

CONSULTANTS SPECIFICATION

VENTILATION SYSTEM DESCRIPTION

The main extract twinfan shall be as indicated on the drawings and in accordance with the relevant fan schedule. The vitiated air shall be extracted from the space using an energy efficient demand ventilation principle; the system shall have its volume flow rate of air varied by a range of low voltage sensors and enablers.

FAN DESCRIPTION

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. (Units 1-9).

Run and standby fan assemblies to incorporate fan impeller and motors selected to provide the most energy efficient solution conforming to part L regulations and shall be direct or belt drive with IE2 high efficiency motors to BS5000 as standard, belt or direct drive with EN60034-30 motors fitted with "hall effect" air flow failure monitoring, units suitable for operation in ambient temperatures of 40 degrees C.

The Fan unit shall have a 5 year warranty.

The unit and ancillaries shall be of the Quietscroll type with Ecosmart controls as manufactured by Nuair Ltd.

INSTALLATION REQUIREMENTS

The mechanical contractor shall ensure that all necessary ancillaries are included e.g. AV mounts, flexible connections, attenuators, etc.

The contractor shall allow for all necessary ductwork transformations to and from the fan unit and any associated components in accordance with the manufacturers recommendations, DW 144 and general good practice.

SYSTEM OPERATION

The extract fan shall 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 in accordance with Part L.

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FAN CONTROL DESCRIPTION

The acoustically lined low noise Twinfan shall be controlled by an integrated Ecosmart control panel mounted within the fan unit. The Ecosmart control enables the fan's speed to be varied automatically as conditions in the ventilated space change by linking low voltage sensors or as the low voltage user control is adjusted. It also enables multiple fans to be directly interlinked. The fans shall have the following energy saving and operational functions integrally installed within it, all components will be pre-wired and fitted by the manufacturer:

- Auto-change over on fan failure.
- Auto duty share every 12 hours of run time.
- Integral Frequency inverter/speed controller.
- Integral adjustable run-on timer.
- Maximum and minimum speed adjustment/setting (trickle and boost).
- Volt free run & failure/status indication.
- 0-10V BMS interface for remote operation.
- Low voltage interface with second fan or supply fan.
- Multiple low voltage sockets for interconnection of sensors or fans.
- Background ventilation/trickle enable switch.

Fan, Ecosmart controls and associated sensors/controllers shall be manufactured by Nuair Ltd.

INSTALLATION

By the appointed contractor.

Mechanical installation requires mounting of the extract unit in the designated position and connection to the associated duct work.

Electrical installation requires the provision and connection of single or three phase electrical supply at the fan.

The user control and low voltage sensor are supplied complete with a 10m length of low voltage, pre-plugged cable.

COMMISSIONING

By the appointed commissioning engineer.

The systems should be commissioned in the normal way and the minimum and maximum speed adjustment with the Ecosmart control panel should be set to provide the required ventilation rates. These should be adjusted until the required air volume flow rate is achieved on the approved measuring device.

The manufacturer's recommendations should be observed at all times.