# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

**Ventilation strategy for the below address**

**Address**
100 York Avenue
Manchester, M16 0AG

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** |
| **3300** | **1200** | **500** | **300** |

| Extraction Filtration |
|---|
| **Longar type 3 baffle filters** |
| **Supply Air Filtration** |
| **Longar G4 Filter** |

| Odour control |
|---|
| **1 x Rydair ry250 electrostatic precipitation unit with built in UV System**<br>**1 x mesh filter 495 x 495 x 50mm**<br>**1 x G4 Pleated filter 495 x 495 50mm** |

| Extract Fan | Maximum | Maximum | Maximum | Sound | Speed | Weight |
|---|---|---|---|---|---|---|


Stainless Steel Fabrication
**Commercial Kitchen Design and Installation**

**UNIT 5 FIREFLY SQUARE PLANTATION ROAD BURSCOUGH L408JT**

**Tel:** 01704-893945 **Fax:** 0844-4122296

**Email:** fusionhot1@gmail.com **Web:** www.facebook.com/fusionhot

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# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

| Model | absorbed power (W) | absorbed current (A) | | air volume (m3/h) | pressure level* (dB(A)3m) | (r.p.m.) | (Kg) |
|---|---|---|---|---|---|---|---|
| | | 230v | 400v | | | | |
| TCBBx2/4-450 | 1316 | 507 | | 7430 | 67 | 1420 | 42 |
| | | | | | | | |
| **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 | | | | |
| HCBB/4-400/H | 315 | 1.5 | | 4830 | 62 | 1360 | 9 |

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

| Cleaning and maintenance |
|---|
| Cleaning and maintenance schedule to be supplied to client to TR19 guidelines<br>This must be carried out by a competent registered BESA Ductwork cleaner no longer than 12 month intervals or earlier |

**Typical extraction canopy's below**


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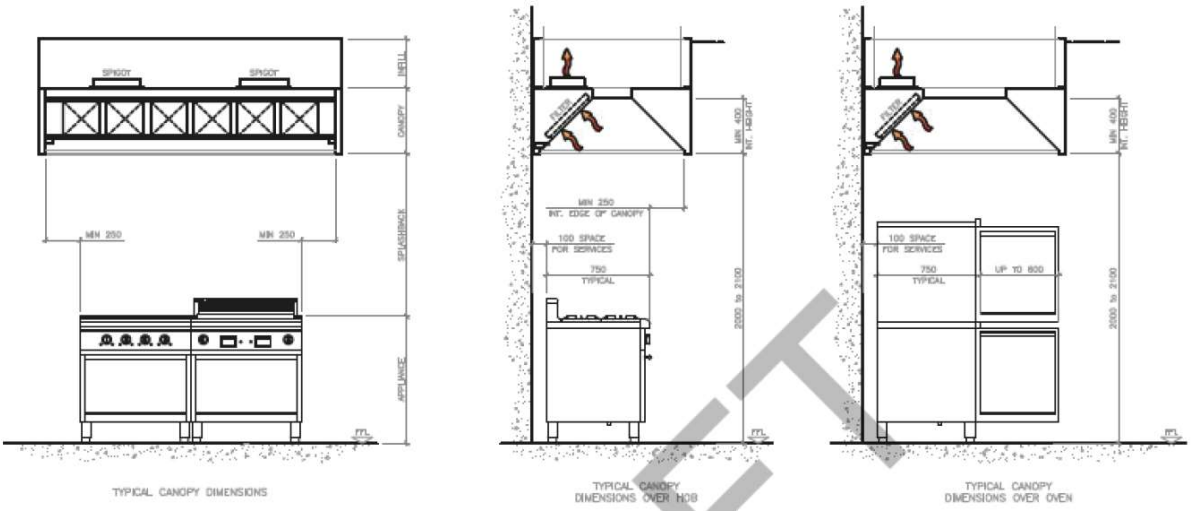
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## Commercial Kitchen Design and Installation





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## Commercial Kitchen Design and Installation

## 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. *Turkish, Middle Eastern or any premises cooking with solid fuel* |
| | High | 7 | Vietnamese, Thai, Indian, *Japanese, Chinese, steakhouse* |
| | Medium | 4 | Cantonese, *Italian, French, Pizza (gas fired),* |
| | Low | 1 | Most pubs (*no fried food, mainly reheating and sandwiches etc*), *Tea rooms*[1] |

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# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

| Premises type | Dispersion | Proximity of receptors | Size of Kitchen | Cooking Type | Total Score |
|---|---|---|---|---|---|
| **Takeaway Restaurant** | **10** | **10** | **1** | **7** | **27** |

| 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: | | |


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# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

| 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).<br>2. Fine filtration followed by counteractant/neutralising system to achieve the same level of<br>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).<br>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).<br>2. Fine filtration or ESP followed by carbon filtration and by counteractant/neutralising system<br>To achieve the same level of control as 1.<br>3. Fine filtration or ESP followed by UV ozone system to achieve the same level of control<br>As 1. |


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Google Maps 100 York Ave




Imagery ©2024 Google, Imagery ©2024 Airbus, Map data ©2024 5 m



# 100 York Ave

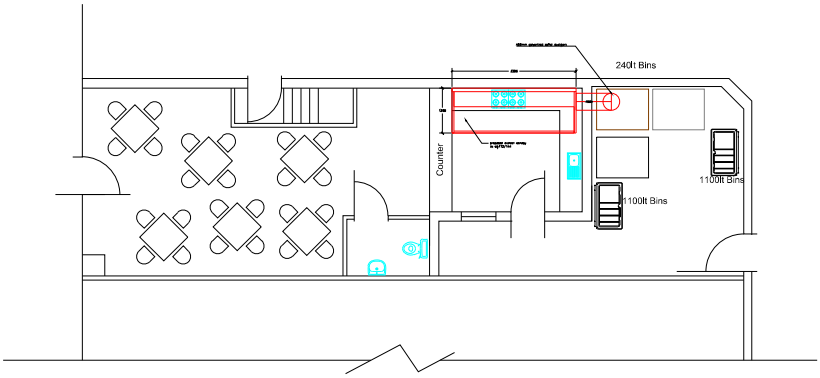
Building

Directions Save Nearby Send to phone Share

100 York Ave, Manchester M16 0AG

## Photos

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




# Ground Floor Plan

| no. | date | REVISION description | initial |
|---|---|---|---|

HSH
Engineering Design Services Ltd
428 Cheetham Hill Road Cheetham Manchester
M8 9LE. UK 01617956385,07940198333

project title: Proposed change of use of the ground floor from a shop to Restaurant .

