Kitchen extraction system

The premises located at the ground floor of 3 storey building. The kitchen itself, takeaway section and extraction system will be fully located inside of the building and will be connected to external acoustical aluminium weather louvres to the ground floor, to the front.

Ductwork requirements

- The kitchen extract system will be compliant with BESA Specification for Kitchen Ventilation Systems/172. Internal surfaces of the kitchen extract systems will be rectangular and free of any irregularities which make grease accumulation more likely and cleaning more difficult.

- The design will include access panels either side of every bend and at a maximum spacing of 1.5m in the horizontal ductwork, to facilitate manual cleaning. Access panels will be provided in sufficient number, quality and size, to enable unrestricted access for regular cleaning and inspection of the internal surfaces and in-line components. All access panels will be in accordance with the requirements of DW/144, DW/172 & TR/19.

- The kitchen extract ductwork will be pressure tested to DW144 class C throughout. Results of the pressure tests will be submitted to the Landlord and included with the certificate of conformity. The ductwork design will allow for the high pressure drop produced by the Tenant's filtration plant and subsequent high negative pressure effects in the riser ductwork

- The exhaust system serving the Tenant demise will be designed and commissioned to ensure the kitchen as a whole is under a negative pressure, and allows for a make-up air rate of 85% of the exhaust quantity, to prevent migration of odours and/or heat to other premises or public areas.

- The extract fan will be located at roof level, to ensure the extract system is under negative pressure, The fan unit selected will be suitable for kitchen extraction and be fully accessible for cleaning, with the motor & wiring out of the airstream, to minimise the risk of ignition. Vertical kitchen extract ductwork will be fully accessible for manual cleaning, or made suitable for chemical cleaning.

Gas or electric fired appliances

Kitchens using gas or electric fuelled appliances will incorporate the following filtration components in airstream order:

1. Canopy grease filters in the kitchen
2. Electrostatic precipitator unit (ESP) located inside the retail unit
3. Passive filters inside the retail unit
4. UV filter inside the retail unit
5. An activated carbon filter prior to the kitchen extract fan.

Filter Specification

1. Canopy Grease Filters Canopy grease filters will comply with LPS 1263, as required within BESA Specification for Kitchen Ventilation Systems DW/172 and be of non-combustible construction.

Activated Carbon Filters

- The carbon filter panels will be bonded panels that hold the activated carbon granules in a rigid biscuit.
- The biscuit will be encapsulated in a carbon impregnated cloth, which will prevent any leakage of granules or powder.
- The grade of carbon will be AC207
- Carbon filters will be sized to have a dwell time of between 0.4s to 0.8s.

Maintenance Requirements

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 Defra guidelines.

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 Precipitator	Clean every four weeks
Low intensity odour control	
3-stage fine filters	Replacement every two weeks or replace when filter monitoring system dictates
Odour control	
Ultra Violet odour control	Clean every four weeks, annual lamp replacement
Adsorption - Activated carbon filter	4 to 6 month filter replacement or replace when filter monitoring system dictates

Minimum frequency of ductwork cleaning (as set out in BESA Guide to Good Practice Internal Cleanliness of Ventilation Systems TR/19.):

	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 day	12 Monthly