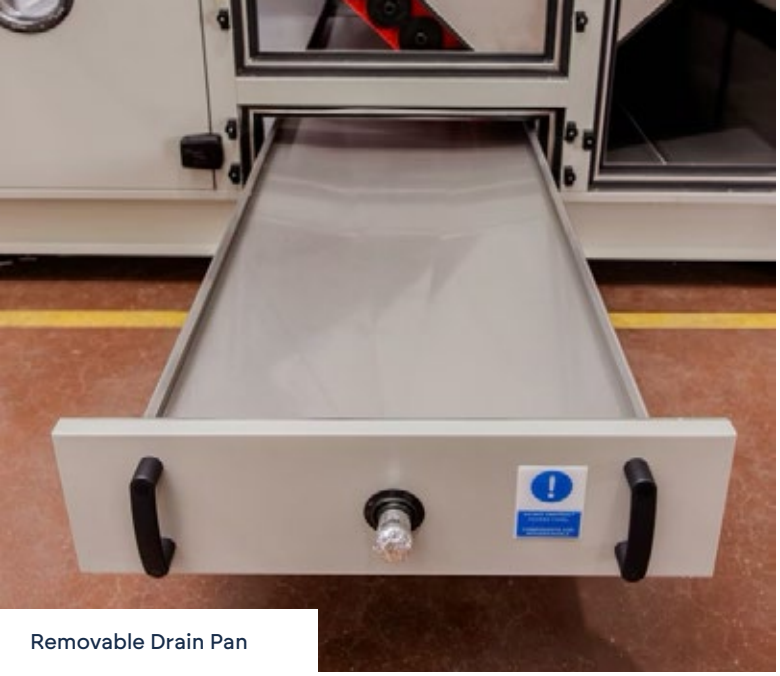
ece®
air handling & conditioning

Side Cabinet
AHU PXA SC

Introduction

ECE UK's Side Cabinet Air Handling Units are designed for plantrooms where height is restricted but more length can be accommodated. While the overall footprint is similar to a vertical cabinet, side cabinets are typically slightly longer because duct connections are taken from the end of the unit rather than vertically. With a horizontal airflow path and modular construction, they provide a compact yet fully compliant solution for healthcare and other critical environments.



Removable Drain Pan

Removable Eliminators

Front Access

Rear Access (Optional)

Key Benefits

Our Side Cabinet AHUs have been specifically developed to solve challenges in low-height but longer plantrooms. By arranging components horizontally and offering flexible damper positions, they make the most of available space while ensuring safe, ergonomic access for maintenance. These design choices provide clear advantages in healthcare and other critical environments:

- Flexible Damper Orientation – FA, SA, RA and EHA dampers can be positioned from the side, top, or bottom.
- Horizontal Component Layout – filters and coils positioned horizontally to prevent particulates falling from bag filters into upstream components.
- Low Profile Design – optimised height for restricted plantrooms.
- Front, and rear service access available – allow safe, easy access for inspection and maintenance on all units.
- Modular, one-piece or flat-pack construction for restricted access routes.
- Fully bespoke and tailored to the exact requirements of each project.
- Fan Wall Technology – duty share or run and standby options available.
- Dehumidification Control – precise humidity management, maintainable at below 70% RH to meet healthcare application requirements.
- Removable Drain Pans – HTM03:01-compliant trays allow quick removal for cleaning, reducing microbial risk.
- High level harness points, allowing operatives to safely carry out high-level work when required.
- 4-metre separation between the fresh air intake and exhaust connections.

Clean Air Confidence – 4m Separation Built In

ECE UK's Side Cabinet AHUs can be engineered with a 4-metre separation between the fresh air intake and exhaust connections. This design feature ensures full compliance with healthcare ventilation requirements and eliminates the risk of cross-contaminated air short-cycling back into the system.

For estates teams and design consultants, this means complete peace of mind:

- No risk of exhaust re-entrainment into the fresh air stream.
- Consistent delivery of clean, uncontaminated air to sensitive healthcare spaces.
- Proven compliance with recognised healthcare design standards.

With separation designed in from the outset, Side Cabinet AHUs offer reliable, safe, and regulation-ready performance, reducing risk and simplifying approval for critical applications.

Exhaust Air Connection

Fresh Air Connection

Built to the Highest Standards

Every ECE UK Cabinet AHU is designed and manufactured to meet the most demanding industry standards for performance, hygiene, and durability. From thermal efficiency to leakage control, each unit is rigorously constructed and tested to ensure long-term reliability in healthcare and commercial environments.

