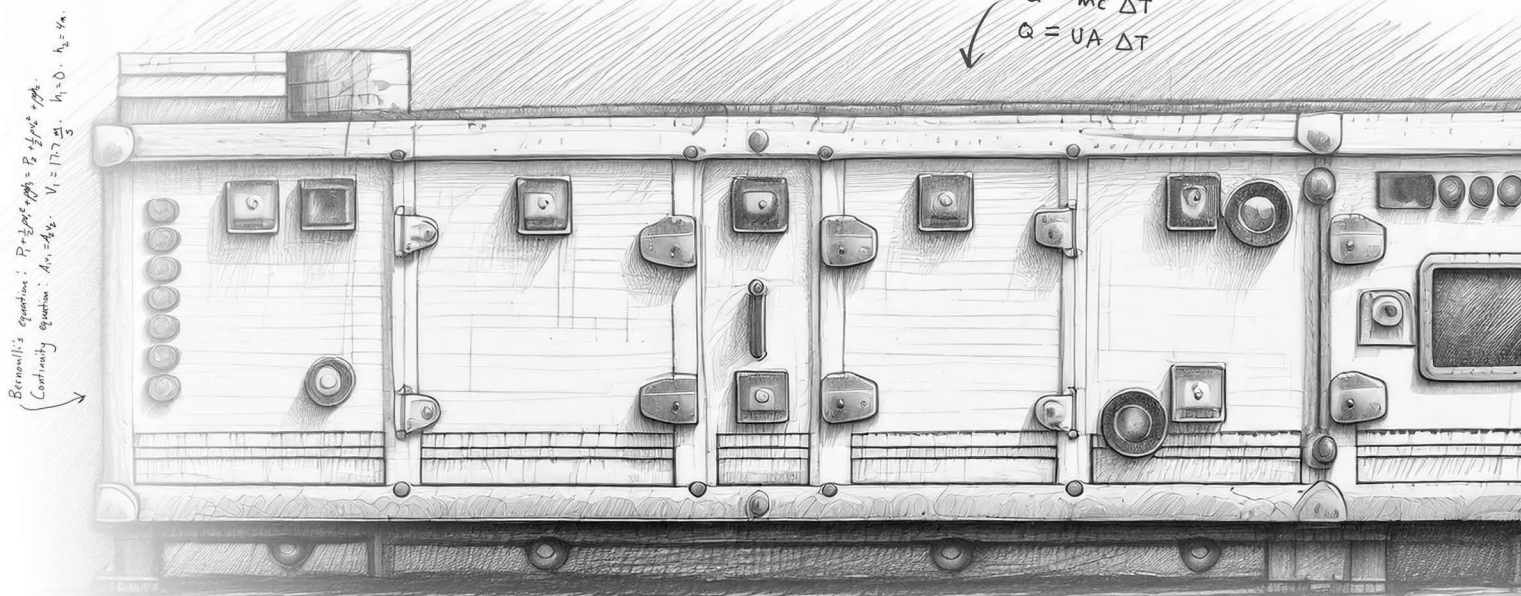


ECO COOLER

HVAC SYSTEMS

2025
Air Handling Unit

AIR HANDLING UNIT



WE ARE COMMITTED TO OUR CUSTOMERS



With 25 years of experience, our in-depth understanding of our customers' needs, combined with our team's extensive expertise, has empowered us to develop and launch a new generation of Air Handling Units. These units boast significantly enhanced performance parameters, superior energy efficiency, and exceptional reliability. The new **ECO COOLER** Air

Handling Units are redefining the standards of RIC Air Handling Units in the **HVAC** industry.

ECO COOLER manufactures two types of Air Handling Units: Standard Air Handling Units (**ESA Series**) and Hygienic Air Handling Units (**EHA Series**). The **ESA Series** is designed to meet the ventilation and air conditioning needs of commercial and industrial applications such as shopping malls, office buildings, and manufacturing plants.

These units ensure optimal indoor air quality, energy efficiency, and long-lasting performance. The **EHA Series**, on the other hand, is specifically developed for sensitive environments where hygiene and air purity are paramount. These units comply with the highest sanitary standards, making them ideal for use in hospitals, pharmaceutical industries, laboratories, and food production facilities.

Our Air Handling Units not only provide reliable, high-quality equipment but also ensure comfortable indoor environments while meeting modern ecological and environmental requirements. Given the increasing environmental pollution, the quality of the air we breathe plays a vital role in our well-being. **ECO COOLER** units are engineered to deliver superior air quality in critical applications and demanding air conditioning systems across various industries, including oil refineries, electronics plants, and high-tech industrial facilities.





GENERAL FEATURES

- 34 models available, covering airflow rates from 2,400 to 240,000 m³/h
- Designed and manufactured in compliance with VDI 6022 standards.
- Double-skin sandwich panels with 50 mm polyurethane foam (40 kg/m³ density) in accordance with DIN EN 13053-6.2.
- Outer skin made of galvanized steel with PVC coating, inner skin made of stainless steel or galvanized steel with polyester electrostatic powder coating
- PROLAM aluminum profiles frame, classified as T1 and TB1 for thermal transmittance and thermal bridging according to EN1886.
- Access doors with adjustable polyamide locks and sealing gaskets for both positive and negative pressure conditions.
- Fans from leading European brands, available in forward and backward curved blades.
- belt-driven, plug, and EC types.
- Shock-absorbing base-mounted fans with flexible connections for vibration isolation
- Motors comply with IE3 efficiency, IP55 insulation, and F-class protection (higher classes available upon request).
- Copper tube cooling and heating coils with copper or aluminum V-waffled louvered fins.
- Optional coil coatings (epoxy, hydrophilic, or Blygold) for corrosion and humidity resistance
- Wide range of filters from coarse (G2—G4) to high-efficiency filters (H13—U15), including activated carbon and UV lamps, tested according to DIN EN 779.
- Aluminum airfoil dampers with polypropylene gears for smooth operation and easy motor installation.
- Drain pans made of painted galvanized steel or stainless steel, installable in all sections of the unit.

Flexibility

ECO COOLER AHUs offer the ultimate in dimensional, material, and component flexibility. These units are equally appealing to both the “standard” and “custom” markets. The way an air handling unit is designed and built directly impacts its performance.

Engineering Flexibility:

- A variety of case sizes
- Material and component flexibility
- Variable-sized inlet and discharge openings
- Stacked and custom configurations
- Panels are individually removable without affecting structural integrity

Dimensional Flexibility:

We can design our AHUs to fit specific applications and available space. With up to 34 case sizes and hundreds of cross-sectional possibilities, we can create the optimal solution for your needs.

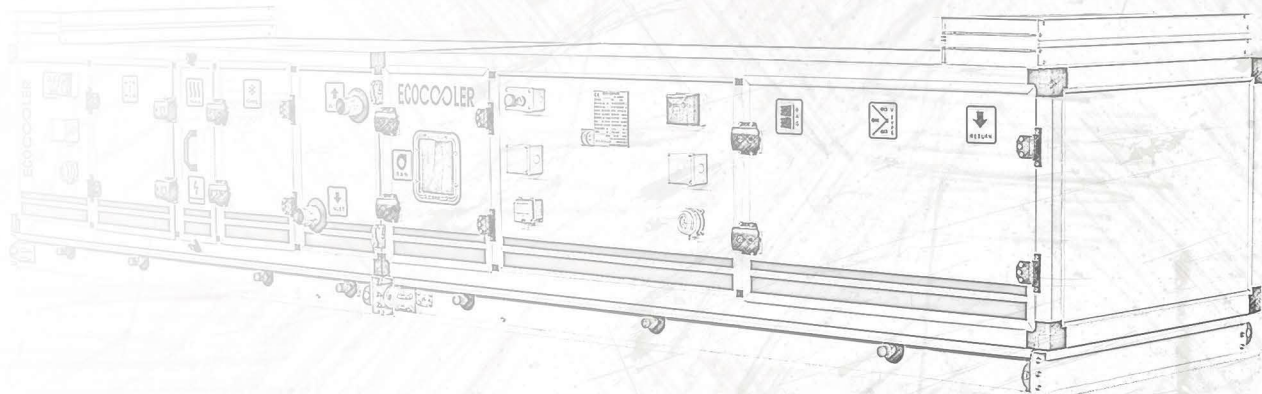
Material Flexibility:

A comprehensive range of construction materials is available, including galvanized steel, aluminum, painted steel, stainless steel, and more. ECO COOLER AHUs can withstand a variety of environments, from the most benign to the most corrosive.

