

ECO COOLER

HVAC SYSTEMS

2025
General Catalog



ECO COOLER

ENGINEERED FOR EFFICIENCY,

Inspired by Nature





Eco Cooler delivers
energy-efficient climate solutions
that protect nature while
providing maximum comfort.

Foshati

CUSTOMIZED HVAC SOLUTIONS FOR EVERY PROJECT



About Us

Founded in 2000, ECO GROUP has grown into a trusted leader in the field of Heating, Ventilation, and Air Conditioning (HVAC). In 2015, the company expanded its activities by establishing ECO COOLER, a specialized brand focused on manufacturing advanced HVAC systems and delivering complete solutions for a wide range of projects.

At ECO COOLER, we combine engineering expertise with a strong commitment to energy efficiency, comfort, and eco-friendly practices. **As an EPC company, we manage all aspects of Engineering, Procurement, and Construction**, ensuring that every project is executed with "precision and reliability."

Our product portfolio is designed to meet the diverse needs of residential, commercial, and industrial applications. It includes:

- Hygienic and Standard Air Handling Units
- Air-cooled and Water-cooled Chillers
- Modular Chillers
- Rooftop Packaged Units
- Condensing Units
- Heat Recovery Units
- Swimming Pool Dehumidification Units
- Hybrid Packages

From design to after-sales service, our philosophy is guided by the principle of **Life Cycle Cost (LCC)**. This ensures our clients benefit from cost-effective solutions with optimized purchase, operation, and service expenses throughout the product's lifetime.

With decades of experience, continuous innovation, and collaboration with industry experts, ECO COOLER remains committed to **delivering high-quality, sustainable, and reliable climate solutions**. Our goal is to create healthier and more comfortable environments while building long-term partnerships with our customers around the world.

**WE ARE COMMITTED
TO OUR CUSTOMERS**

Our Projects

Residential building Erbil, Iraq

13 Heat Recovery – Heat Pump Units
Total Air Flow: 95,000 m³/h
Voltage: 220 v
Current: 11.02 Ampere



Residential Building Dohuk, Iraq

2 Pool Dehumidification Units
Total Air Flow: 30,000 m³/h
Total Cooling Capacity: 332 kW



Bulmalts Company Chirpan, Bulgaria

1 Rooftop Packaged Unit
Total Air Flow: 60,000 m³/h
Total Cooling Capacity: 415 kW



Auto Service Centre Baku, Azerbaijan

2 Rooftop Packaged Units
2 Exhaust fans
Total Air Flow: 21,200 m³/h
Total Cooling Capacity: 152 kW



Pharmaceutical factory Istanbul, Turkey

Air Handling Unit
Total Air Flow: 15,000 m³/h



Our Projects

Residential Building Erbil, Iraq

2 Precooling Evaporative Package
Total Air Flow: 8,000 m³/h
Total Cooling Capacity: 26 kW
220 v / Single Phase / 14 Ampere



Laleh Petrochemical Company Mahshahr, Iran

9 Condensing Units
9 Cooling Evaporators
Total Cooling Capacity: 338.5 kW



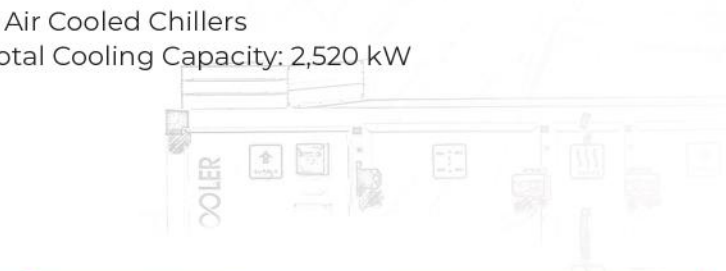
Tabriz Petrochemical Company Hormozgan, Iran

