Air Handling Units

MODULAR

ÜNTES®
Building Trust since 1968

Enjoy the Delighting Comfort Brought by High Air Quality

Untes air handling units meet the required level of indoor air quality while maintaining the humidity and the temperature under control. They ensure the ideal comfort for commercial buildings with modular, flexible and environmental solutions and provide high energy savings.
Air handling units that offer the advantage of just-in-time delivery with lean production philosophy add value to your projects with long lasting high performance thanks to its easy-to-integrate structure that eliminates all the difficulties during onsite assembly.

Untes Air Handling Units

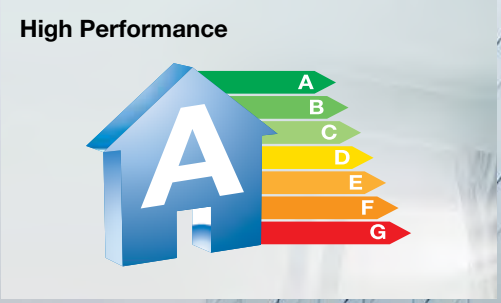
- Ideal comfort and indoor air quality for all seasons
- Wide and sophisticated production options
- 1.000 to 100.000 m³/h airflow range
- 114 different cross section and unlimited product configurations
- Low energy consumption and high comfort
- Superior reliability and high quality
- High performance certified by Eurovent

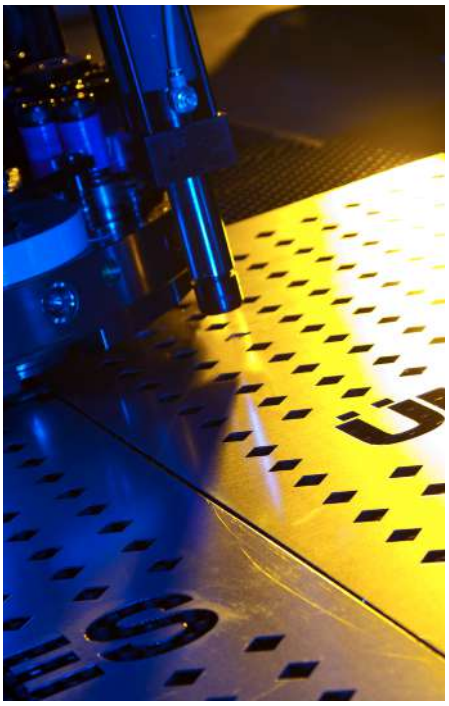
Air handling units' performances have been tested in TUV laboratories. The models and their conformity to the selection software has been certified by Eurovent.
As a result of the conducted mechanical tests, Untes Air Handling Units are certified to provide class values according to EN 1886 standards.

We Offer Sustainable Air Conditioning Solutions

We ensure high energy efficiency in your buildings without compromising the quality of life and service, and we contribute to increasing the challenge against climate change. New products that are launched and added to the wide portfolio with all relevant certified products, those certifications are always the most common certification programs for performance ratings of air conditioning and heating products according to European and international standards.

Our products are always produced in the same quality and performance, and we integrate customized products for our demanding project conditions into our existing production system.





Exclusive Design, High Flexibility

Üntes air handling units are designed according to EN 1886 standards in production facilities with ISO-9001, ISO-14001 and OHSAS-18001 certificates to meet all the comfort needs of any building with its unique design and high flexibility capabilities.

Untes Air Handling Units are produced in different cross sections to meet airflows between 1.000 and 100.000 m^3/h. The air handling units are designed and manufactured with special design technology for the panels and profiles to ensure a high mechanical strength and thermal performance features. A wide range of options and accessories is available, with focus on environmental awareness and energy efficiency.

No Condensation, No Leakage!

L1

Thanks to the perfect fit between panel and profiles and the high workmanship quality, we provide sealing performance above the market standards. We offer the highest sealing class which is Casing Air Leakage L1 according to EN1886.

Your Buildings Deserve Our Creative Air Conditioning Solutions!

Üntes, your HVAC specialist provides you with sustainable, comfort and highest energy efficiency while providing the highest quality product standards with **safe**, **innovative** and **integrated solutions.**

With our dynamic, experienced sales teams and top quality after-sales service, we are constantly working to provide you with solutions that always save time with our efforts to remove all possible obstacles slowing down your productivity and keep costs in balance.

To increase our customer's satisfaction, we share with you all the innovative solutions from the design stage up to the stage of delivery and high quality maintenance services after production. We offer permanent support providing continuous and full access to our quality products and services.

Thermal Transmittance and Thermal Bridging

The air temperature inside the air handling unit is different from the air outside for this reason, the heat transfer between the indoor air and the outdoor air should be reduced to its minimum in order to reduce energy consumption.

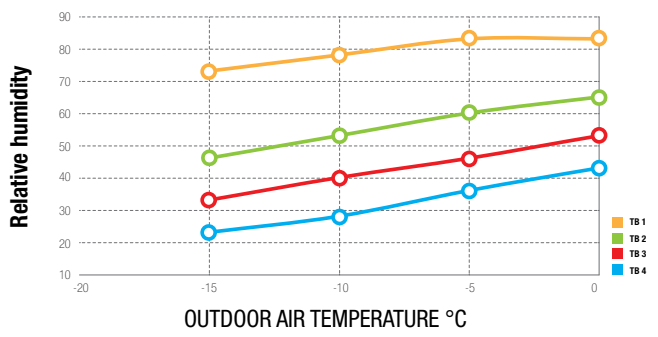
Beside the high thermal resistance of the panels being important in terms of heat loss, it has a huge role in preventing condensation that may occur in the inner surface of the unit. If the thermal resistance of the panels is low, the temperature in one of the panel sides may fall below the dew point temperature. This causes condensation to form on the unit surface. Especially in high humidity environments, the dew point is very close to the ambient temperature, and even awt low temperature drops on the unit surface, condensation occurs on the surface.

