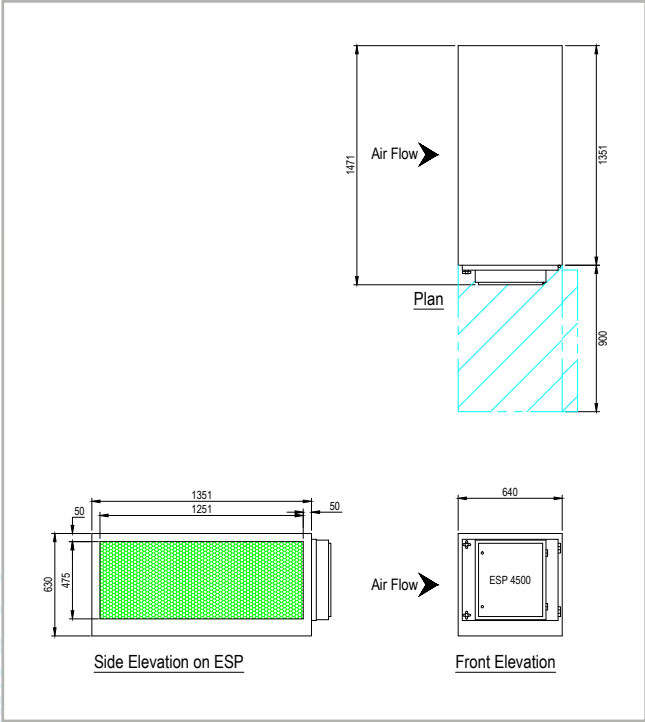
ESP 1500



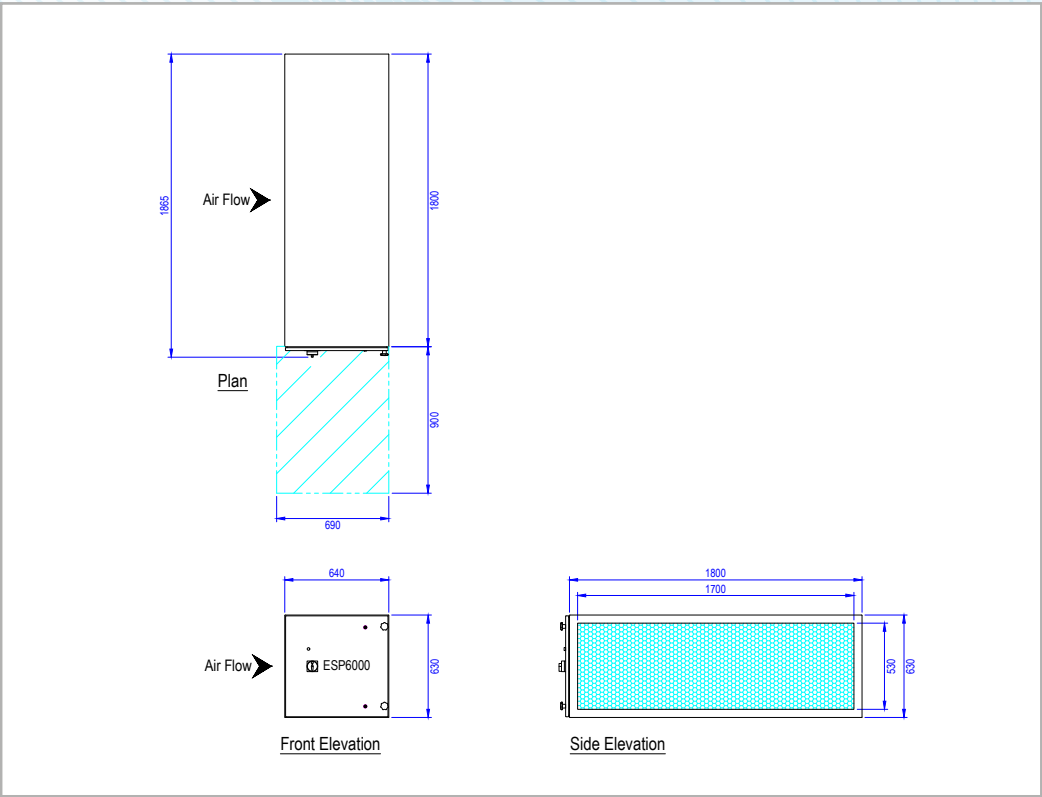
ESP 3000



ESP 4500



ESP 6000





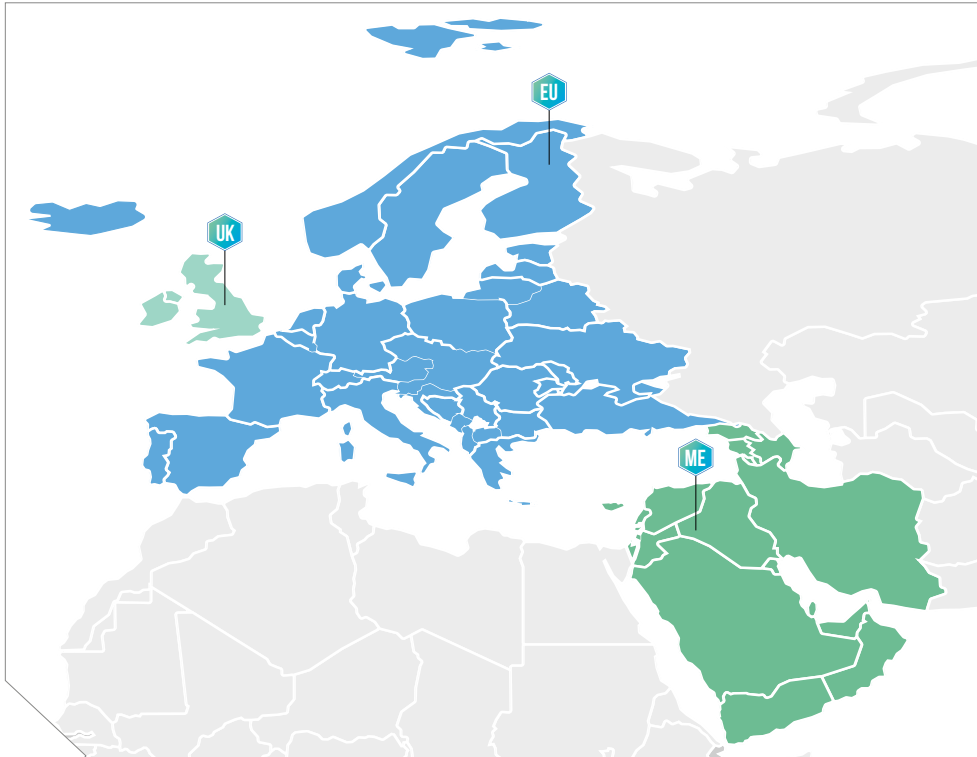
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WORLDWIDE COVERAGE

- United Kingdom
- Middle East
- Europe



GET IN TOUCH

- 0800 018 4000
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- Purified Air Limited, Lyon House
Lyon Road, Romford,
Essex RM1 2BG

purifiedair.com



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.

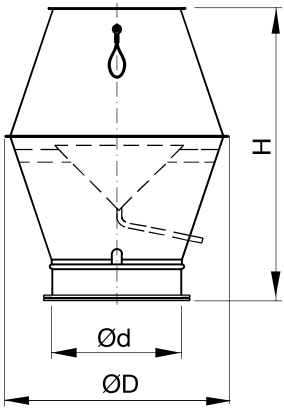
To avoid damage to the net in the opening the hood is supplied with transport protection. This must be removed before the hood is taken into service.