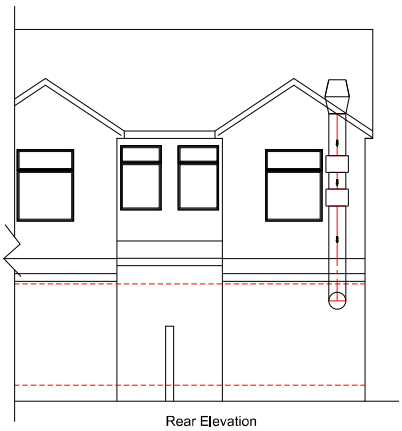
client: Geo Traders Ltd

dwg. title: Waste Mangament Plan

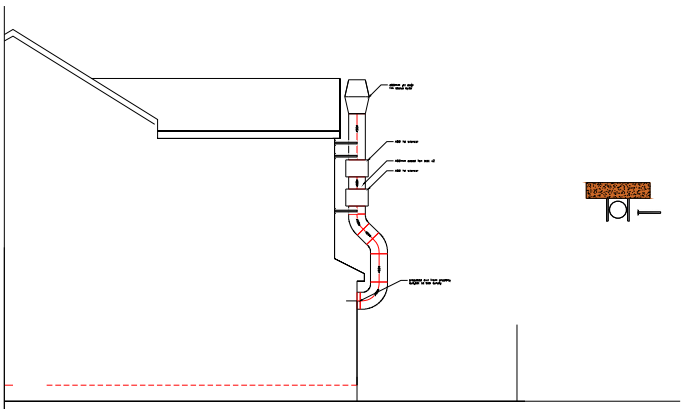
| dwg.no. | sheet no. | scale. | job no. |
|---|---|---|---|
| 05 | | 1:200 @ A3 | |

100 York Avenue Manchester M16 0AG

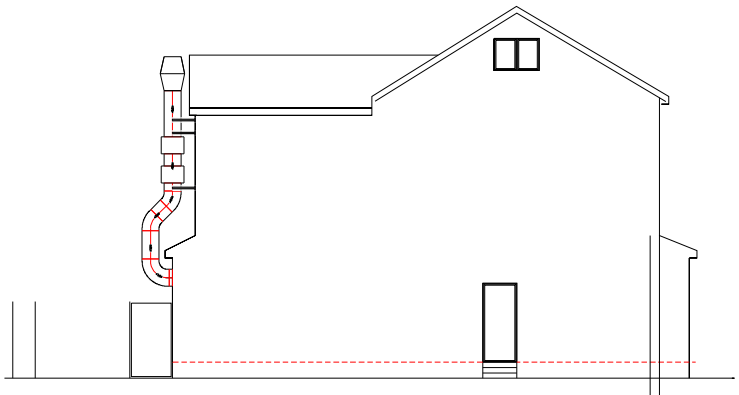
| drawn by. | checked by | approved by | date |
|---|---|---|---|
| rz | | | Sept 24 |



Rear Elevation



Elevation From No 98



Side Elevation



Front Elevation

| no. | date | REVISION description | initial |
|---|---|---|---|

HSH
Engineering Design Services Ltd
428 Cheetham Hill Road Cheetham Manchester
M8 9LE. UK 01617956385,07940198333

project title: Proposed change of use of the ground floor from a shop to Restaurant .

client: Geo Traders Ltd

dwg. title: Proposed Elevations

| dwg.no. | sheet no. | scale. | job no. |
|---|---|---|---|
| 05 | | 1:200 @ A3 | |

100 York Avenue Manchester M16 0AG

| drawn by. | checked by | approved by | date |
|---|---|---|---|
| rz | | | Sept 24 |

# LONGAR® Type 3
## Low Pressure Baffle Filter



*Stainless steel 240 grit finish - standard handles



*Stainless steel bright annealed finish - optional fixed high temp handles

LONGAR® TYPE 3 FEATURES:
- Low pressure loss
- Polished finish or 240 grit dull grain finish
- Fully welded construction – all stainless steel construction
- Robust construction, our strongest filter yet
- Folding handles and drain holes standard (optional rigid handle available)
- Meets HVCA DW172 requirements
- Stock Sizes 2-3 days delivery, custom sizes available
- Cutsafe safety edges

### APPLICATIONS
- Commercial kitchens
- Water mist separation
- Spark arrestors
- Sand filtration

### LONGAR® TYPE 3 BAFFLE FILTER
For use in commercial kitchens and ventilation to extract grease laden air and offer a barrier to flame. The Type 3 has been developed for customers that require a lower pressure baffle filter, it still holds many of the features of the premium Type 2 yet offer a lower resistance to air. The Type 3 is available in standard depths of 20mm and 45mm. Custom sizes available on request. Meets DW172 and ISO9001.

### CONSTRUCTION / MATERIAL SPECIFICATION
As standard all baffles are manufactured with Stainless Steel 430 polished finish and 240 Grit Dull Grain Finish. Maximum Operating temperature 400C or 750F.

### FITTING INSTRUCTIONS
- Fit products, handles in direction of air in.
- Product vertical in air stream.

### HANDLING
- Handle with care when unpacking.
- Store in dry and frost protected place.

### MAINTENANCE
- All maintenance should be carried out in accordance with the planned maintenance set by installation contractor.
- When handling any components suitable PPE should be used - gloves & eye protection and access equipment.
- Filters should be cleaned by a trained operative either daily for heavy use or weekly for light use.
- For more exact guide to cleaning you should contact a cleaning specialist.

### PACKAGING
All units are packaged in double wall boxes with separators for standard sizes, glued closed for protection whilst in transit against contamination.

### FILTER CLASSIFICATION:
- Filter Class G2.
- UL Class 2.

### MANUFACTURED TO:
- DW172.
- ISO9001.

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

Longar Industries Limited, Unit 25, Glenmore Business Park, Colebrook Way Weyhill Road, Andover, Hampshire SP10 3GZ United Kingdom
T +44 (0)1264 332 993 F +44 (0)1264 332 994 E info@longarind.com W www.longarind.com

# LONGAR® Type 11
## Pleated Panel Filters





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.

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

### LONGAR® TYPE 11 PLEATED PANEL FILTER
Used in a variety of HEVAC applications where higher level air cleanliness is needed over the standard pre filters. Glass media is unacceptable in food and pharmaceutical industries and in some hospital areas. Especially useful where the installation requires a combination of high arrestance coupled with control over smaller particles. The high capacity version is selected when space is at a premium; filter sizes match the rated capacities of bag filters.

### CONSTRUCTION / MATERIAL SPECIFICATIONS
The LONGAR® Type 11 is manufactured with pleated synthetic media, and an expanded diamond grid with 97% open area. The casing is constructed from a heavy duty rigid water resistant card, with support members along the diagonals. The media is bonded to the support grid and the frame in order to avoid the possibility of air bypass. The case is designed for minimum resistance and maximum free area, the case is also crease formed to stop moisture ingress. The product can be manufactured in a variety of depths from 22mm to 97mm deep. Optional metal frame available as shown above.