However, depending on the humidity content in the unit, the inner surface of the unit may be subject to condensation.

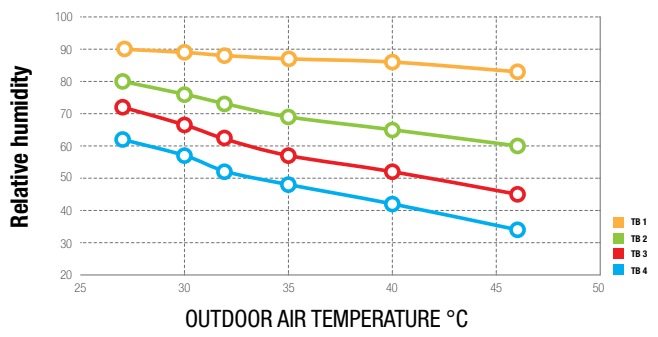
The condensation that occurs in the air handling units results in inefficient operation and causes non- hygienic operation conditions and corrosion. Untes air handling units provide the best thermal performance with a unique panel structure that prevents such unwanted situations from happening.

Our air handling units are endowed with TB2 thermal bridging class. They are precisely designed to avoid the problems mentioned above. Our outdoor units are manufactured and certified to ensure a year-long resistance against all weather conditions and UV rays.

CONDENSATION STARTING - WINTER



CONDENSATION STARTING - SUMMER



WINTER

In this example, the unit is placed indoors in a technical room with an air temperature of 20° C. The graph shows the temperature at which condensation starts on the air handling unit surface depending on the thermal bridging class.

SUMMER

In this example, the unit is placed indoors in a technical room with an air temperature of 14° C. The graph shows the temperature at which condensation starts on the air handling unit surface depending on the thermal bridging class.

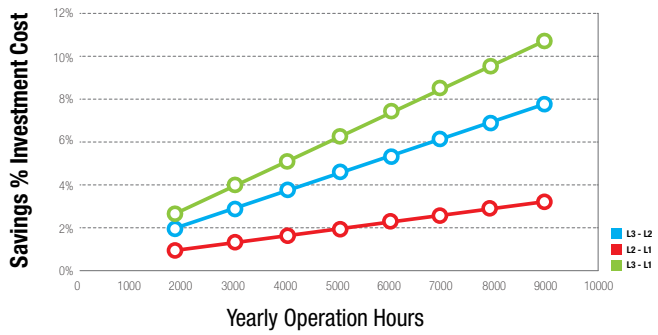
We Combined High Comfort with Energy Saving

Improved Indoor and Air Quality
Unlimited Modular, Flexible and Energy Efficient Air Handling Units
Up to 100.000 m³/h airflow with 114 different cross section sizes
Approved by TUV in accordance with EN 1886

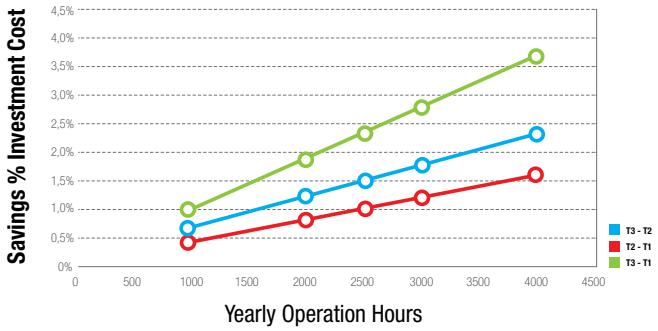
Get to Know the Modularity and Compactness

Optimal Energy Efficiency, Air Quality and Comfort
Wide and Sophisticated Product Range
Integrated Electronic Regulation
Energy-Saving Solutions for All Commercial Buildings