4 Rooftop Packaged Units
Total Air Flow: 170,000 m³/h
Total Cooling Capacity: 450 kW



National Iranian South Oil Company, Ahwaz, Iran

9 Air Cooled Chillers
Total Cooling Capacity: 2,520 kW



Seraj Gostaran R Petrochemical Mahshahr, Iran

6 Air Handling Units
Total Air Flow: 136,180 m³/h



Our Projects

Mega Hospital, Hormozgan

62 HYGIENIC Air Handling Units
Total Air Flow: 360,000 CFM
Floor Area: 53,585 m²



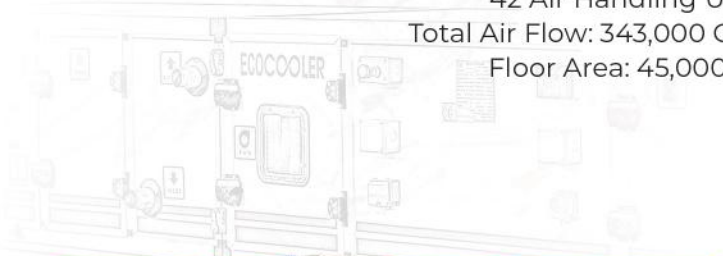
Mother Entertainment Business Complex, Dezful

15 Air Handling Units
Total Air Flow: 160,200 CFM
Floor Area: 38,000 m²



Valiasr Hospital With 550 Beds, Arak

42 Air Handling Units
Total Air Flow: 343,000 CFM
Floor Area: 45,000 m²



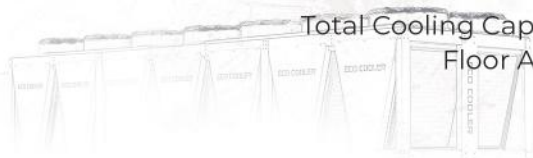
Multipurpose Faculties Of Mashhad University, Mashhad

17 Air Handling Units
Total Air Flow: 207,140 CFM
Floor Area: 50,000 m²



Indoor Sport Hall for 6,000 People, Shiraz

3 Air Cooled Chillers and 6 Condensing
Units
Total Cooling Capacity: 2700 kW
Floor Area: 66,000 m²



Other Projects

- Pasteur Razi Institute, Karaj Serum Production Unit, Iran
- Karaj Nevi / Pharmaceutical Company, Drug Production Unit, Iran
- Jaber ibn Hayyan Pharmaceutical Company, Tehran, Iran
- Daru Pakhsh Drug Producing Company, Tehran, Iran
- Desalination project, Bandar Abbas National Copper Industries, Iran
- Hasheminejad 320-bed Hospital, Mashhad University of Medical Sciences, Iran
- South Rescue Hospital of Mashhad University of Medical Sciences, Iran
- Soran 32-bed Hospital, Sistan and Baluchestan, Iran
- Specialized Mother Hospital, Fasa, Iran
- Kosar Heart Hospital, Cyclotron Building, Shiraz, Iran
- Ayatollah Rafsanjani Hospital, Kerman University of Medical Sciences, Iran
- Shahid Beheshti Hospital, Social Security Organization, Shiraz, Iran
- Arad Hospital, Tehran, Iran
- Bagh Malek 96-bed Hospital
- Ahwaz University of Medical Sciences, Iran
- Imam Ali Hospital, Social Security Organization, Shahrekord, Iran
- Amir Al-Momenin Hospital, Cerash, Iran
- Persian Gulf Hospital, Social Security Organization, Bandar Abbas, Iran
- Barana Medical Complex, Shiraz, Iran
- Holy Shrine of Imam Reza, Mashhad, Iran
- Pegah Pasteurized Milk Company, Guilan, Iran
- Mehrabad International Airport, Tehran, Iran
- Shirazis Hotel, Shiraz, Iran





AIR HANDLING UNIT

ECO COOLER specializes in designing and manufacturing Hygienic and Standard Air Handling Units (AHUs) for a wide range of applications, including clean rooms, surgical rooms, hospitals, and other sensitive environments. Our units are engineered to provide optimal air quality, maximum hygiene, and full compliance with industry standards, such as VDI 6022 and Eurovent.

Our **AHUs** are carefully designed using our proprietary **HVAC CALCULATOR (AHU SELECTION)** software, allowing engineers to precisely determine critical parameters such as skin materials, fan types, filtration levels, and disinfection options. This ensures that each unit meets the highest standards for cleanliness, safety, and performance.