22mm (1") Filters are 9 Pleats per 300mm (1ft)
47mm (2") Filters are 9 Pleats per 300mm (1ft)
97mm (4") Filters are 9 Pleats per 300mm (1ft)

### TYPE 11 HIGH CAPACITY PLEATED PANEL
We are able to manufacture the Type 11 with increased filter media over the standard product, for situations where an increase in air volume is required.

22mm (1") Filters are 12 Pleats per 300mm (1ft)
47mm (2") Filters are 12 Pleats per 300mm (1ft)
97mm (4") Filters are 12 Pleats per 300mm (1ft)

### TYPE 11 HIGH EFFICIENCY PLEATED PANEL
Where situations arise we manufacture the Type 11 with a higher grade of filter media, F6, F7, F8 are available.

### LONGAR® TYPE 11 IMPREGNATED CARBON PLEATED PANELS
For less demanding situations the use of impregnated media can be considered. They utilise non-woven synthetic media, which is then impregnated with activated carbon. They offer an alternative to our granular carbon systems however they cannot offer either the life span or dwell time that can be found with the rest of the range.

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

Longar Industries Limited, Unit 25, Glenmore Business Park, Colebrook Way Weyhill Road, Andover, Hampshire SP10 3GZ United Kingdom
T +44 (0)1264 332 993 F +44 (0)1264 332 994 E info@longarind.com W www.longarind.com



# RY 2500B

## Electrostatic Air Cleaner

(Without Blower)

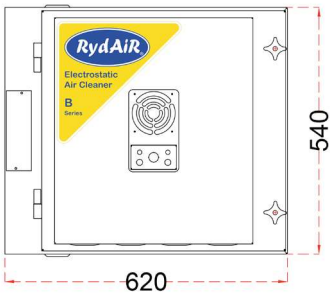


Industrial grade Electrostatic Air Cleaners for collection of dry and wet particulates like dust, oil mist, cooking fumes and various pollutants. Typical application include commercial kitchen exhausts, Air Handling Units (AHUs), factories, workshops, CNC machine shops and many other premises.

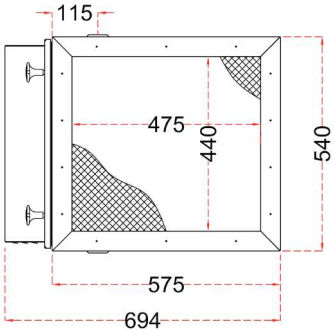



## SPECIFICATIONS

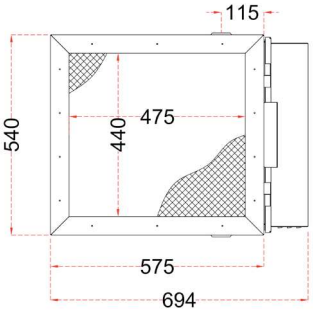
| | |
|---|---|
| Dimensions/Weight | H: 540 x W: 694 x L: 620 mm / 55Kg |
| Cabinet | Galvanized Steel, 1.4mm / 16 Gauge |
| Finishing | Powder Coated, Dark Blue |
| Air Volume (Rated-Max)# | CFM: 1500-2000max; CMH: 2500-3500max; L/s: 700-970max |
| Static Pressure | 50 pa / 0.2" |
| Voltage & Power | 230 VAC +/-10% , 50/60Hz, 50Watts |
| Ionising Voltages | High Voltage: 12KVdc, Low Voltage: 6KVdc |
| Air Flow Direction | Default : Right to Left; Reversible : Left to Right |
| Power Supply | High Frequency solid state and self regulating design |
| Features | *Short circuit, arc protection and auto restore power supply<br>*BMS (Building Management System) terminals provided<br>*Auto power cut-off when door is opened<br>*Indicator LEDs for normal or wash indicator<br>*Set of Terminals for remote LED normal or wash indicator |
| Particle size | From 0.01 microns - 10 microns |
| Efficiency | DOP Test, up to 95% single pass,up to 99% double pass, calculated. ASHRAE 52.2-2012, up to 96% single pass, up to 99% double pass, calculated. NIOSH 5026 OIL MIST FIELD TEST : UP TO 96% |
| MERV Ratings | Meets MERV 15 at velocity of 2.5m/s to 3.8m/s |
| Pre-Filter | Aluminum wire mesh, Washable x 1 |
| Electrostatic Cell | H: 472mm, W: 550mm, L: 340mm |
| No of Cells / Weight | 16.5Kg |
| No Of Plates per Cell | 59 |
| Total Collecting Area | 6.07 Sq meters |
| Post Filter (Optional) | Aluminum Wire Mesh, Washable x 1 |
| Installation | Ceiling Suspended; Wall or Frame Mounted, Multiple Units Stack |



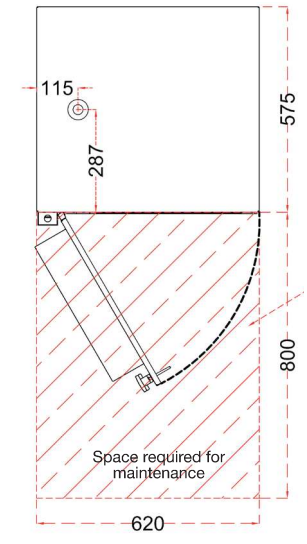

Front View




End View Air Inlet

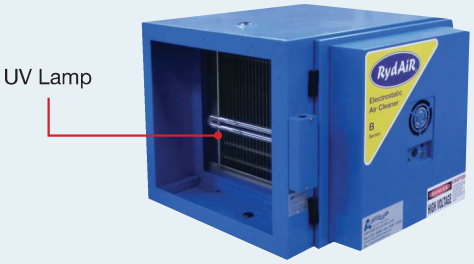



End View




Top View

## RY2500B with UV Ozone Lamp




RY2500B-UV03

**ODOUR CONTROL OPTION:**

- UV ozone Lamp fitted after electrostatic cell
- Lamp Wattage : 65 Watts
- Ozone output : 6 Grams/Hour
- Lamp Life : 13,000 Hours
- Lamp Operation Blue LEDs on Unit's Panel
- All accessories are contained in RY Unit

NIOSH-National Institute for Occupational Safety and Health
# Running at max capacity will lower efficiency to 85%

CE ISO 90001



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.
Fited 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 -40ºC up to 70ºC.



**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.

## 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 ($m^3/h$) | Weight (kg) | Speed controller RMB/T | Variable frequency inverter | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | VFTM | | VFKB | |
| | | | | to 230 V | to 400 V | | | | | 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 wichever is the greater.
** Only for fans fitted with three phase motors 230/400V.