ENERGY SAVINGS DEPENDING ON THE LEAKAGE CLASS



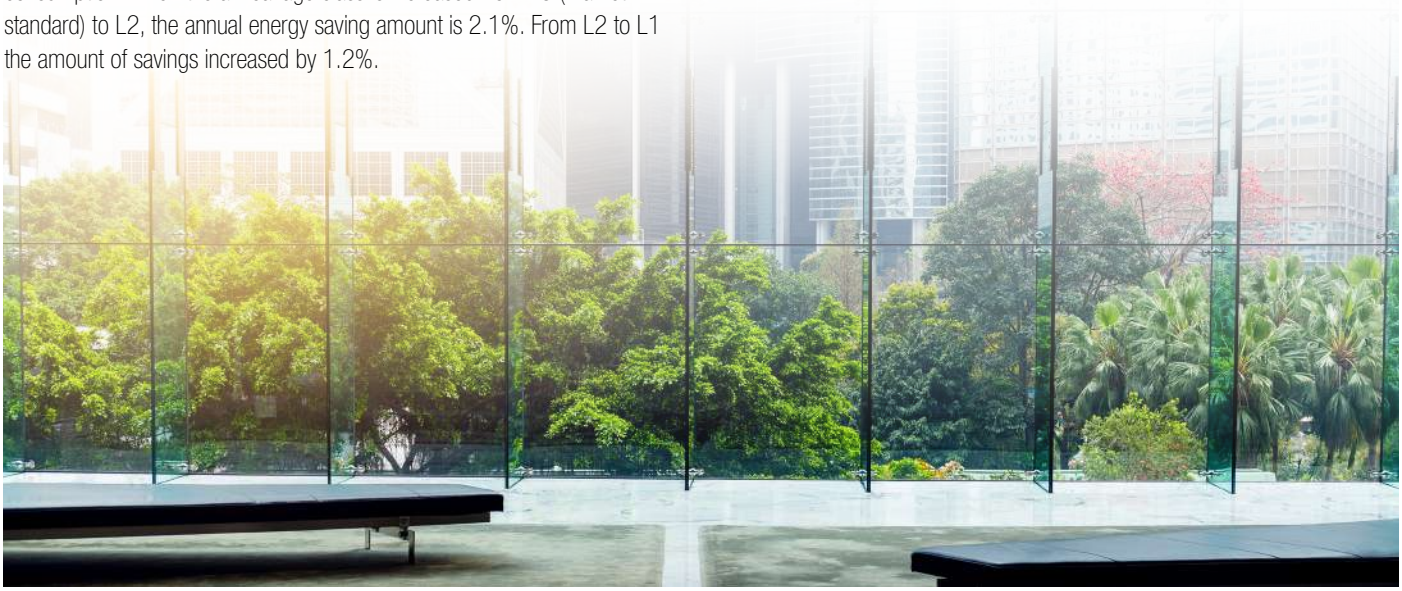
ENERGY SAVINGS DEPENDING ON THERMAL TRANSMITTANCE



Example of Energy Saving Calculation

Selected air handling unit capacity: 10,000 m³ / h. Heat recovery, F7 filter, heating and cooling coil, brushless EC fan. Among all mechanical parameters, air leakage is the most affecting factor on the energy consumption. When the air leakage class is increased from L3 (market standard) to L2, the annual energy saving amount is 2.1%. From L2 to L1 the amount of savings increased by 1.2%.

Although the effect is less important than the air leakage, the thermal conductivity class is another factor that affects energy consumption. When the thermal conductivity class is increased from T3 (market standard) to T2, 0.6% energy saving is achieved on an annual basis.



UKS Series

- **Flexible, modular and energy efficient air handling units**
- **Up to 100.000 m³/h airflow with 114 different cross sections sizes**
- **TUV tested and EUROVENT certified according to EN 1886**
- **High comfort and indoor air quality**
- **Full integrated electronic control**
- **Full compliance with Eco-Design**

General Features

Untes air handling units ensure high-energy efficient operation, high technology and quality standards while providing heating, cooling, humidification, dehumidification and ventilation for commercial and industrial buildings.

Production Quality and Standards

Conformity to EN1886 (Ventilation for Buildings - Air Handling Units - Mechanical Performance) with ideal mechanical characteristics (casing strength, air tightness, filter by-pass, thermal transmittance, thermal bridging and casing acoustical insulation).

Conformity to EN13053 standards for ventilation for buildings - Air Handling Units, capacity and performance measurements of the unit, components and sections.

Profile: Termo-break Galvanized Steel / Aluminum
Inner/Outer Sheet: Painted Galvanized / Stainless / PVC Coated Galvanized
Panel Thickness: 60mm / 50mm
Thermal and Acoustical Insulation: Mineral Wool / Rockwool / Glass Wool
Fan: Belt driven Backward / Forward / Airfoil Plug EC Motor Fan
Humidification: Sterile Steam / Water / Atomizing
Heat Recovery: Plate / Heat Wheel / Heat Pipe / Run Around
Heating / Cooling: Chilled Water / Hot Water / DX / Electrical
Configuration: Inline / Double Deck / Side by Side
Coil: Copper Pipes – Aluminum Fins / Copper Pipes - Copper Fins
Options: Outdoor Unit Cover Sheet / UV lamps / Inspection Glass / Manometers Fan and Pressure Sensors / Drain - siphons / VFD / Lighting / Door Switch

Sample Configurations

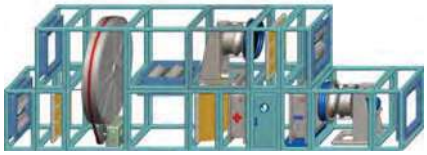
(a)

(b)

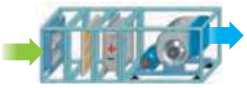
(c)

(d)

(e)



(f)

Duct Connection Directions	UU	AU	UA	AA
				

Fresh Air Supply Air

New Generation / High Efficient Solutions

Full modular, robust and double-skinned air handling units, with airtight design and anticorrosive painted exterior surface, flexible to meet all kind of required technical specifications and dimensions in all commercial and industrial buildings' applications.

Profiles are manufactured with a completely enclosed design to minimize internal pressure losses and prevent dirt accumulation.

Corners and omega connection parts are made of glass reinforced polyamide material in full conformity to the profile and reinforcements.

Suitable for All Climatic Conditions

Thanks to its high quality material, workmanship and unique design, Üntes air handling units are suitable for all climatic conditions, manufactured and certified for resistance against harsh external conditions.

