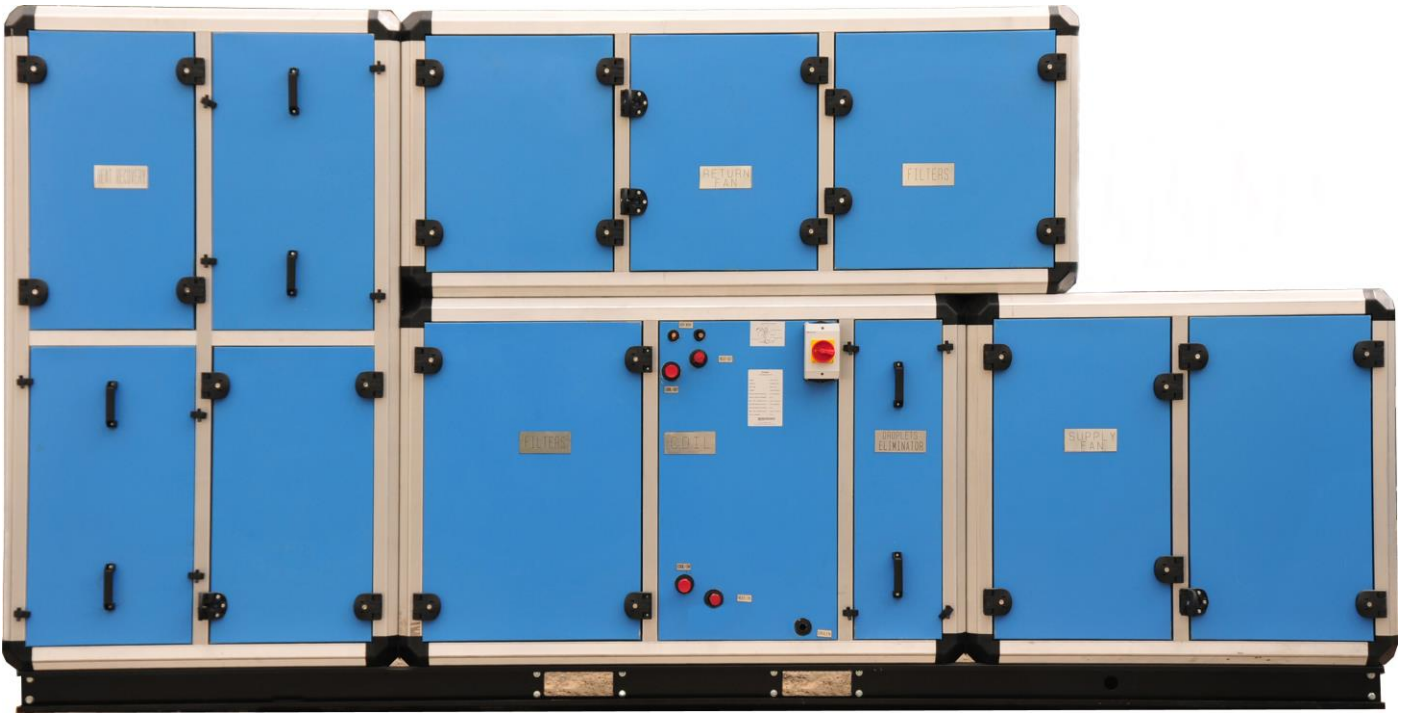


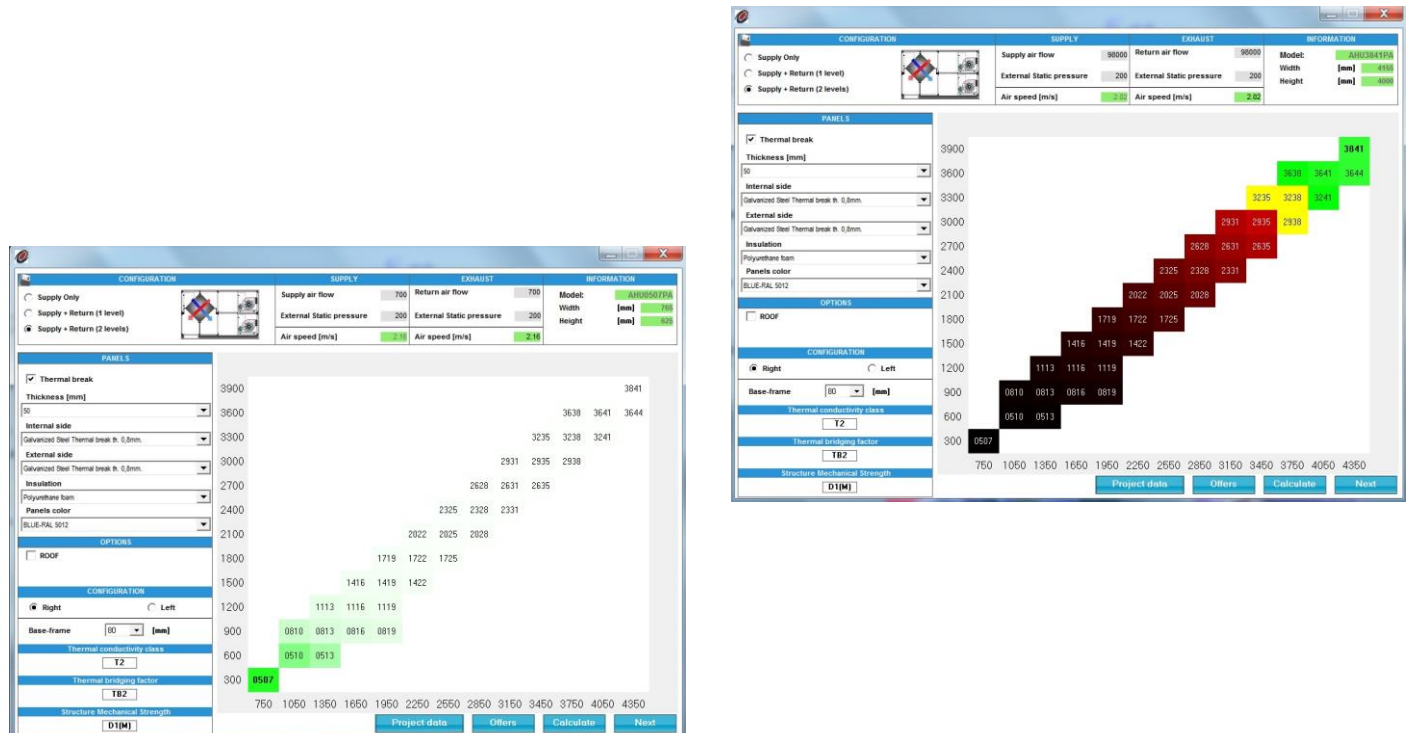
# AIR HANDLING UNITS



**UNIC sal** is equipped to produce a wide range of **COOLER®** Air conditioning and Refrigeration units, conforming to the international standards and works continually to improve its products and facility. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be described herein. Please contact our customer department for specific information on the current design.

**Consultancy & Design** Our Engineering Dep't is always available to solve special requirements, investigating the client situation and using the most sophisticated available tools. The knowledge and the precious experience of our Engineers is supported by the most advanced computerized calculations and design programs.