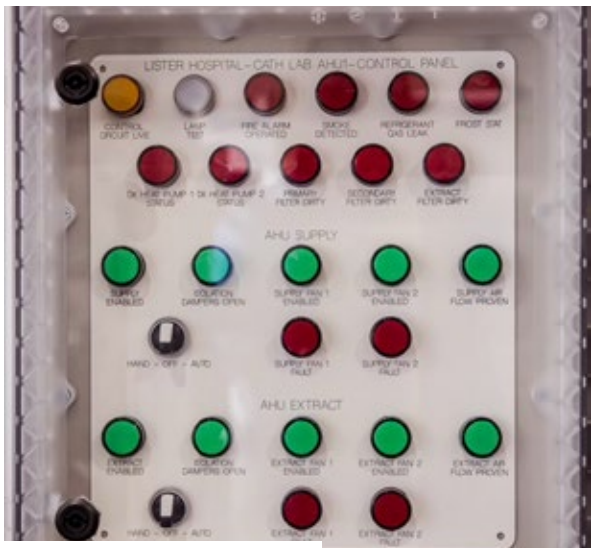
- BS EN 1886 classifications: T2 thermal transmittance, TB2 thermal bridging, D1 casing strength, L2 leakage.
- Frameless Construction – a sleek, thermally broken panel design delivering a smooth internal and external finish with excellent energy performance.
- 60 mm Pentapost Framework – a robust thermally broken aluminium post-and-panel system providing enhanced strength, rigidity, and long-term durability.
- Adjustable Hinges – allow on-site alignment and leakage elimination.
- Packaged – with or without integrated controls.
- Removable Drain Pans – quick and hygienic removal supports HTM03:01 compliance.
- Filter frame bypass leakage – BS EN 1886:2007 to Table 7 and F9.
- Internal Surface Finish – Smooth internal surface without channels or ridges. Non-corrodible, washable and smooth and of a colour that allows accumulations of dirt to be easily seen.
- Dampers – BS EN 1751 C3 (low loss).

