

Acoustic façade ventilators for City and Islington College

Passivent, working in partnership with Wilkinson Eyre Architects, designed, manufactured and supplied a natural ventilation system for City and Islington College, situated in London.



End client:
City and Islington College

Architect:
Wilkinson Eyre Architects

Technology used:
Passivent Aircool® acoustic
façade ventilators

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

City and 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.

passivent



Ventilation
& Air Quality



Natural
Daylight



Moisture
Removal

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**building
product design**

The challenge

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.



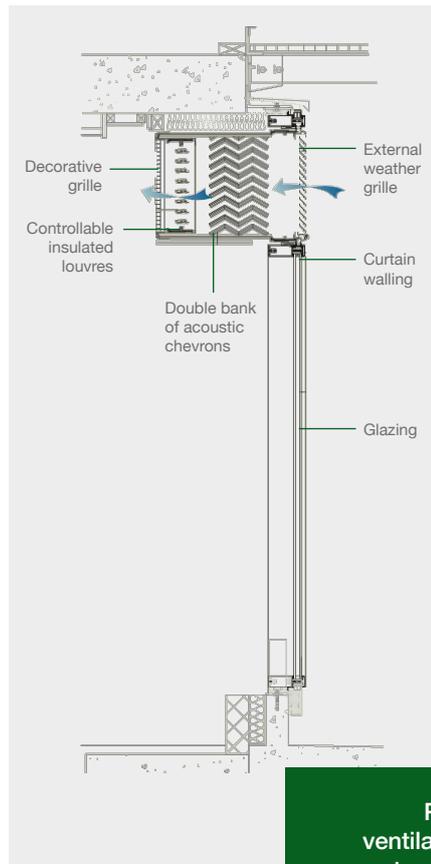
The solution

Bespoke façade ventilators

Passivent has developed bespoke façades for the College, including a double bank of acoustic chevrons in each Aircool unit. Working closely with the acoustic consultant and using Passivent's testing results for the standard acoustic product range, the unit was calculated to achieve a noise attenuation of 30dB.

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 i.e. including the ground floor. Passivent helped us achieve that."



The 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 façade and circulate it throughout the rooms, with each unit providing an average geometric free ventilation area of 0.375m².

(Case study first published in April 2007)

Passivent offers natural and hybrid ventilation solutions for a broad range of sectors including education, commercial, leisure, care, healthcare and residential.

