CLASSROOM VENTILATION: PASSIVENT HYBRID PLUS2 AIRCOOL VENTILATOR:

The internal ventilation strategy to classroom areas to be provided by a Passivent Hybrid Plus2 Aircool multi-mode ventilation system. Designed to meet the requirements of Building Bulletin 101, "Guidelines on ventilation, thermal comfort and indoor air quality in schools" and the Facilities Output Specification for Priority Schools Programme Phase 2. This ensures that CO2 and temperature are kept at acceptable levels to maintain internal air quality for a healthy teaching environment with the requisite level of attentiveness.

The system consists of three main components: the external weather louvre, the through-wall sleeve and the inner mixing unit.

Only the external weather louvre will be visible eternally and will be finished with a PPC aluminium grill with colour to match window and door frames. This is an intake and does not extract or exhaust waste products.

The system utilises controllable insulated dampers designed for use in external facades, including all forms of wall construction, curtain walling and window profiles. The system Incorporaties a variable speed fan and is energy efficient and quiet but able to deliver up to 145l/s of ventilation. Weather resistance and security are provided by the external weather louvre, even when the internal insulated louvre is open. One Hybrid Plus2 Aircool can effectively ventilate a room containing up to 16 occupants; adding a second unit will accommodate up to 32 people per room.

Manufacturer's dataset / details:

HYBRID PLUS2 AIRCOOL VENTILATORS

Designed for fast and simple installation

- *Flexible* - can be positioned within the space, either on display or within a suspended ceiling or bulkhead (requiring additional grilles and ducts).
- *Fast* - three-component system makes for speedy installation.
- *Lightweight* - easy to lift into position.
- *Easy maintenance* - access panel for inspection.
- *Simple fixings* - straightforward installation via four drop down bolts.
- *Secure* - no external fixings on louvre.

Performance
Equivalent free area of each unit: 0.054m².
Max. flow rate when inlet & outlet resistances are equal and fan is in operation: 145 l/s.
Compliance: Building Bulletins 93 & 101.

Appearance
External louvres and frame are polyester powder coated to order. Internal cover grilles are supplied in white RAL 9016 as standard but can be polyester powder coated to other colours to specific order.

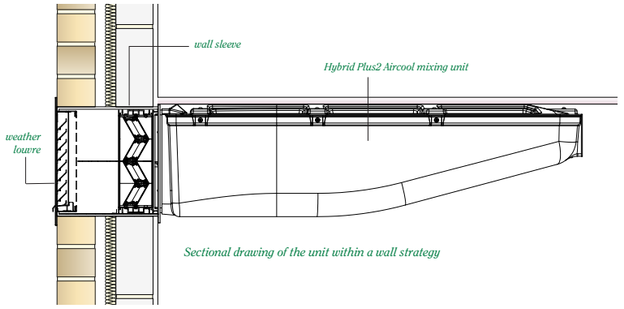
Dimensions
Internal tempering and mixing unit:
967mm(w) x 330mm(h) x 1253mm(d).
Aircool size would be supplied to suit the building requirements: typically 842mm(w) x 320mm(h).
Weight: approximately 30kg.

Specification clause
Hybrid Plus2 Aircool, incorporating Aircool ventilator with a mixing chamber. Aircool for masonry walls/windows/ curtain walls* having extruded aluminium frame, extruded aluminium external weather louvres, 4mm black polypropylene insect screen. Insulated motorised controllable dampers fabricated from double skin of aluminium with ABS thermal break and blade compression seals. Mixing chamber finished to RAL 9016 white, incorporating variable speed fan, controllable mixing dampers.

Ventilator U-value 0.86W/m²K when closed. 24V modulating actuator control for dampers, controlled by Passivent iCS000 intelligent controller. Fan flow rate of up to 145 l/s.

Ventilators designed and manufactured under BS EN ISO 9001, and supplied by Passivent, North Frith Oasts, Ashes Lane, Hadlow, Kent TN11 9QU. Tel: 01732 850770, email: projects@passivent.com.

*Delete as applicable.