Adjustable Hinges

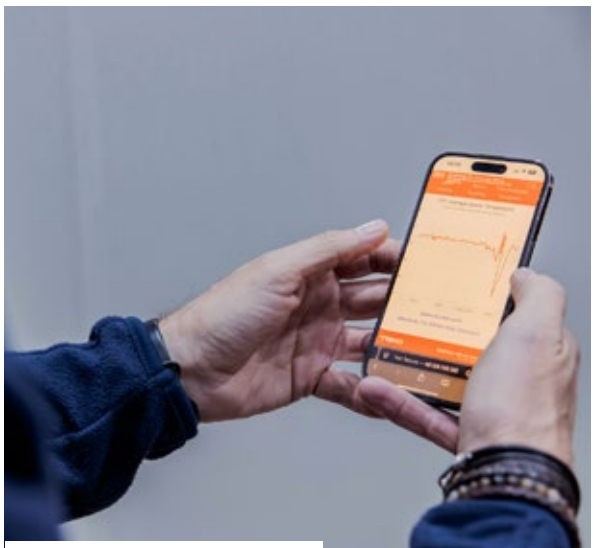
Quality Construction

Smooth Internal Finish

Hand Crafted



Packaged Controls

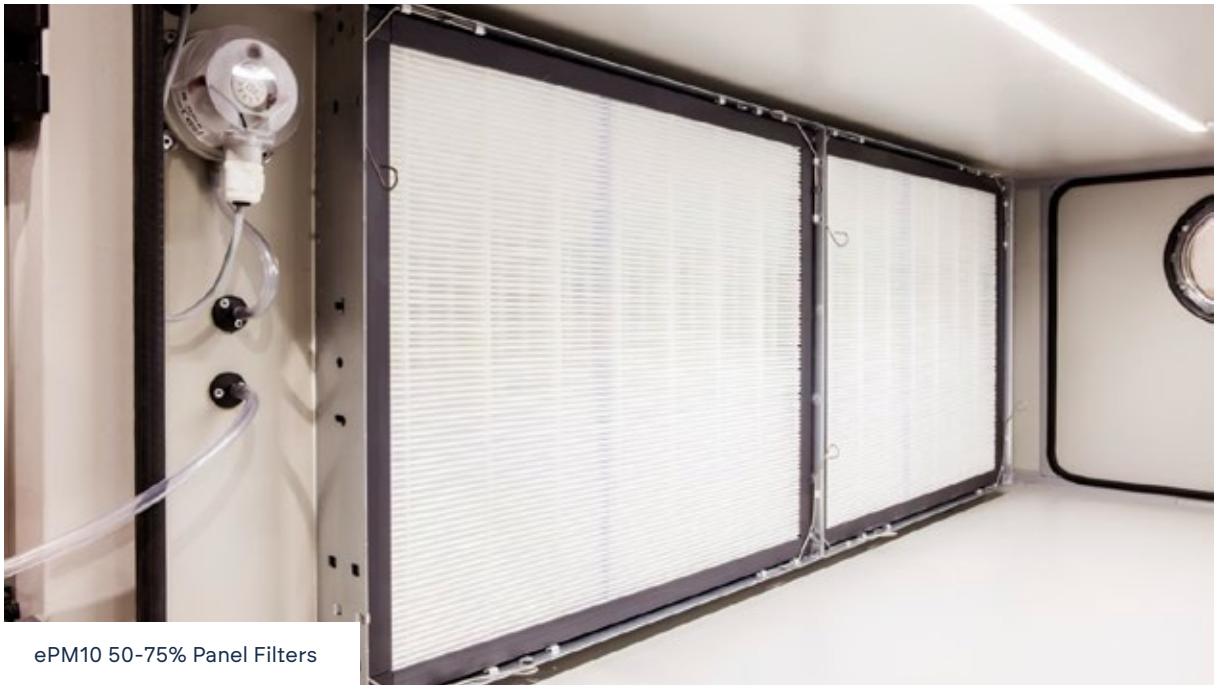


Remote Access

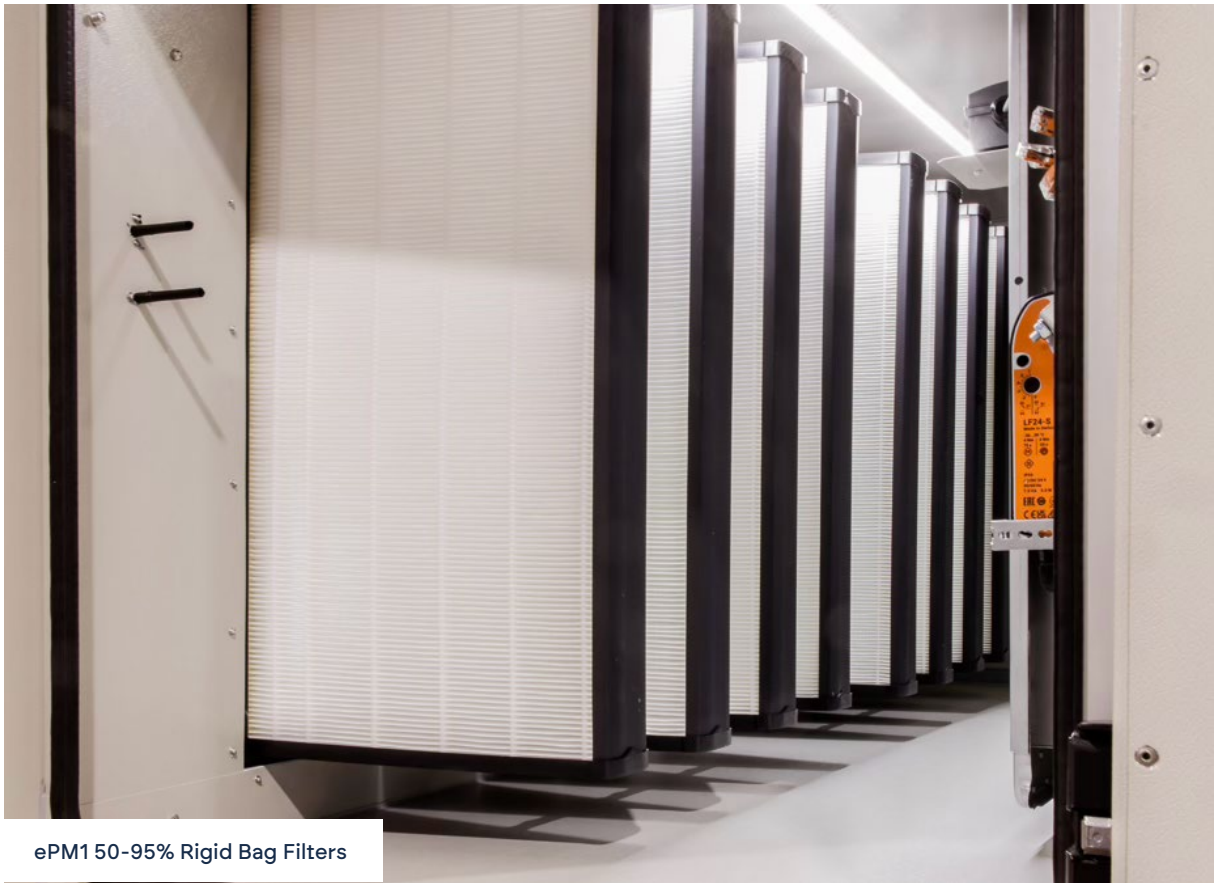
Performance at a Glance

Our Cabinet AHUs are engineered to deliver reliable airflow and energy efficiency across a wide range of applications. Each unit is available in multiple casing sizes and can be tailored with different filtration, heating, and cooling options to match the requirements of healthcare, education, and commercial projects. The following specification snapshot highlights the typical performance ranges available:

- Air volume capacity: 0.39 – 8.25 m3/s (coil and filter configuration dependent).
- Bag filter options: ePM1 50–95% fine filter, Carboactiv Cube upgrade available.
- Controls: Optional CAV/VAV/DCV ready controls or bespoke strategies written on demand.
- Sizes: 12 standard casing sizes.



ePM10 50-75% Panel Filters



ePM1 50-95% Rigid Bag Filters

Smooth External Finish

Fan Wall

Easyshift Fan Rail System

Easyshift Grab Handle

ECE's Easyshift Fan Rail System is designed to make fan maintenance safer, quicker, and more efficient. Fans are mounted on telescopic rails, allowing the complete assembly to slide smoothly out of the AHU casing. This gives engineers full access to motors, impellers, and commando connections without working inside confined spaces.