Designed and produced in accordance with the highest mechanical and capacity standards, as well as high energy efficiency and low noise levels, our air handling units add value to your projects with the best quality components.

Structural Features and Components

Air handling units have a closed profile and airtight structure and manufactured from galvanized sheet material or stainless steel material (standard for hygienic) with 140 gr/m^2 zinc coating, available in different thicknesses up to 1.5 mm. The units are manufactured in accordance with EN 10346 and EN 10143 standards against hard atmospheric conditions with alternative options for indoor and outdoor operation environments. Depending on demand, 80 micron powder coating or 130 micron PVC coating options provide a unique UV protection.

Frame and Panels

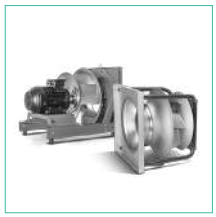
The corner and omega joints are made from heat resistant glass reinforced polyamide material. EPDM gaskets are used in between panels and profiles in order to provide the complete airtightness.

Dampers

Dampers are made of high quality 6063 (AlMgSi0.5) aluminum. Gears are made of heat-resistant hardened PVC. The tightness capability is enhanced with special airtight EPDM gaskets.

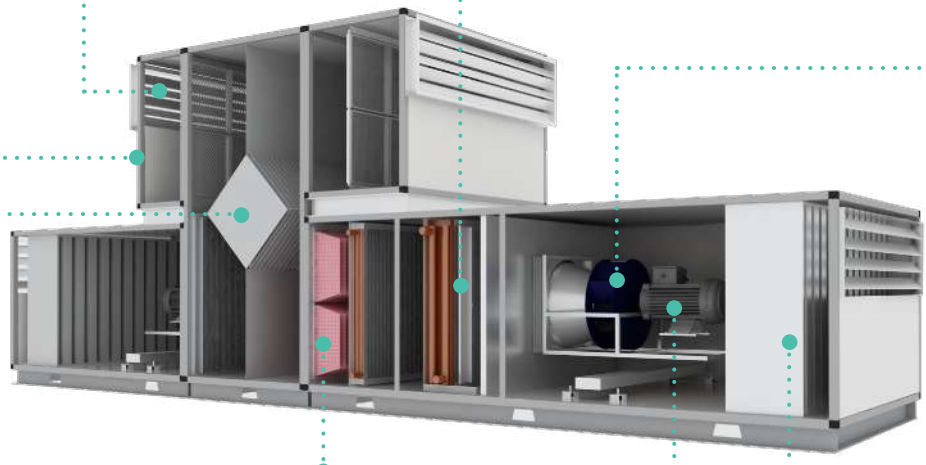
Heating and Cooling Coils

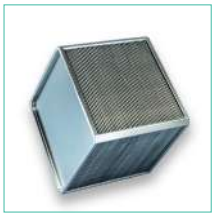
Eurovent certified coils EN1216:1998 and in accordance with AHRI 410. Wide range of possibilities are available as the tubes-fins combinations and, coating materials.



Fans

High efficient fans are compliant in accordance with AMCA 210 performance and AMCA 301 sound ratings. With a wide set of options, the fans can be belt driven, plug or EC motor fan. The motors are self- cooled TEFC type.





Heat Recovery

High efficient heat recovery systems ensuring low pressure drops and in accordance with Eco Design directives. Air-to-air heat recovery systems such as plates, heat wheel or heat pipe as well as waterto-air heat recovery (run around) can be included in the air handling units.

Filters

Coarse filters (G class) and fine filters (M and F classes) in accordance with EN 779:2012 (and new standard ISO 16890), are provided depending on the project requirements. EPA, HEPA and ULPA filters in accordance with EN 1822:2009 standard can also be provided when needed.

Motors

High efficient IE-2 or IE3 motors according to performance criteria mentioned in IEC 60034-2-1:2014. IP 55 protection, class F insulation and class B temperature rise fan motors.

Sound Attenuators

Double-skin attenuators with high density glass wool or mineral wool filled splitters. The aerodynamic structure with special design offers maximum sound absorption values with minimum pressure losses.

Panel / Profile / Frame

Air handling units provide superior thermal and mechanical properties with panel options suitable for all climatic conditions. High UV protected PVC coated (optional) sheet is resistant to tough and corrosive conditions. Polyurethane, mineral wool, rock wool and glass wool insulations are available. Depending on the application, from 52 up to 100 m^3 / kg (rock wool) options is available, providing energy savings with a low heat transfer coefficient according to DIN 4108 and A1 class according to EN 13501 norms.

Dampers

The air dampers used in regulating the airflow have high quality 6063 (AlMgSi0.5) extruded aluminum. The gear, the bearing assembly and the damper are made of heat resistant hardened PVC material. With its high aerodynamic characteristics, the wing structure provides minimum pressure drop when the damper is open, while EPDM seals provide sealing at the highest level when closed.

Filters

Depending on the application and in accordance with the standard EN 779:2012 and the new standard ISO 16890 coarse filters (Class G-2/3/4 synthetic or metal) and fine filters (bag or mini pleated Class M-5 / M-6 and Class F-7/8/9) are available. For more precise filtering, EPA, HEPA and ULPA filters are available upon request. These filters are manufactured in accordance with EN 1822: 2009 standards requirements.