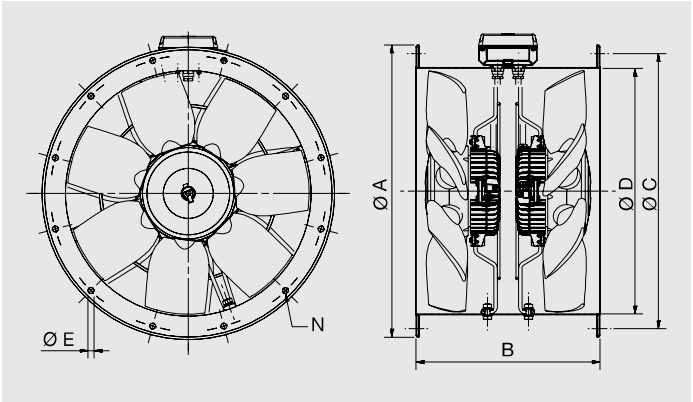
## ACOUSTIC CHARACTERISTICS

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 $m^3/h$ | 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 $m^3/h$ | 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 |

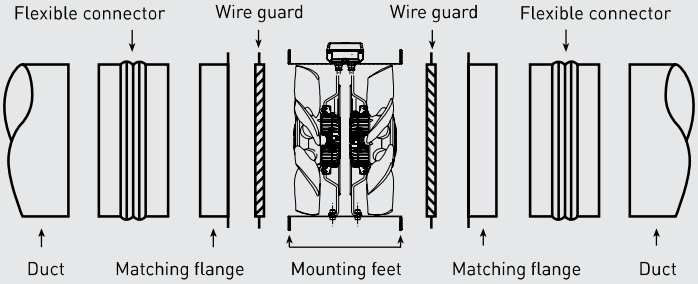
## DIMENSIONS (mm)




| 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



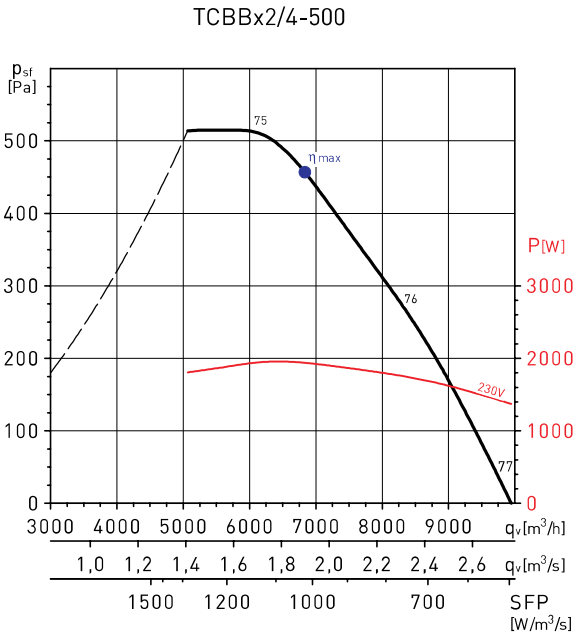



## PERFORMANCE CURVES TCBBx2 / TCBTx2

- $q_v$: Air volume in $m^3/h$ and $m^3/s$.
- $p_{sf}$: 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 |
| **[m³/h]** | Air volume |
| **[Pa]** | Static pressure |
| **[RPM]** | Speed |

## EXAMPLE CURVE

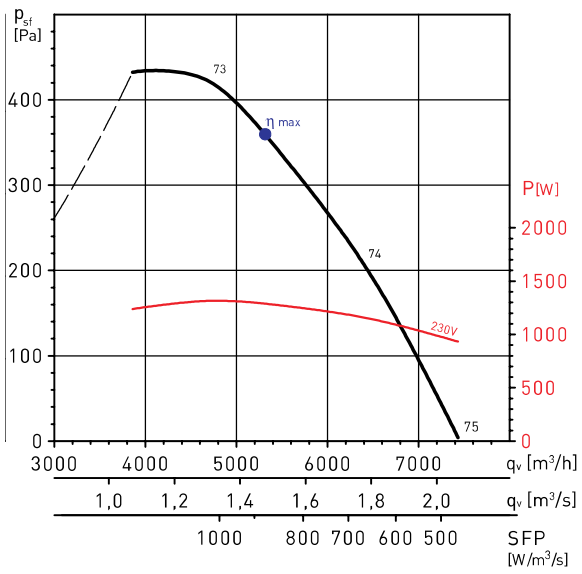



| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 45,1 | 49,6 | 1,957 | 6383 | 498 | 1394 |

* See example curve.

## PERFORMANCE CURVES – 4 POLE MOTOR

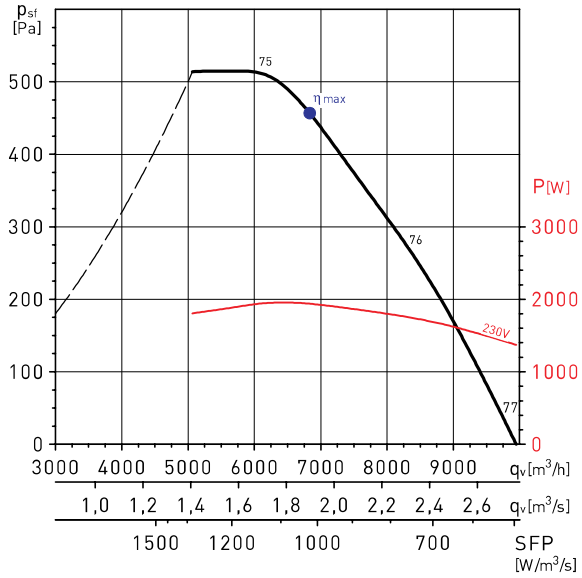
TCBBx2/4-450




| 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.

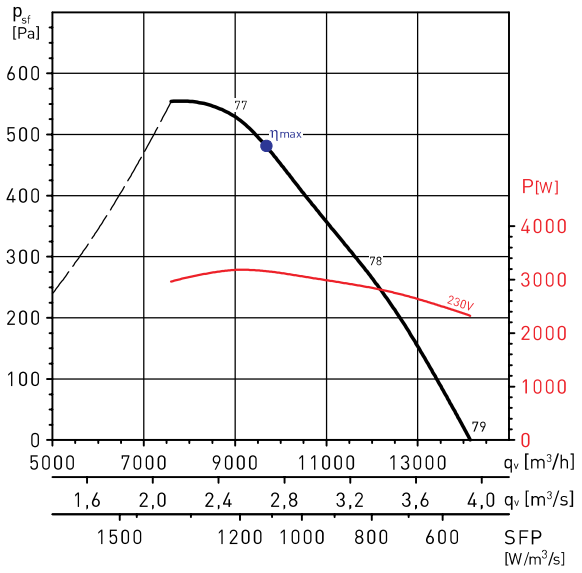
TCBBx2/4-500




| 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.

