introducing Ambion

Low-carbon heating and hot water for housing developers

ambion

new homes need low-carbon, highly effective heating

As the UK moves towards a low-carbon future, the way we build new homes and redevelop existing homes must change in order to minimise our housing emissions. When the Future Homes Standard comes into force in 2025, traditional gas central heating will be prohibited in new houses and developments, which means savvy developers are securing more sustainable heating solutions now.

Ambion's computer-controlled infrared (CCIR) space heating and KERS water heating system work together to provide the perfect low-cost and low-carbon solution for housing developers, and their customers.

Powered by electricity, the CCIR and KERS system can be easily fitted into any property. It is cheaper to install than many other low carbon heating systems - for example air source heat pumps.

Both CCIR and KERS are highly effective and energy efficient. CCIR uses 60% less energy than some traditional electric convection heating system; and KERS uses 70% less energy than conventional systems.

So, for developers that are looking for a cost-effective and sustainable heating and hot water system, Ambion is the ideal solution.

ideal for modern developers

Whether you're heating a four-bedroom detached home or a one-bedroom apartment, Ambion's CCIR heating and KERS hot water system ensure every room is warm and comfortable.

We can deliver the solutions you need in bulk at the first or second fix stage, and schedule final panel installation and system commissioning with your on-site electrical teams near to the final fix, to reduce the installation timeframe and costs to your business.

We can provide an **entire CCIR heating system**, including as many **infrared heaters** as you need, a **control panel** and **KERS hot water system**. Our Ambion heater panels include fully-integrated computers to optimise energy use within the property while maintaining a comfortable temperature 24/7.

Decarbonising heat: CCIR's key role

Heat accounts for 1/3 of the UK's emissions - so as the UK moves towards its net zero emissions target, finding low-carbon ways to heat our homes and businesses will be critical.

Computer-controlled infrared (CCIR) heating will therefore play a key role in decarbonising heat. It's powered by electricity, which is a low-carbon alternative to gas, and as it heats the materials within a room rather than the air, it's a much more effective method of heating a space than traditional central heating.

Ambion's CCIR system uses 60% less energy than standard convection systems and achieves heat pump levels of energy performance.

why choose Ambion?

Housing developers are opting for Ambion because...

Keep your costs low. As electric systems, our CCIR and KERS heating and hot water systems are simply wired into the mains, which means they're cheaper and easier to install than many other low-carbon heating and hot water systems.

Prepare for the Future Homes Standard. Ambion's CCIR and KERS solutions are a sustainable alternative to fossil-fuelled heating systems like gas and oil boilers, as infrared is a low-carbon source of heat and KERS uses renewable, recycled heat.

It provides low cost, highly effective heating. As CCIR uses 60% less energy than standard convection systems and KERS uses 70% less energy than standard water heating systems, Ambion can bring your residents' heating bills down.

It's built to last for the long-term. CCIR comes with a 10-year guarantee - double that of a conventional boiler - and it has a service life of 33 years, compared to a conventional boiler's typical lifespan of 10-15 years. KERS comes with a 12 month warranty, extendable to five years.

It creates a more comfortable environment. CCIR provides a more comfortable source of heat and can reduce circulating dust because it heats the materials in a room, rather than the air. CCIR and KERS work together to reduce condensation and humidity.

In a typical three-bedroomed house, the average cost of installing CCIR and KERS is **£9,345** compared to **£14,750** for installing an air source heat pump.

How we're different

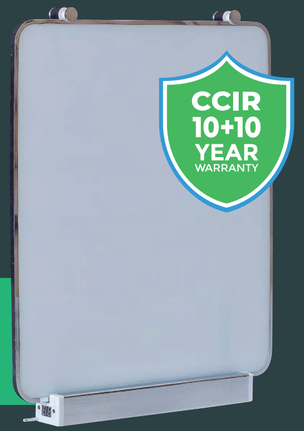
OUT	IN
✘ Old-technology thermostats	✔ Total system control by computers and algorithms
✘ Stuffy hot air from convection heat	✔ Clean, comfortable infrared heat
✘ Noisy and unsightly external heat pump	✔ Quiet indoor heat pump that fits into a standard airing cupboard
✘ High utility bills and CO_2 emissions	✔ Lower utility bills and CO_2 emissions

how it works

Our solutions use cutting-edge technology to deliver market leading results for our customers.

Our CCIR space heating system

Conventional heating systems using convection heat and thermostats are yesterday's technology. Instead, CCIR uses infrared and algorithms to provide a simple-to-use and highly efficient system.