Fans

A wide range of fan options is available, including plug fans, EC motors driven fans and belt driven forward or backward fans. The fans are statically and dynamically balanced according to ISO 1940 standards, are in accordance with performance criteria AMCA 210 and sound criteria mentioned in AMCA 301 standards. Rubber anti-vibration isolators with 55-60 Shore-hardness or, optionally, spring- loaded anti-vibration isolators are available. The pulleys used are conform to DIN 2211 norms. The belts providing power transmission between the motor and the fan pulleys are in accordance with DIN 7753/1. Optional adjustable belt pulley options are available.

Heating and Cooling Coils

The coils are in accordance with EN1216: 1998 and AHRI 410 standards and Eurovent certified, with a wide range of alternatives for tube diameters and types and fins combinations as well as fin coating materials (hydrophilic / epoxy) and dip coatings (powder epoxy / Heresite). Water heating / cooling, DX cooling / HP electrical and steam coils vary according to project requirements. All the coils are tested at 20 bars. Stainless steel drain pans and PVC based drop eliminators are available.

Sound Attenuators

Depending on the project requirements, the sound attenuators are made of galvanized steel or from stainless steel sheets. The splitters are filled with rock wool, with a glass wool sheet in between and fiber glass coating to prevent the rock wool particle migration from the splitter surface. Available splitter lengths are 500 mm, 750 mm, 1.100 mm and 1.450 mm.

Humidifiers

Depending on usage and need, it is produced with sterile steam, water spray, pads or atomizerhumidifying options. In the bottom of the humidification section, a drain pan is placed, made of stainless steel, inclined, anti-corrosion insulated. Sterile steam type humidifiers produce steam at atmospheric pressure with an electrode-operated steam generating reservoir. The capacity of the humidifier is adjustable from 20% to 100%.

Motors

380-415 V /3 pH /50 Hz grid voltage motors that are protected internally against overheating. The motors are mounted on rubber or spring vibration isolators and adjustable rails to reduce vibration to the minimum. Necessary space for easy maintenance and intervention is automatically included. Stand- by motor option (manual switching) is possible.

Heat Recovery Systems

Energy consumed by HVAC systems constitutes an important part in the total energy consumption of buildings. For this reason, especially for systems operating with 100% outdoor air, energy savings can be done through the heat transfer between exhaust air and fresh air. The objective here is while maximizing the use of the heat and energy of the exhaust air, taking into account the return on investment analysis to choose the heat recovery system that does not allow unwanted air mixtures.

For an efficient heat recovery, the fresh air conditions must be suitable for heat recovery in terms of temperature and humidity. Assessing the enthalpy heat transfer is also an important step for choosing the right heat recovery system.

Heat Recovery Types

Depending on the type of heat recovery used, heat, energy and humidity can be recovered at the same time, sensible and latent heat transfer rates are calculated separately for dry and total efficiency according to indoor and outdoor conditions.

A) Heat Wheel Heat Recovery Units

These are the units that can provide the most efficient heat and energy recovery depending on the climate and indoor environment conditions. The frame is usually made of galvanized steel and the rotor blades are made of aluminum material. Supply and exhaust air pressure drops are very important in design. The rotor speed can be fixed and can also be of variable speed depending on usage. Access doors are available where necessary for easy maintenance and cleaning. With these units, up to 90% of energy recovery can be done depending on the system. It is possible to apply epoxy coatings for operation in corrosive environment. Depending on the purpose of use: Condensation type for sensible heat transfer, Enthalpic type for both sensible and latent heat transfer, and sorption type for high sensible plus latent heat transfer as well as different rotor options are available.

B) Plate Type Heat Recovery Units

Plate type heat recovery units consist of aluminum fins and a frame designed to create different channels for the exhaust air and fresh air not to interfere with each other as much as possible. Parallel flow or cross flow depends on the application area. The plate can be made of aluminum, cellulosic or porous plastic material and can ensure efficiency levels up to 80-85%, always depending on the selection and the project conditions. Filters that can be placed on the exchanger ensure both air filtration and a uniform airflow. With quality workmanship and the right production technology, the risk of by-pass between exhaust and fresh air can be reduced. It is possible to apply epoxy coatings for operation in corrosive environment. By-pass dampers are used in different configurations for units operating in low temperatures during winter.

C) Run- Around Heat Recovery Units

Water heat recovery units are made by placing two water coils on the fresh air and exhaust air side and transferring the heat transfer in the water flowing between the coils to the air. This type of heat recovery is more common, especially for hygienic applications due to the lack of mixing risk between the fresh air and the exhaust air. The most important factors to be considered in the selection of the run around heat recovery units are the optimum coil face velocity of the air, the air side pressure drops and the freezing risk to be discarded depending on the fluid temperatures. Since the condensation risk in winter conditions is high for the return air, the drain pan is provided as standard. For extreme summer conditions, both run around heat exchangers, the drain pan is provided as standard. The circulated water regime is usually determined by the temperature difference between the room air and the outside air.

