

THERMAL HYBRID AIRCOOL®

Passivent has developed an additional version of the Hybrid Aircool® ventilator with a restyled room-side ventilation outlet that incorporates an inline heater unit. The Thermal Hybrid Aircool enhances our existing range of Aircool ventilators.

The heater unit consists of a Low Temperature Hot Water (LTHW) heater coil which connects to the building's wet heating system to provide additional tempering of incoming outside ventilation air. This will not only minimise cold draughts but also contribute to room space heating requirements.

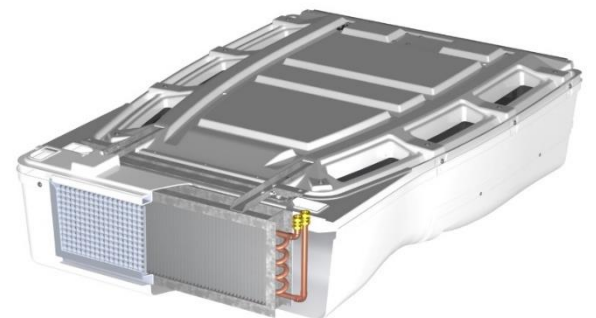


Key features

- Includes an integrated Aircool window or wall damper unit for incorporation into the building façade.
- Subject to overall heating design strategy, this can provide the primary heating for the room.
- LTHW 6kW duty heater coil.
- Flow rate up to 145 l/s when in mechanical mode with inlet and outlet resistances equal.
- Equivalent free area of 0.054m² (passive mode).
- Overall size of internal mixing and heating unit (non-ducted): 967mm (w) x 330mm (h) x 1465mm (d)
- Available as integrated grille outlet or ducted outlet options.
- Can be fixed directly to the structural ceiling members or via drop rods.
- The Thermal Hybrid Aircool is operated by Passivent's iC8000 controller which can then be connected to a Building Management System.
- For information on other features and benefits of the Thermal Hybrid Aircool please refer to the main product literature for the Hybrid Aircool ventilator.



Thermal Hybrid Aircool with restyled room-side ventilation outlet.



Thermal Hybrid Aircool incorporates a LTHW heater coil which connects to the building's wet heating system.

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Cooling & Air Quality



Natural Daylight



Moisture Removal

Operational modes

- **Passive Mode** - Without fan assistance this mode means that the unit can be used for background ventilation providing an equivalent area of 0.054m².
- **Mixing Mode** - In this mode, during cooler periods, the unit will mix a percentage of existing room air directly into the incoming fresh air as it is drawn in by the fan, before being discharged into the room space. Recirculated room air percentage and external damper opening is varied in response to room CO₂ level.
- **Boost Mode** - In hotter periods the unit can be used to promote air movement and/or provide purge ventilation by forced ventilation via the fan, with the inlet damper fully opened and room air recycling closed off.

Heating Modes

- **Pre-heating Mode** - In cooler periods, when the external temperature is below the minimum setpoint, air is recirculated and the heater coil is activated to provide additional heat input in order to raise the room temperature.
- **Occupied Heating Mode** - As with the above mixing mode, not only will the unit temper the incoming fresh air by mixing it with the existing room air but if the room CO₂ is at a level where increased fresh air flow is required and the external temperature is below the setpoint figure then the heater coil will be activated in order to provide additional pre-warming to the incoming fresh air.

Performance data

- **Equivalent free area** of each unit: 0.054m².
- **Maximum flow rate** when inlet and outlet resistances are equal and fan is in operation: 150 litres/second.
- **Acoustic performance:**
A-weighted Sound Power Level of 43.3 dB L_{WA} with ventilation at 80 litres/second.
When the ventilation is boosted to 150 litres/second the A-weighted Sound Power Level is 58.7 dB L_{WA}, when tested to BS EN ISO 3743-1:2010*.

A 29 dB $D_{n,e,w}$ noise reduction is possible through the product with the damper in the open position, when tested to BS EN ISO 10140-2:2010 for element-normalised level difference and BS EN ISO 717-1:2013*.

*Independent acoustic testing carried out by Acoustical Investigation and Research Organisation Ltd, a UKAS accredited testing laboratory.

- **Energy consumption:** Specific Fan Power ranges between 0.133 to 0.40W/l/s, depending on the ventilation rate.
- **Compliance:** Building Bulletins 93 & 101.
- **Predicted room sound pressure level** is 32dB(A) when two Thermal Hybrid Aircools are operating in 180m³ room with a ventilation rate of 80 litres/second per unit. The building designer / consultant must ensure suitability in the actual application and that the correct room coefficients are applied for compliance.

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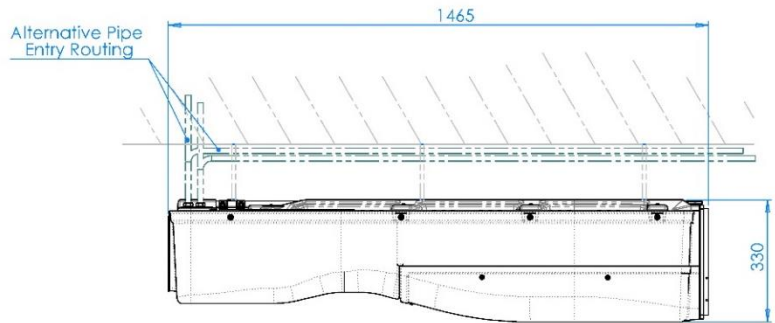
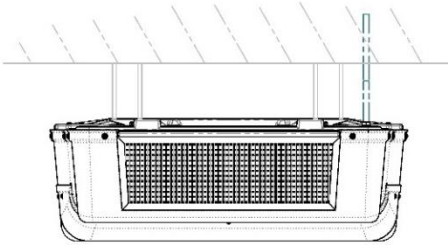
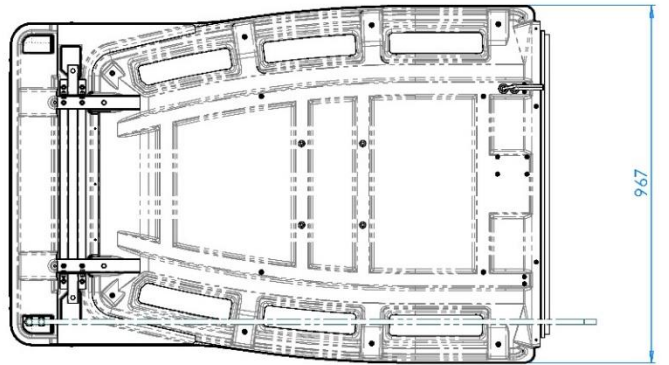
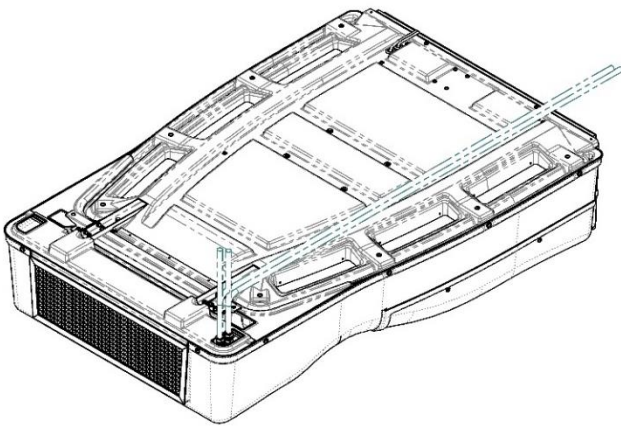


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