This results in average **60% energy savings** compared with conventional systems.

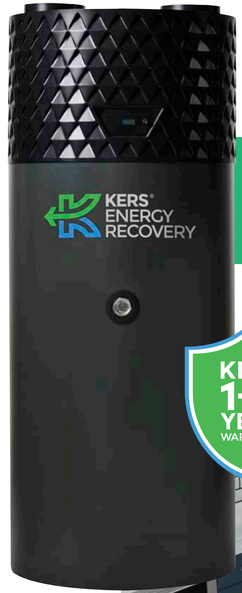
Here's how it works:

- Residents use a single, user-friendly Control Panel to set target temperatures across the system, room-by-room and in individual time slots.
- Infrared panels heat the walls and furniture within a room (rather than the air as in conventional heating systems). This uses less energy as conventional systems waste energy on escaping hot air.
- Ambion's technology uses computers and algorithms to control the system, rather than thermostats as in conventional systems. CCIR uses sensors on the heating panels to monitor the constantly-changing home environment on a second-by-second basis, and adjusts its energy phasing routine accordingly to maintain the target temperature with minimum energy use.
- The system is at its most efficient when it runs 24 hours a day, so it's always on.

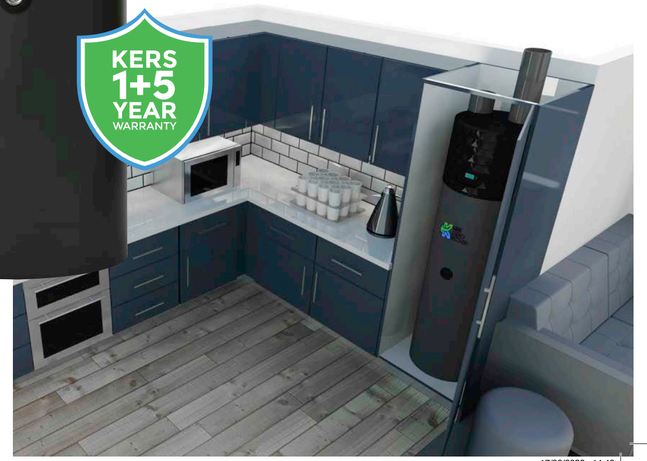
Our KERS water heating system

Conventional heat pumps sit outside and use relatively cold external air. Instead, the KERS hot water system is a simple and highly efficient ready-to-use indoor heat pump with integrated Mechanical Extract Ventilation (MEV).

- Residents pre-set desired temperatures using the simple digital display.
- The KERS heat pump is located indoors, and uses the warm air from the interior of the house, particularly the kitchen and bathroom.
- Using electrical energy, the heat pump sucks in the warm interior air and recycles its energy to produce hot water.
- This enables the KERS system to achieve temperatures of up to 65°C, higher than standard ASHPs, without using an electric immersion heater.



This results in **70% energy savings** compared with conventional systems.



the Ambion system

No matter how big or small your properties are, Ambion can ensure your residents are comfortable throughout by providing you with:

Infrared heaters

As many as you need to keep your properties warm

A hot water system

Giving your residents renewable hot water on demand

A control panel

Giving you centralised control of all your heaters at the touch of a button

Infrared heaters

- Available in 820W or 430W
- Fully programmable control panel - temperature and timing by individual heater or zone
- Sensor and micro-processor in every heating panel
- Works with solar and PV
- Clothes-dryer functionality
- Compact design
- No moving parts, so no servicing or maintenance
- Low energy - CCIR limits the amount of power used in any one ring main to 3.2kW
- Collects all operational data for use by housing provider and occupants

Hot water system

- High output 2010W
- Available in 160, 230 and 300L
- High efficiency ECQ fan motor and rotary compressor
- Provides both hot water and ventilation
- Heaterless design – achieves 65°C without the need for immersion
- No external condenser
- Compact design
- Easily serviceable with bespoke design, no requirements for removal of ductwork
- Weekly legionella program
- Low energy only 462W
- Optional PV & solar coil

a perfect fit for future homes

First Start Homes, a leading MMC housebuilder, is striving to create a passive house - one that provides homeowners with high levels of comfort while using very little energy to heat and cool the building.

To do so, it needs a source of heat that uses minimal energy, while providing maximum comfort - which means Ambion is the ideal solution. Ambion uses 60% less energy than traditional convection systems, which means its carbon emissions are also more than 60% lower than conventional systems. By installing Ambion, First Start Homes can provide homes that are fit for the UK's low-carbon future.