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

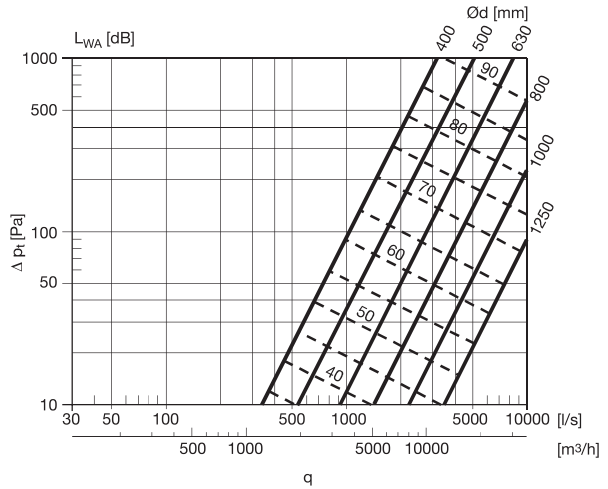
Product code **HF**
Dimension **630**

Dimensions



				Roof through con- nection TGR	
Ød nom	ØD mm	H mm	m kg	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

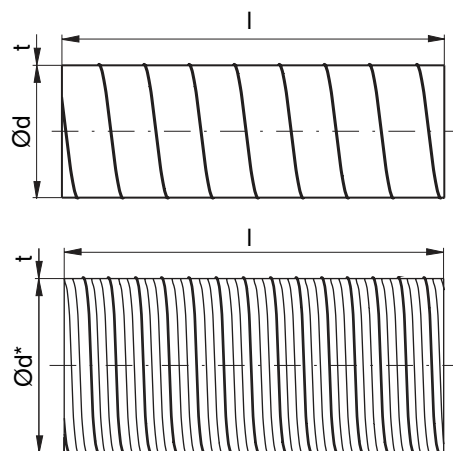
Circular duct.

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

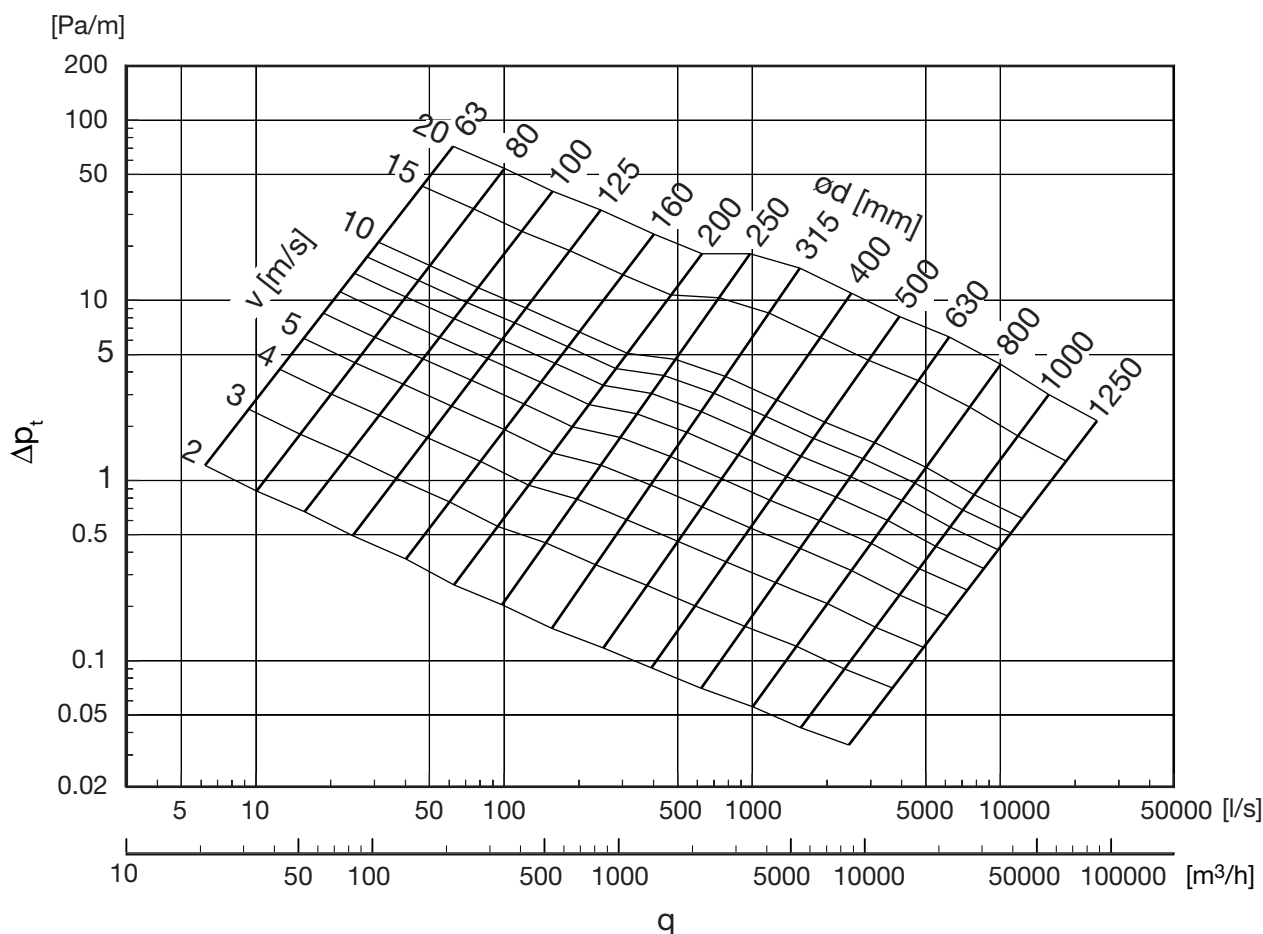
	SR	200	3000	CLIC
Product				
Dimension Ød				
Length l				
Type				



