

POWRMATIC

decarbonising HVAC solutions

Decarbonising large spaces with

Heat Pump Air Rotation

Supporting large buildings, including warehousing and logistics facilities, on the journey towards Net Zero through sustainable HVAC and building decarbonisation solutions.





Achieve net zero goals with ease.

Our AirRoteX Heat Pump Air Rotation Units are a critical component in your journey towards Net Zero and decarbonisation.

By utilising high-efficiency technologies and sustainable practices, AirRoteX can significantly reduce greenhouse gas emissions and help you achieve your environmental objectives.

Embrace a greener future with our energy-efficient climate control solutions.

High-efficiency & scalable climate control for buildings & spaces

AirRoteX Heat Pump Air Rotation Units are engineered to deliver highly efficient heating and cooling for buildings of any size, providing a powerful solution to decarbonise large-scale buildings and support the transition to Net Zero.

Each AirRoteX unit delivers up to 850kW of heating output, with multiple units combined to meet the demands of even the largest commercial and industrial spaces with minimal units. Advanced air rotation technology eliminates temperature stratification, reducing wasted energy and ensuring even temperature distribution.

With no ductwork required and reversible heat pump technology providing efficient year-round heating and cooling, AirRoteX helps reduce energy consumption, lower carbon emissions and accelerate the journey to Net Zero.



Applications

- Factories & Warehouses
- Retail
- Manufacturing Facilities
- Food Production
- Distribution Centres
- Storage Facilities

Renewable Integration

Compatible systems that seamlessly integrate with renewable energy sources within the building to provide efficient and sustainable heating and cooling solutions.



Net Zero & Decarbonising Solution

Contributes to decarbonising buildings and advancing net zero goals by utilising renewable energy sources, thereby reducing reliance on fossil fuels and minimising carbon emissions.



Duct-Free Benefits

Traditional VRV A/C systems require extensive ductwork, which is costly and requires fans to work harder, increasing operational costs.

AirRoteX air rotation technology eliminates the need for ductwork, simplifying installation and reducing maintenance expenses.

This approach preserves valuable overhead space, streamlines building infrastructure and lowers running costs by minimising fan energy consumption and eliminating duct losses.

Integrated Temperature Control

One single-unit solution can provide comprehensive temperature control for an entire building, reducing the complexity and costs associated with multiple systems.

This integrated approach minimises electrical connections and building penetrations, leading to lower maintenance demands and enhanced system reliability.

MODBUS compatibility ensures AirRoteX can seamlessly communicate and integrate with various industrial devices and control systems.



Enhanced efficiency with EC Fan Technology

AirRoteX EC fans automatically modulate their speed based on the building's internal temperature, further reducing the unit's electrical consumption. This adaptive approach enhances energy efficiency, cuts operational costs and maintains optimal indoor comfort levels.

Saving energy & costs for your clients.



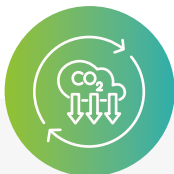
Carbon Neutral

AirRoteX systems operate exclusively on electricity and renewable sources like solar or wind power, ensuring zero direct carbon emissions. This aligns them perfectly with carbon neutrality goals, reducing reliance on fossil fuels and supporting sustainable practices for buildings aiming to minimize environmental impact.



Eco-Friendly Refrigerant

AirRoteX systems utilise low Global Warming Potential (GWP) refrigerants making them environmentally friendly and compliant with the latest regulations. This eco-friendly refrigerant reduces your building's carbon footprint and aligns with sustainability goals.



tCO₂e Reduction

Effectively reduces CO₂ emissions by using energy more efficiently compared to traditional heating methods. Its advanced technology minimises electricity use while delivering high-performance heating and cooling. By decreasing overall energy consumption and emissions, the heat pump significantly lowers your tCO₂e footprint.



Advanced Monitoring

Equipped with advanced monitoring capabilities, AirRoteX systems continuously track high and low-level temperatures as well as external conditions. This real-time data enables the system to modulate efficiently, ensuring optimal performance and energy savings. Achieve precise and responsive climate control with our intelligent technology.