Modular Design

Based on modularity and a flexible approach, the unique **ECO COOLER Air Handling Unit** allows you to select the exact level of functionality required for a specific project.

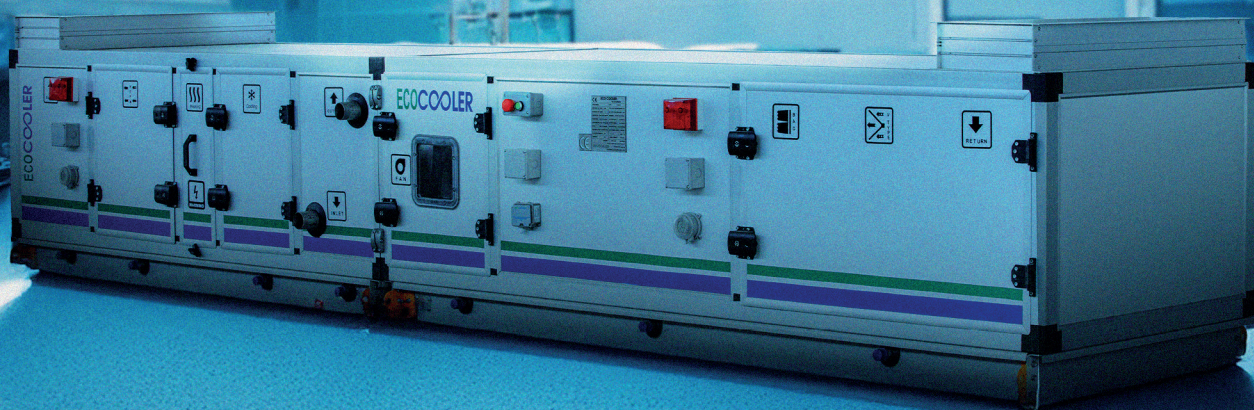
The modules are joined together, with all the functionalities integrated into a single unit. As a result, installation and maintenance have never been easier.



Hygienic breath, clean air:

Our advanced system lets you breathe with confidence in any space.

Delivering uninterrupted cleanliness and confidence with advanced sterile air technology.



CLEAN AIR,
Hygienic Breath.



Range

A wide standard range covers air flow rates from 2,400 m³/h to 240,000 m³/h, providing the flexibility to choose the most appropriate transverse velocity based on the required treatment. Additionally, for the same airflow, the flow section (width x height) can be adjusted to fit the dimensional constraints of the installation.




























All sizes are modularly constructed to facilitate transport and easy assembly on-site. Upon request, the AHU units can be supplied fully dismantled, allowing for direct on-site assembly, with no welding points involved.

Nomenclature




























ECO COOLER air handling units are divided into two models: hygienic and standard. The nomenclature for the standard model is ESA, while the nomenclature for the hygienic model is EHA.



Standard Selection – Hygienic

Model (EHA)	Nominal air flow rate [m³/h]	Filter arrangement	Internal dimensions (mm)		External dimensions (mm)	
			Width	Height	Width	Height
EHA 2 000	4 250		616	616	728	728
EHA 3 000	6 375		921	616	1033	728
EHA 4 000	8 500		1226	616	1338	724
EHA 4 500	9 562		921	921	1033	1033
EHA 5 000	10 625		1531	616	1643	728
EHA 6 000	12 750		1226	921	1338	1033
EHA 7 500	15 935		1531	921	1643	1033
EHA 8 000	17 000		1226	1226	1338	1338
EHA 9 000	19 125		1836	921	1948	1033
EHA 10 000	21 250		1531	1226	1643	1338
EHA 12 000	25 500		1836	1226	1948	1338
EHA 12 500	26 562		1531	1592	1643	1704
EHA 14 000	29 750		2141	1226	2253	1338
EHA 15 000	31 875		1836	1592	1948	1704
EHA 16 000	34 000		2446	1226	2558	1338
EHA 17 500	37 185		2141	1592	2253	1704
EHA 18 000	38 250		1836	1897	1948	2009
EHA 20 000	42 500		2446	1592	2558	1704
EHA 21 000	44 625		2141	1897	2253	2009
EHA 24 000	51 000		2446	1897	2558	2009
EHA 25 000	53 125		3056	1592	3168	1704
EHA 28 000	59 500		2446	2235	2558	2345
EHA 30 000	63 750		3056	1897	3168	2009
EHA 32 000	68 000		2446	2538	2558	2650
EHA 40 000	85 000		3056	2538	3168	2650
EHA 48 000	102 000		3666	2538	3778	2650
EHA 56 000	119 000		4276	2538	4388	2650

Standard Selection – Standard

Model (ESA)	Nominal air flow rate [m³/h]	Filter arrangement	Internal dimensions (mm)		External dimensions (mm)	
			Width	Height	Width	Height
ESA 2 000	4 250		592	660	704	772
ESA 3 000	6 375		880	660	992	772
ESA 4 000	8 500		1185	660	1297	772
ESA 4 500	9 562		880	977	992	1089
ESA 5 000	10 625		1472	660	1584	772
ESA 6 000	12 750		1185	977	1297	1089
ESA 7 500	15 935		1472	977	1584	1089
ESA 8 000	17 000		1185	1282	1297	1394
ESA 9 000	19 125		1777	977	1889	1089
ESA 10 000	21 250		1472	1282	1584	1394
ESA 12 000	25 500		1777	1282	1889	1394
ESA 12 500	26 562		1472	1608	1584	1720
ESA 14 000	29 750		2064	1282	2176	1394
ESA 15 000	31 875		1777	1608	1889	1720
ESA 16 000	34 000		2368	1282	2480	1394
ESA 17 500	37 185		2064	1608	2176	1720
ESA 18 000	38 250		1777	1911	1889	2023
ESA 20 000	42 500		2368	1608	2480	1720
ESA 21 000	44 625		2064	1911	2176	2023
ESA 24 000	51 000		2368	1911	2480	2023
ESA 25 000	53 125		2960	1608	3072	1720
ESA 28 000	59 500		2368	2235	2480	2347
ESA 30 000	63 750		2960	1911	3072	2023
ESA 32 000	68 000		2368	2540	2480	2652
ESA 40 000	85 000		2960	2540	3072	2652
ESA 48 000	102 000		3552	2540	3664	2652
ESA 56 000	119 000		4144	2540	4256	2652

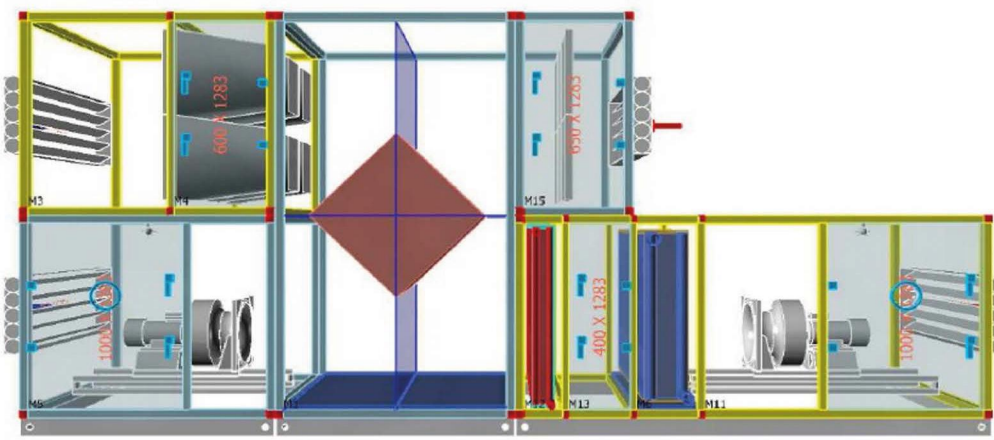
Air Handling Unit Selection Software

We use a multilingual selection program to choose air handling units. **AHU SELECTION** is a powerful software package developed to provide quick and comprehensive service for customers, assisting them in making the right technical choice and economic evaluation for each **AHU**.