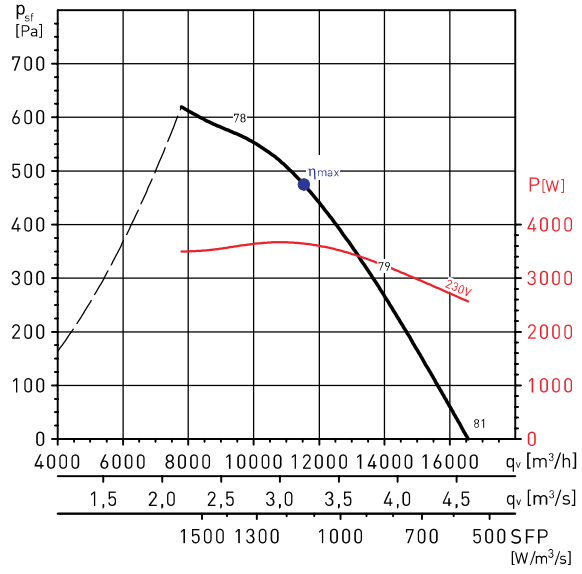
TCBBx2/4-560




| 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

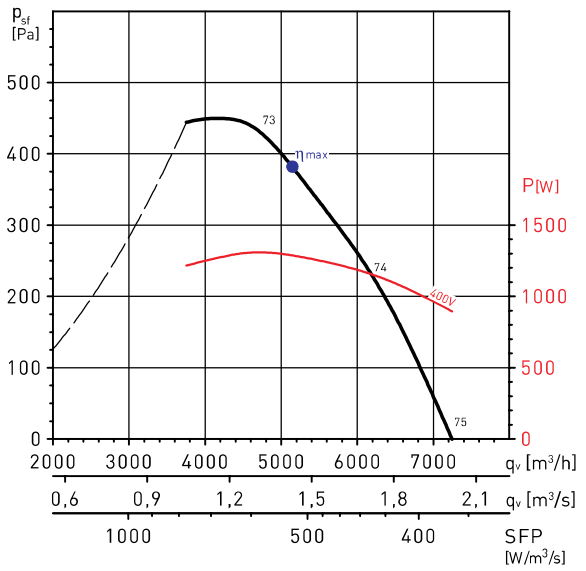



| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 42,4 | 45,2 | 3,665 | 10542 | 536 | 1285 |

* See example curve.

## PERFORMANCE CURVES – 4 POLE MOTOR

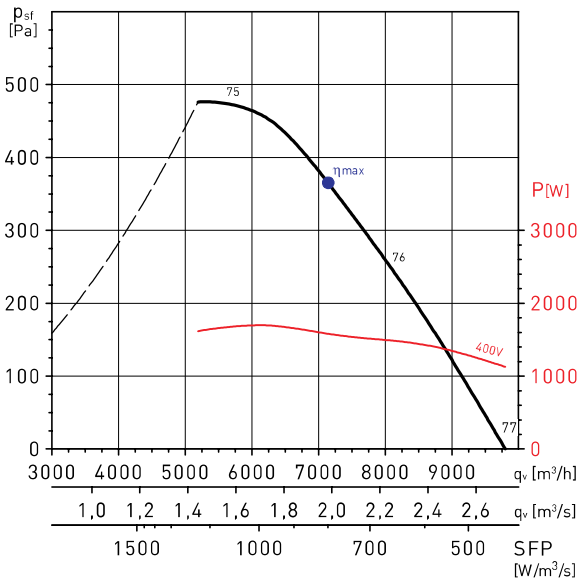
TCBTx2/4-450




| 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.

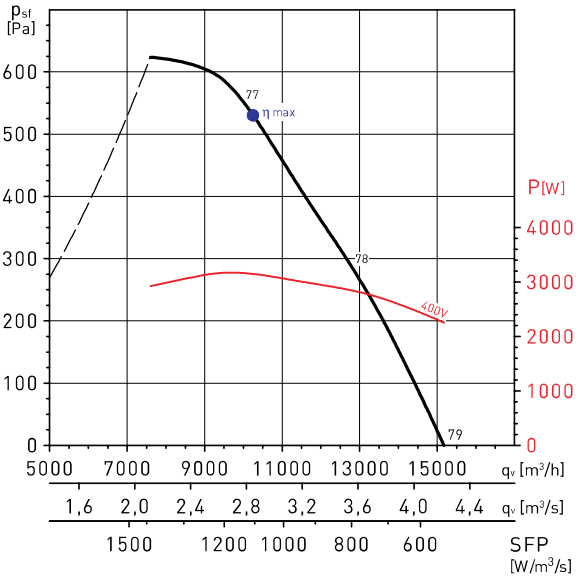
TCBTx2/4-500




| 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.

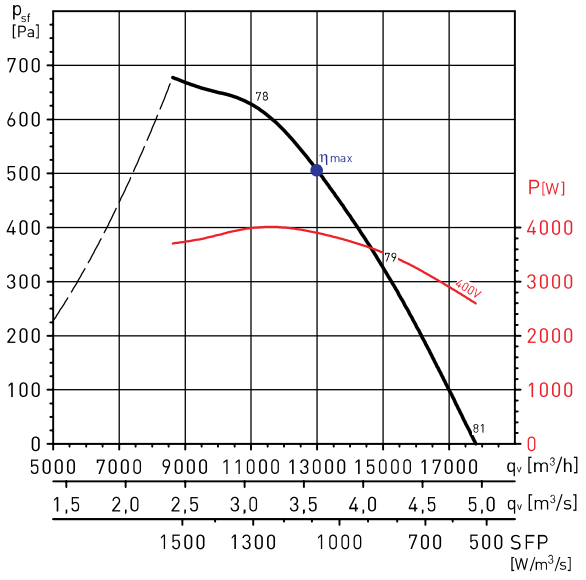
TCBTx2/4-560




| 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.

# 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.



ErP OK

IP65 (1) PROTECTION

NEXT DAY delivery*

### 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.

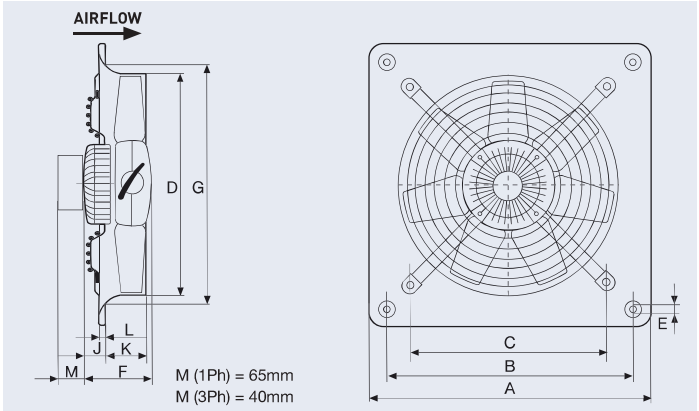


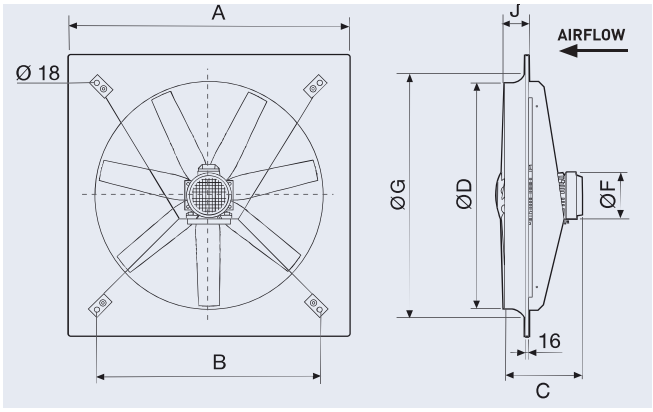
**Corrosion resistance**
Mounting plate, motor support and finger proof guard protected by cataforesis primer and black polyester paint finish. Stainless steel screws.



