

Conformity Report

315 Wilmslow Road, Manchester, M14 6NW



This report has been carried out in-line with the proposed ventilation system document produced on 20th October 2020

Prepared by Bridge Air Control systems Ltd
Unit 19, Three points Business park, Rossendale, BB4 5EH

Date: 29th June 2021

1.0 INTRODUCTION

This report has been produced to ensure that the extraction installed at 315 Wilmslow Road has been fitted in-line the proposed Ventilation scheme submitted and approved by the local authority.

All work carried out is done to the below

CIBSE Codes and guides to current practice
HVCA – DW143 Practical Guide to Ductwork Leakage Testing
HVCA DW144 Specification for Sheet Metal Ductwork
HVCA DW172 Guide to Good Practice for Kitchen Ventilation Systems
The Building Regulations
Gas Safety (Installation and Use) Regulations 1998
BS6173:2009

2.0 INFORMATION ON PREMISES AND TYPE OF OPERATIONS

The proposed premise is situated within an existing Terrace row of shops

The proposed hours of operation of the business and ventilation plant will be in accordance with the hours stated in the approved Change of Use.

3.0 PLANS AND DRAWINGS

Please refer to PDP drawing No. **PDP-0132/vs-00** of the proposed premises which is scaled at 1:100 and shows the indicative internal and external arrangements and location of the ventilation system. Please refer to this drawing for elevations of the unit.

5.0 DETAILED DESIGN OF VENTILATION SYSTEM

Extract Fan

To handle the duty required to overcome the resistance of the carbon filter section and a Noise report carried out by Nova acoustics Ltd the following fan was recommended.

Model: ePowerBox 67-500-1-4 (6HF) (See supplied Data Sheet for this product)

Duty: 1.61 M³/s @ a face velocity of 7.5 M³/s

Handling: Linear Extraction (DW/172 Section 5.8 Method 5)

Fan Specification: ERP compliant range of Box Fan with Aluminium frame and insulated Galvanised panels to protect against corrosion.

Fitted with 1 impellers manufactured from die-cast aluminium.

All models are supplied with pre-wired wiring junction box located on the inside of the fan casing with easy wiring access.

Weight:

Controls: Model. ME1.12 transformer controller 12amp

Sound Pressure Level at 3m (without attenuation): 32dB(A) @3mtr

Sound Attenuation: 2 – No. 2D 500Dia x 1000 mm (øx2) Long Attenuator fitted to inlet(2) and outlet (2) of fan unit.

Noise Reduction: - 12-15 dB(A) (See supplied S&P data sheet).

Anticipated Sound Pressure Level at 5m (with attenuation): 29dB(A)

Anticipated Sound breakout with from Fan with AG-Lag H5/N12 Lagging 20db

Fan Maintenance: The fan should be cleaned when necessary, at least 1/year to avoid imbalance and unnecessary damage to the impeller and bearings. A filter will prolong the time interval between each cleaning of the fan. (It is sometimes recommended to install a filter guard). The fan bearings are maintenance free and should only be replaced if damaged. Do not use a high-pressure cleaner (steam jet) when cleaning the fan. Make sure the fan impeller's balance weights are not moved or the fan impeller distorted. Listen for abnormal operating noise.

5.0 DETAILED DESIGN OF VENTILATION SYSTEM

To handle the duty required to overcome the resistance of the carbon filter section and Noise requirements set out by NOVA Acoustics Ltd, The above Fan has been used and AG-Lag H5/N12 Lagging has been used in accordance with the Acoustic report



5.1 Extract Pre-filters

Within the filter housing will be a 2-Stage Filter Section comprising:

- 2 – No. Disposable Bag Pre-Filters F5 specification to meet EN779:2012.

- 2 – No. Carbon Impregnated Odorsorb Filters

A copy of the manufacturer's product data sheet should be supplied clearly showing:

- filter name and product code= G4 Bag Filter: Type AP Odorsorb Carbon Filter: TypeAF7
- Dimensions of the pre-filter= 2 – No. F5 Bag Filter: 600MM H X 600MM W X 300MM D
2 – No. Odorsorb Filter: 600MM H X 600MM W X 600MM L
- Nature of the filter media =
F5 Bag filters consist of a dry non-woven fabric media, to give an extended surface area to maximise dust and particle collection. The assembly is contained within a frame

Carbon Impregnated Filter: The 2 in 1 design combines an **F5 pre Filter Bags** with a **pleated media** which is heavily **impregnated with Carbon Granules** which readily **absorb** the **odours** and **smells** from the air as it passes through the filter.

- Manufacturer's recommendations on the frequency and type of maintenance of the pre-filter having regard to the conditions that it will be used under=
G4 Bag Filter: Every Two / 4 Weeks to prolong effective life of F7 Carbon Filters.
F7 Bag Filter: Every 6 Months or when the filter reaches final resistance point (400Pa).



Carbon filtration has been fitted as per above, Client to ensure Maintenance of the system is carried out correctly

5.2 Intake Fan

To handle the required duties for supply Air @ 85% of extract Volume and a Noise report carried out by Nova acoustics Ltd the following fan was recommended.

Model: ePowerBox 67-500-1-4 (6HF) (See supplied Data Sheet for this product)

Duty: 1.61 M³/s @ a face velocity of 7.5 M³/s

Handling: Linear Extraction (DW/172 Section 5.8 Method 5)

Fan Specification: ERP compliant range of Box Fan with Aluminium frame and insulated Galvanised panels to protect against corrosion.

Fitted with 1 impellers manufactured aluminium.

All models are supplied with pre-wired wiring junction box located on the inside of the fan casing with easy wiring access.

