

Thermal Engineering (Wales) Ltd.

Manufacturers of: Ductwork, ventilation Systems,
Kitchen Canopies

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DESIGN SPECIFICATION

Design statement for proposed kitchen ventilation system at: -
50 Wind Street, Neath SA11 3EN

One stainless steel canopy which will be sufficiently long and wide to cover all the cooking range and appliances and C/W condensation drip channel on three sides.

Canopy will be of sufficient height to enable easy working on the equipment, whilst low enough to entrain all odours/steam generated by the cooking.

The canopy will be manufactured from 304 grade stainless steel to enable easy cleaning. The canopy will be fitted with primary grease filters of re-usable stainless-steel baffle type design. There will be sufficient primary grease filters fitted and stainless-steel panels to cover the complete length of the face of the canopy above the cooking range in addition there will be 1nr grease catch trays attached to the bottom of the filter plenum to catch the grease from filters, we recommend that the filters are cleaned regular with warm soapy water. When the filters and panels have been removed it enables easy cleaning to the inside for the filter plenum.

The ventilation system has been designed to ensure that the velocity of the grease through these filters enables sufficient time to optimise grease removal.

Ductwork

Canopy to be situated on the side wall in front the existing stairs, the exhaust ductwork would run off top of the canopy through the ceiling void and enter the room above and connect onto 1no extract fan a ductwork would run off the fan and connect onto the back of the existing weather louver on back of the property with a purpose made plenum. The louvre is more than adequate to take the volume air. Access door to be install for access for cleaning purposes

Ductwork to be fire resistant (ductwork to be cladded with FireMac: -FM fire resistant ductwork system)

Baffle Filters

Baffle filters comprise a number of interlocking vanes which form a two-part grease removal device.

The pressure drop remains constant and the blades provide a barrier in the event of flash fire.

The grease laden air passes through the filter and by a series of forced changes in direction and velocity the grease becomes separated in the air stream and deposited on the vertical vanes, the filter has a grease extraction efficiency of between 65% and 80%, the deposited grease is then drained off through a number of weep holes into a collection tray.

Odour control

Due to the location of the ductwork and access for maintenance to odour control filtration system we recommend using OC Innovations OC2 odour control unit

OC2 Process Information

Oxidation using ozone and activated oxygen ions is used to treat odour emissions from commercial and industrial kitchen processes (DEFRA, 2005: Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems).

The OC2 has been specifically designed for use in commercial kitchens. The system injects ozone into the kitchen extraction canopy or associated duct work where it reacts with odours, which are oxidized in a chemical reaction, which results in the production of carbon dioxide and water vapour. The ozone itself is consumed during the process and is converted back into oxygen.

Extract fan

Flankwoods 500JM/20/4/6/32 4 axial extract fan with a duty of 1.9m³/s @200pa with 57dBA @3m this duty will give an air flow of .35m³/s over face of the canopy approximate Speed controller ME1.6

Fan to be installed on purpose made flange mounting feet and mounted on a fan plate with AV mounts (anti vibration)

Replacement air

The replacement air would enter the kitchen via 1 no supply fan fitted with a panel filter and insect mesh screen

Ductwork and canopy to be manufactured and installed to the HVCA standards DW144 & DW 172

For yours faithfully

THERMAL ENGINEERING (WALES) LTD

Colin Briggs

C BRIGGS

MANAGING DIRECTOR

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