By enabling inspection, servicing, or replacement to be carried out outside the unit, the system reduces downtime, lowers lifetime maintenance costs, and supports compliance with safe working practices. The Easyshift Fan Rail is particularly valuable in restricted plantrooms, where space is at a premium, ensuring that AHUs remain easy to maintain throughout their lifecycle.

Drag Chain Cabling System

Externally Maintainable

Service Corridors – Built for Healthcare

In demanding healthcare environments, service corridors must do more than provide access — they must create a safe, efficient, and compliant workspace for maintenance teams. ECE UK service corridors are designed with this in mind, offering a complete solution that supports both maintenance personnel safety and long-term system reliability.

Every corridor is built to give engineers complete confidence in their working environment, with:

- Emergency exit provision for safe and reliable egress.
- Clear withdrawal zones for fans, filters, and coils, supported by dedicated fan racking and filter shelving.
- Integrated task lighting and power outlets, ensuring a safe, well-lit space for inspection and servicing.
- Containment panels allowing all services, access points, and clearances to confirm everything fits and can be maintained without compromise.
- Condensate traps and drainage designed for cooling coils and plate recuperators, integrated from the outset.
- Harness points on the corridor roof, allowing operatives to safely carry out high-level work when required.

The result is a fully considered, healthcare-ready service corridor that reduces downtime, enhances safety, and ensures long-term maintainability. With ECE UK, you're not just investing in an AHU — you're securing a complete service environment designed around your engineers and patients alike.

Popular Configurations

ECE UK Cabinet AHUs can be supplied with **CAV, VAV, or DCV-ready controls**, making them adaptable to a wide range of energy strategies and building management systems. Each unit is fully bespoke, with component configurations tailored to suit project requirements:

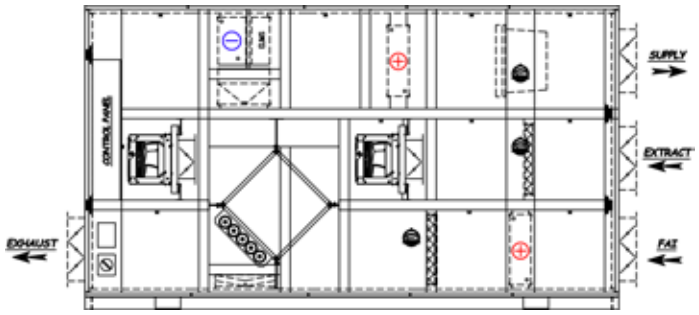
- Water Systems – Low temperature hot water (LTHW) and chilled water (CHW) coils sized for precise heating and cooling duties.
- Refrigerant Systems – Direct expansion (DX) coils, allowing high-efficiency heating and cooling without traditional boiler or chiller plant.
- Electric Systems – Robust electric heaters, suitable for sites without water services or for supplementary heating where rapid response is required.
- Hybrid Solutions – A mix of water, refrigerant, and electric elements designed to balance efficiency, resilience, and available infrastructure.

Whether serving healthcare theatres, educational facilities, or commercial plantrooms, ECE UK Cabinet AHUs are configured to match specific site needs, ensuring the right balance of energy efficiency, maintainability, and compliance.

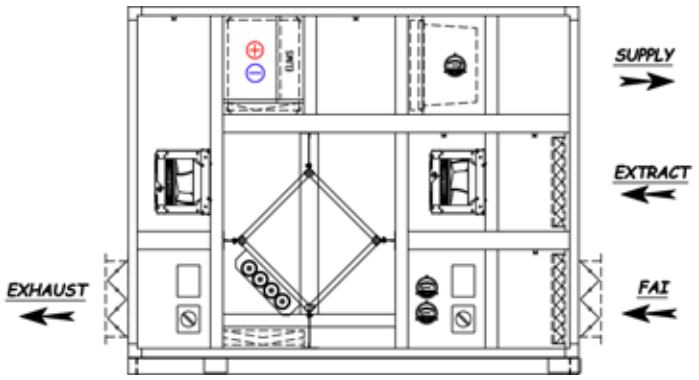
Electric Air Heater Battery (EAHB)

Triple Circuit DX Connection

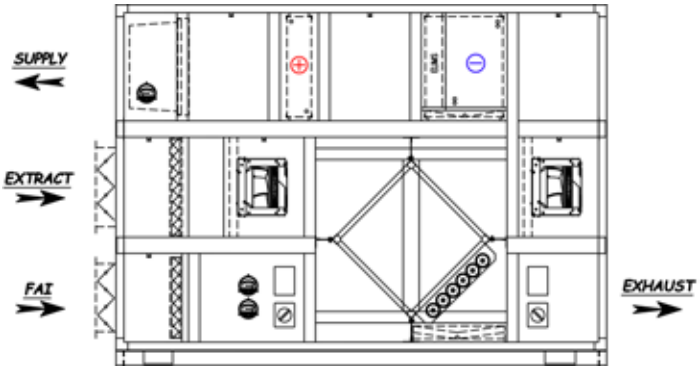
Designed with a fully integrated controls section, the unit features an energy-saving plate heat exchanger, chilled water coil, and dual LTHW heating coils for both pre-heat and re-heat, ensuring reliable year-round comfort.