Air Handling Units (AHUs) are available in 30 different models and can be fully customized to meet specific customer requirements. Units support air flow rates from 2,500 m³/h to 240,000 m³/h, suitable for heating, cooling, and ventilation applications. Modular construction with double-skinned panels and 50 mm or 60 mm polyurethane insulation ensures durability, energy efficiency, and minimal air leakage.

Key Features:

- Air flow capacity: 2,500 - 240,000 m³/h
- Hygienic and premium construction to minimize thermal loss, air leakage, and contamination
- Double-skinned panels with polyurethane insulation and stainless-steel sheets
- Smooth interior panels and rounded corners to prevent dust and contaminant accumulation
- Flexible dimensions and filter arrangements for various applications
- High-quality components ensuring long-term reliability
- Full range of filtration: G2 to U16, UVGI or plasma disinfection, electrostatic filters, chemical filter beds
- Compatible with all heating/cooling systems: water, DX, electric, steam, gas-fired
- Advanced integrated control systems for precise operation
- Efficient EC or AC motors paired with next-generation fans

With decades of experience in both standard and hygienic AHU manufacturing, ECO COOLER delivers solutions that combine performance, safety, and compliance with the highest industry standards.



POWER FROM NATURE

Lighting The Future.





CHILLER

Eco Cooler designs and manufactures a complete range of air-cooled and water-cooled chillers, delivering reliable performance across diverse climates and applications. From cold to moderate to hot and tropical environments, our chillers are engineered to perform in residential, commercial, and industrial projects, even under challenging site conditions with polluted atmospheres.

With cooling capacities ranging from 10 kW to 2800 kW, **Eco Cooler chillers** are equipped with screw, scroll, and reciprocating compressors, ensuring flexibility and efficiency across all operating conditions.

Backed by years of engineering expertise, **Eco Cooler chillers** are designed for long-term reliability, energy efficiency, and superior performance. With a focus on innovation and sustainability, our chillers provide dependable cooling solutions that meet international standards for comfort, process, and industrial applications.

Series Options:

- **Standard Series:** Designed for cold and moderate climates.
- **High-Efficiency Series:** Tailored for hot and tropical climates.

Key Features & Benefits:

- **Wide Operating Range:** Suitable for all weather conditions, with ambient operating temperatures up to 55 °C.
- **Energy Efficiency:** Optimized performance at both full and part-load conditions, with an EER up to 3.42.
- **Advanced Controls:** Intelligent controller system for connectivity, flexibility, and ease of service.

Cutting-Edge Technology:

- **Microchannel condenser technology** for higher heat transfer efficiency.
- **Dry expansion shell-and-tube evaporators** with electronic expansion valve for precise control.
- **Stepped and stepless compressor capacity control** to minimize energy consumption.
- **Quiet Operation:** Latest compressor and fan designs ensure low sound levels.
- **Ease of Installation & Maintenance:** Compact design, robust construction, and service-friendly layout.



SUPERIOR PERFORMANCE

At Every Step





MODULAR CHILLER

In today's fast-changing world, energy efficiency and system flexibility are critical factors for HVAC solutions. Anticipating the growing need for energy savings and the ability to expand system capacity for future developments, **ECO COOLER** has designed the **EMACH** Modular Air-Cooled Chiller Series, a new generation of chillers that combine efficiency, reliability, and scalability.

The modular design allows multiple units to be connected, providing seamless capacity expansion as project requirements grow. This ensures long-term investment protection and operational flexibility without the need for replacing existing equipment.

This model delivers quiet operation, high serviceability, and outstanding efficiency, ensuring reliable performance for years to come. Designed for commercial and industrial applications, it is the ideal choice for projects that demand scalable capacity, energy savings, and long-term dependability.

The **EMACH modular chiller** is available in **20 and 37 TR units (70 kW and 128 kW)**, which can be easily configured to provide total system capacities of up to **500 TR (2000 kW)**. With its modular concept, expansion is as simple as adding new modules to meet future cooling demands.

