



## Acoustic Facade Ventilators for City Centre College

New life is being breathed into a 1960s college building in the heart of London through innovative ventilation techniques.

City & Islington College needed to upgrade its four-storey Centre for Business, Arts & Technology in line with changing vocational courses, but had a limited budget with which to achieve the mix of accommodation from specialist studios for dance, fashion and printing through to engineering workshops and recording suites, and additional requirements such as a library, administration facilities, a nursery and café.

Wilkinson Eyre Architects' solution was to redesign the interior to take into account student movement, cutting out long corridors and creating a central courtyard. To ensure compliance with DfES requirements to utilise sustainable solutions as far as possible, the ventilation strategy focused round a natural ventilation chimney, a 100m long double

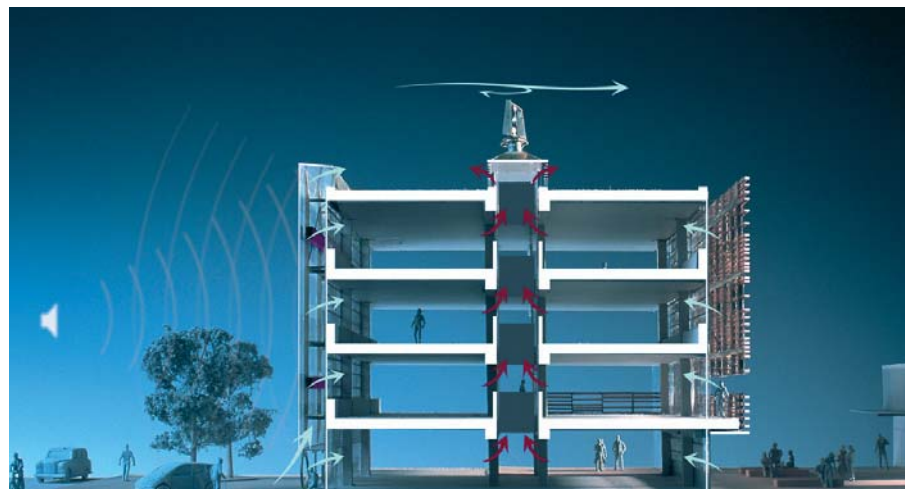
skin glass buffer zone on the façade fronting the busy adjacent main road and Passivent Aircool ventilators.

### Buffer Zone

The buffer zone, which runs from the first floor to enable adequate access to the building and movement round the communal areas at ground floor level, allows fresh air to enter the building whilst minimising noise penetration and optimising external temperature changes. The central chimney provides continuous air movement, drawing "used" air out of

the building by the buoyancy effect by which warm air rises, with extraction boosted by a roof-mounted turbine.

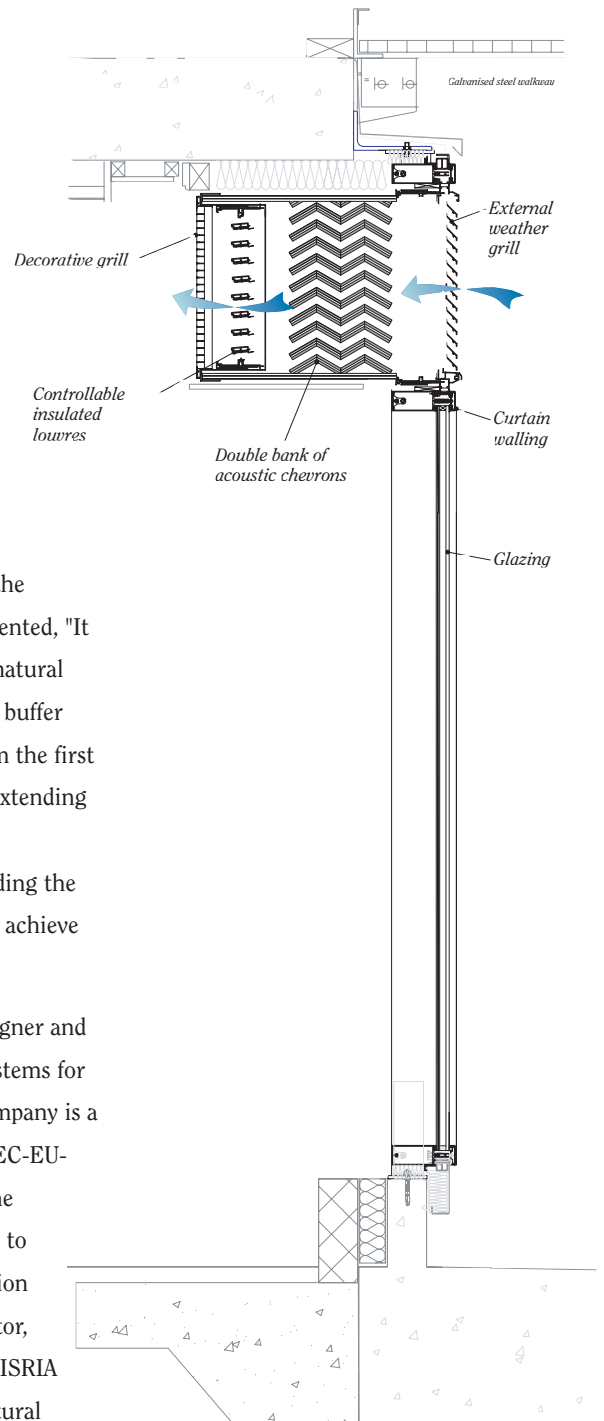
As the buffer zone could not include the ground floor, a solution had to be devised to provide natural ventilation to that area. As a result, 27 acoustically treated Passivent Aircool ventilator units have been installed to draw the fresh air through the building facade and circulate it throughout the rooms, with each unit providing a nett free ventilation area of 100,000mm<sup>2</sup>.





## Bespoke facade ventilators

Passivent has developed bespoke versions for the College, including a double bank of acoustic chevrons in each Aircool unit to provide supplementary external noise attenuation to 30dB and ensure students have a quiet but fresh, draught-free internal environment in which to work. The thermostatically controlled Aircool units open automatically to draw replacement, fresh air into the building achieving penetration depths of five times the floor-to-ceiling height. Daytime heat build-up is also automatically dissipated via the units at night.



Stafford Critchlow, architect for the project at Wilkinson Eyre, commented, "It is a DfES requirement to utilise natural ventilation as far as possible. The buffer zone effectively provides this from the first floor, but we needed a means of extending the natural ventilation strategy throughout the building ie including the ground floor. Passivent helped us achieve that."

Passivent is the UK's leading designer and supplier of natural ventilation systems for commercial applications. The company is a founder member of the NatVent EC-EU-funded project co-ordinated by the Building Research Establishment to develop practical natural ventilation solutions for the commercial sector, and has also contributed to the BISRIA guide BG2/2005 Wind Driven Natural Ventilation Systems, as well as being members of the DfES steering committee on ventilation guidance for schools, Building Bulletin 101.