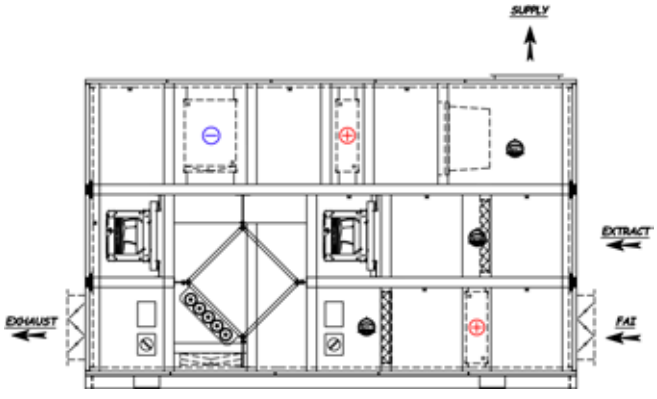
Designed for energy efficient heating and cooling using R32 refrigerant and high-efficiency plate recuperator. Ideal for low-carbon applications where performance, simplicity, and sustainability are key.



Designed for efficient heating where plate recuperator pre-heats the incoming air to reheat coil temperature. Features R32 cooling coil arrangement for reduced footprint and improved energy efficiency.



Designed with R32 refrigerant DX coil providing low-GWP performance, while LTHW reheat coil enable precise dehumidification control and plate recuperator and fog coil preconditions incoming air for improved efficiency.



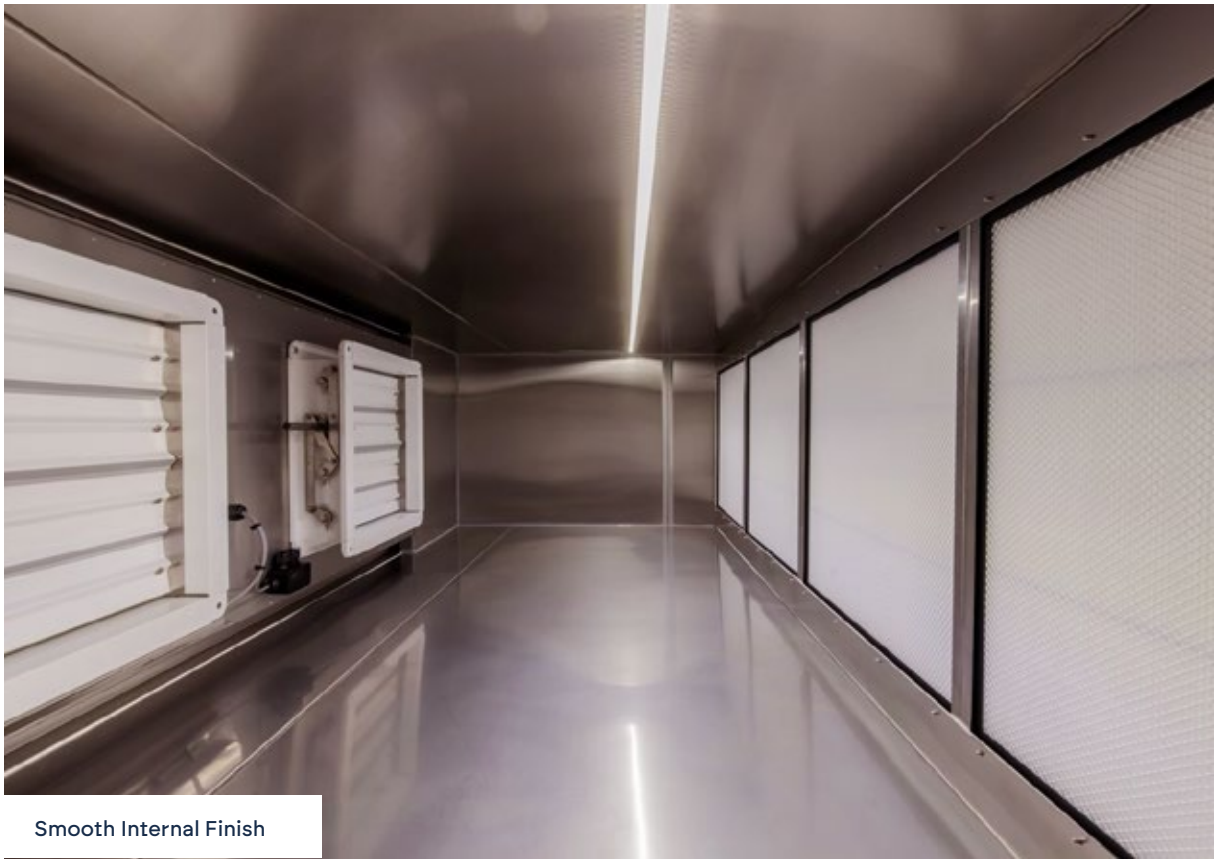
AHU Dimensions & Velocity Chart

The velocity chart is used to determine the most appropriate AHU size for the required airflow. While the height and width of each unit are defined by its casing, the overall length can vary. This variation depends on the chosen heat recovery efficiency, coil arrangement, fan configuration, and level of filtration specified. By referencing the velocity chart, designers can quickly establish the base unit size, while allowing for adjustments in length to meet project-specific requirements.