It is a complete tool capable of configuring any type of product and meeting the strictest design requirements. The software serves as an excellent tool for sales engineers and project designers working with air handling unit systems.

The result is a comprehensive economic proposal that includes all technical data, drawings, and the psychrometric diagram with fan performance curves. Additionally, in addition to the calculations, the program allows the creation of sketches that can be exported to AutoCAD.

All units are designed and developed with special attention to achieving high efficiency in coils, filters, and motors. The software is Eurovent-certified and designed according to European standards, ensuring compliance with industry regulations and guaranteeing high-quality performance and reliability.

TECHNICAL DATA			
Date	22/05/2021	Rev. Date	06/06/2021
Project ID	46	Tracking Number	PT-21-140117-FK
Project Name	AIR HANDLING UNIT - R00		
AHU Name	AHU-01 - (1 QTY)		
AHU Model	EH12008-CHR [1699 PHE CWC HWC]		
			ECO COOLER
			HVACALC V. 2.2.3.14 23/05/2021
			ECOCOOLER 1/7
			
GENERAL SPECIFICATIONS			
Air Flow	Return Air Flow	Frame	Dimensions (mm)(Size+Pedestal)
16.990 m³/h	16.990 m³/h	55 Oval Profile	W 1.888 x H 2.915 x L 5.325
Air Velocity	Return Air Velocity	Insulation Material	Total Weight
2.07 m/s	2.07 m/s	50 mm Polyurethane	2.251 kg
Coil Air Velocity	Air Density	Outside Sheet Material	Base Height
2.26 m/s	1.1943 kg/m³	0.7 mm Painted Galvanize	128 mm
Design Outdoor Temp.(W-S)	HRS Capacity (W-S)	Inside Sheet Material	Roof (Inside)
(-12°C/90%)-(34°C/36.7%)(KONYA)	103.7 kW - 26.30 kW	0.7 mm Painted Galvanize	N/A
Total Heating Capacity	Total Cooling Capacity	Total Sensible Capacity	Motor Power
185 kW	140.4 kW	89.08 kW	11 kW / 11 kW
Specific Fan Power(SFP Total)	ErP Code	Real Unit CAL Class -400 Pa	Total Absorbed Power
1.513 W/(m³/s)	NRVU - BVU		16.55 kW
			Real Unit CAL Class +400 Pa



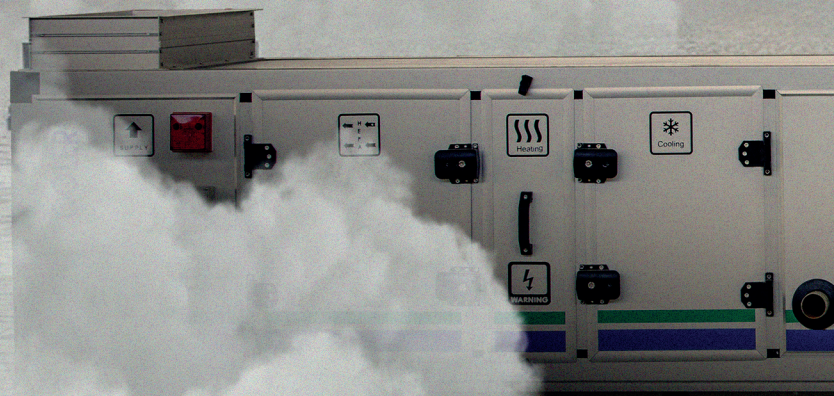
LET YOUR AIR

Renew With Us.

Dirty Air In, Pure Breath Out:

As contaminated air passes through our multi stage filtration, dust, bacteria and odors are stripped away—leaving nothing but sterile freshness.

Eco Cooler Hygienic AHU Systems deliver airflow with maximum purity. Our filtration technology neutralizes harmful particles and microorganisms.

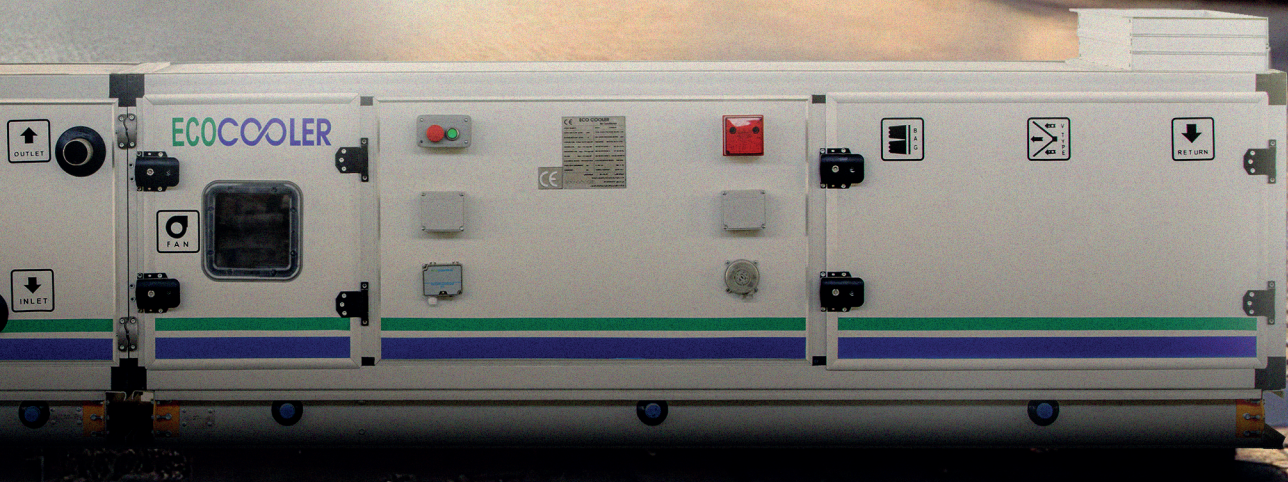


Pure Air, Fresh Life:

Powered by green energy, our Hygienic AHU delivers nature's freshness with every breath.

Advanced filtration, UVC sterilization and low energy use—your single solution for healthier spaces.

THE FRESHNESS OF NATURE *In Every Breath.*





COMPONENT FEATURES OVERVIEW

Our **Air Handling Units (AHUs)** are designed with high-quality components to ensure durability, efficiency, and superior air quality. The Casing Construction features a strong frame, insulated panels, and well-sealed access doors for easy maintenance and longevity.

The Mixing Box Section includes precision-engineered dampers to regulate airflow efficiently. Advanced Filtration Systems, including flat filters, bag filters, and **HEPA** filters, ensure optimal air purity, supported by robust frames, monitoring systems, and compliance with international standards.

Coils enable precise heating and cooling performance, while high-efficiency **fans** ensure reliable airflow and pressure control.

Our Heat Recovery Systems minimize energy loss by reclaiming thermal energy, and intelligent control equipment seamlessly integrates all components for precise automation and monitoring.

The following sections provide a detailed breakdown of each component, highlighting their features, benefits, and role in enhancing **AHU** performance.



