Specification text – E-Stack facade-based systems

(F-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 5 l/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 a ventilation mixing unit beneath variable control insulated dampers or a window, with an integral controller and grilles. The unit shall be used to control at least one further window on the same façade.

In winter the unit will open the window or variable control damper above the ventilation unit and one other window. The ventilation unit beneath the VCD/window 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.

In summer the unit will operate as a buoyancy-driven natural ventilation system, with provision for automatic fan assistance to buoyancy-driven ventilation flows through the window/VCD above the unit when required. The unit will work in conjunction with opened windows on the façade of the space.

Each unit will be automatically controlled via a combined temperature / CO_2 sensor in each room & a common external temperature sensor to determine the operation of the unit.

The unit will be capable of automatic, secure night cooling when appropriate, allowing cool air to enter the space via the unit, and using fan assistance if required.

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