Tailored solutions for your next project



Frost Protection Capabilities

AirRoteX provides effective frost protection for sprinkler systems by maintaining a set minimum temperature when conditions become too cold. This helps prevent sprinkler pipework from freezing, ensuring the fire protection system remains operational and supporting insurance requirements.



Application Versatility

Our AirRoteX heat pump air rotation units are perfect for various applications, from racked warehouses to open-plan spaces. They excel in temperature-critical environments like pharmaceutical and food storage areas, ensuring precise temperature control and reliable performance.



Customisable Solutions

We offer a range of bespoke systems tailored to meet the specific requirements of any building size and temperature control needs. Whether you require a cooling-only system or a comprehensive heat pump solution, our customizable options ensure the perfect fit for your unique application.



Diverse Options

AirRoteX systems are compatible with various heating options, including gas, oil, or hot water. This flexibility allows you to choose the most efficient and cost-effective heating method for your building, ensuring reliable climate control under all conditions.

Conditioned air for optimal comfort and efficiency.

Experience the pinnacle of comfort and energy efficiency with our state-of-the-art conditioned air solutions. Designed to maintain consistent and precise temperature control, our systems ensure an ideal environment throughout your building.

By utilising advanced air rotation technology and high-efficiency heat pumps, we eliminate hot and cold spots, reduce energy consumption, and enhance overall comfort. Enjoy the benefits of a perfectly balanced climate that maximises both occupant satisfaction and operational efficiency.



The principles of air rotation technology



Continuous Air Recirculation

Cooler air is drawn into the base of the AirRoteX air rotation unit and passes across the heated water coil. The conditioned warm air is then distributed by high-efficiency EC fans and discharged at high level, circulating uniformly throughout the building.

Warm Air Distribution

The heated air circulates continuously throughout the space before returning to the unit at low level. This air rotation pattern eliminates temperature stratification and reduces hot and cold spots, maintaining an even temperature from floor to ceiling.

Maintaining Temperature

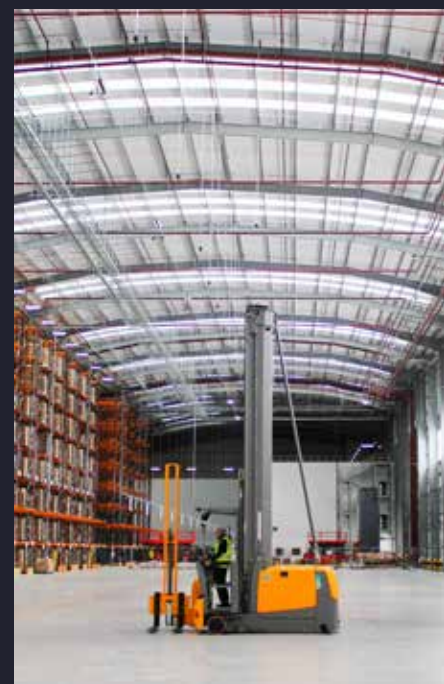
Once the required room temperature is reached, the system modulates its heating output to match the building's demand. Air continues to recirculate, maintaining a stable and comfortable temperature while minimising unnecessary energy consumption.

