

TWIN SQUIF

Consultants Specification

System Specification

The ventilation fan Unit shall be configured and arranged as detailed on the drawings and in accordance with the schedule of equipment and shall be of the SQUIF type as manufactured by Nuaire. The units shall be manufactured heavy gauge Aluzinc corrosion resistant steel.

The general construction is to class A leakage.

Fan Specification

The fan impeller and motor shall be selected to provide the most energy efficient solution conforming to part L regulations and shall be direct drive with EFF2 high efficiency motors to BS5000 as standard. The fan impeller shall be a high efficiency backward curved centrifugal design, manufactured in galvanised steel and the motor shall be positioned outside the ventilation airflow path. It shall be capable of continuous operation at 90°C and a one off operation at up to 400°C for a period of 2 hrs certified to EN12101-3, when located outside the smoke envelope.

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 with EFF2 high efficiency motors to BS5000 as standard, belt or direct drive with BS5000 motors fitted with "hall effect" air flow failure monitoring, 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 in accordance with the manufacturers recommendations, DW 144 and general good practice.

The unit and ancillaries shall be of the TSQF type as manufactured by Nuaire Ltd.

Control Specification

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

1. Ecosmart controls - option

Ecosmart control system complete with all necessary controls to facilitate the operation of the ventilation system. It shall be complete with an integral factory fitted Ecosmart PCB which shall 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: -

- Auto changeover upon fan failure.
- Auto duty share every 12 hours of run time.
- 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.

Ecosmart System operation

The Ecosmart controls will enable the unit to automatically vary its speed as it receives signals from one of the interconnected sensors, controls or fans. 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.

2. BMS interfaces – option

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 - option

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. The commissioning set up facility directly controls the integrated speed control/frequency inverter.

4. Standard controls –

The unit shall be provided with a standard speed control or starter in accordance with the manufacturers recommendations.

Twin Squif has a 3 year warranty.

Ecosmart Twin Squif has a 5 year warranty.

All equipment shall be as manufactured by Nuaire Ltd.

Download specification from www.nuairegroup.com/specifications