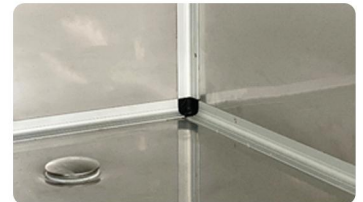


CASING CONSTRUCTION

AHU Frame Features

- **Premium Casing Construction:** Uses ProLam, a high-quality brand from Italy, for superior performance and reliability.
- **High-Quality Aluminum Profile:** Made of extruded aluminum alloy 6060, ensuring durability, lightweight strength, and corrosion resistance.
- **Patented Gasket & Sealing System:** Provides smooth internal surfaces, ensuring easy cleaning and airtightness.
- **Half-Omega Profile:** Enables seamless multi-unit connection while ensuring thermal isolation.

- **Enhanced Strength & Airtightness:** Nylon and omega joint corners with concealed screws prevent dust accumulation and enhance structural integrity.
- **True Thermal Break Layer:** A thermal break system with “panel stop” profiles reduces thermal bridging and energy loss.
- **Robust Structure:** Includes three-way glass-reinforced nylon corners and an independent galvanized steel base (100 mm height) for stability and durability.



Frame & Panels

Thermal Break System 50
With “panel Stop” Profiles



AHU Panel Features

- **Double-Skin Casing**

Features a 50 mm thick Polyurethane or Polyisocyanurate (PUR/PIR) sandwich panel, positioned between a 0.8 mm thick precoated steel outer skin and a 0.6 mm thick stainless steel inner skin. This design ensures superior thermal efficiency and a CFC-free composition. Alternative thickness options for the inner and outer skins are available upon request.

- **Step-Type Panel Design**

Ensures a flat internal surface, providing seamless continuity between the panel and the profile.

- **High-Density Insulation**

PUR insulation with 40-42 kg/m³ density and thermal conductivity of 0.02 W/m.K for enhanced energy efficiency.

- **Corrosion Resistance**

Precoated galvanized external skin, ensuring long-lasting protection.

- **Panel Stop Profiles**

Secure panels without screws, enhancing stability and ease of maintenance.

- **Sound Absorption**

The sound absorption through the panel is Eurovent certified.



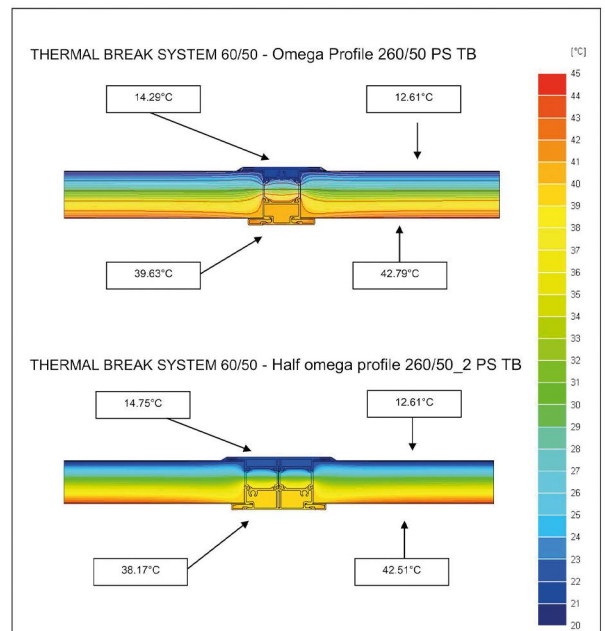
THERMAL BREAK SYSTEM 60/50 Test And Trials:

We use high-quality ProLam components with their advanced Thermal Break System with panel stop profiles, designed to enhance insulation and minimize energy loss in **Air Handling Units (AHUs)**.

Meeting **T1 - TB1** certification (**EN1886**), it ensures precise climate control and has been rigorously tested under various conditions.

PROFILE TYPE	Ti	t s-max	ta	kb	Thermal Class
System 60/50 – P 160/50 PS TB IR	12	14.52	45	0,92	TB1
System 60/50 – P 260/50 PS TB	12	14.29	45	0,93	TB1
System 60/50 – P 260/50_2 PS TB	12	14.75	45	0,92	TB1

THERMAL PERFORMANCE	EN 1886	REFERENCE VALUES	RESULT	THERMAL CLASS
THERMAL TRANSMITTANCE	Class T1 Class T2 Class T3 Class T4 Class T5	$U \leq 0,5$ $0,5 < U \leq 1,0$ $1,0 < U \leq 1,4$ $1,4 < U \leq 2,0$ No requirements	0,43	CLASS T 1
THERMAL BRIDGING	Class TB1 Class TB2 Class TB3 Class TB4 Class TB5	$0,75 < k_b < 1,00$ $0,60 < k_b \leq 0,75$ $0,45 < k_b \leq 0,60$ $0,30 < k_b \leq 0,45$ No requirements	0,81	CLASS TB 1



The tables above present the thermal classification for different System 60/50 profile types, along with their thermal transmittance and thermal bridging performance.

The test results confirm that all three profiles demonstrate excellent insulation, consistently achieving the **T1 and TB1** thermal class ratings.

THERMAL BREAK SYSTEM 60/50 Test And Trials:

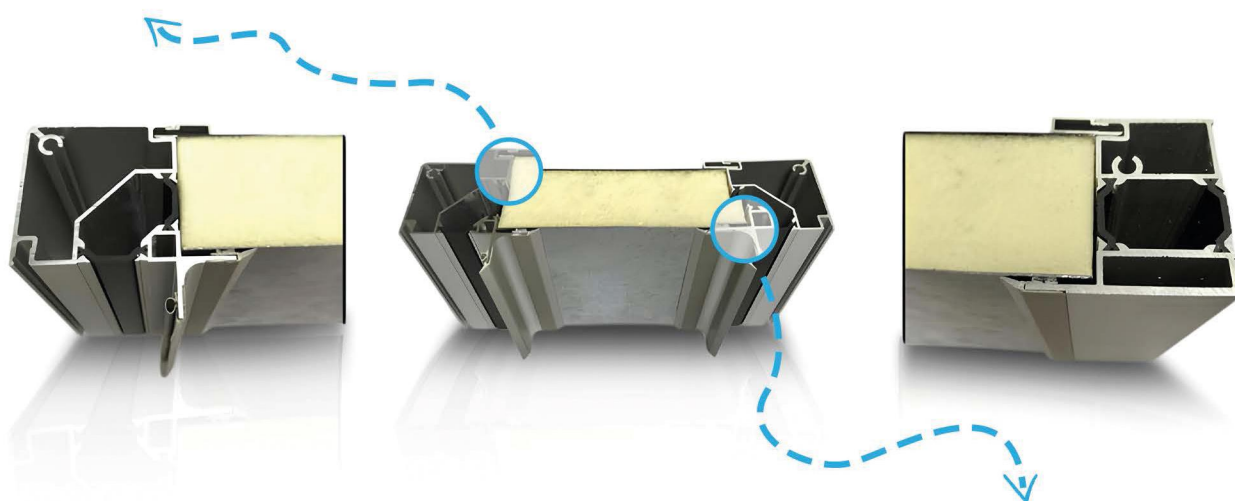
The tests conducted on a “model box” have demonstrated that the **System 60/50** excels in both **airtightness** (L1 classification) and mechanical strength (D1 classification),

making it an ideal choice for applications requiring high energy efficiency and structural robustness.