(Vc) m/s	Measured air volume through Cooling Coil m3/s											
	1	2	3	4	5	6	7	8	9	10	11	12
2.0	0.39	0.67	0.57	0.82	1.13	1.47	1.81	2.22	2.65	3.40	4.10	6.58
2.25	0.43	0.74	0.63	0.89	1.24	1.59	1.98	2.44	2.98	3.97	4.90	7.25
2.50	0.50	0.86	0.72	1.02	1.41	1.83	2.27	2.77	3.38	4.52	5.38	8.25

- Size by velocity first – bigger unit, lower velocity, better performance.
- Performance data provided reflects standard cooling coil design.
- Moisture eliminators should be considered where risk of moisture carry-over exists (≥2m/s).
- Drain trays available to specification: fixed, removable, flat, or sloped.

Externally Maintainable Fans



Smooth Internal Finish

AHU Overall Dimensions (50mm Framework)

		1	2	3	4	5	6	7	8	9	10	11	12
Dim	Frame	Height, Width and Length according to velocity chart											
H	50	1950	1950	2310	2310	2070	2460	2460	2460	2600	2600	3180	3480
W	50	730	1050	820	1050	1350	1350	1610	1910	1910	2450	2850	3250
L	50	3600	3600	3800	3800	4000	4000	4000	4000	4000	4000	4000	4000

- Dimensions are indicative; detailed AHU sizes provided on request.
- Height x Width x Length dimensions can be altered to suit site constraints.
- Height does not include baseframe. Baseframe height ≥100mm.

AHU Overall Dimensions (60mm Framework)

		1	2	3	4	5	6	7	8	9	10	11	12
Dim	Frame	Height, Width and Length according to velocity chart											
H	60	1970	1970	2330	2330	2090	2440	2480	2480	2620	2620	3200	3500
W	60	760	1080	850	1080	1380	1380	1640	1940	1940	2480	2880	3280
L	60	3600	3600	3800	3800	4000	4000	4000	4000	4000	4000	4000	4000

- Dimensions are indicative; detailed AHU sizes provided on request.
- Height x Width x Length dimensions can be altered to suit site constraints.
- Height does not include baseframe. Baseframe height ≥100mm.

Vertical vs Side Cabinet AHUs – At a Glance

Choosing the right cabinet format depends on the constraints of the plantroom and ductwork layout. The table below provides a quick comparison of the key differences between Vertical and Side Cabinet AHUs, helping consultants, contractors, and NHS estates teams identify which design is most suitable for their project.

Feature	Vertical Cabinet AHU	Side Cabinet AHU
Best for plantrooms	Tall ceilings, shorter footprint	Low-height spaces, longer footprint
Duct connections	Top connections (roof-mounted)	Side, top, or bottom orientations
Space efficiency	Compact footprint saves floor area	Lower height profile for restricted ceilings
Service Corridor	Available	Available
Access	Front, rear & side access available	Front, rear & side access available
Fan Maintenance	Easyshift Fan Rail System	Easyshift Fan Rail System
Component layout	Vertical airflow path	Horizontal airflow path (Prevents PM Drop)
Installation style	One-piece · Modular · Flat-pack	One-piece · Modular · Flat-pack
Controls	CAV, DCV and VAV available	CAV, DCV and VAV available

Side Access (Optional)

Rear Access (Optional)

Sustainability & NHS Net Zero

ECE UK is committed to helping NHS Trusts and project teams meet the requirements of the NHS Net Zero Building Standard. Our approach brings together sustainable materials, energy-efficient design, and long-term reliability.

The inner and outer skins of our Cabinet AHUs are manufactured from GreenCoat® steel, an EPD-verified material that reduces embodied carbon and supports sustainable procurement objectives.