Revision AG 16-07





**COOLER® Air Handling Units CAHU** are constructed of double skin panels. Casing shall have perimeter modular frame. Removal of the side panels shall not affect the structural integrity of the unit. The frame work shall be made from non-corrosive extruded aluminum or galvanized steel channels fitted together with PVC or aluminum corners. The floor panels shall have double construction to allow maintenance personal access without damages to the insulation. The whole unit shall be mounted on heavy gauge galvanized steel base frame for easy shipment and handling. The minimum height of the base shall be 100 mm and designed to insure air circulation and avoid entrapment of moisture below the unit. The base frame is to be used in lieu of concrete plinths or other additional bases that are used in site. Units shall have sloped drain pan with a bottom connection to eliminate stagnation of condensate. Drain pan shall be at least 1.25mm thick galvanized steel painted with mastic compound for corrosion protection. Panels shall be 25 mm to 50 mm thick sandwich type with injected polyurethane foam, or neoprene coated fiberglass insulation, for a rigid non-vibrating construction. The insulation shall not absorb moisture and it is rust-resistant. The panel insulation shall have a maximum heat transfer "K" value of 0.017 W/m/°C (0.118 BTU/in/ft<sup>2</sup>/h/°F) to prevent condensation from occurring. The panels shall held in place by "rapid access" clips and locks arrangement for easy removal. The panels shall be flash mounted. There shall be no sharp edges or corners on the unit which might cause accidents or injury. Sealing shall be achieved by means of a non-hygroscopic seal compressed between the panel and the aluminum frame channels to prevent cold tracking and air leakage between the panels and the frame. The outer wall shall be 1 mm galvanized steel, chemically treated, precoated with primer and plastic topcoat to resist nicks and scratches to galvanized panels and to allow easy cleaning of exterior. The coating shall be weather resistant. The inner wall shall be 0.8 mm galvanized steel.

#### **COOLER® CAHU Models: Standard Sizes from 1,000 to 90,000 m<sup>3</sup>/h Air-Flow**

**All Sizes availables to fit all Client's needs even with the AHU directly assembled on 'Client concrete walls structures'**

**From simple Ventilation to the most sophisticated Pharmaceutical, Laboratory or Hospital applications**

**All CAHU shall have 'cooling' and 'heating' by Cold & Hot Water or DX by the New ECO-Ozone-Friendly Freons**



#### **FAN SECTION**

Each model can be supplied with various size of fans to insure best fan selection. All fans are double inlet centrifugal fans with casing, statically and dynamically balanced and available with forward curved, backward curved and aerofoil section V blades. Fans are mounted on rubber-in-shear anti vibration isolators (spring isolators are available) and have flexible canvas connector between fan outlet and unit casing. Motors are installed with belt drive on an adjustable base and are available for any voltage.



Motors shall be totally enclosed with IP54 protection with class F insulation and suitable for operation at ambient temperature 54 °C.



#### COIL SECTION

Coils are mounted on guide rails for easy side removal. Coil face velocity shall not exceed what is specified on the coil schedule. The number of fins provided should be the minimum needed to meet the performance required to minimize the pressure drop across the coil. Coil shall be seamless copper tube mechanically expanded into aluminum plate fins. Coils shall be proof tested at 28 bar (400 psig) and leak tested 17 bar (250 psig). Coils performance shall be rated in accordance with ARI Standard 410.

Coil seamless copper tube, mechanically expanded into copper plate fins. (Option)

Coil seamless copper tube, mechanically expanded into anti-corrosive plastic coated aluminum plate fins. (Option)



#### FILTER SECTION

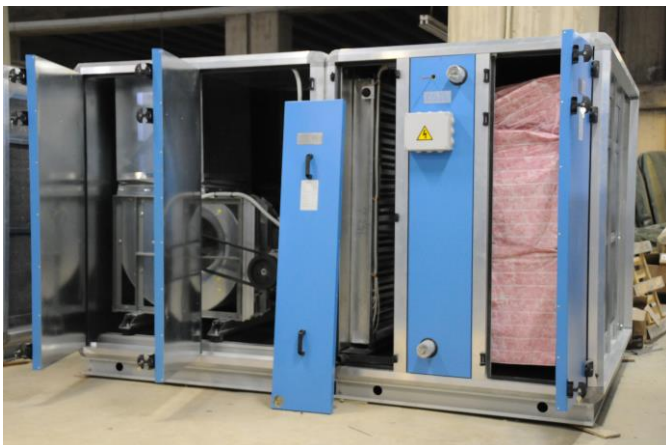
The filter section shall be provided by the air handling unit manufacturer with the same casing construction as the unit.