CASING AIR LEAKAGE	- 400 Pa	Class L1 Class L2 Class L3	$\leq 0,15 \text{ (l * s}^{-1} * \text{m}^{-2})$ $\leq 0,44 \text{ (l * s}^{-1} * \text{m}^{-2})$ $\leq 1,32 \text{ (l * s}^{-1} * \text{m}^{-2})$	0,13 = CLASS L1
	+ 700 Pa	Class L1 Class L2 Class L3	$\leq 0,22 \text{ (l * s}^{-1} * \text{m}^{-2})$ $\leq 0,63 \text{ (l * s}^{-1} * \text{m}^{-2})$ $\leq 1,9 \text{ (l * s}^{-1} * \text{m}^{-2})$	0,19 = CLASS L1

MECHANICAL STRENGTH	TEST PRESSURE	EN 1886	REFERENCE VALUES	RESULT
DEFLECTION	-1000 Pa	Class D1 Class D2 Class D3	$\leq 4 \text{ mm * m}^{-1}$ 10 mm * m^{-1} $>10 \text{ mm * m}^{-1}$	0,51 = CLASS D1

The **panel stop profiles** fix the panel without using screws and guarantee air tightness around the perimeter of the frame



The **gasket** adheres perfectly to the panel and it creates a smooth inner surface between profiles and panels.

Access Doors

HANDLE / HINGES

The inspection and internal service doors can be configured with either outward or inward opening mechanisms for pressurized sections. Various solutions are available, including hinges that allow left or right openings, cam handles for door locking and opening, or complete door removal.



INSPECTION WINDOW

The portholes are of a double-wall design, made from polycarbonate and equipped with sealing gaskets. The fastening system uses locking screws that only penetrate the polycarbonate structure (thereby avoiding contact with the sandwich panel), and the continuous internal-external gasket prevents condensation formation while ensuring optimal sealing.





MIXING BOX SECTION

Dampers

An intake/mixing box is available with a damper section based on the project requirements.

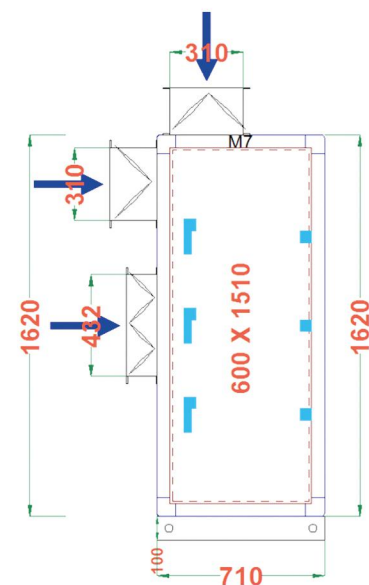
The construction features aluminum extruded frames (1.8 mm thick) with aerofoil design blades. Special gaskets are fixed at the blade edges to prevent leakage. The gear wheels are made from polypropylene material, and the galvanized steel shaft (12 mm x 12 mm, square) is equipped with aluminum handles for opening and closing the damper. The damper operates within a temperature range of -20°C to +80°C and has been tested and certified by TÜV Süd / Munich.

Function

Dampers are used to control or shut off the airflow moving in or out of the air handling system.

They can be operated manually or equipped with actuators to regulate the airflow.

- Airfoil design
- Opposed blade
- Fitted with a neoprene gasket between the blades to reduce leakage
- 316L stainless steel dampers (optional)

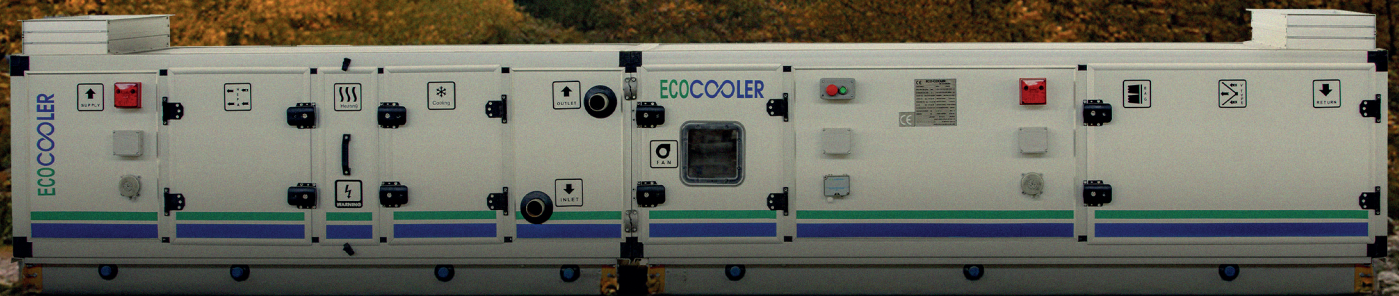


RESPECT FOR NATURE

Hygiene For Air.

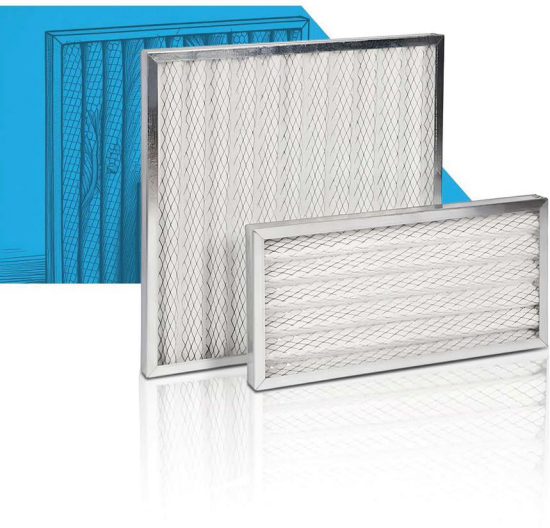
Clean breath, clean planet

Hygienic air solutions in harmony with nature. Eco Cooler delivers eco-friendly AHU systems powered by green energy, ensuring both environmental care and healthy indoor air.



Filters

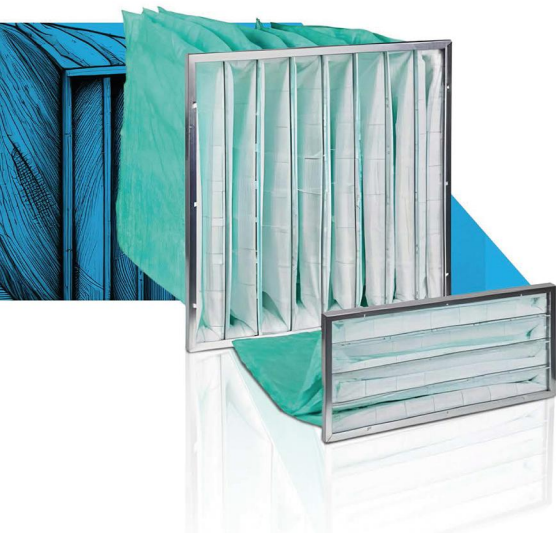
Always take special care when configuring the unit to consider the position of the filters in the airflow to maximize their effectiveness. All filters are mounted on aluminum filter frames, which are equipped with seals to ensure optimal filtration efficiency.



FLAT FILTERS

Polyester fiber media panel filters, class G3, are supplied as standard. Aluminum washable filters, class G2, are available upon customer request.

The G4 rating indicates the “dust holding capacity” of the filter and is defined according to the EN 779 standard. The G4 class signifies that these filters are capable of removing at least 80% of particles sized 2.5 micrometers and larger. In other words, G4 filters effectively capture and remove particles such as dry dust, hair, fibers, and larger-sized particles.



BAG FILTERS

Synthetic or glass-fiber media bag filters, ranging from class M5 to M6 and F7 to F9, are mounted in an aluminum frame with gaskets to prevent air bypass. Bag filters are available in two different lengths: the standard version is 380 mm long, and the optional version is 600 mm long. Filters with a larger filtration surface area tend to have a longer lifespan. The filters are secured using a clamping mechanism that ensures tightness and simplifies the filter replacement process.



HEPA FILTERS

HEPA filters of H13 and H14 classes offer excellent air cleaning efficiency due to their advanced design. A rigid media with aluminum or PVC separators provides high-efficiency air filtration with minimal resistance. They are rated in accordance with EN1822.