Weight:

Controls: Model. ME1.12 transformer controller 12amp

Sound Pressure Level at 3m (without attenuation): 32dB(A) @3mtr

Sound Attenuation: 2 – No. 2D 500Dia x 1000 mm (øx2) Long Attenuator fitted to inlet(2) and outlet (2) of fan unit.

Noise Reduction: - 12-15 dB(A) (See supplied S&P data sheet).

Anticipated Sound Pressure Level at 5m (with attenuation): 29dB(A)

Anticipated Sound breakout with from Fan with AG-Lag H5/N12 Lagging 20db

Fan Maintenance: The fan should be cleaned when necessary, at least 1/year to avoid imbalance and unnecessary damage to the impeller and bearings. A filter will prolong the time interval between each cleaning of the fan. (It is sometimes recommended to install a filter guard). The fan bearings are maintenance free and should only be replaced if damaged. Do not use a high-pressure cleaner (steam jet) when cleaning the fan. Make sure the fan impeller's balance weights are not moved or the fan impeller distorted. Listen for abnormal operating

Fresh air is introduced via a dedicated input fan unit to supply 85% of the extracted air, fresh air - filtered to EU4

The Intake fan has been fitted to handle the required duties for supply Air @ 85% of extract Volume and AG-Lag H5/N12 Lagging has been used in accordance with the Acoustic report

5.2 Flue Design

The height and velocity of the final discharge are the two important factors. Generally, the greater the flue height, the better the dispersion and dilution of odours. The discharge of air should be at a minimum height of 1m above the eaves, especially if there are buildings nearby that may affect odour dispersion and dilution.

Where this is not possible (e.g. because of ownership or structural constraints), additional techniques will be required in order to reduce odours, such as an increase in efflux velocity and additional filters, etc.

The final discharge should be vertically upwards, unimpeded by flue terminals. The number of bends in the ducting should be minimised and the ducting should have a smooth internal surface.

It is proposed to run the 450mm dia extract duct and fan externally at the rear of the property. Ductwork will terminate 1.5m above the eaves with a high velocity expulsion cowl. Anti-vibration mountings for duct and fan and flexible connections between building fabric-duct-fan unit will be utilised throughout.

The Flue has been installed in accordance with DW144/DW172 and AG-Lag H5/N12 Lagging has been used in accordance with the Acoustic report



5.3 Cooker hood

The following information on the characteristics of the cooker hood should be supplied that clearly shows the hood will be made of = Stainless Steel 1.0mm/304g construction with all visible joints to be welded, ground and polished and incorporates a gutter around all edges with a plugged drain connection at lowest point. A single sided extract plenum will contain Stainless Steel Baffle Type grease filters approx. 495 x 495mm across the full width of the plenum.

Canopy Size 3300 x 1200 x 500 approx

Total Extract Volume: 1.47m³/s

The Canopy has been fitted and Manufactured in accordance with DW172 with the correct overhangs and Baffle style grease filters

Where this is not possible (e.g. because of ownership or structural constraints), additional techniques will be required in order to reduce odours, such as an increase in efflux velocity and additional filters, etc.

The final discharge should be vertically upwards, unimpeded by flue terminals. The number of bends in the ducting should be minimised and the ducting should have a smooth internal surface. It is proposed to run the 450mm dia extract duct and fan externally at the rear of the property. Ductwork will terminate 1.5m above the eaves with a high velocity expulsion cowl. Anti-vibration mountings for duct and fan and flexible connections between building fabric-duct-fan unit will be utilised throughout.

**The Flue has been installed in accordance with DW144/DW172 and
and AG-Lag H5/N12 Lagging has been used in accordance with the
Acoustic report**

6 Kitchen Ventilation System – Carbon Filter Maintenance Schedule

IT IS IMPORTANT THAT YOU MAINTAIN YOUR FUME EXTRACT SYSTEM FOR THE FOLLOWING REASONS:

1. TO KEEP FLUE EMISSIONS TO A MINIMUM.
2. TO KEEP YOUR OVEN AND EXTRACT OPERABLE.
3. TO AVOID THE COSTLY REPLACEMENT OF THE CARBON FILTER.

WARNING!

THE ACTIVATED CARBON FILTER PACKAGE FITTED TO THIS EXTRACT INSTALLATION HAS A TWO-STAGE FILTER WHICH WILL ENSURE THAT GREASE AND SMOKE PARTICLES ARE PREVENTED FROM BEING DISCHARGED TO ATMOSPHERE. FAILURE TO CARRY OUT THE FOLLOWING CHECKS WILL RESULT IN THE PREMATURE DETERIORATION OF THE FILTERS AND COULD LEAD TO PERMANENT DAMAGE TO THE FANS. THE INSTALLATION IS FITTED WITH A GAS SAFETY CUT OFF VALVE WHICH IS DEPENDANT ON THE DESIGNED AIRFLOW THROUGH THE SYSTEM. IF THE FILTERS ARE NOT MAINTAINED THE GAS SUPPLY TO THE OVENS WILL BE SHUT OFF DISABLING THE SYSTEM UNTIL THE FILTERS ARE REPLACED.

TO ENSURE YOUR RESTAURANT CAN OPERATE WITHOUT INTERRUPTION IT IS ESSENTIAL THAT THE FOLLOWING CHECKS ARE CARRIED OUT

- **EVERY 14 DAYS.**

CHECK THE PRE FILTERS TO ENSURE THAT NO GREASE BUILD UP OCCURS REPLACE AS NECESSARY.

- **EVERY 3 MONTHS**

*CHECK THE MAIN FILTER BODY FOR A BUILD UP OF GREASE AND DUST CHECK
THE CARBON FILTERS FOR A BUILD UP OF GREASE AND DUST REPLACE AS
NECESSARY*

- **EVERY 6 MONTHS**
REPLACE CARBON FILTER

Report Done Bridge air Control Systems LTD.