**Terminal box**
Wiring terminal box with cable gland PG-11.

### DIMENSIONS (mm)




| Model | □A | □B | C | ØD | ØE | F | Ø G | 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 | Ø D | J | Ø G | C | | Ø F | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 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 |

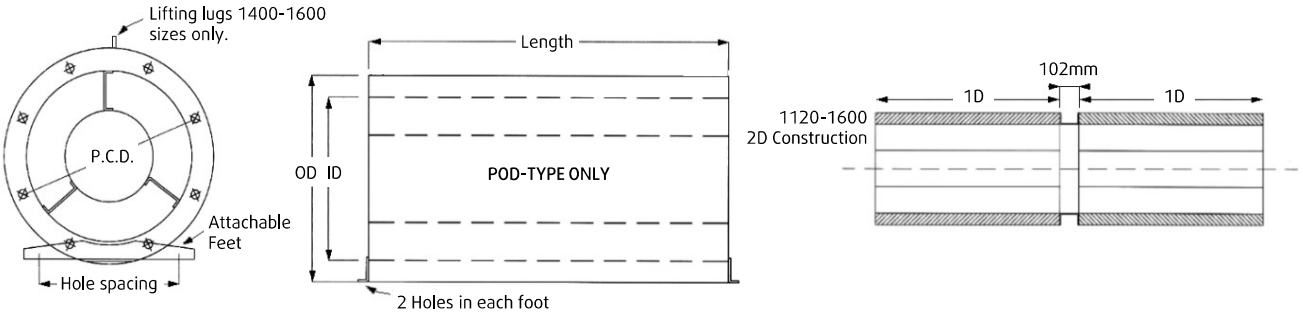
# CYLINDRICAL SILENCERS (TYPE LP AND HP)

## 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 |

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Email : info@systemair.my
Website : www.systemair.com

As part of ongoing research of product development & improvement, Systemair reserves the right to make any changes in design & specification to products without notice or obligation and to change or discontinue models.

## 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 |

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Website : www.systemair.com

As part of ongoing research of product development & improvement, Systemair reserves the right to make any changes in design & specification to products without notice or obligation and to change or discontinue models.

# Circular duct

# SR



## Description

Circular duct.

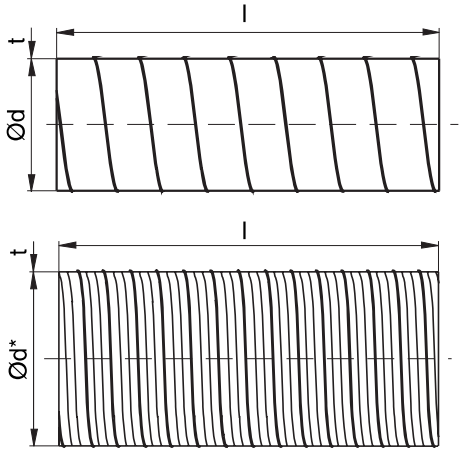
Ducts are always produced locally and can therefore have different thicknesses and other specifications per country.

The ducts can be produced both with and without click function (notches).
Please specify when ordering.

## Ordering example

| | SR | 200 | 3000 | CLIC |
|---|---|---|---|---|
| Product | | | | |
| Dimension Ød | | | | |
| Length l | | | | |
| Type | | | | |

## Dimensions




| Ød std nom | O πd m | A πd²/4 m² | 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.



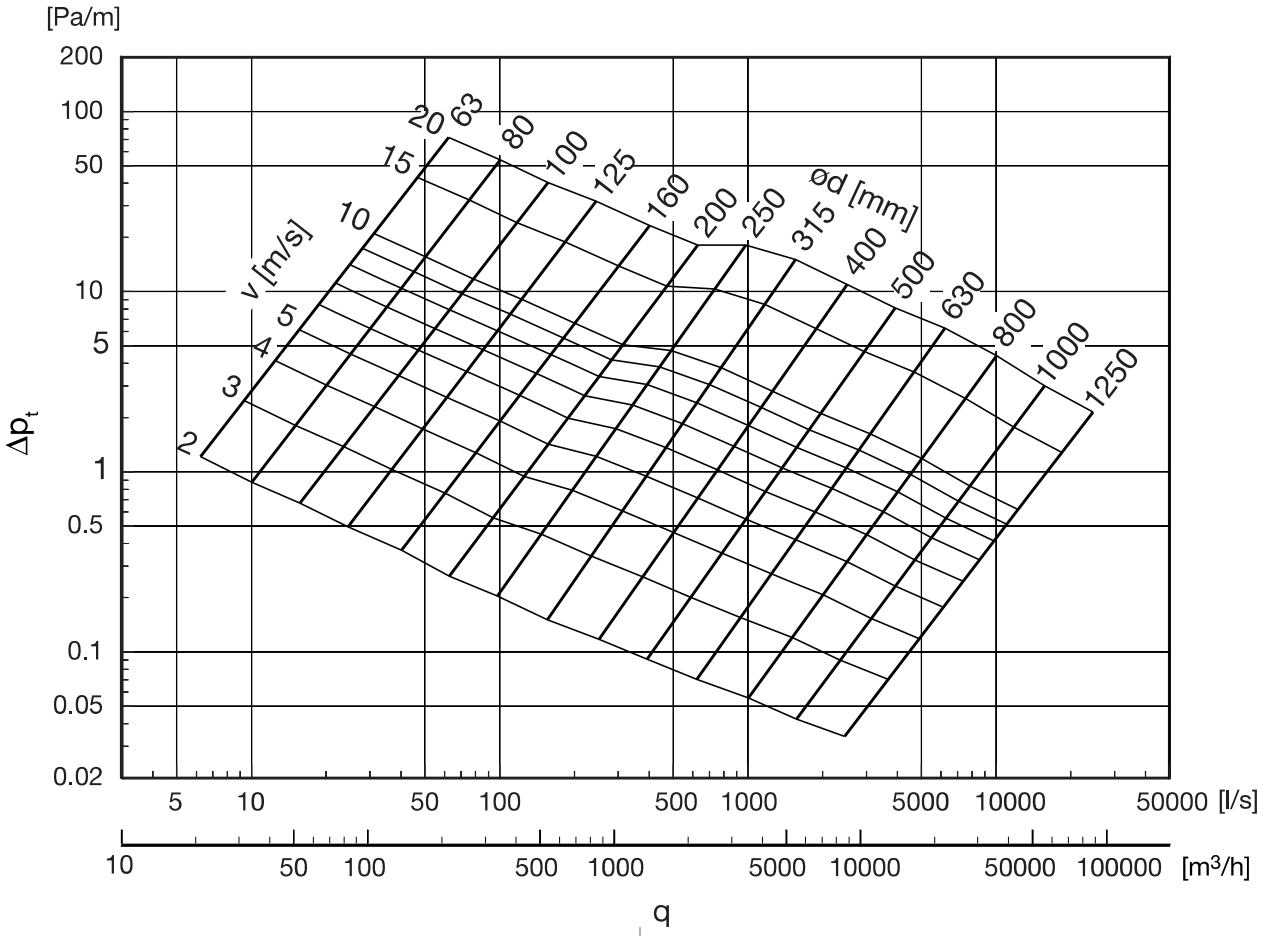
EUROVENT CERTIFIED PERFORMANCE
DUCT-MC
Identification number 17.11.002
www.eurovent-certification.com

