

- Drain trays manufactured to eliminate ponding and extended beyond the component casing to allow inspection and cleaning.
- Panel and bag filters fitted with inclined manometers, HEPA filters with vertical manometers.
- Bag filters installed in frames with pockets in vertical orientation.
- Air inlet and outlets suitable for flanged duct connection.
- All units fitted with flush base skids.
- All sections fitted with permanent lifting facility.
- Access doors adjustable to allow for seal deterioration.
- All non-access enclosure panels removable.
- All unit sections and components fitted with identification and warning labels.
- View glasses shall be fitted to all fan sections.
- View glasses shall be fitted to all humidifier sections.

MVHR

Local low profile, mechanical extract ventilation with make-up air and heat recovery shall be installed to provide ventilation to toilet blocks to meet the requirements of this specification and the building regulations part F. The units shall be provided with the following features as a minimum:

- Eurovent certified Counterflow recuperator giving up to 80% energy recovery;
- Ultra-efficient EC motors with backward curved impellers for increased efficiency and reduced running cost
- ErP 2015 compliant
- Automatic summer bypass - using in-built temperature sensors, when energy recovery is not beneficial, the automatic damper operates to bypass the heat exchanger cell, to limit over/under temperature. The unit shall also provide opportunity for free cooling in the summer, when the indoor temperature is too high and the ambient temperature is lower.
- Night cooling facilities
- BMS interface.

HIGH TEMPERATURE EXTRACT FANS

Extract fans for the kitchen canopies shall have the following:

- Suitable for constant operating temperatures up to 120 °C
- Access both sides
- Pre-wired isolator complete with quick change plug connections for easy maintenance
- Galvanised steel construction
- Pressure tapping points
- Suitable for horizontal and vertical mounting
- Motor out of airstream
- Lifting eyes
- Easy to clean and maintain

Extract fans used for kitchen ventilation shall be linked to a gas proving control panel, so that the gas solenoid valve cannot be opened unless the ventilation system is operating.

KITCHEN EXTRACT CANOPIES

Canopies to be installed in the Food Courts shall be manufactured from Stainless steel and complete with grease baffles to eliminate grease and a self-contained fire suppression system. Odour control shall be by UV filtration, contained within the canopy, for ease of access for maintenance.

- Flame resistant stainless steel baffle grease filters;
- Self-contained fire suppression system;

- UV filtration as Plasma Clean or equal & approved. No of lamps will be dictated by final air flow requirements;
- View glasses shall be fitted to all humidifier sections;
- Fire suppression installation.

An induction air or extract only type canopy is envisaged c/w flame resistant stainless steel baffle grease filters on the extract ductwork.

AIR TERMINAL DEVICES

Extract grilles shall have minimum face size 300x300;

Extract valves shall have a minimum diameter of 100mm;

Where extract grilles are in the same room as supply grilles they shall be identical to the supply grilles.

All ceiling mounted grilles and diffusers shall be finished in standard commercial white and fitted with concealed fixings - screw fixings through the flange will not be accepted.

All grilles and diffusers mounted on exposed ductwork shall have galvanised finish to match ductwork.

ATTENUATION

All supply and extract systems shall be provided with attenuators where necessary to meet internal and external noise criteria and cross talk requirements and to maintain the required static insertion loss of the partitions. Careful consideration to external ambient noise levels shall be given and the requirements of the acoustic consultant advice shall be met.

Cross-talk attenuators shall have a minimum 50mm thickness absorbent material.

FIRE DAMPERS AND FIRE/SMOKE DAMPER

Fire Dampers, Combination Fire and Smoke dampers and fire rated ductwork shall be provided as required by the Fire Officer/Building Control in addition to that required by Regulations and Standards. All fire dampers shall be drop tested prior to completion and certified by the independent commissioning engineer.

Combination Fire and Smoke dampers shall be fusible link interlocking blade type; the dampers shall be motorised open and shall failsafe closed with the removal of their power supply via interface with the fire alarm system.

Fire/smoke dampers shall be energised at 24V AC from the mechanical control panel.

VOLUME CONTROL DAMPER

Volume control dampers VCD's shall be fitted to each grille run-out, each sub-branch, main branch and mains. All VCD's shall be of the multi-leaf single skin opposed blade type, constructed of galvanised steel frame and blades with nylon bearings. No flap dampers will be accepted.

ACCESS/INSPECTION OPENING

Access panels shall be provided where required for duct cleaning and adjacent to each fire damper, control damper and other equipment items to allow inspection, cleaning, adjustment and the replacement of fusible links etc.