Air Handling Units
Airline

1.1. General

A. Provide a low profile Air Handling Unit to meet the performance and configuration as indicated in the schedule and detail drawings. The Air Handling Unit shall be tested to BS848 and shall be of the Airline type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2. Unit Construction

A. The unit shall be provided pre-assembled comprising of a rigidly constructed single skinned galvanised sheet steel case, centrifugal scroll fan with direct drive motor.

B. The unit shall be available with optional pleated panel filter

C. The unit shall be available with optional electric or hot water heater battery as indicated in the schedule and detail drawings.

D. The unit shall have rectangular or circular duct spigots as indicated in the schedule and detail drawings.

E. The unit casework shall incorporate high quality leak resistant gaskets on service doors and panels.

F. The unit shall be fitted with flame retardant acoustic lining as standard to ensure maximum thermal insulation and reduced noise transmission.

G. Access for maintenance shall be via a removable service panel, allowing access for the cleaning or removal of internal components where permitted by unit construction and indicated in the schedule and detail drawings.

H. The unit shall be supplied as standard with feet & anti-vibration mounts

I. The Unit casework & spigots shall be provided naturally finished in high quality galvanised steel.

J. The unit shall be designed to be secured to a suitable base, wall or ceiling, ensuring the use of correct fixings for the application and taking into account individual unit weight as indicated in the schedule and detail drawings.

1.3. Fans

A. The fan impellor shall be of galvanised steel forward curved blade construction for rigidity and long life. The impellor shall be statically and dynamically balanced to VDE2060 G2.5 for smooth running & extended life.

B. The fan impellor shall be mated with an aerodynamic fan scroll for high efficiency and low noise generation.

C. The fan impellor is supplied as standard in natural galvanised finish. The fan scrolls shall be supplied epoxy painted black to RAL9005.

1.4. Motors

A. The fan shall incorporate an external rotor motor to insulation class F, IP44 environmental protection rating & shall be supplied with thermal protection cutout as standard.

B. The motor & attached fan impellor shall be fully AV isolated from the fan scroll, ensuring optimal mechanical isolation & maximum possible noise reduction.

1.5. Filtration

A. The filter shall be a pleated filter as standard, with rigid wax treated cardboard moisture resistant frame.

B. Filters shall be BS EN 779 Classification Grade as indicated in the schedule and detail drawings.

1.6. Heater Battery

A. The unit shall be available with hot water or electric element heating as indicated in the schedule and detail drawings.

B. The hot water heater battery shall be of copper tube, aluminium fin block construction, with galvanised sheet steel casework. The flow & return pipe connections shall be handed as indicated in the schedule and detail drawings.

C. The hot water heater battery shall be available with alternative fin coatings by special order, as indicated in the schedule.

D. The electric heater battery shall be suitable for single or three phase supply with thyristor or stepped control as indicated in the schedule and detail drawings.

E. The electric heater battery shall consist of an element array sized to suit the steps and phases as indicated in the schedule and detail drawings. The elements shall consist of a tubular incolloy shroud containing compressed magnesium oxide powder packed around a Nickel Chromium resistance wire. The element array shall be evenly spread across the open area of the duct.

F. Where multiple elements are required to achieve the steps and phases as indicated in the schedule, elements shall be linked by copper busbar or terminated with electrical connectors.

G. The electric heater battery shall be fitted as standard with a 130°C non-adjustable thermal safety cutout, with manual reset.

H. All electric heaters shall be 1500V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

1.7. Operation Environment

A. The unit shall be designed to operate in ambient temperatures from -20°C up to 50°C, and can run continuously at up to 80% humidity level.

1.8. Controls

A. The unit shall be designed to be fully compatible with speed control systems designed to operate from a 0-10v BMS i.e Air Quality or Temperature sensor according to schedule.

B. The unit shall be available with optional fitted Electroline control panel as manufactured by VES to suit electric or hot water heating.

C. Electroline fitted controls shall be fitted on LHS or RHS of unit as indicated in the schedule & detail drawings.

D. Electroline fitted controls shall be supplied with externally accessible control panel fuses, panel live indication, lockable door isolation switch, and external time clock link.

E. Electroline fitted controls shall be supplied with a duct/room sensor & 10m of cable, to be fitted on-site by others as indicated in the schedule.

F. Electroline fitted controls shall be supplied with a wired room controller.

G. The room controller shall allow full manual temperature control, 3 position running selector (Off, Fan Only, Fan & Heating) & digital room temperature display.

H. Electroline fitted controls shall be fully pre-wired to fan & heater battery. Hot water units shall be provided with a four port modulating valve & fitted frost stat as standard.

1.9 Silencers

A. The unit shall be fully compatible with a standard range of spigot mounted silencers. The silencers shall be suitable for direct mounting to the unit.

B. The silencer shall be a rigidly constructed single skinned galvanised sheet steel case lining incorporating internal splitting vanes lined with resin bonded mineral wool.

C. The silencer casework shall be provided naturally finished in high quality galvanised steel as standard. Internal & External powder coat available as indicated in the schedule. Colour to be in accordance with schedule.

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