First Start Homes has already reduced the running costs of its homes down to around £200 per year, and it is seeking to bring them down further. Ambion's high performance levels means it uses little energy, keeping electricity bills low, and the system's 10 year warranty and minimal maintenance costs should enable First Start Homes to further reduce the running costs of its homes.

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FIRST START HOMES

After a trial in one of First Start Homes' showhomes was successful, it has now rolled out Ambion in 11 of its bungalows in the Vale of Glamorgan. Here's what Marcus Fookes, Head of New Markets and Operations at First Start Homes, had to say:

"We chose Ambion because we needed a sustainable form of heating that would future-proof our homes for the long term. The system maintains a comfortable temperature round-the-clock, while using minimal energy, and integrates with our solar and battery solutions. It's exactly what we were looking for."

the optimum low-carbon solution

CCIR SPACE HEATING	TRADITIONAL AIR SOURCE HEAT PUMPS
▲ Maintains a target temperature whatever the weather.	▼ Reliant on the weather - the lower the temperature falls, the less efficient heat pumps are.
▲ Fully flexible, centralised control panel with no separate thermostats.	▼ Thermostat-controlled.
▲ No water-based radiators – just infrared panels.	▼ Uses water-based radiators and underfloor heating.
▲ Simple installation. Just wire in and go.	▼ Complicated and expensive installation.
▲ No maintenance required.	▼ Annual maintenance required.
▲ No external condenser means no planning issues.	▼ External condensing unit can create planning issues.

KERS WATER HEATING	TRADITIONAL AIR SOURCE HEAT PUMPS
▲ Recycles waste heat, constant 20°C improves COP.	▼ Reliant on the weather; the colder the temperature, the less efficient they are.
▲ High temperature water output 65°C.	▼ Only operates to 55°C with immersion top up.
▲ Heaterless design requires no immersions.	▼ Uses immersions.
▲ Simple installation - just plug in and connect to the cylinder.	▼ Complicated and expensive installation.
▲ MEV function options	▼ No MEV functionality.
▲ No external condenser means no planning issues.	▼ External condensing unit can create planning issues.

technical specifications

CCIR SPACE HEATING

CCIR 10+10 YEAR WARRANTY

Model No.	GH-518R	GH-518P	GH-518B
Description	Large landscape	Large portrait	Small
Power rating	820W	820W	430W
Heating area	12M²	12M²	6M²
Max. effective range	8M	8M	8M
Performance Ratio (~COP)	2.6	2.6	2.6
Working Voltage	230V	230V	230V
Voltage type	AC	AC	AC
Frequency	50Hz	50Hz	50Hz
Weight	19kg	19kg	10kg
Dimensions H* x W x D (mm)	655 x 1110 x 11	1100 x 600 x 11	645 x 555 x 11
Construction	White glass with a steel frame		

Note: *plus 20mm wall brackets at top

KERS® ENERGY RECOVERY

KERS WATER HEATING

KERS 1+5 YEAR WARRANTY

Model No.	MVHR-W160	MVHR-W200	MVHR-W300
Tank Volume	160l	230l	300l
Heating Capacity	2010W	2010W	2010W
Max Power Input	462W	462W	462W
COP (EN255/3)	4,5	4,5	4,5
COP (EN16147)	3.1	3.1	3.1
Electrical Connection	230v / 50Hz / 1Ph	230v / 50Hz / 1Ph	230v / 50Hz / 1Ph
Amp	10	10	10
Working Pressure	8 Bar	8 Bar	8 Bar
Max Water Temp (without Immersion)	65°C	65°C	65°C
Refrigerant	R134A	R134A	R134A
Electrical Heater Optional	2000W	2000W	2000W
Duct Diameter (mm)	125	125	125
Pressure	80Pa	80Pa	80Pa
MEV sfp	0.5w/l/s	0.5w/l/s	0.5w/l/s
MEV Flow Rate	13-125l/s	13-125l/s	13-125l/s
Corrosion Protection	Vacuum Enamelled	Vacuum Enamelled	Vacuum Enamelled
Weight	140kg	140kg	160kg
Dimensions H x W x D (mm)	1494x 654 x 654	1638 x 654 x 654	1888 x 654 x 654

* Approved by the Building Research Establishment, TUV and SAP registered. Compliant with part L & F of building regulations.

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ready to feel the benefits of Ambion?

To find out more about why Ambion is the ideal alternative to central heating for forward-looking housebuilders, call us on **01924 385659** or email **hello@ambionheating.com**

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