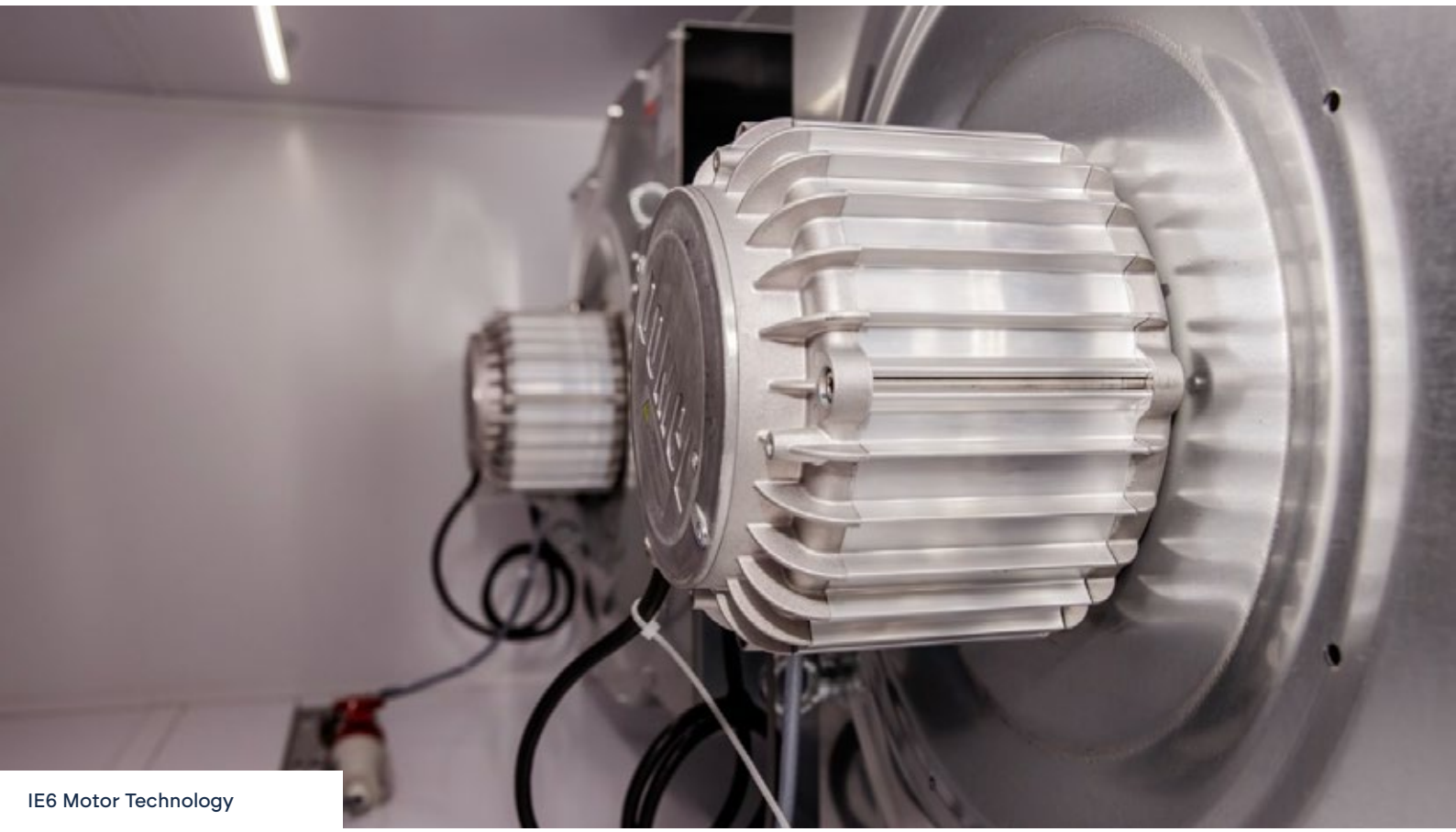
When it comes to sustainability and operational performance, our AHUs are engineered to deliver measurable savings. Through close design collaboration with the NHS Trust and their appointed design team, we are able to:

- Provide GreenCoat® steel (EPD-verified) with 20% reduction in embodied carbon vs standard steel.
- Achieve Specific Fan Powers (SFP) as low as 1.3 kW/(m³/s).
- Deliver thermal heat recovery efficiencies of up to 95%, reducing reliance on primary heating and cooling plant.
- Ensure low-leakage casings and carefully selected components that minimise waste and extend lifecycle performance.

By combining responsible material selection, collaborative design, and precision engineering, ECE UK Cabinet AHUs provide a clear pathway to lower carbon emissions, reduced energy costs, and long-term compliance with NHS Net Zero targets.