D) Heat Pipe Heat Recovery Units

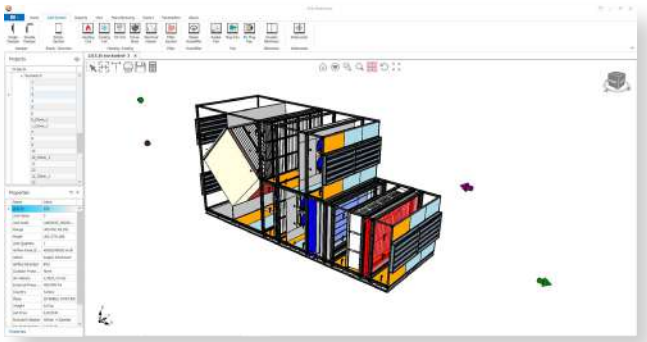
The heat pipe heat recovery units are made a closed system containing two copper coils charged with refrigerant. One is placed on the fresh air side and the other on the exhaust air side. The heat transfer is achieved from the refrigerant in the coils to the air. During this process of heat exchange between the refrigerant in the coils and the air, there is no by-pass risk. According to the climate conditions and the application, different types of heat pipe heat recovery; horse-shoe, vertical type and horizontal type. Depending on the operation conditions, the efficiency of these heat recovery systems can reach up to 70%. The difference in efficiency values can arise from differences in production and workmanship as well as weather conditions. In heat-pipe units heat recovery is unidirectional, so it is preferred in situations where one season (summer or winter) is relatively more important than the other.

Exclusive Solutions for Your Exclusive Projects

Untes, air conditioning specialist, ensures the best solutions to meet our business partners' expectations by providing comfort, innovative and integrated solutions for maximum energy efficiency, optimized investment targets and highest environmental standards. While investors get the most innovative and integrated solutions with unique production methods, they are also able to use energy more efficiently, in a safer and more productive way.

The fastest and most accurate selection results for our air handling units are available with KSSAS software. With KSSAS, very easy to use thanks to its user-friendly interface, you can complete the transition between models or sizes within seconds.

- EUROVENT approved.
- Complies with ERP 2018 and 2020.
- Get detailed technical drawings in *dwg and *dxf formats,
- Access to 3D view,
- Check the selection on the psychometric diagram,
- Access to fan curves,
- Ability to do the selection of a wide range of heat recovery applications,
- Ability to do the selecting and print a report in Turkish, English or Russian



Plug & Play Systems

Constant and Variable Airflow Control

In air handling units, supply and exhaust fans can perform constant or variable airflow control with frequency inverter according to the project. The regulation of the room pressure as positive or negative pressure can be done by means of the exhaust fan and the frequency inverter. This alternative is particularly suited for use in projects where a unit supplies air to a particular room. The fans can be controlled by the frequency inverter depending on the static pressure value of the supply duct. This option should be preferred particularly when the unit supplies air to multiple zones equipped with variable air volume units. The exhaust fan can be controlled by the frequency inverter depending on the return airflow static pressure. This option should also be preferred, especially when the unit supplies air to multiple zones equipped with variable or constant air volume units.

Precise Temperature and Humidity Control

When the built-in automation panel is used, full automatic temperature and humidity control depending on the return air, supply air, outside air temperatures and humidity can be ensured. Stable temperature and humidity values can be provided by the unit controller and proportional control equipment.

Advanced Control and Freecooling

Due to advanced control system, the air handling units can switch automatically to Freecooling mode, where the heat loads of the building can be met by using directly the outside air without operating the water chiller, which makes it possible to meet up to 80% of the required cooling with FreeCooling.

Meet Our Highest Hygiene Criteria!

Untes hygienic air handling units are manufactured and certified according to VDI 6022 hygienic requirements and VDI 3803 structural and technical norms, thus fully compliant with the highest hygiene standards. For today's increasing hygienic requirements, the manufacturing process is particularly important for hygienic air handling units at every stage of production and in many of its tiniest details. All the requirements of VDI 6022 make it easy to clean and maintain the materials and equipment used. Antimicrobial materials and equipment provide long-term protection against the formation of micro-organisms in hygienic air handling units.

Certified Hygiene Features

The excellent hygienic characteristics of Untes air handling units have been tested and approved by TÜV. Unlike standard air handling units, hygienic air handling units are produced from stainless steel including internal surfaces, heating and cooling coil frames and rails, filter frames and the drain pans.

In order to prevent bacteria forming at the junctions of the modules, the units are connected with special joining parts and then covered with stainless steel sheet to obtain a smooth surface. All sections are manufactured in an easy-to-clean structure and a special siphon drainage system is installed to prevent water from leaking out when the device is washed and to prevent air leakage from the outside.
Unlike standard air handling units, the supply and return fans chassis are placed at a higher level to make washing and cleaning easier and healthier. In addition, the height of the base is available as 150-200 mm high to ensure continuous drainage.

Depending on the intended use of the air handling units, fans can be used with frequency inverters for speed control in order to provide constant or variable airflow in all conditions. Taking into consideration that it can be easily disinfected, a backward fan is preferred. Depending on demand, plug fan or EC motor driven fan application is also possible.

In order to see the inside of the whole unit during its operation, inspection glasses and all energy cables of the lighting are made and placed in the factory. Unlike standard units, sound attenuators splitters are laid horizontally inside the unit and an empty space is left below it. Thus, the sound attenuators are easily washed. Splitter sheets are completely made of stainless steel.

EN 1886
VDI 3803
VDI 6022
DIN 1946
EN 13053

All equipment is manufactured and applied in an easily accessible structure that does not allow microbiological environment formation.

Connection parts and air dampers provide excellent airflow and are mounted in construction and standard (EN 1751) to prevent condensation.