Key Features & Advantages

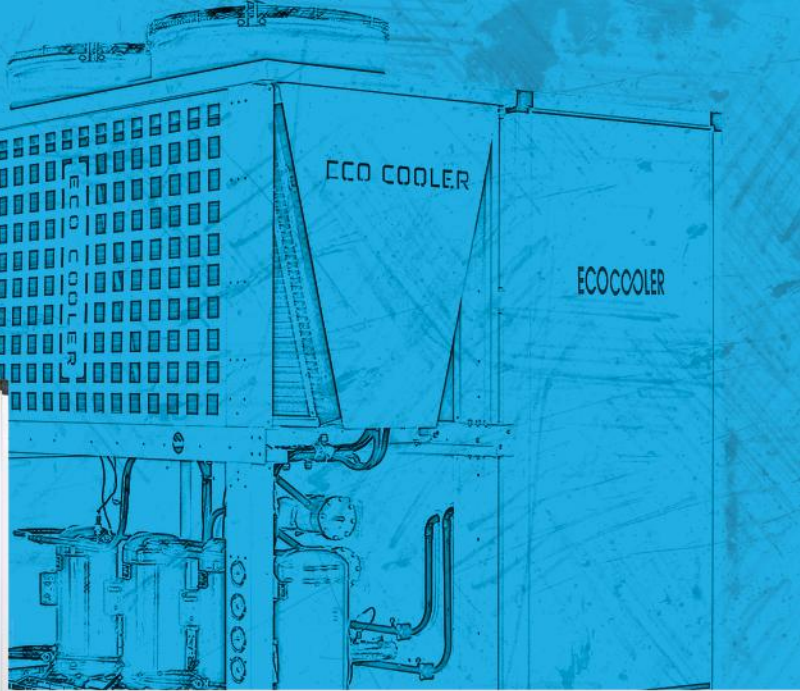
- Capacity Range: 70 kW – 2000 kW (20 – 500 TR by combining modules)

- Refrigerant: R410A, environmentally friendly with high efficiency
- Compressor Type: Scroll compressor for reliability and low noise
- Operation Flexibility: Partial load operation reduces energy consumption and enhances efficiency
- Wide Operating Range: Designed to perform in ambient temperatures from 10°C to 52°C
- Microchannel Condenser Technology: Improves heat transfer, reduces refrigerant charge, and increases efficiency
- Evaporator Options: Plate brazed evaporator for compact design; heat trace system to prevent freezing in low ambient conditions
- Control & Integration: Advanced control system with full compatibility for Building Management Systems (BMS) supporting MODBUS, BACnet, and CANBUS protocols
- Protection & Safety: Ground current protection for compressors, pressure-controlled refrigeration circuit, and smart fault diagnostics
- Ease of Use: Easy installation, fast servicing, quick maintenance, and simplified transportation
- Reliability: Continuous operation with minimal downtime for maximum availability



COOLING POWER, *Anywhere.*





ROOFTOP PACKAGED UNIT

ECO COOLER Rooftop Packaged Units are engineered to deliver high performance, energy efficiency, and long-term reliability, specifically designed for tropical climates and outdoor installation. With their robust design, these units ensure low power consumption, quiet operation, and easy installation, making them an ideal solution for both commercial and industrial applications.

We offer a wide range of rooftop packaged unit types, including:

- Full Fresh Air Units designed for applications requiring 100% fresh air intake.
- Full Return Air Units optimized for maximum efficiency with recirculated air.
- Mixing Air Units providing a controlled balance of fresh and return air.
- Hygienic Rooftop Packaged Units manufactured to meet cleanroom and hospital standards.
- Standard Rooftop Packaged Units for general air-conditioning applications.

ECO COOLER Rooftop Packaged Units combine innovation, flexibility, and advanced engineering to provide tailored HVAC solutions for diverse environments, from hospitals and cleanrooms to shopping malls, office buildings, and industrial facilities.