Following filter sections are available:

- Low and high velocity cleanable plastic or metallic and throw away filters.
- Autoroll filters.
- Automatic oil bath filters.

- Bag filters.
- Absolute filters.
- Carbon filters.
- Inertia filters complete with bleed fan.

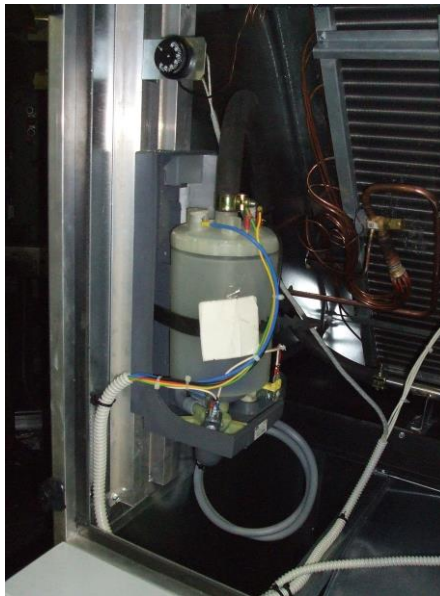
Filter frames or slide are used, they have channels and slide rails, sideremovables, for service & replacement.



### **HUMIDIFIER SECTION**

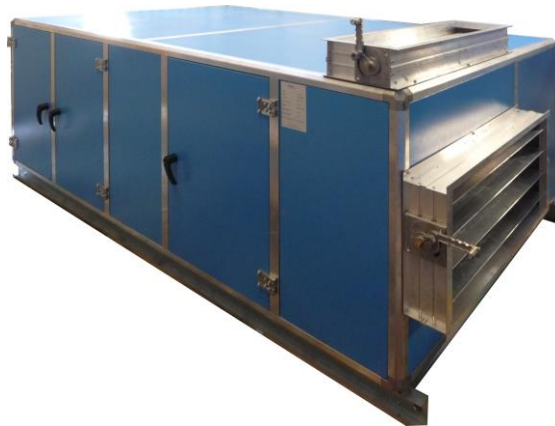
Various types are available:

- Mat type.
- Steam, utilizing steam pipe.
- Water spray type.
- Pan type.
- Electrode steam boiler.



### **MIXING-BOX & DAMPER SECTION**

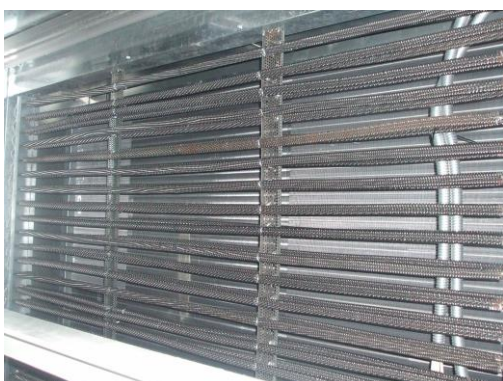
Mixing box and damper. The mixing box shall be provided by the air handling units manufacturer with the same casing construction as modulate the volume of outside return air. Dampers shall be opposite blade type fitted into a casing of galvanized steel sheet if galvanized steel blades, or in aluminum casing with aluminum blades. The maximum face velocity through the dampers shall not exceed 5m/s up to minimize pressure drop and generated noise across the dampers.



### **SPECIAL SECTIONS**

Air-washers section (various efficiencies), heat-recovery units, silencer, electric-heater, sand-trap-louvers, inertial-filters, external flexible connectors, inlet guide vanes and moisture-eliminator, are available.

24 VAC transformer ready to connect electronic thermostat (optional).



**QUALITY GUARANTEE**

**UNIC sal COOLER®** guarantees contractual free maintenance, availability of all parts and components, and qualified field technicians to carry out the maintenance requirements.

**UNIC sal** Company is ISO 9001:2015, DQS-UL, IQNet and CE Certified.

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