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 $\phi 250$ 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

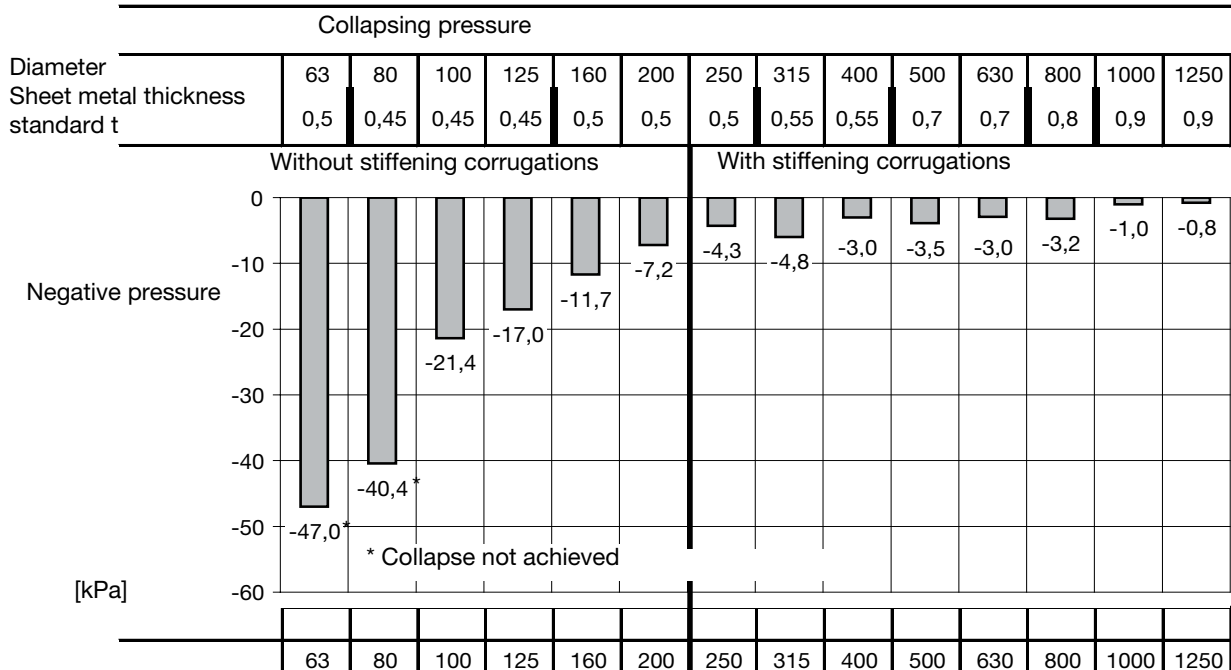
In installations with high negative pressure, there is a risk that the ducts could collapse.

