

CONSULTANTS SPECIFICATION

SYSTEM DESCRIPTION

The spaces shall be provided with an automatic ventilation system to meet fresh air ventilation requirements in line with the BB101 or CIBSE Guide A guidelines for ventilation. The system shall be designed to prevent summertime overheating and shall maintain a daily average of 5l/s/person (BB101) or 10l/s/p (CIBSE Guide A) of fresh air all year round.

The system shall include a ventilation unit incorporating insulated dampers, an internal mixing system, induction fans and an integral controller.

The unit shall be connected to grilles in the room and to a shaft leading to an external weatherproof penthouse louvre unit above. The ventilation shaft from the room to the weatherproof penthouse louvre is to be provided by others and is a builders work requirement.

The penthouse louvre units shall incorporate weatherproof louvres with the required aerodynamic effective area to ventilate the rooms.

SYSTEM OPERATION

In winter - the ventilation shaft shall be used for fresh air intake & exhaust. The unit at the base of the shaft shall mix the incoming cold air with sufficient hot interior air prior to the fresh air entering the occupied space in order to minimize the risk of cold draughts, and the requirement for pre-heating of air using hot water coils or similar.

In summer - the unit will operate as a buoyancy-driven natural ventilation system. It shall have the ability to automatically induce buoyancy to the direction of desired airflow via an integrated induction fan.

The fan shall operate automatically as the conditions within the space vary.

Once the fan has induced the airflow it shall return to its standby mode, allowing the system to function entirely under the relative buoyancy. The unit will work in conjunction with openable windows on the external façade of the space, providing a crossflow ventilation effect with air being drawn through the room into the unit and discharged to atmosphere via the builders work shaft.

The roof mounted units shall incorporate a bird guard, plus a section designed to attenuate rain noise, and polyester powder paint finish to the required standard RAL colour if required.

CONTROL SPECIFICATION

Each ventilation unit shall be automatically controlled via a combined temperature / CO₂ sensor located in each room together with a common external temperature sensor to determine the operation of the unit. The ventilation unit shall be capable of providing automatic, secure night cooling, allowing cool air to enter the space via the unit, utilizing the integrated fan to induce the flow if the conditions in the space require it.

A 2-gang switch plate with lamps to indicate when windows should be open/closed together with key switch for activating On / Off / Test mode will be located in each room. Position of the indicator lamps and key switch to be as indicated on the tender drawings and co-ordinated with any other electrical components required in the space.

The S-Series has a 3 year warranty comprising of first year parts and labour with remaining two years parts only.

The equipment shall be the e-stack S-Series as supplied by Nuair.