Inner and outer surfaces of the sandwich panels (TB2) prevent clogging through a tiny slope.

Inner and outer surfaces are very smooth especially the bottom inner surface to ensure an easy cleaning of the unit.

With its full stainless antibacterial structure, the unit is produced without recess or protrusion and prevents accumulation of dirt and dust.

All the structures are sealed type, and do not retain moisture or odor.

Continuous drainage is ensured by the right equipment design and choice.

The devices are manufactured in a way that they do not lose their hygienic properties during transportation and storage.

Easy Cleaning and Continuous Drain

The most important feature of Hygienic air handling units is that the inside of the unit and all the equipment used are easily accessible from all sides. That is why access doors are installed in all places where it is necessary to clean the coils and the filters easily. In addition, the proper base height provides uninterrupted drainage while at the same time removes the risk of legionnaire disease.

High Design and Production Technology

Unlike standard air handling units, hygienic air handling units have a unique set of superior design and manufacturing qualities and are designed and tested in accordance with the DIN V 24 194/2 standard which specifies the maximum allowed air leakage class mentioned in the following table.

Pressure (Pa)	200	400	1000
Air Leakage Quantity ($m^3/m^2.s$)	0,00084	0.00132	0.0024

All surfaces in contact with air have a hygienic structure and prevent bacteria formation. Inner sheets are made of 304 or 316 quality stainless steel.

Excellent Hygienic Air Control

With 114 different cross sections and high indoor air quality up to 100.000 m³/h airflow. Our modular, flexible and energy efficient hygienic air handling units are produced in high hygiene standards for the air conditioning of critical environments where sensitive temperature, humidity and pressure conditions are sought.

- **EN 1886** Ventilation for buildings-Air handling units-Mechanical performance
- **VDI 3803** Air conditioning systems-Structural and technical principles
- **VDI 6022** Hygiene in air-conditioning systems
- **DIN 1946** Ventilation and air conditioning – Ventilation in buildings and rooms of health care
- **EN 13053** Ventilation for buildings - Air handling units - Rating and performance for units, components and sections

Hospitals

Cleanrooms

Pharmaceutical Factories

Laboratories

Food Industry

Genetics and Bioengineering

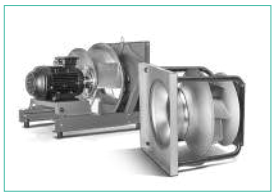
Nanotechnology

Electronics and Microelectronics

Automotive Industry

Heating and Cooling Coils

The coil cases and sliding rails are made of stainless steel and the epoxy coating is applied as standard. The coils are generally placed before the fine filter or the final filter. Droplet eliminators and condensation pans are installed as standard regardless of the air velocities so that no water droplets occur in the air leaving the coil.



Fans

For constant or variable airflow applications, backward curved belt driven fans, plug fans as well as EC motor driven fans options are available. The fans can be easily cleaned and disinfected. The fan that suits better the project conditions in terms of high efficiency, low sound levels and pricewise are selected. The low natural frequency value ensures optimum sound and vibration control.

Filters

Filters are selected to ensure a high filtration class, taking into account the recommended pressure drops mentioned in EN 13053, and are fitted with a minimum filter bypass ratio. In the class 1a, 3-stag filtration and final filtration with laminar airflow are applied for room requiring high indoor air quality (heart and vascular operations, organ transplantation operation theaters, etc.).

Run Around Heat Recovery Units

Water to water heat recovery units are made by placing two water coils on the fresh air and exhaust airside and transferring the heat transfer in the water flowing between the coils to the air. This type of heat recovery is more common with efficiencies up to 70%, especially for hygienic applications due to the lack of mixing risk between the fresh air and the exhaust air.

Sound Attenuators

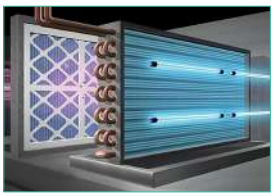
Sound attenuators are made of stainless steel. It is installed as standard in the device and it is installed in a way that it can be easily cleaned by leaving an empty space at the bottom of the attenuator. With the correct geometric selections, the total sound level emitted from the unit is minimized.

Lighting

The units are equipped with waterproof lighting fixtures to ensure that the filter and all other equipment are clean during operation.

Sterile Humidification

Humidifiers are generally installed prior to the fine filtration without interfering in the air's sterility during its operation. With sterile steam humidifiers, humidification is provided with water that does not allow bacteria formation.