GreenCoat® steel

EPD-verified material

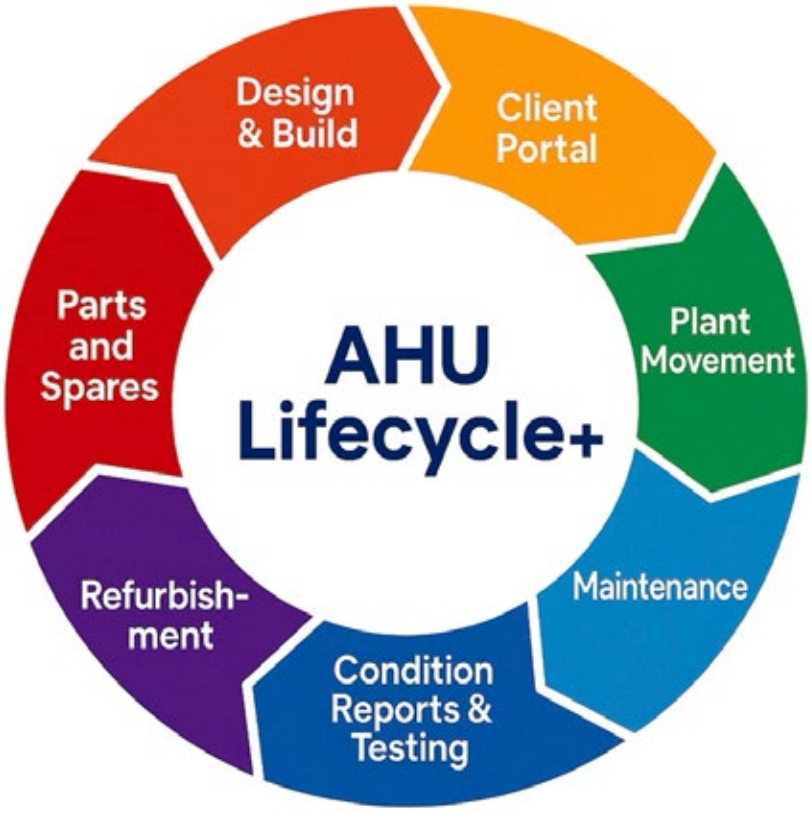


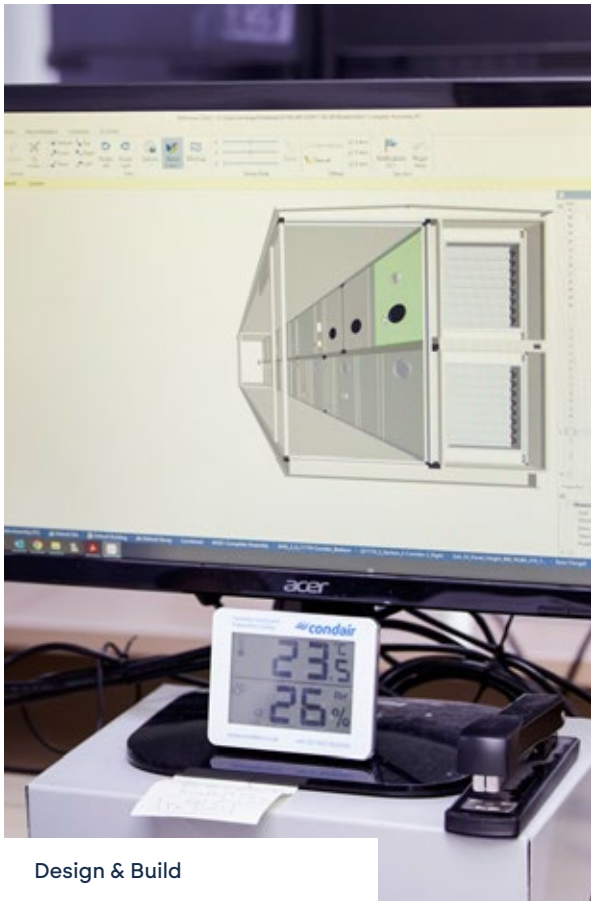
IE6 Motor Technology

Lifecycle + Supporting Your AHU from Day One

At ECE UK we believe our responsibility doesn't end at delivery. Every Cabinet AHU is supported throughout its operational life by our Lifecycle+ programme. This complete service pathway ensures that each unit continues to perform efficiently, safely, and in full compliance with NHS and industry standards for decades to come.

- Design and Build
- Client Portal (Asset Lifecycle+)
- Plant Movement
- Maintenance
- Condition Reports and Testing
- Refurbishment
- Parts & Spares

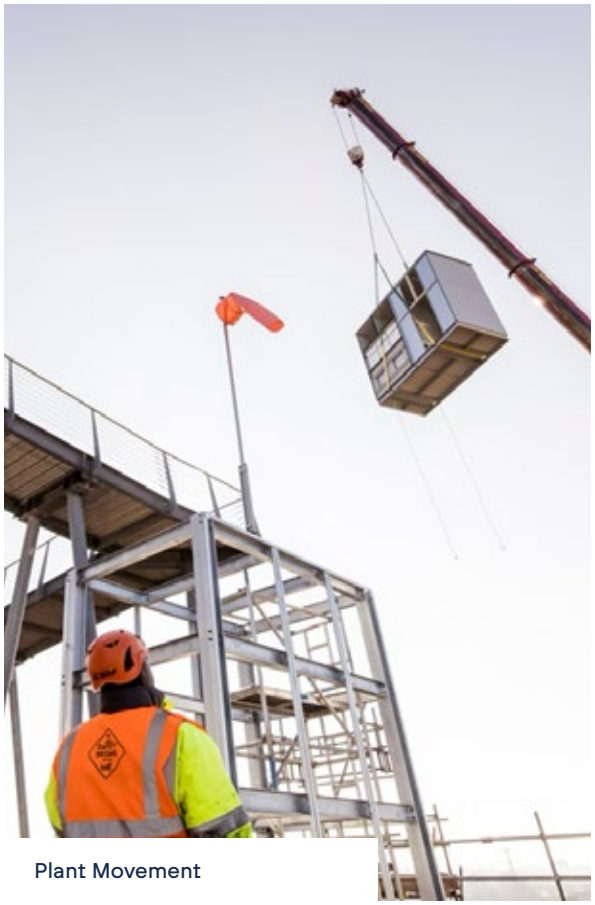




Design & Build

Refurbishment

Client Portal



Plant Movement

Parts and Spares Shop

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