Technical Highlights:

- Airflow capacity: 1,700 m³/h to 60,000 m³/h
- Cooling capacity: 7 kW to 630 kW
- Refrigerants: R134a, R407C, R410A

- Heating options: hot water, steam, electric, or gas-fired systems
- Filtration: available in all filtration levels and combinations (including HEPA for hygienic use)
- Compressors: high-efficiency scroll type for reliable and quiet operation
- Construction: factory-assembled with cooling coil, condenser coil, fans, electric heater (optional), control wiring, and interconnecting piping
- Controls: advanced automation system with BMS compatibility

• Customization: fully tailored solutions to match specific airflow and cooling capacity needs

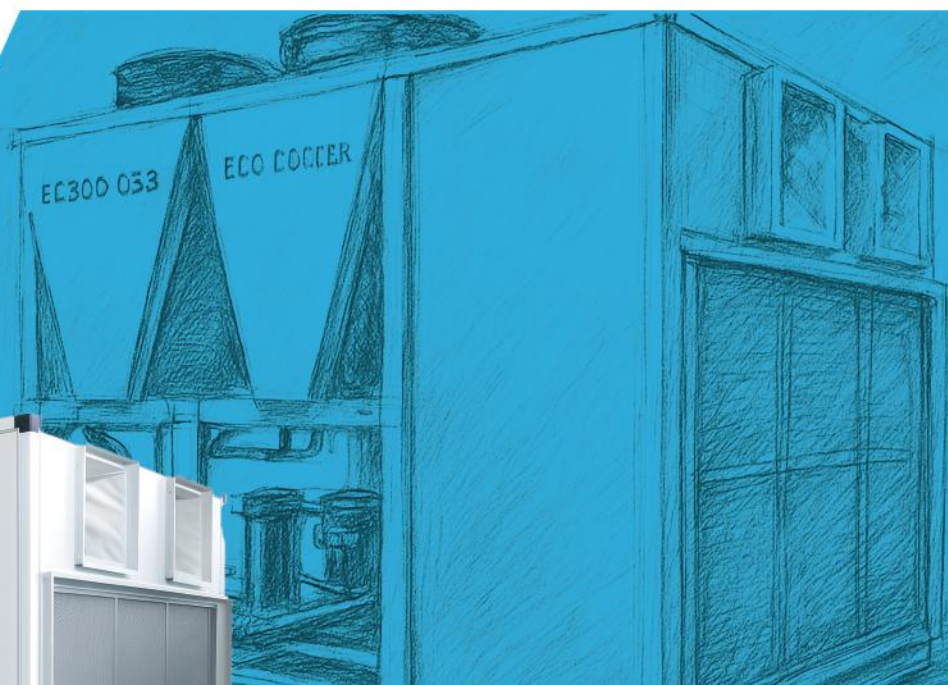
Design & Construction Features:

- Manufactured in an ISO 9001-certified facility
- Compliant with ASHRAE 15 safety standards
- Casing constructed from hot-dipped G90 galvanized steel with oven-baked powder coating for superior durability and corrosion resistance
- Weather-resistant integral control panel designed for outdoor applications
- Easy accessibility with removable panels and service doors for inspection and maintenance
- Low-noise centrifugal fans, dynamically and statically balanced, belt-driven for smooth operation
- High-quality components ensuring reliability, durability, and energy efficiency



COMFORT IN *Every Season.*





100% FRESH AIR ROOFTOP PACKAGED UNIT

ECO COOLER Fresh Air Packaged Units, New Generation (FPNG Series) are engineered to provide 100% fresh air ventilation with high cooling capacity and optional heating. Factory-assembled, pre-wired, and fully tested before delivery, these units are designed for outdoor installation on rooftops or ground platforms. Built to operate under tropical and severe ambient conditions up to 52°C, they deliver long-lasting efficiency, reliability, and quiet performance.

Each unit integrates high-EER scroll compressors, heavy-duty condenser and evaporator coils with copper tubes and hydrophilic fins, backward-inclined blowers, and TEFC motors with IP55 protection to ensure low energy consumption and stable operation. Standard features include hot gas bypass, protective coil guards, advanced refrigerant piping, and low-noise components within a compact footprint.

For control and safety, the **FPNG Series** is equipped with a microprocessor-based control system, weatherproof electrical panel, single-point power supply, UL-certified components, and **ASHRAE 15** compliance. Every unit undergoes factory run testing, is manufactured in an ISO 9001-certified facility, and features AHRI-certified cooling coils to guarantee performance and quality.