We reserve the right to make changes without prior notice
2018-06-25

Lindab®

# 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

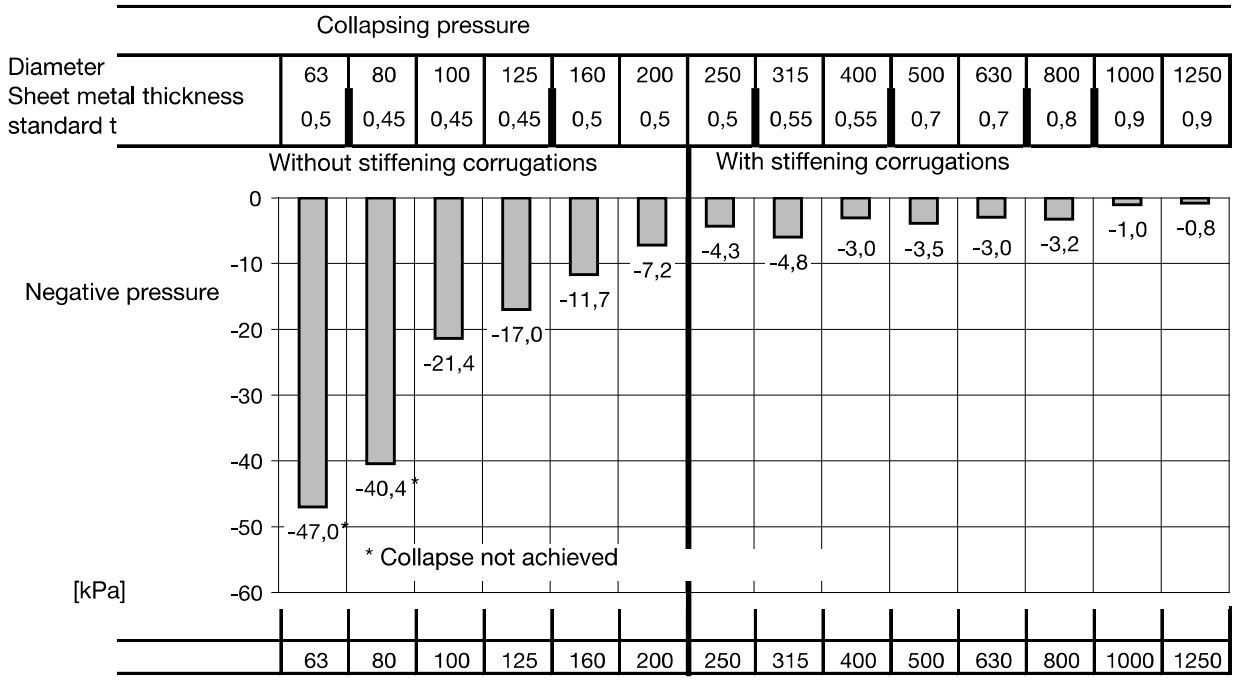
**Positive pressure**
in case of high positive pressure, the seal moulding lips will first start to whistle. At considerably higher pressure, the joints between the ducts will be forced apart. If you manage to fix the connections very well, the ducts will burst at their seams at even higher pressure. 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 stabillity | 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 |

EUROVENT CERTIFIED PERFORMANCE
DUCT-MC
Identification number 17.11.002
www.eurovent-certification.com



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2018-06-25

# 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.

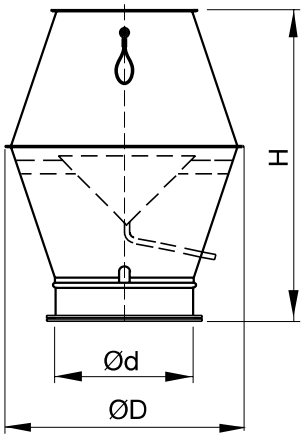
To avoid damage to the net in the opening the hood is supplied with transport protection. This must be removed before the hood is taken into service.

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

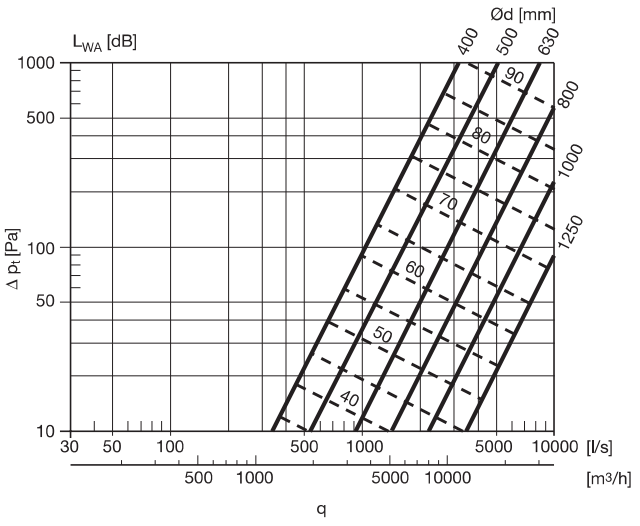
| | HF | 630 |
|---|---|---|
| Product code | | |
| Dimension Ød | | |

## Dimensions




| Ød nom | ØD mm | H mm | m kg | Roof through connection TGR 50 mm | Roof through connection TGR 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





