

KERS INDOOR COOLBOOST MODULE HEAT PUMP

Hot Water - Heat Recovery - FreeCooling
MITIGATES OVERHEATING IN DWELLINGS

The Coolboost Module integrates with the **Weatherby Indoor Heat Pump System** to provide a combined renewable hot water and free cooling solution.



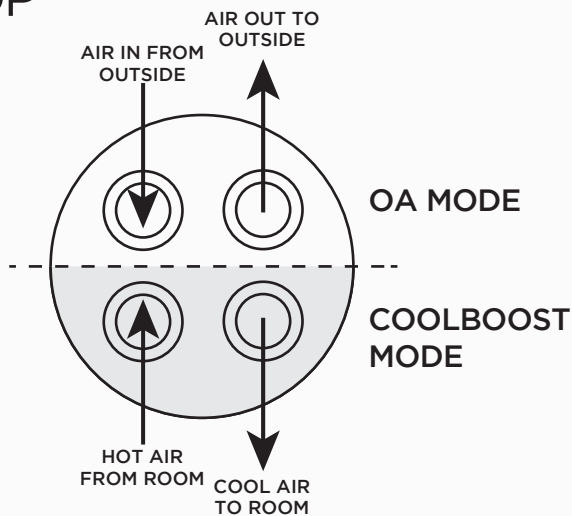
PATENT
PENDING
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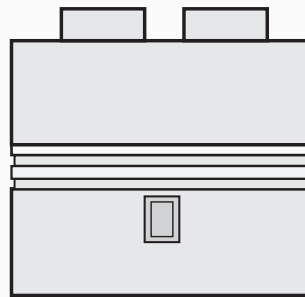
HOW IT WORKS

Heat pump technology is used to provide LOW COST renewable hot water with the resultant by-product cool air. Recycled to cool the apartment interior.

TOP



FRONT



COOLBOOST MODULE

On the above example air is taken from within the room, absorbing the energy and the resultant cool air is diverted into the room to supply free cooling.

Specialist software and internal dampers allows the following control strategy to work.

OA FUNCTION (Standard heat pump mode)

The heat pump takes the air from the outside into the heat pump where the energy is absorbed and recycled through the heat pump hot water process.

COOLBOOST FUNCTION (Cooling required)

The controller software activates internal dampers to switch the direction of the air from where it is being taken in.

FEATURES

- > PROVIDES LOW CARBON HOT WATER AND FREE COOLING
- > MITIGATES OVERHEATING IN DWELLINGS
- > COOLING CAPACITY 1.5kw
- > NO EXTERNAL CONDENSER REQUIRED
- > WORKS ALONGSIDE SENTINEL ECONIQ-COOL (KERS) MVHR
- > AUTO COOLING MODE
- > SUMMER BYPASS
- > ACHIEVES 70c WITHOUT IMMERSION
- > PEEK LOPPING
- > TRIM COOLING
- > FREE COOLING
- > COOLTH RECOVERY
- > SUMMER BYPASS
- > PART O COMPLIANT
- > 25C+
- > MVHR COMPATIBLE

Independent cooling performance graph shows:

Real life performance of how the system performs, reducing the temperature within the dwelling using the KERS Coolboost module and Sentinel Econiq-Cool (KERS) MVHR combined solution.