Applications:

- Buildings requiring 100% outside air treatment, such as hospitals, cleanrooms, laboratories, shopping malls, and auditoriums
- Facilities where indoor air quality, pressurization, and ventilation standards are critical
- Low CFM mixed air projects requiring precise ventilation control

Options & Accessories:

- Intelligent air quality management with economizer control
- Ultraviolet (UV) germicidal lamps for hygienic applications
- Mild ambient control for part-load efficiency
- Return air bag filters for enhanced filtration
- Steam humidifiers and electric heaters
- Anti-ice thermostats for coil protection

The **ECO COOLER 100% Fresh Air Packaged Rooftop Units** deliver an ideal combination of performance, energy efficiency, and superior indoor air quality, making them the trusted solution for the most demanding ventilation and air treatment projects worldwide.



ROOFTOP POWER,

Fall Fresh Comfort





CONDENSING UNIT

ECO COOLER's ECHA Series Air-Cooled Condensing Units are engineered to deliver **reliable central cooling solutions** for both commercial and industrial applications, even in the harsh climate conditions of the Gulf region. Designed with a focus on optimum performance, energy efficiency, and long service life, these units combine advanced technology with user-friendly features such as easy installation, low maintenance, and quiet operation.

The **ECHA Series** is available in Standard and High-Efficiency models to suit different application requirements: Standard models feature a condenser split of 20 °C (36 °F) with a compact design optimized for moderate climates, while High-Efficiency models offer a condenser split of 12 °C (21.6 °F) for enhanced energy savings, ideal for projects demanding maximum efficiency.

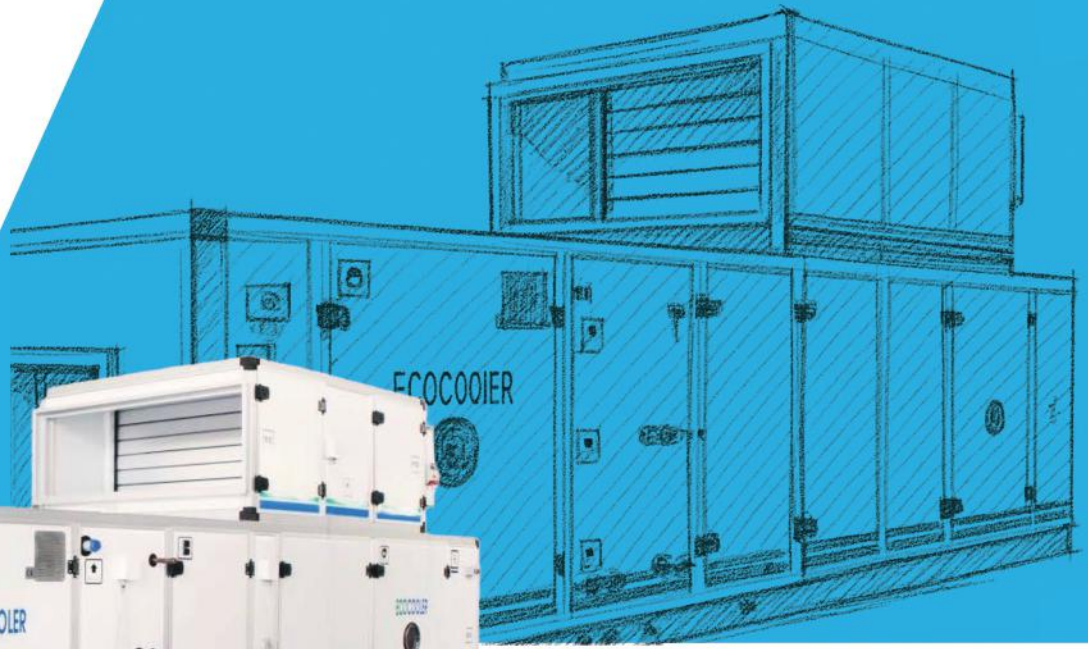
Key Features:

