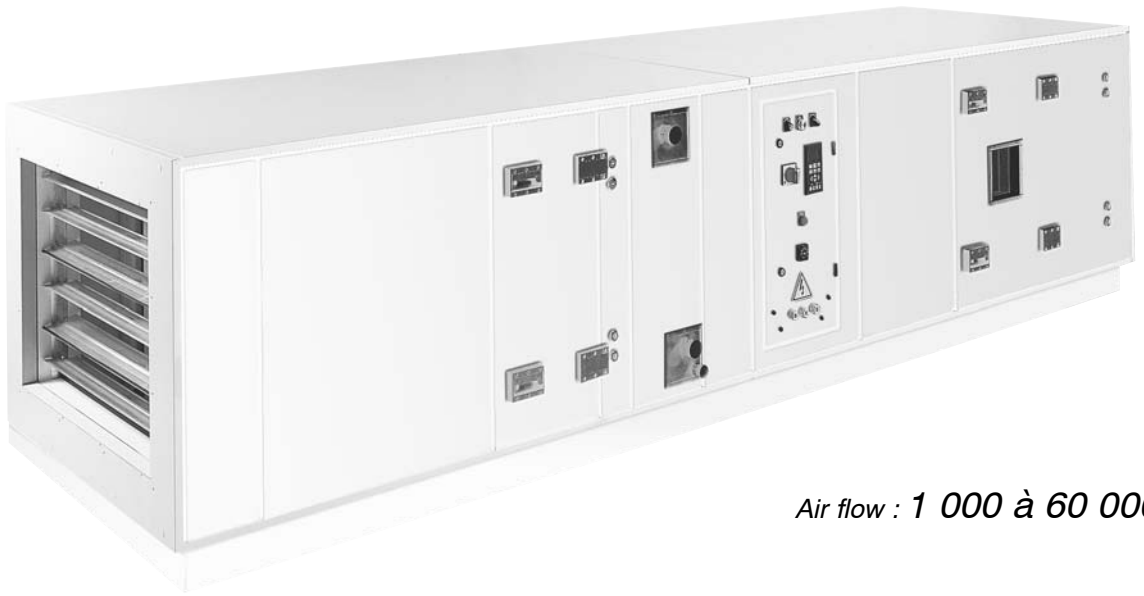
Air handling unit

CLIMACIAT AIRCLEAN



Air flow : 1 000 à 60 000 m³/h

Climaciat AirClean Santé

Healthcare has its experts

Climaciat AirClean

Ultra-cleanliness has a name

EUROVENT CERTIFIED PERFORMANCE

Characteristics	Class
Mechanical strength	2A
Air leakage	B
Filter bypass leakage	F9
Thermal transmittance	T2
Thermal bridge factor	TB2

DESCRIPTION

Design, adaptation and options in complete accordance with the " hygiene " recommendations of the EN 13053 norm relating to air treatment of areas under controlled atmosphere

Selection of high quality solutions and materials

Totally smooth internal design, all functions are fully cleanable and decontaminable

APPLICATIONS

AirClean

Clean rooms, laboratories, microelectronics, car industry, plastics technology

AirClean Santé

Pharmaceutical industry, hospitals

AIRCLEAN, THE ULTIMATE IN ULTRA-CLEANLINESS

An AHU that meets high demands

- Plug fan with profiled, high efficiency blades.
- Air flow control by an integrated frequency inverter with display (option).
- Filter assemblies adapted to the necessary level of filtration to ensure the highest filtration performances.
- Materials and coatings ensure the levels of chemical resistance, bacteriological cleanliness, and cleanability required to control contamination.
- Panels and accessories designed to meet the highest performance level requirements (airtightness, acoustics, thermal, etc.).

Meets new standards in performance

Design tailored to the most stringent requirements of new-generation ultra-clean processes.

- Maximum efficiency particulate filtration.
- Reinforced seals withstand required pressure levels.
- Easy decontamination.
- Total control over quality, from design to manufacturing.

An AirClean concept

- Completely even and smooth inside and outside.
- White RAL 9010 coated casing inside and outside.
- Mineral wool insulation (long fibres, thickness 50 mm).
- Panels, inside components and accessories made of 304L or 316L stainless steel (option).
- Specific coatings and steels available for each function.
- Flat or sloped stainless steel bottom (option).

An AirClean Healthcare concept

- Completely smooth inside.
- White RAL 7035 coated casing inside and outside.
- Mineral insulation (long fibres, thickness 50 mm).
- 4-slope hygienic condensates drain pan.
- Flat or sloped stainless steel bottom (option).