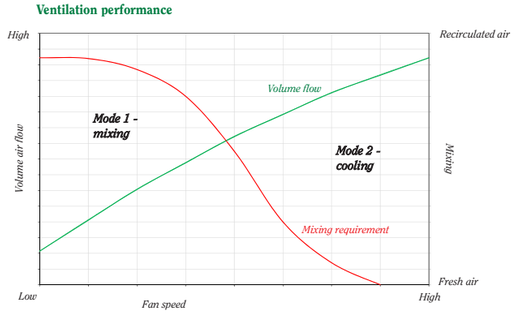


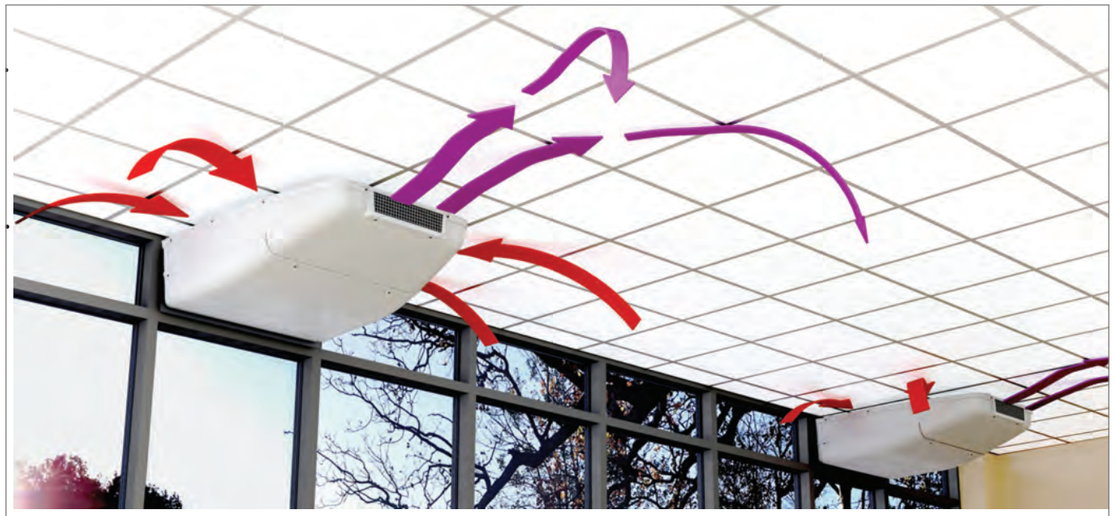
Sectional drawing of the unit within a wall strategy

Ventilation performance

The graph opposite shows the varying ventilation conditions during modes 1 and 2 of the system.

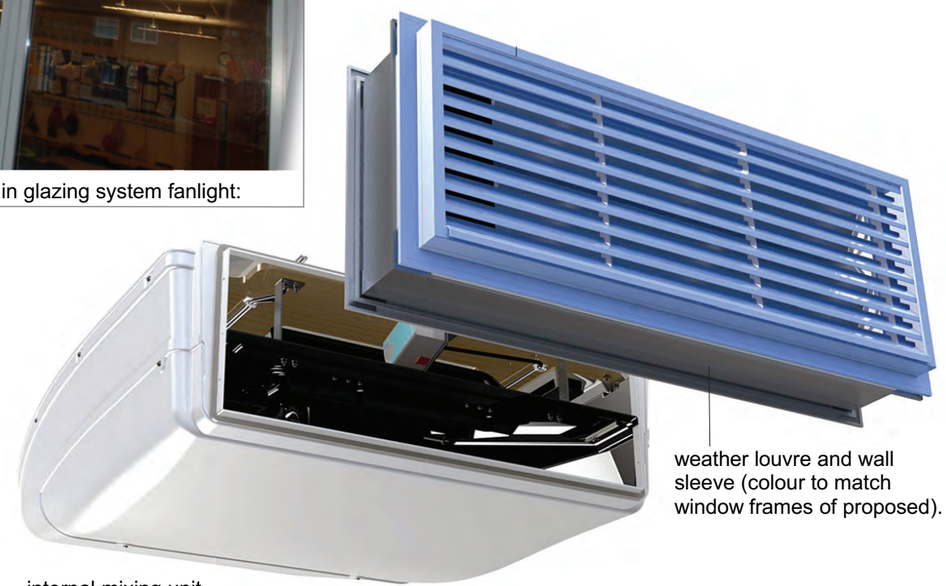
When there is a requirement for a low volume of air flow due to air quality, but with the need to maintain thermal comfort in the room, the system operates in mode 1 (mixing). As the ventilation conditions change, the system adapts to a mode 2 (cooling) operation where the emphasis switches to increasing air flow and reducing the room temperature.






installation in glazing system fanlight:

Manufacter's images for typical installation



internal mixing unit

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