UV Lamps

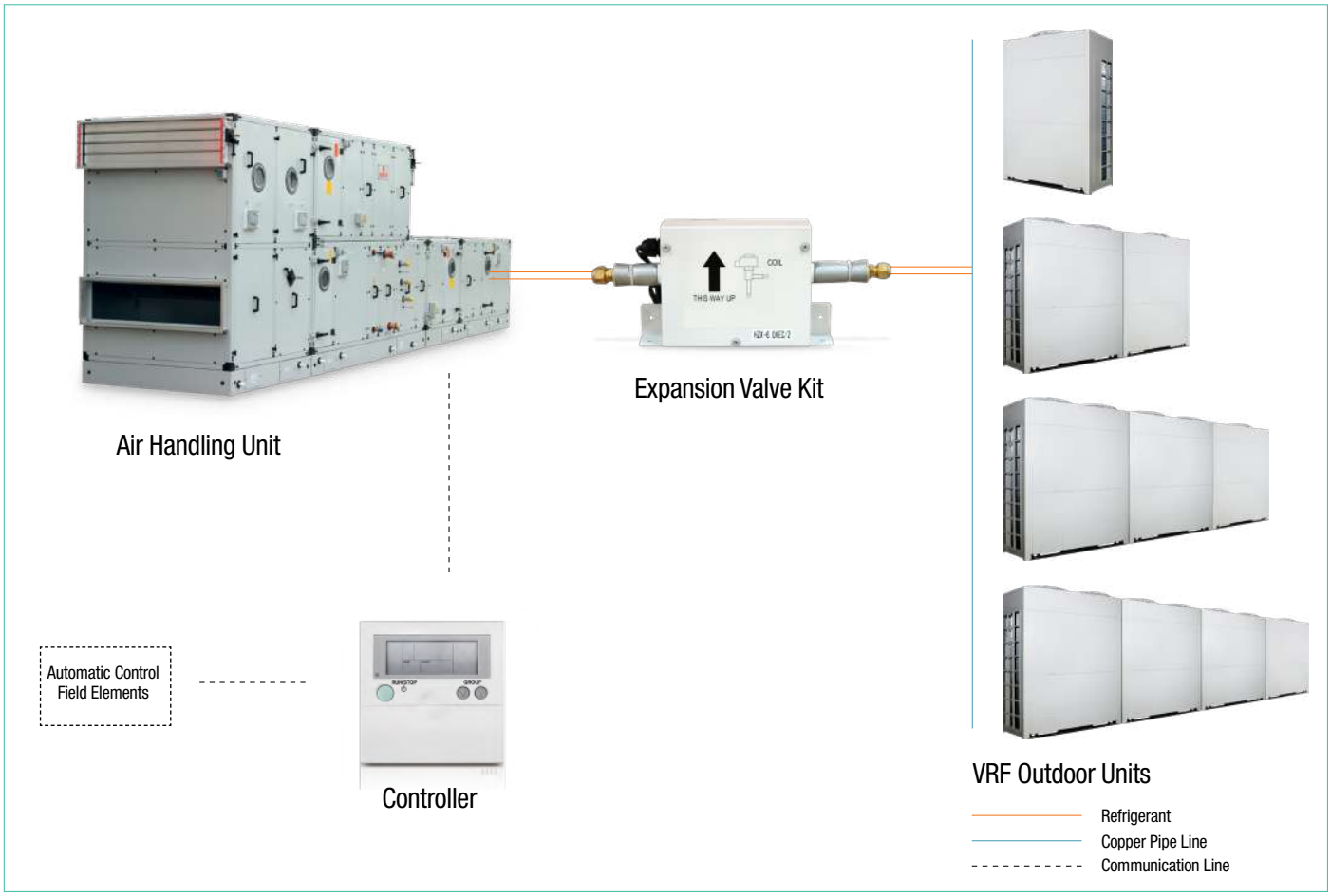
Their installation in the dark and humid areas of the air handling units prevents molds, bacteria and allergens from forming and multiplying. These damages both reduce the performance of the system (especially the heating and cooling coils) and make it difficult to clean the device. UV rays sterilize the air, eliminating airborne bacteria, molds and allergens and increase indoor air quality by preventing bad smell.

Dx Air Handling Units – Integration with VRF Outdoor Units

More Energy Saving!

Üntes DX joins full-inverter technology with a combination of air handling units and VRF outdoor units. Modular structures and two perfectly matched systems provide greater design and installation flexibility and minimize initial investment and commissioning costs.

They are easily installed in small and medium sized buildings and easier to adapt to the existing system. Since water is not used in the system, it completely eliminates the risks of freezing and reduces maintenance costs of equipment such as pumps, valves etc.



Benefits and Features

- Provides higher EER and COP values thanks to full-inverter technology.
- Provides lower investment and maintenance costs due to less fluid use.
- Occupies less space and provides flexibility in design.
- Both heating and cooling can be done with a single outdoor unit and the boiler, pump, etc. systems are not needed.
- Faster reaction to instant load changes by faster cooling and heating.
- Lower start-up currents reduces energy installation costs.
- More control options thanks to wider range of control equipment.
- Provides simpler BMS control.

ÜNTES®
Building Trust since 1968

Export Sales Office
Address: 53. Cadde 1450. Sokak Ulusoy
Plaza No: 9/50 Cukurambar, Ankara, Turkey
Email: export@untes.com.tr
T+90 (312) 287 91 00 F+90 (312) 284 91 00

Manufacturing Plant-1
Air Handling & Ventilations Systems,
Fan Coil Systems
Packaged Air Conditioning Systems
Address: Istanbul Yolu 37.km
Kahramankazan, Ankara, Turkey

Manufacturing Plant-2
Water Chiller and Heat Pumps
Address: Istanbul Yolu 24.km Saraykoy, Ankara

Adana Regional Directorate
Address: Döşeme Mahallesi, 60075. Sokak, No:6, Panora
Plaza, Floor:5, Apartment:40, Seyhan / Adana
P: +90 (322) 459 00 40 **F:** +90 (322) 459 01 80
Email: untes@untes.com.tr

www.**untes**.com | **untes**klima

Untes Heating Air Conditioner Inc. reserves the right to make changes in the products, technical data, figures, designs and materials of the products in the catalog without any notice or information. All contents are copyrighted by Untes.14022025