MIXING BOX SECTION

Dampers

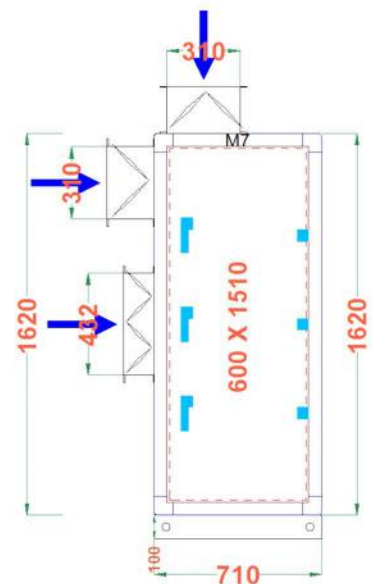
An intake/mixing box is available with a damper section based on the project requirements.

The construction features aluminum extruded frames (1.8 mm thick) with aerofoil design blades. Special gaskets are fixed at the blade edges to prevent leakage. The gear wheels are made from polypropylene material, and the galvanized steel shaft (12mm x 12mm, square) is equipped with aluminum handles for opening and closing the damper. The damper operates within a temperature range of -20°C to $+80^{\circ}\text{C}$ and has been tested and certified by TÜV Süd / Munich.

Function

Dampers are used to control or shut off the airflow moving in or out of the air handling system. They can be operated manually or equipped with actuators to regulate the airflow.

- Airfoil design
- Opposed blade
- Fitted with a neoprene gasket between the blades to reduce leakage
- 316L stainless steel dampers (optional)



BREATHE FRESH, *Live Better*





Improve indoor air quality and create a healthier environment!
With powerful filtration and superior performance, feel the
difference in every breath.



FAN SECTION

Rigid Fan Assembly with Standard AHU Components

Centrifugal Forward Curved DIDW fans are manufactured from galvanized steel sheet. The impellers are made from galvanized steel sheet and are statically and dynamically balanced in accordance with VDI 2060 and ISO 1940/1, grade G6.3. The impeller diameters follow the R20 series according to DIN 323.

Shafts are made from high-quality steel. Centrifugal Backward Curved DIDW/Aerofoil fans are also manufactured from galvanized steel sheet with structurally reinforced housing.

The impeller is made from glass-reinforced polyamide with a backward-curved design and is balanced both statically and dynamically to an accuracy grade of G6.3, in accordance with DIN ISO 1940-1 (VDI 2060).

Shafts are manufactured from high-quality steel, precision-ground, and polished.

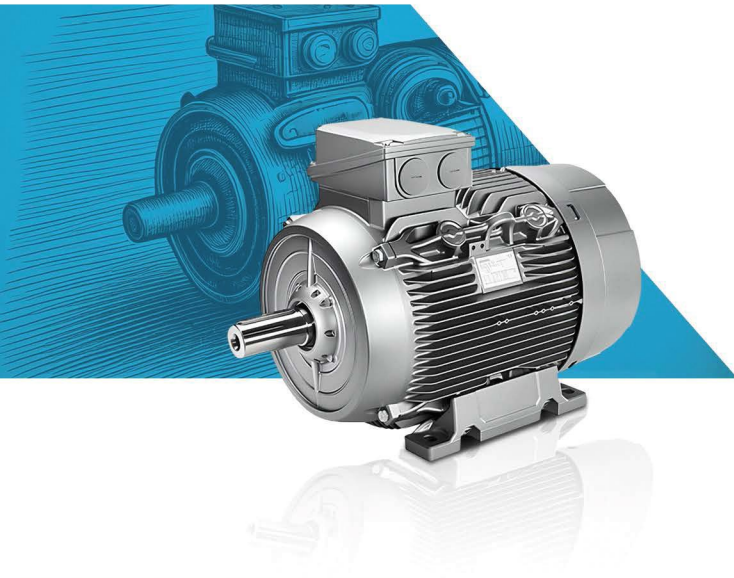
The plug-type plenum fan is a direct-driven, single-inlet centrifugal fan without a volute fan casing.

The impellers are made from steel, with either backward-curved or backward-curved airfoil blades and a painted finish.

The impellers are directly mounted on the shaft end of a single-speed motor.

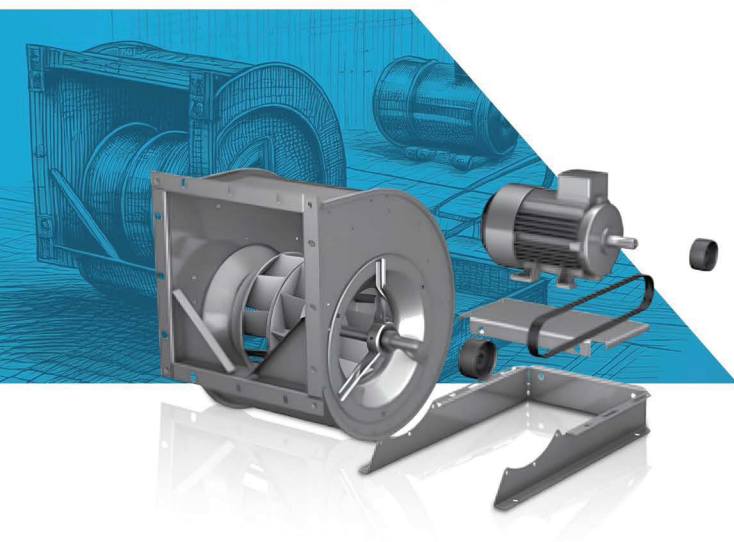
Fan Section

Rigid Fan Assembly with Standard AHU Components



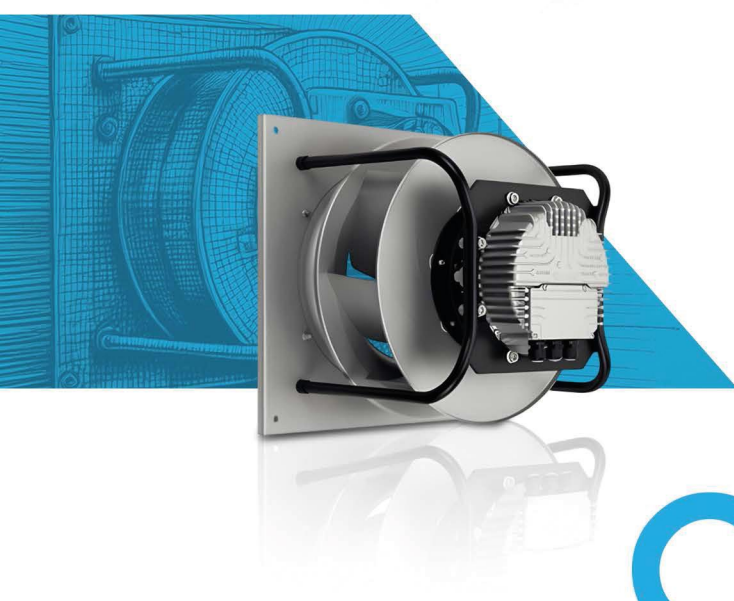
MOTORS

- Motor protection is ensured by an enclosed, fan-cooled type with class F insulation rated to IP55.
- Fans are delivered with single-speed motors.
- The control box is mounted at the top. Optional: EFF1 (IE2) or EFF2 (IE1).



FAN & MOTOR ASSEMBLY

The entire fan assembly is fixed to a separate galvanized steel frame, isolated from the unit structure by rubber anti-vibration mounts (with springs available as an option). This arrangement ensures that the AHU does not transmit vibrations to any flat surface on which it is installed.



EC FAN

Realistic performance specifications are provided, as the performance data of the entire fan is continuously measured using its components: high-performance impeller, Green-Tech EC motor, and control electronics.

