



Specification text – E-Stack atrium-based systems

(A-Series units)

The spaces shall be provided with an automatic ventilation system to meet fresh air ventilation requirements in line with BB101 guidelines for ventilation. This includes preventing summertime overheating and including the ability to provide a daily average of 5l/s/person of fresh air year round and the capability to deliver 8 l/s/person at any time (or more for a reduced occupancy for example if designing to CIBSE Guide A).

The system shall include two atrium-room exchange units incorporating acoustic attenuating baffles and a fan, and a central controller. The unit shall be connected to grilles in the room.

In winter the controller will control the windows or dampers atop the atrium which shall be used for fresh air intake & exhaust. One atrium-room exchange unit will draw atrium air into the room, and the other atrium-room exchange unit will draw air from the room into the atrium. The rates of air flow will be regulated to maintain air quality and temperatures within the room and atrium to the necessary levels.

In summer the atrium-room units will operate to promote air flow out of the room into the atrium as a buoyancy-driven natural ventilation system, with provision for automatic fan assistance to buoyancy-driven ventilation flows when required. The units will work in conjunction with opened windows on the façade of the space.

Each room will be automatically controlled via a combined temperature / CO₂ sensor in each room, a common external temperature sensor, and CO₂ / temperature sensors within the atrium to determine the operation of the units.

A 2-gang switch plate with lamps to indicate when windows should be open/closed will be located in each room.