- Wide Capacity Range: 10 kW – 1820 kW (2.9 TR – 165TR)
- Refrigerants: R134a, R407C, R410A
- Compressor Type: Scroll (high efficiency, compact design)
- Energy Efficiency Ratio (EER): Up to 3.42
- Microchannel Condenser Technology: Enhances heat transfer, reduces refrigerant charge, and ensures long-term durability
- Low Noise Axial Fans: Designed for quiet operation with high airflow performance
- Evaporation Control: Available with electronic or thermostatic expansion valve for precise performance
- Advanced Controller: Ensures connectivity, flexibility, and simplified serviceability
- Ambient Temperature Resistance: Designed to operate reliably up to 55 °C, making it ideal for tropical and desert climates
- Compliance with Standards: ASHRAE 15-1994 (Safety Code for Mechanical Refrigeration) and ARI 550/590-98 performance ratings



ALL SEASONS, *One Solution.*





HEAT RECOVERY UNIT

ECO COOLER's Heat Recovery Units are engineered to maximize energy efficiency and indoor air quality while reducing operational costs in **HVAC** systems. Designed for both commercial and industrial applications, our **HRUs** recover energy from exhaust air and transfer it to incoming fresh air, significantly reducing heating and cooling loads and enhancing sustainability.

Our HRUs can be customized to meet the specific requirements of each project, including airflow rates, thermal loads, and space constraints. Thanks to decades of experience in **HVAC** design and manufacturing, **ECO COOLER** ensures high-quality, durable units that perform reliably in diverse climates and applications.

Our units are also designed for hygienic applications, such as hospitals, cleanrooms, and laboratories, with optional **HEPA** filtration and easy-to-clean surfaces. **ECO COOLER** provides fully customizable solutions, from casing materials and insulation to fan types, coil configurations, and control strategies, ensuring each **HRU** meets the client's exact needs with superior performance and longevity.

We offer multiple types of heat recovery technologies in our units, allowing the selection of the optimal **system for each project**:

- Rotary Heat Exchangers (Rotors): Ideal for high-efficiency energy recovery in continuous operation systems. Provides simultaneous heat and moisture transfer.
- Plate Heat Exchangers: Suitable for projects requiring cross-flow or counter-flow heat recovery, offering high efficiency with low maintenance.
- Run-Around Coil Systems: Perfect for installations where direct air-to-air heat exchangers are not feasible. Flexible piping allows energy transfer between separated air streams.
- Heat Pipes: Passive and reliable solution for recovering sensible heat in compact spaces.

Each **ECO COOLER HRU** is equipped with advanced automation and control systems to integrate seamlessly with Building Management Systems (**BMS**). Using high-quality controllers and sensors, the units maintain optimal indoor conditions while ensuring energy savings and system safety. Controllers can be tailored to project specifications, including options from Siemens or Danfoss for digital communication and **BMS** compatibility.





**BREATHE
CLEAN,**
Live Better.





HYBRID PACKAGES

ECO COOLER Hybrid Package Units are designed for residential applications, delivering both cooling and heating with high efficiency and low energy consumption. These units operate on single-phase power with low amperage, making them ideal for homes and residential buildings where energy efficiency and easy installation are essential.

The units feature evaporative precooling technology, which reduces the energy required for cooling while increasing overall system efficiency. This innovative approach ensures optimal performance even in hot climates, providing comfortable indoor conditions while minimizing electricity costs.

The **Hybrid Package range** is divided into three specialized groups to meet different residential needs:

- **Evaporative Precooling Packages** Utilize evaporative precooling technology to reduce energy consumption while maximizing cooling efficiency, ideal for hot and dry climates.
- **Mini Chiller Heat Pumps** Compact units capable of both heating and cooling, delivering comfort with minimal space requirements and low operational cost.
- **Dust Split Units** Designed for areas with high dust levels, these units maintain clean airflow while ensuring efficient heating and cooling performance.

Hybrid Package Units can be equipped with an optional solar panel integration, further enhancing energy savings and performance. Advanced automation and control systems allow precise temperature management and seamless operation, ensuring comfort, convenience, and reliability for residential users.

With a compact, modular design, low maintenance requirements, and quiet operation, **ECO COOLER Hybrid Package Units** are the perfect choice for modern homes seeking sustainable, efficient, and high-performance **HVAC** solutions.



ECO COOLER

We Are Committed, To Our Costomers



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CERTIFICATIONS

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AHU SELECTION

www.ahuselection.com



ECO COOLER

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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