Fan Section

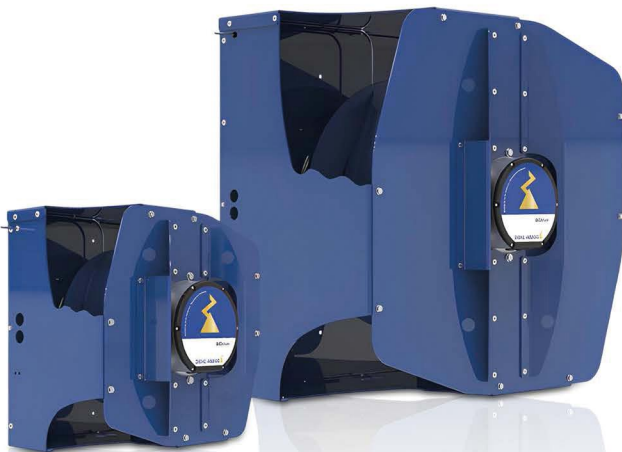
Rigid Fan Assembly with Standard AHU Components

Customized Fan Assembly Includes:

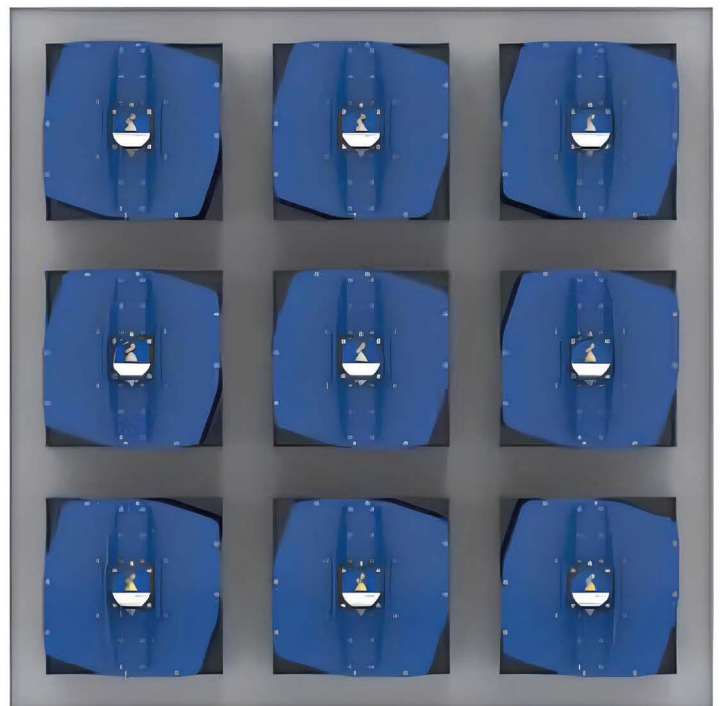
The customized fan assembly design includes the following optional features:

- Stand by motors for 24 x 7 operations
- Double fan with double motor
- Spark-proof fans
- Inlet guide vanes for VAV control
- Explosion-proof motors
- Stainless steel shaft fans
- Extended lubrication fittings
- Fans with drain plug
- Fans with inspection window
- Bulk Headlight

Fan Mounting in the Different Orientation:



Sizes 315 and 560 mm



Parallel mode of fans



COOLING & HEATING COIL

Optimized Design:

Computer-selected cooling and heating coils are designed to achieve optimum thermal and psychrometric efficiency while maintaining low-pressure drops for water and air.

Variety of Coil Types:

Available coil types include water, direct expansion (compatible with refrigerants like R134a, R407C, and R410A), and steam coils, catering to a wide range of application requirements.

Compliance with Standards:

Coils comply with AHRI 410 standards, ensuring reliable performance and efficiency.

This design ensures efficient operation, ease of maintenance, and compliance with industry standards for diverse cooling and heating applications.

Construction Details:

- Coils are mechanically bonded to aluminum fins and copper tubes.
- Aluminum end sheets are arranged in a staggered form in the direction of airflow to enhance heat transfer.
- Headers are made from copper and include air vents at the top for effective air purging.
- Coils are leak-tested at 350 psi air pressure to ensure durability and reliability.

Ease of Maintenance:

Cooling coil assemblies are mounted on sliding rails, allowing for easy removal and servicing.

Drain Pan Design:

The entire coil section is covered with a stainless steel drain pan featuring an inclined angle for effective drainage.

- Drain pans are insulated against condensation and equipped with an MPT drain connection as standard.

Coil Section

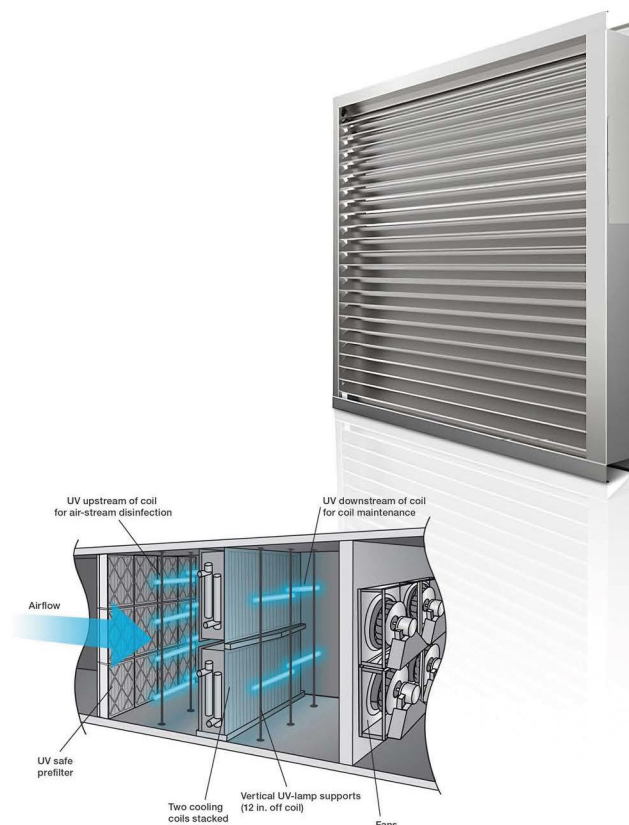
Explanation

Purpose: Moisture eliminators are installed downstream of the cooling coil to remove water droplets from the air, which may otherwise be carried away at high air velocities.

Application Threshold: These eliminators are fixed when the air velocity exceeds 2.5 m/s, ensuring effective separation of moisture for optimal system performance.

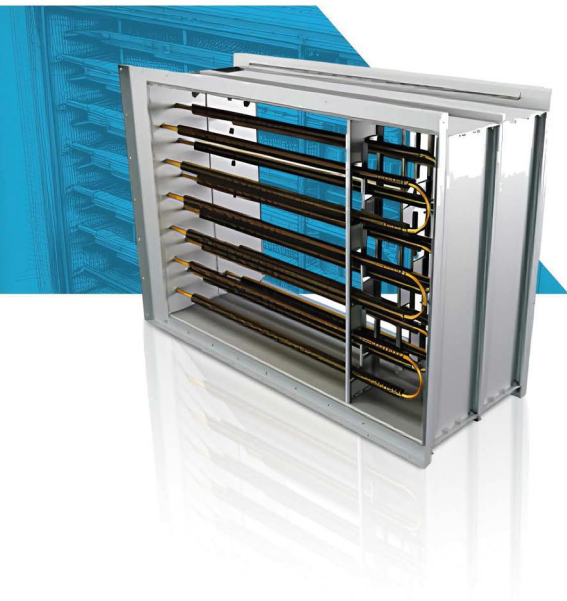
- Copper or Blue fins
- Anti-corrosive protection coating for fins
- Stainless steel sliding rails
- Stainless steel coil casing
- Galvanized (painted) drain pans
- Coil with by-pass dampers
- UV lights for high levels of air purification and deodorization

Moisture Eliminator



Coil Section

Always take special care when configuring the unit regarding the position of the filters in the airflow to maximize their effectiveness. All filters are mounted on aluminum filter frames, which are equipped with seals to ensure optimal filtration efficiency.