High standards right down to the smallest details

Offset hinges and lockable handles made of composite materials: excellent corrosion resistance, proven strength, easy to open and close, good temperature resistance (-40 to +80°C).

The hinge pins are designed to avoid any leakage and ensure the casing's thermal performances.

- Base frame raised above water.
- Double-shouldered door profile with specially shaped EPDM seal for optimum leakage performance.
- Large double-wall, square porthole with central seals on the inside and outside and inside the panel provided by a one-piece bellow.

Air handling unit

Filters

European Standards

EN 13053 design

Fan motor assembly

Airtight handle
designed by CIAT

Porthole

- Doors downline of fan open inwards.
- Dampers with opposing blades, “class 3” tightness in accordance with EN 1751 (class 4 available as an option).
- Plug fan technology adapted to chosen operating points and desired acoustic performance levels.
- Integrated air flow control to ensure zero contamination (option).
- Fan assemblies adapted to performance levels and allowing optimum aerodynamic efficiency (connection sleeve size and quality, specially sized anti-vibration mounts, turbines sized to each enclosure in strict accordance with aerodynamic rules, etc.).
- Stainless steel condensates drain pan.
- Acoustic baffles have a special surface coating that prevents the release of particles from contaminating the air flow.
- Ultra-high unit filtration standard:

. Dual leakage barrier ensures the full level of filtration for the entire filtration area.

. Separate filtration area ground panel to prevent damage from any seal distortion.

AIRCLEAN, STRINGENT STANDARDS

Whisper quiet

- Obtaining the lowest overall noise level involves selecting the best fan, the prime source of noise in an air handling unit.

- The two walls of the panel are specially designed to absorb a maximum of noise. They are not connected and contain two different thicknesses (different natural frequencies).

- Each anti-vibration mount is selected to reduce vibration and noise phenomena “at the source”.

- The geometry of the sound attenuators is optimised to lower noise to the unit’s overall acoustic performance level.

Cleaned air

- High level of filtration efficiency ensured by assemblies adapted to each filter class (large-media frames for H10 and higher HEPA filtration).

- Usable with completely recyclable, new-generation filters with polypropylene media containing no fibre glass.

- Control and use of innovations in molecular and biological filtration that make it possible to address the issue of contamination by VOCs (Volatile Organic Compounds), bacteria, viruses, organic molecules, and even certain inorganic molecules.

- Filters comply with the maximum allowable pressure drops recommended in the EN 13053 standard.

- High-flow air washing systems operate using raw water, deionised water or ultrapure water.

Easy decontamination

- The AIRCLEAN AHU meets the hygiene requirements of EN 13053:

. Accessibility, position and size of doors and inspection hatches.

. Smooth panels for easy cleaning.

. Sound attenuators that prevent particles from being released during servicing and operation

. Portholes (large section, full view) and lighting in all accessible sections.

. Air leakage and filter bypass leakage comply with the highest classifications required by EN 1886.

Controlled humidity

STEAM HUMIDIFIER

- Self-contained steam generator

- Uses electrodes or heating elements depending on the quality of the water supply.

- The size and quality of the ducts are adapted to the steam generated.

- Stainless steel overflow pan and separator.

- Stainless steel ducts adapted to central steam generation systems.

ADIABATIC HUMIDIFIER

- Spray or sprinkling.

- Stainless steel enclosure and eliminator as standard.

- Pan washing lance.

- UV water treatment systems may be integrated.

Controlled environments

Meets the following standards governing air handling in controlled environments:

- NF S 90-351: Healthcare institutions - Clean rooms and associated controlled environments – Requirements for the control of airborne contamination.

- ISO 14644: Clean rooms and associated controlled environments, particularly sections relating to the classification of air cleanliness and design and operating specifications.

- Pharmaceutical GMP (Good Manufacturing Practices).

Common cleaning and decontamination procedures have been taken into account in the general design and the recommended locations of each function.

Unlimited modularity

- All filter classes up to H14 plus molecular filtration using specific absorbents.

- Heating (hot water supply, superheated water, steam or electricity), cooling (chilled water, direct expansion).

- Number of rows, circuiting, fin pitches and coil coatings adapted to thermal, hydraulic and environmental criteria.

- Droplet separator technology and quality adapted to operating conditions.

- Fans of all sizes (diameters 180 to 1000 mm), scroll or plug types (optimised for desired operating point). All blowing configurations possible.

- Various coatings for each AHU section.

- All functions can be fully adapted to your space and location requirements.

Please consult us for any further information you may need on this product range