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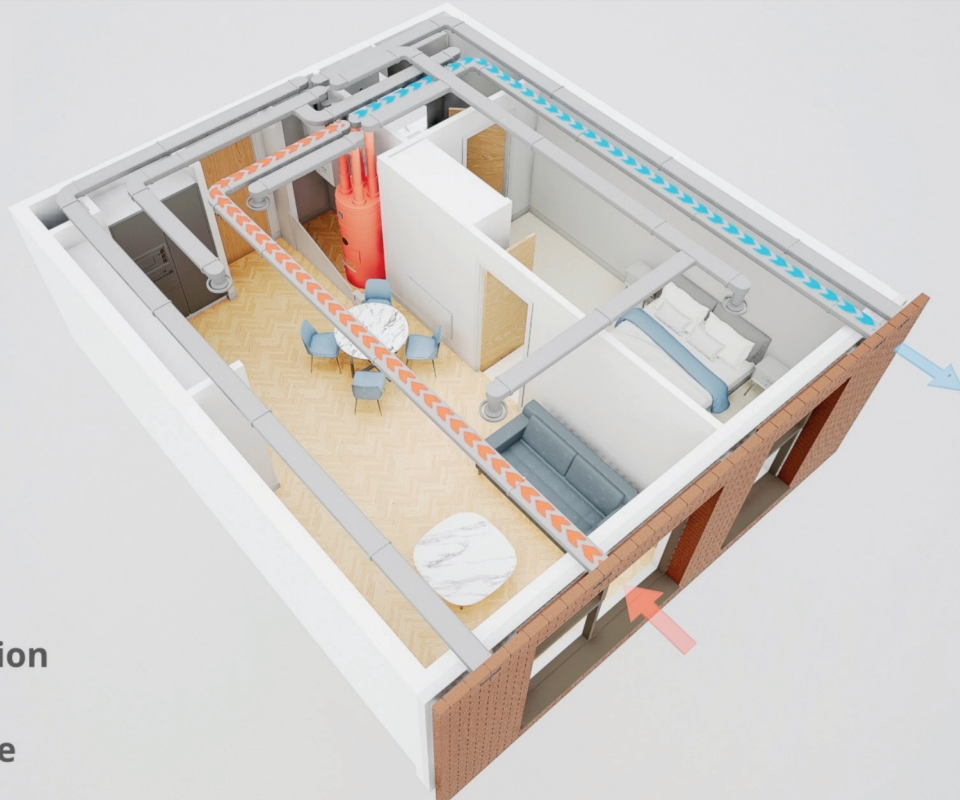
Figure 1. Control strategy test results

Please note this is Peek Lopping and not air conditioning

SCHEMATIC OVERVIEW

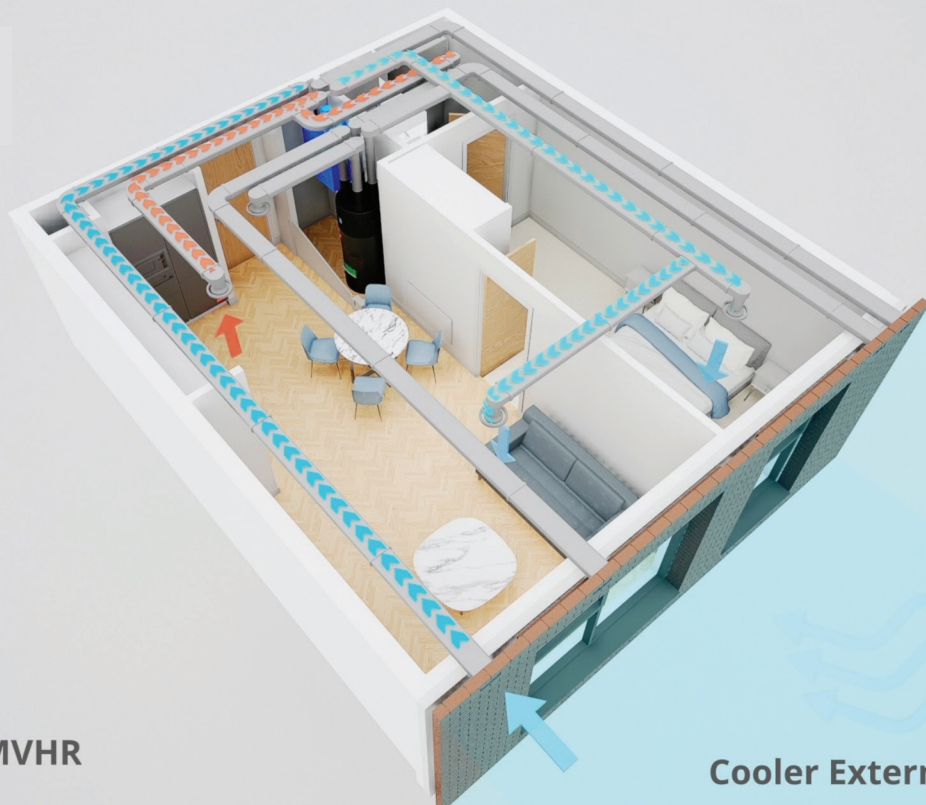
Showing varying operational modes of the Coolboost System.