ELECTRICAL HEATER

Electric heaters are available in a wide range of capacity (kW) and multiple step configurations. The heater frames are constructed from galvanized iron (GI). As standard, the heaters feature an open-type finned design, utilizing 80/20 nickel-chrome resistance wires. These are supported by anti-thermal shock,

ceramic holders. Electric heaters are provided in a separate section for safety and ease of maintenance.



HEAT RECOVERY

Fins are aluminum as a standard. Upon request, marine aluminum, industrial pre-coated epoxy, or hydrophilic fins can also be used. The frame can be manufactured from special aluminum profile, while covers can be made from galvanized sheet metal or aluminum.

Cross-flow heat recovery plate exchangers can be connected in series to increase the efficiency.



STEAM HUMIDIFIER

Steam is generated within a polypropylene cylinder mounted externally on the humidifier section inside a dedicated enclosure. A stainless steel distributor, precisely sized for the application, passes through the unit casing to inject steam into the airstream, ensuring the required humidity conditions are achieved efficiently.

Control Equipment

To ensure optimal control over operating costs, ECO COOLER AHUs are equipped with low-noise, high-output, space-saving, lightweight, and long-bearing-life induction motors. A variable frequency drive (VFD) is used to regulate the fan speed, ensuring the required air flow is achieved at the designed RPM

VFD DRIVE INVERTER

ECO COOLER AHUs are designed to be compatible with variable-frequency drives (VFDs). Using a VFD to control fan volume provides low noise generation and high energy efficiency, particularly when regulating airflow to 80% of the design capacity or less. A VFD is a system that controls the rotational speed of

ency of the electrical power supplied to the motor. It is a specific type of adjustable-speed drive, offering precise and efficient motor control.



CONTROL VALVE

Three-way and two-way control valves are available as optional features in AHUs. Equipped with actuator controls, the valves ensure precise regulation of the required flow across the coil. Valves are available in brass for pipes up to a specific diameter and in cast iron for larger diameters.



Control Equipment

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DAMPER ACTUATOR

Actuators are engineered for durable, reliable, and quiet operation of air control dampers. Each actuator includes a universal, self-centering mounting clamp and an anti-rotation strap for secure installation. These actuators offer a high-quality, cost-effective solution suitable for various environments, including

ture ranges, and outdoor conditions, without the need for additional costly enclosures.



PRESSURE SWITCH

- Stainless steel filter frame
- Differential pressure switch
- Inclined gauge manometer
- Magnehelic gauge with contact 0–2500 Pa
- Magnehelic gauge without contact 0–2500 Pa

Certificates / Quality



EC DIRECTIVES

- Capacity ranging from 1000 CFM to 80,000 CFM
- Double skin panel
- Providing all filtration level
- Designed by HVAC CALCULATOR software



EMC DIRECTIVE

The products comply with Directive 2004/108/EC Electrical compatibility of electrical and electronic products.

TS EN 61000-6-2:2019 RLV
TS EN 61000-6-2:2019 RLV
IEC 61000-6-2:2016



GMP – ISO
22716

ISO
9001:2015

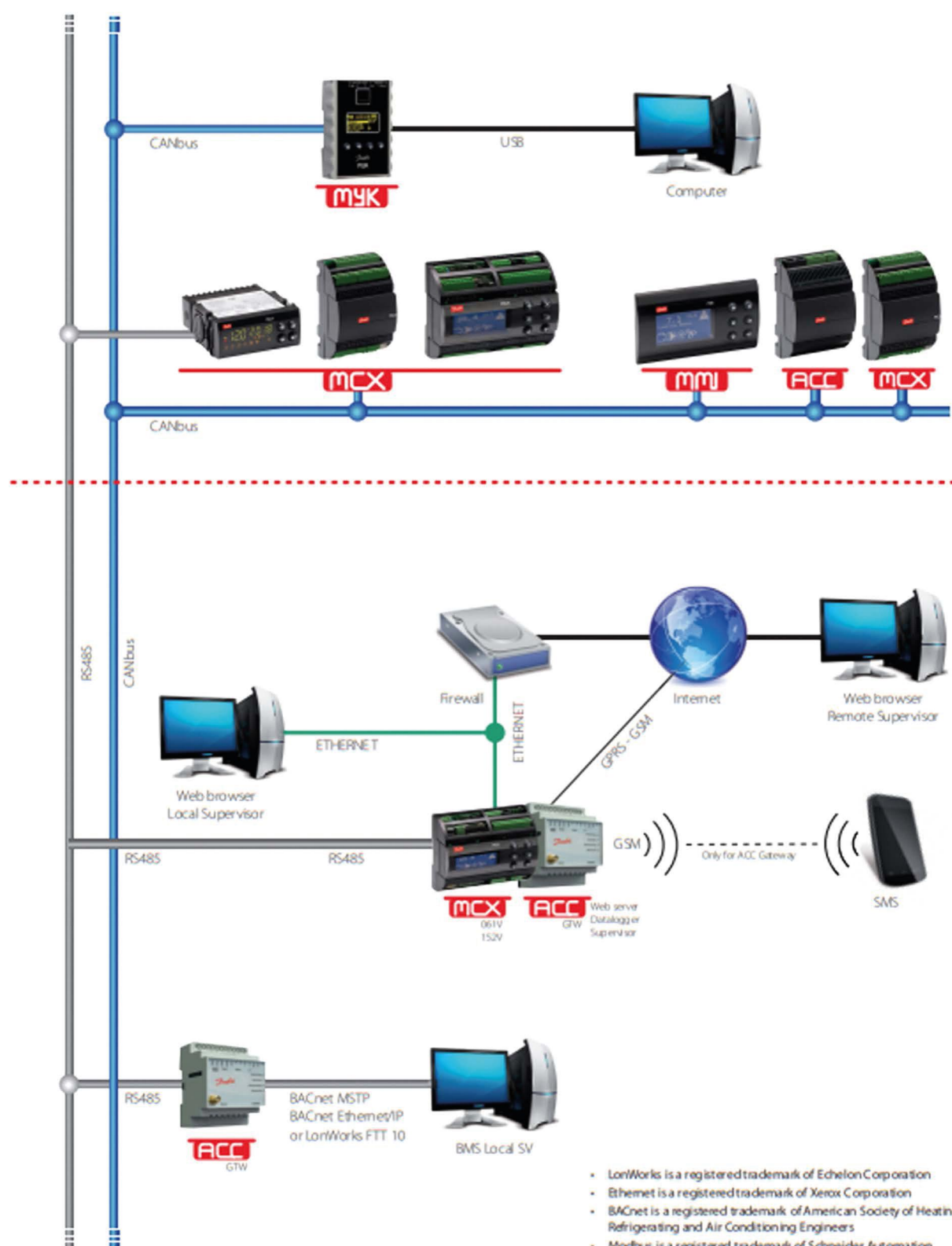
ISO
10002:2018

ISO
14001:2015

ISO
45001:2018

Certification by the International Standardization Organization (ISO) ensures that an organization can consistently deliver a product or service that meets the customer's contractual requirements by following documented processes. The ISO 9001 quality assurance model establishes the requirements for an organization whose business processes range from design and development to production.





AS PURE AS THE SKY, *As Clean As Nature.*

Inspired by nature, Eco Cooler refreshes indoor spaces with
hygienic air solutions.

Clean in every breath, safe in every space.

ECO COOLER





REFRESH WITH NATURE'S POWER!



ECO COOL_{ER}



Thank You

FOR CHOOSING US TO CREATE CLEAN AIR AND COMFORTABLE LIVING SPACES.
We remain committed to delivering the best for your health and well-being.

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