CONSULTANTS SPECIFICATION

INTERNALLY MOUNTED XTRACTOR UNIT

The ventilation fan unit shall be configured and arranged as detailed on the drawings and in accordance with the schedule of equipment. It shall be of the Xtractor type as manufactured by Nuaire.

The unit sizes 1 to 4 inc. shall be provided in heavy gauge galvanised steel double skin casework. Double skin infill shall be of V0 grade acoustic foam and inner case shell. The units shall be of a low depth configuration to enable location in shallow ceiling and floor voids, maximum depth of unit 350mm.

Unit sizes 5 to 13 inc. shall be constructed using the Nuaire floating box format and shall incorporate heavy gauge galvanised steel double skin casework. Double skin infill shall be of V0 grade acoustic foam and inner case shall mechanically isolated from the outer case. General construction shall achieve class A leakage rates. The fan enclosure shall feature V0 internal acoustic foam lining.

The stated casing breakout sound levels shall not be exceeded.

Unit sizes 15 to 27 inc shall be manufactured from a highly rigid pentapost framework with 25mm double skinned infill panels. The panels shall contain inert high density infill. Panel materials are heavy gauge Aluzinc corrosion resistant steel.

The fan/motor assembly shall be in a self contained insulated enclosure which shall be acoustically isolated from external skin providing exceptional acoustic breakout characteristics. The very low breakout noise level through the unit casing must not be exceeded. The general construction is to class A leakage.

EXTERNALLY MOUNTED XTRACTOR UNIT

The unit shall be manufactured from heavy gauge, corrosion resistant Aluzinc steel, internally coated with fire retardant acoustic material. Fully detachable panels for maintenance/service and manometer test points. It shall have an integrated upstream attenuator keeping system noise levels to an absolute minimum.

The fan/motor assembly shall be in a self contained insulated enclosure which shall be acoustically isolated from external skin providing exceptional acoustic breakout characteristics. The very low breakout noise level through the unit casing must not be exceeded. The general construction is to class A leakage.

GENERAL SPECIFICATION

Fan assemblies to incorporate fan impeller and motors selected to provide the most energy efficient solution conforming to part L regulations. The fan impeller shall be a high efficiency forward or backward curved centrifugal design and shall be direct or belt drive with IF2 high efficiency motors to EN60034-30 as standard, belt or direct drive with motors fitted with "hall effect" air flow failure monitoring. All units suitable for operation in ambient temperatures of 40 degrees C.

The contractor shall allow for all necessary ductwork transformations to and from the fan unit and any associated components, the contractor shall also ensure that all necessary builders work and weathering is provided in accordance with the manufacturer's recommendations, DW 144 and general good practice.

The mechanical contractor shall ensure that all necessary ancillaries are included e.g. AV mounts, flexible connections, attenuators, etc and shall be in accordance with the manufacturer's specification and recommendations.

CONTROL SPECIFICATION

The fan unit shall be supplied with one of the following control options:-

1. ECOSMART CONTROLS

The compact Ecosmart control system complete with all necessary controls to facilitate the operation of the ventilation system. It shall be come complete with an integral factory fitted Ecosmart PCB which will control the fan unit within the desired design parameters and provide the interface between all external control devices and the unit itself.

The fan unit shall have the following energy saving components integrally mounted, pre-wired to interface with the purpose made PCB, all components pre-wired, configured and factory fitted by the manufacturer: -

- Integral Frequency inverter/speed controller.
- Integral maximum and minimum speed adjustment for commissioning.
- Integral adjustable run on timer.
- Integral BMS interfaces – 0-10V speed adjustment.
- Integral BMS interfaces – Volt free failure and status indication.
- Integral background ventilation switch (trickle switch).
- Multiple IDC sockets for interconnection of sensors or fans using pre plugged 4-core low voltage cable.

The Ecosmart controls will enable the unit to automatically vary its speed as it receives signals from one of the interconnected sensors. When the signal is received the fan shall either increase speed gradually until the required level is achieved or it will work on a trickle and boost principle. This will then move the fan duty point from trickle/background ventilation rate to the required boost ventilation rate. Both the trickle and boost rates are infinitely variable, easy to adjust and remove the need of a main balancing damper.

CONSULTANTS SPECIFICATION

2. BMS INTERFACES

The fan unit shall be provided with the following integrated BMS interfaces:

- 0 - 10 volt contacts to provide a full BMS interface. This will enable the following functions:-

  Switch the unit on/off.

  Switch from low speed to high speed.

  Full speed control facility.

- 2 No. volt free contacts to provide fan run and failure indication to provide system status.

- An integrated commissioning/speed control to accurately commission the system, with minimum and maximum speeds easily adjusted via a miniature dial, as recommended in Part L. This will enable the unit to be configured to run between set parameters thus saving motor power and limiting noise.

3. COMMISSIONING SET UP

The fan unit shall be provided with an integrated commissioning/speed control to accurately commission the system, as recommended in Part L, minimum and maximum speeds easily adjusted via miniature dial.

Ecosmart Xtractor shall have a 5 year warranty.

The unit is to be of the Xtractor Type as manufactured by Nuaire Ltd.