MODE 1



Normal Operation
Heat Pump
Hot Water Mode

MODE 2



Summer
Bypass Mode
Controlled by MVHR

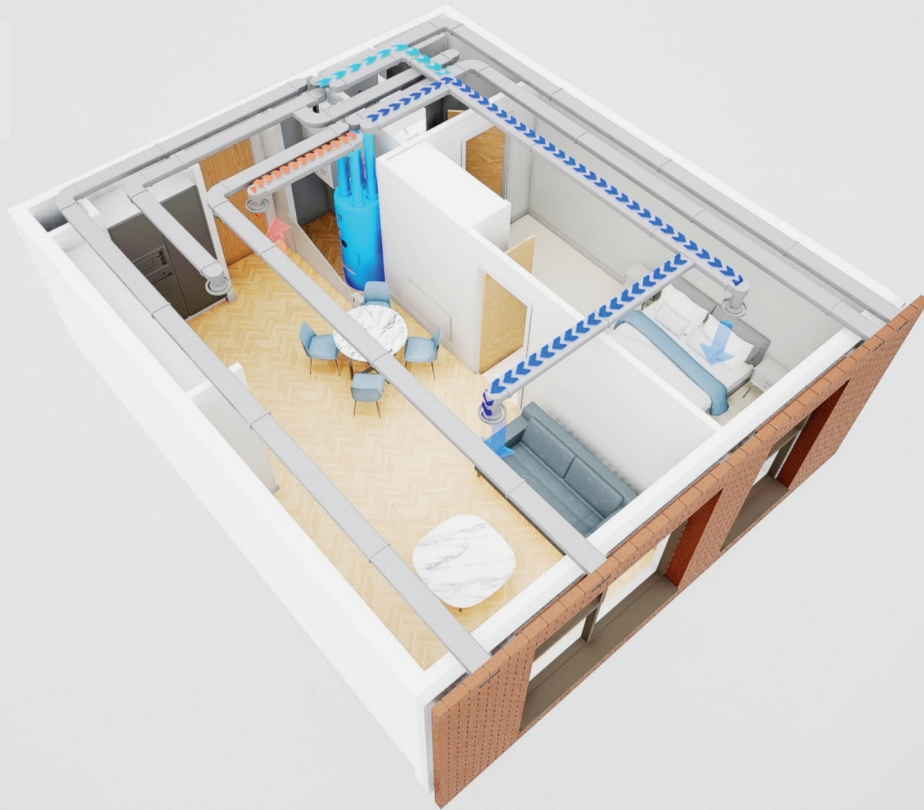
Cooler External Air

The KERS cooling system can work in conjunction with MVHR Systems. Both systems work independently when no cooling is required.

Once the temperature within the apartment exceeds 26 Degrees, the Sentinel Econiq-Cool (KERS) MVHR System will first use the cooler external air to reduce the internal temperature. If the external temperature is equal or higher than the internal temperature, the Sentinel Econiq-Cool (KERS) MVHR System then sends a signal to the Coolboost Module to activate the cooling controls, therefore producing cooling to the apartments via the MVHR ducting.

MODE 3

**Coolboost
Heat Pump On
Cooling Mode**



KERS INDOOR COOLBOOST MODULE HEAT PUMP



SPECIFICATIONS

* 5 YEAR WARRANTY SUBJECT TO ANNUAL SERVICE AGREEMENT *

Model	W230	W300
Below calculations based on 55°C according to EN16147		
Tank Volume (Litres)	230	300
Cooling Capacity	1.5kw	1.5kw
Heating Capacity (W)	2010	2010
Max Power Input	560w	560w
COP (EN255/3)	4,5	4,5
COP (EN16147)	3,5	3,5
Electrical Connection	230v/50Hz/1Ph	230v/50Hz/1Ph
AMP	10	10
Working Pressure	8 BAR	8 BAR
Max Water Temp (No immersion)	70c	70c
Refrigerant	R513a	R513a
Electrical Heater Optional (W)	1500	1500
Duct Minimum Diameter (mm)	150mm/220mm x 90mm	150mm/220mm x 90mm
Max Pressure (Pa)	see fan spec	see fan spec
Flow rate minimum (l/s)	80	80
Corrosion Protection	Vacuum enameled	Vacuum enameled
Weight (Kg)	105	120
Dimensions (mm) HxD	1858 x 668	2108 x 668



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