Product Specification

ecovent® (EVFC353) classroom fan coil unit

1.1. General

A. Provide an 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 BS EN ISO 5801:2017 and shall be of the Ecovent type as manufactured by VES Andover Ltd, a company accredited with BS EN ISO 9001:2015.

1.2. Unit Construction

A. The unit shall be provided pre-assembled comprising double skinned galvanised sheet steel panels, acoustically lined with foam, supply and extract centrifugal fans with direct drive motors, mixing dampers c/w actuators and a water coil.

B. The construction shall be tested in accordance with BS EN 1886:2007.

C. The unit shall be supplied in one section.

D. The unit shall be available in plantroom construction as indicated in the schedule and detail drawings.

E. The unit shall be fitted with a mixing damper arrangement to allow thermal and air quality control.

F. The units shall have either circular safe-fit spigots compatible with spiral ductwork, or rectangular connections compatible with 20mm MEZ flange connections as indicated in the schedule and detail drawings.

G. The unit casework shall incorporate high quality rubber gasket seals on service doors and panels.

H. Access for maintenance shall be via a removable panel, allowing access for the cleaning or removal of internal components as indicated in the detail drawings. The filters shall be bottom withdrawal as standard.

I. Flat plantroom casework shall incorporate mounting brackets compatible with drop-rod systems.

J. The unit shall be supplied in the configuration: flat, plantroom. Access and handing options shall be as indicated in the schedule and detail drawings.

1.3. Fans

A. The fan impellers shall be statically and dynamically balanced to G 2.5 / G 6.3 according to ISO 21940-11:2016.

B. The fan impellers shall be mated with aerodynamic bell inlet eyes for high efficiency and low noise generation.

C. The fan impellers shall be supplied in natural uncoated finish as standard.

1.4. Motors

A. The fans shall incorporate external rotor motors to insulation class F, IP4X environmental protection rating and shall be supplied with thermal protection cut-out as standard.

1.5. Drain Pan

A. The unit shall include a built-in condensate drain pan as standard.

B. The unit shall be compatible with an internally fitted peristaltic condensate pump.

1.6 Heating/ Cooling

A. The unit shall be fitted with a water coil as indicated in the schedule and detail drawings.

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

C. The coil shall be available with alternative fin coatings by special order, as indicated in the schedule.

D. The coil shall be available with an optional valve and actuator where indicated in the schedule and detail drawings.

1.7. Operation Environment

A. The unit shall be designed to operate in ambient temperatures from -20 °C up to +40 °C and to run continuously at up to 90% relative humidity level.

Product Specification continued

1.8. Controls

A. The unit shall be fitted with an EC fan speed control system with min/max speed and 0-10 VDC BMS control

B Temperature sensor shall be fitted as standard.

C. Fitted controls shall be positioned as indicated in the schedule and detail drawings.

D. Controls shall be supplied with internally mounted circuit breakers.

E. Fitted controls shall be supplied with a supply air duct sensor.

F. Fitted controls shall be fully pre-wired to internal components.

1.9. Ancillaries

A. The unit shall be fully compatible with a standard range of spigot mounted silencers.

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

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

D. The unit shall be fully compatible with a range of spigot and unit mounted transitions pieces. The transition pieces shall be suitable for direct mounting to the unit.

E. The transition pieces shall be a rigidly constructed single skinned galvanised sheet steel case lining incorporating internal splitting vanes lined with acoustic foam.

F. The transition piece casework shall be provided with high quality galvanised steel finished to RAL9010 semi-gloss as standard.

G. The unit shall be fully compatible with a range of unit mounted outlet plenum attenuators. The outlet plenum attenuators shall be suitable for direct mounting to the unit.

H. The outlet plenum attenuators shall be a rigidly constructed single skinned galvanised sheet steel case lining incorporating internal splitting vanes lined with acoustic foam.

I. The outlet plenum attenuator casework shall be provided with high quality galvanised steel finished to RAL9010 semi-gloss as standard.

J. The unit shall be fully compatible with a range of shut-off damper modules. The shut-off damper modules shall be suitable for direct mounting to the unit.

K. The shut-off damper modules shall be a rigidly constructed double skinned galvanised sheet steel case and contain shut-off dampers motorised with actuators.

L. The shut-off damper module casework shall be provided with high quality galvanised steel finished to RAL9010 semi-gloss as standard.

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