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

1. General

By placing an order with Fusion Hot Ltd ("the Company"), the client ("the Customer") agrees to be bound by the following terms and conditions.

These conditions apply to all goods and services supplied unless otherwise stated in writing by Fusion Hot Ltd.

2. Quotations and Scope of Works

Our quotations clearly outline the products and services included. Any item or service not specifically listed in the quotation is excluded from our scope unless confirmed in writing.

3. Exclusions

Unless expressly stated otherwise, the following are **excluded** from all quotations:

- Ventilation systems designed to EMAQ Guidelines (subject to separate quotation)
- Odour control and noise management systems
- Fire-rated ductwork, insulation, or wall rating where ductwork passes through structures
- Planning permission or local authority approvals (client's responsibility)
- Hanging of canopies exceeding 4500mm from finished floor level
- Infill panels or finishing between canopy tops and ceilings
- Correction of gaps due to building inaccuracies
- Specialist fixings or structural supports specific to building design
- Balancing and commissioning of canopies
- **All electrical works**, including final connections and control commissioning
- Gas works, including gas valves or interlocks
- Pipework and inclusion of valves
- Builders, roofing, or waterproofing works (including scaffolding or lifting equipment)
- Structural works to roof areas or plant supports
- Protection of internal flooring and finishes
- Lifting or hoisting of plant to roof level
- Edge protection, thermal insulation, or ceiling void boarding

- Fire suppression systems
- Strip-out or removal of existing canopies or ductwork
- Earth bonding and ductwork insulation
- TR19 inspection hatches (to be installed by others)
- Extraction canopy fan or speed controller wiring to mains or board
- Heater batteries for air input systems
- Grease traps (if required)
- Asbestos management or removal
- Revisit to site due to incorrect, incomplete, or inactive services (chargeable call-out applies)
- Notifications to authorities or regulatory bodies
- VAT

Any additional works requested outside our agreed scope will be quoted and charged separately.

4. Working Hours

Standard working hours are **Monday to Friday, 8:30am – 5:30pm**, excluding bank holidays. Additional hours or weekend work due to unforeseen circumstances or client delays will be charged at **£50 per hour**, payable directly to our installation team.

5. Warranty

- All new fans are covered under the manufacturer's warranty.
 - In the event of a fault, a replacement fan must be purchased and the original unit returned to the manufacturer for inspection. If confirmed faulty under warranty, the cost of the fan will be reimbursed.
 - Labour or call-out costs related to inspection or replacement are not covered and remain the responsibility of the client.
 - Any fan or controller failure resulting from incorrect wiring is not covered under warranty. Replacement parts and return shipping will be chargeable.
-

6. Installation Responsibility

Installation is carried out by Fusion Hot Ltd's own engineers or approved partners working under our direct supervision.

All installation works are covered under Fusion Hot Ltd's scope of responsibility unless otherwise stated in writing.

7. Payment Terms

- A **50% deposit** is required upon order placement.
- The **remaining 50% balance** is due **upon installers' arrival on site**, unless otherwise stated in a written contract with the client.

This ensures the installation proceeds smoothly without interruption or delay.

Once payment has been made, any refund is subject to a **25% restocking charge** and deduction of any fees incurred.

8. Limitation of Liability

Fusion Hot Ltd shall not be liable for any delays, damages, or losses caused by circumstances beyond our control, including but not limited to site inaccessibility, delayed approvals, or pre-installation works not completed by others.

Our liability shall in all cases be limited to the value of the goods or services supplied under the relevant contract.

9. Health & Safety

All works will be carried out in accordance with current health and safety legislation.

The client must ensure that the working area is safe, clear, and accessible prior to our team's arrival.

10. Acceptance

By accepting a quotation or making a payment, the client confirms agreement to these terms and acknowledges that any works not itemised in the quotation are excluded.

Fusion Hot Ltd

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