COMMERCIAL KITCHENS SPECIALIST LIMITED

UNIT 2 OSBORNE MILL
OSBORNE STREET
OLDHAM, OL8 6QQ

To

Mr T Hussain

63 Beswick Street

Manchester

M4 7HR

3rd November 2021

At the present moment your individual extraction system consists of 450mm 2D silencer followed by 450mm Compac Flaktwoods extraction fan, another 2D Silencer with a bird beak horizontal termination.

To meet the guidelines regards to noise and odour we recommend to initiate the extraction system with a fine filtration known as bag or pocket filters(please see Appendix 5)

Followed by 2 carbon filtrations rated with a 0.1-0.2 second residence time (Please see Appendix 4)

Final termination point to be a jet cowl (Please see Appendix 2) This allows the contaminated air to eject 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 system will need to be assisted with anti-vibration mounts and brackets with access hatches for maintenance.

To blend the ductworks with its surroundings, this can be achieved by either painting the system or box the system and lining it with acoustic lagging.

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# Appendix 1

## Technical Fan Details

| | |
|---|---|
| Fan Code | 45 MaXfan Compac |
| Fan Diameter / Size | 450 Size / mm |
| Fan Speed | 2910 rpm |
| Velocity | 7.5 m/s |
| Blade Angle | 16° |
| Installation Type / Form of Running | D / AB |
| Fan Casing | Long |
| Requested Duty | 1.19m³/s @ 622 Pa (static) |
| Outlet Dynamic Pressure | 34 Pa |
| Duty Shaft Power | 1.32 kW |
| Max Shaft Power | 1.43 kW |
| Total Efficiency | 60.3 % |
| Motor Frame | 80 [ Class F ] |
| Motor Rating | 1.32 kW [ IE2 ] |
| Full Load Current | 4.71 A |
| Starting Current | 25.5 A |
| Motor Mounting | Pad |
| Electrical Supply | 220-240 Volts 50 Hz 1 Phase |
| Start Type | DOL |
| Motor Winding | Standard |
| Enclosure | Standard All |
| ErP [FMEG] Rating | N 60 (ErP Compliant 2015) |
| ErP [FMEG] Target | N 58 |
| FMEG Blade Angle [Range] | 0° [ 0° - 0° ] |
| Measurement Category | D (Total) |
| VSD | N |
| Fan + Motor Efficiency | 55.4% (1.67 m³/s @ 515 Pa) |
| Motor Input Power (ErP) | 1.55 kW |
| SFP value | 1.36 W/(l/s) @ Requested Duty |
| Power from mains | 1.63 kW |
| Energy Consumption | 4904 kWh (3000 h/year) |
| Running Cost / Year | £589 |
| Air Density | 1.2 kg/m³ / 20 °C / 0 m / 50% RH |
| Smoke Venting | Non Smoke Venting |
| Product Number | EJ463266 |

Performance data has been derived from tests carried out in a Flakt Woods laboratory, in accordance with ISO 5801 and is specifically applicable for Ducted installations. When an electronic controller is incorporated, enhanced motor noise can occur - particularly when the operating speed is well below maximum. FWL therefore recommend using an auto transformer speed controller for noise sensitive applications. Bifurcateds are Erp exempt when used continuously at >100C. They are not for use in the EEA at lower temperatures.

The MaXfan Compac includes a preprogrammed inverter drive to operate via 1 phase supply, offering full speed control and optimised performance.

Acoustic data has been derived from tests carried out in a Flakt Woods laboratory, in accordance with BS 848 Pt 2, 1985 / BS EN ISO 5136 under Ducted conditions. The single figure provided is the overall Inlet sound pressure level at the specified distance, under spherical, free field conditions.

Acoustic figures for adjusted running speeds have been interpolated and are for reference only.

Terms and Conditions:This offer is made subject to the terms and conditions detailed on the accompanying letter.

| | Sound Spectrum (Hz) | | | | | | | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Lw* | LpA @ 3 m** |
| Inlet* | 91 | 89 | 96 | 98 | 95 | 94 | 90 | 87 | 103 | 81 |
| Outlet* | 93 | 89 | 98 | 99 | 95 | 94 | 90 | 87 | 104 | 81 |
| Breakout* | 83 | 71 | 76 | 76 | 70 | 66 | 68 | 63 | 85 | 57 |

* Lw dB re $10^{-12}$ W ** dBA re $2x10^{-5}$ Pa

Sound data at requested duty.

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Appendix 2

Jet Cowl

Ventilation hood for air exit above roof, suitable for both industrial and comfort ventilation.

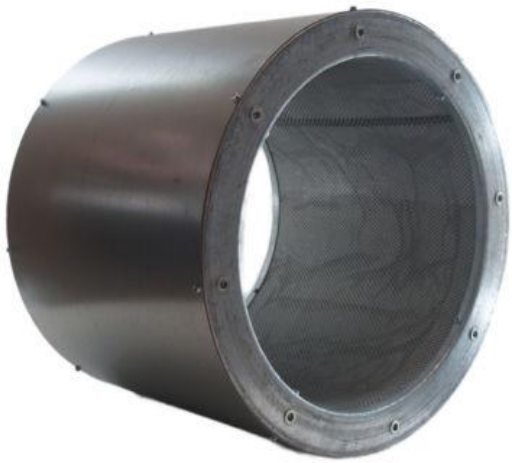


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Appendix 3

# CDA 450 X 2D STRAIGHT THROUGH SILENCER



## Overview

450mm dia x 900mm long straight through silencer (generally reduces a fan noise level by 10 – 13dB (A)* Can be supplied to either bolt directly to any manufacturer of cased axial or with spigots to mount inline with ducting.
The addition of this silencer to a system will act in the same way a silencer does on a car, so if you've ever heard a car with no silencer fitted, this gives you an idea of the impact a silencer can have on a system.

Please Note — for a straight through silencer to work to have the maximum impact on a system, a silencer should be fixed either side of the fan, this will give 3 benefits to the overall noise level of the system.
1. System side (usually the noise level inside a building) noise level is reduced
2. Atmospheric side (usually the noise level outside a building) noise level is reduced
3. The breakout from the fan is reduced, this could be a big factor depending where the fan is fitted

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Appendix 4

Activated Carbon Discarb Cells, Grade 50, EXTRA DUTY

Rating: 0.53m3/s @ 225 Pa



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Appendix 5

Fine Filtration