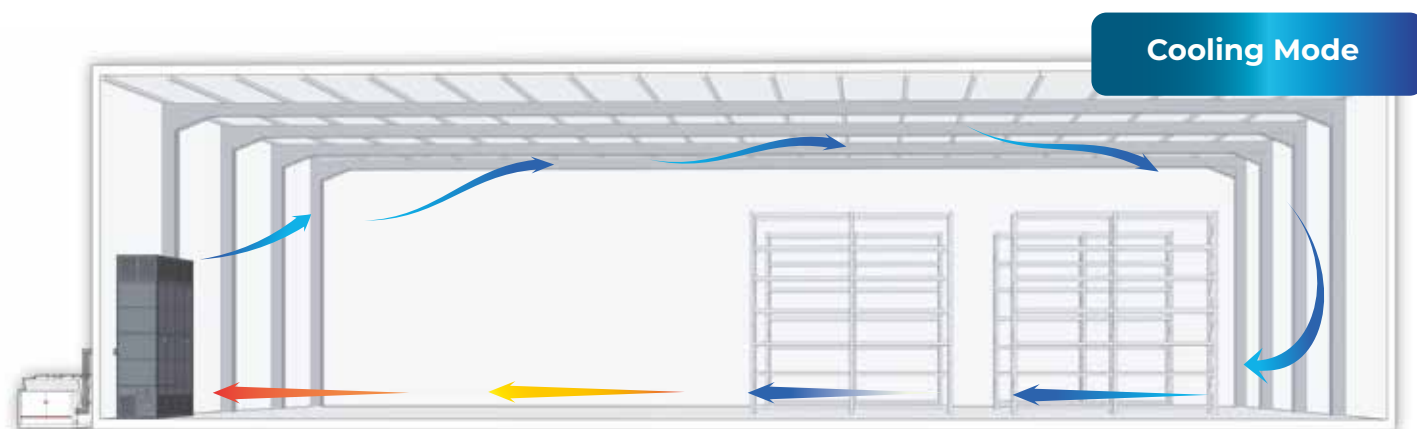
How does 100% electric system work?

A 100% electric system designed to efficiently heat and cool large buildings, comprising an external heat pump connected to an internal air rotation unit.

The heat pump extracts heat from the outside air for heating and reverses the process for cooling. The resulting hot or cold water circulates through the internal unit, where coils and EC fans condition and distribute the air.

Conditioned air is discharged at high level and continuously recirculated, helping maintain even temperatures and consistent comfort throughout the building.





Continuous Air Recirculation

Warmer air is drawn into the base of the AirRoteX air rotation unit and passes across the chilled water coil. The conditioned cool air is then distributed by high-efficiency EC fans and discharged at high level, circulating uniformly throughout the building.

Cool Air Distribution

The cooled air circulates continuously throughout the space before returning to the unit at low level. This air rotation pattern promotes effective air mixing, reduces hot spots and maintains an even, comfortable temperature throughout the building.

Maintaining Temperature

Once the required room temperature is reached, the system modulates its cooling output to match the building's demand. Air continues to recirculate, maintaining a stable and comfortable temperature while minimising unnecessary energy consumption.



Reliable Frost Protection

AirRoteX provides an effective and energy-efficient frost protection solution for warehouses by helping maintain internal temperatures above freezing, typically around 4°C to 5°C.

By evenly distributing warm air throughout the space, it helps protect sprinkler systems and water-filled pipework from freezing, safeguards temperature-sensitive stock and reduces the risk of costly damage.

This ensures critical fire protection systems remain operational while also supporting site safety and insurance requirements.

POWRMATIC

Working together to decarbonise your building through efficient HVAC technologies.

Powrmatic is a trusted leader in the manufacture and supply of advanced HVAC solutions. Our diverse portfolio includes multi-energy heating and cooling systems, innovative air movement technologies, advanced natural and smoke ventilation, and air conditioning solutions. We work closely with building design specialists, architects, consultants, and HVAC professionals to deliver sustainable, high-performance systems that ensure optimal comfort, safety, and energy efficiency for industrial, commercial, and institutional environments.

Heating

Tailored heating systems for industrial and commercial sectors, crafted to meet the specific and requirements for any application. Our heating solutions combine energy efficiency, sustainability, and dependable performance to deliver optimal results and ensure long-lasting value.

Ventilation

Advanced smoke and natural ventilation systems, designed for life safety and building protection in commercial, industrial, and institutional environments. Our solutions ensure compliance with safety standards, delivering efficient and reliable performance.

Air Conditioning

Innovative packaged heat pump air conditioning systems, ideal for hotels, care homes, and office spaces. Our systems provide reliable, energy-efficient climate control, enhancing comfort while reducing energy consumption and supporting sustainable building practices.

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