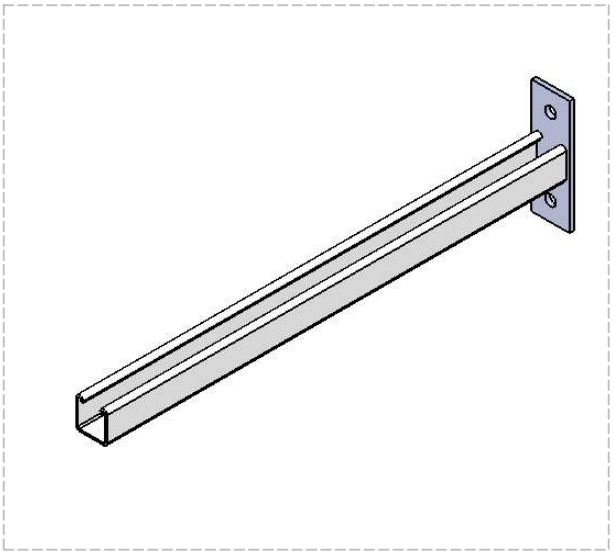

We reserve the right to make changes without prior notice

# Product Data Sheet

| Product Code: | Issue No. | Issue Date: | Issue by: |
|---|---|---|---|
| **TC103-60** | **A** | **03.10.09** | **D.B.P** |

Description

**Light Duty Cantilever Arm Support - 600mm**



### Features

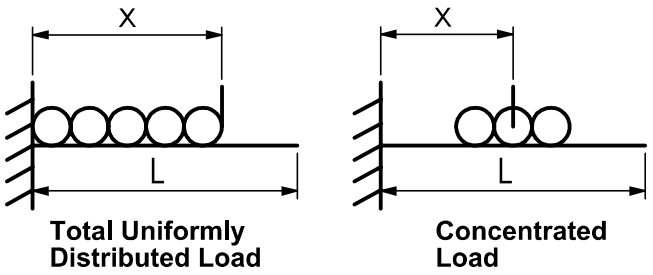
Brackets are designed to comply with BS6946

Manufactured from 6mm thick steel

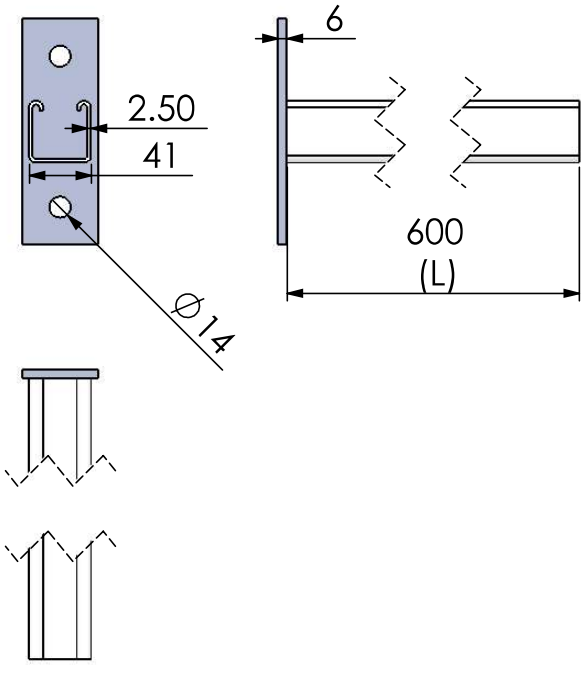
Special Finish: All channel brackets are post hot dipped galvanised to BS729

### General Characteristics

| | |
|---|---|
| Material | Low carbon steel strip (BSEN10142:2000) |
| Finish | Hot Dipped Zinc |
| Cantilever Arm | 41 x 41mm strut 2.5mm channel |
| Cantilever length | 600mm |
| Suitable for Tray width | 450mm |




### Dimensions




### Recommended Safe Loads (kg)

| x (m) | Total Uniformly Distributed Load (kg) | Concentrated Load (kg) |
|---|---|---|
| 0.10 | 684 | 342 |
| 0.15 | 608 | 342 |
| 0.20 | 542 | 283 |
| 0.25 | 452 | 226 |
| 0.30 | 377 | 188 |
| 0.35 | 323 | 162 |
| 0.40 | 283 | 141 |
| 0.45 | 251 | 126 |
| 0.50 | 226 | 113 |
| 0.55 | 206 | 103 |
| 0.60 | 188 | 94 |
| 0.65 | 174 | 87 |
| 0.70 | 162 | 81 |
| 0.75 | 151 | 75 |

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FUSIONHOT LTD

# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

## System Maintenance

It is important that the system is well maintained in order to operate a system that is functional on providing a high level of performance.

Maintenance requirements will vary, subject to the intensity of use and type of cooking. Therefore, frequency of cleaning and filter replacement will be adjusted to suit. The Tenant will ensure the following minimum levels of maintenance are adhered to.

The most advanced filtration systems and ductwork designs will quickly become completely ineffective at mitigating grease, smoke and odour, when the detailed maintenance regime is not followed the table below provides requirements for the type and frequency of maintenance in accordance with EMAQ guidelines.

We would recommend the following in accordance with BESA TR19 guidance guidelines on cleaning and maintenance.

**Cleaning of ductwork** – 1 month Heavy use 3 months Medium use and every 6 months light use.

**Canopy** on each session before or after session

**G4** filters every 3 weeks or if system seems to have reduced suction/ performance (Extract & Supply) **if installed**

**Cleaning baffle filters** – after each service

**Carbon filters** – 3 months heavy use 6 months medium use 8 month light use. **If Installed**

**Extract**— 1 Month heavy used 3 Months moderate use 6 Months light use.

**Extract full services** – 12 months. For your insurance this is required

**ESP Filter changing/cleaning** – 3 months heavy use 6 months medium use 8 months light use. **If Installed**

FUSIONHOT
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**Commercial Kitchen Design and Installation**

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**Email:** fusionhot1@gmail.com **Web:** wwwFusionHot.co.uk

FUSIONHOT LTD

# Stainless Steel Fabrication

## Commercial Kitchen Design and Installation

| Kitchen extract component | Recommended maintenance intensity |
|---|---|
| **Grease Smoke and Solid Filtration** | |
| Grease filter – mesh/baffle/cartridge/water wash | Daily cleaning |
| Canopy UV | Quarterly clean replace lamps after 8000 hours of operation |
| Cold water mist hood | Daily cleaning |
| Electrostatic Precipitation | Clean every 4 weeks |
| **Low intensity odour control** | |
| 3 stage fine filters | Replacement every 2 weeks or replace when system is reduced performance |
| **Odour control** | |
| UV odour control | Clean every 4 weeks annual lamp replacement |
| Ozone Injection unit | self-sufficient no need to clean |
| Ozone generation unit | No need to clean out of airstream |
| Adsorption activated carbon filter | 3 to 5 months filter replacement of when system has reduced performance |

| Usage | Frying time | Minimum clean frequency |
|---|---|---|
| Heavy Use | 12-16 hours per day | 3 Monthly |
| Moderate use | 6-12 hours per day | 6 Monthly |
| Low Use | 2-6 hours per | 12 Monthly |

**All duct work should be cleaned by a qualified tr19 person, who should issue a certificate after cleaning, this is important for your insurance.**

**Please note these are only guidelines as all systems are designed differently**

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FUSIONHOT LTD

**Stainless Steel Fabrication**
Commercial Kitchen Design and Installation
Unit 5, Firefly Square, Burscough Industrial Estate, L40 8JT

## 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.