

CONSULTANTS SPECIFICATION

XBOXER THERMAL WHEEL & RUN AROUND COIL

OPERATION

The supply and extract ventilation unit shall be as indicated on the drawings and shall be in accordance with the particular fan schedule in the specification. Supply air to the room shall be pre-heated by the extract air via the integrated thermal wheel or run around coil.

Where fitted an integrated heater battery shall raise the temperature of the supply air to the design room temperature after the air has passed through the thermal wheel or run around coil.

The Ecosmart ventilation unit shall automatically vary the ventilation rate, as it receives signals from one of the optional interconnected sensors.

When signals are received, the fan shall either vary its speed proportionally or on a trickle and boost principle.

The unit shall have the facility to commission the supply and extract fans individually via inbuilt minimum and maximum speed adjustment, the fans themselves shall have infinitely variable speed control.

RANGE TYPE - THERMAL WHEEL UNIT

The vertically stacked unit shall be manufactured from aluzinc corrosion resistant steel, with 25mm double skinned infill panels and extruded aluminium frame giving extremely low noise levels. The unit shall include the following items:- Thermal wheel, supply & extract fans, supply and extract filters, G4 grade bag as standard (upgrade to F7 bag if required) and LPHW heating coil (L model). The unit shall be constructed with removable panels allowing maintenance access from either side. Note: T1, T2 & T3 have chosen side access.

RUN AROUND COIL UNIT

The vertically stacked unit shall be manufactured from aluzinc corrosion resistant steel, with 25mm double skinned infill panels and extruded aluminium frame giving extremely low noise levels. The unit shall include the following items:- Run around coil pair, supply & extract fans, condensate drip tray and 22mm drain connection (alternatively a condensate pump shall be provided if specified), supply and extract filters, G4 grade bag as standard (upgrade to F7 bag if required) and LPHW heating coil (L models).

The unit shall be constructed with removable panels allowing full maintenance access from either side.

CONTROL TYPES - ECOSMART - (OPTIONAL)

The Ecosmart control option provides the facility for energy saving via an intelligent stand-alone AHU function, or for convenient integration with client BMS with a minimal coordination requirement.

The factory fitted control includes:- integral infinitely variable (inverter) speed / duty control for the supply and extract fans, with independent minimum and maximum adjustment for accurate commissioning.

A run on timer and "background" ventilation function and is provided as is unit status indication, run / fail relays, and interface connection for Ecosmart sensors/enablers and system dampers.

The unit heat recovery function is facilitated by a dedicated controller and associated sensors. An output signal is provided to control thermal wheel drive or plate heat exchanger bypass operation (included), For Run Around Coil units, the output signal may be used to control the circulation pump system (by others).

BMS. The Ecosmart control module can additionally be pre-configured to provide 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.
Variable speed / duty control Switch from low speed to high speed - trickle and boost principle.
- 2 No. Volt free contacts to provide fan run and failure indication to provide system status.

Please note Ecosmart is fan only control.

NO CONTROL - (OPTIONAL)

Unit provides side access to direct supply and extract fan motor wiring (terminal boxes) for interface to custom built control panels by others. For this option, no sensors are fitted to the unit, but note that in the case of plate heat exchanger units, the bypass damper actuator is included, and for thermal wheel units, the wheel motor and drive unit is included.

ELECTRIC HEATER BATTERY

The electric heater battery shall be factory fitted and pre-wired to an integral closed loop thyristor control. When the unit is switched off, the fan shall continue to run to dissipate heat from the electric heater battery before stopping.

COIL TYPES - LOW PRESSURE HOT WATER COIL & RUN AROUND COILS (OPTIONAL)

The coil casing shall be formed from heavy gauge galvanised sheet steel to BS 2989 to make a rigid assembly. Tube end plates shall have die formed collared holes to allow expansion and contraction of the tubes without damage.

All coils are pressure tested to 16 bar with dry compressed air under water. Standard or duty specific coils are selected to suit customer requirement using specific computer software to give optimum performance with lowest pressure drop.

The coils shall be factory fitted with drain cocks and air vents.

Standard specification coils have copper tubes and aluminium fins.

Coil connections shall be BSP terminated at the exterior of the unit casing.

T1, T2 & T3 will have push fit connections.