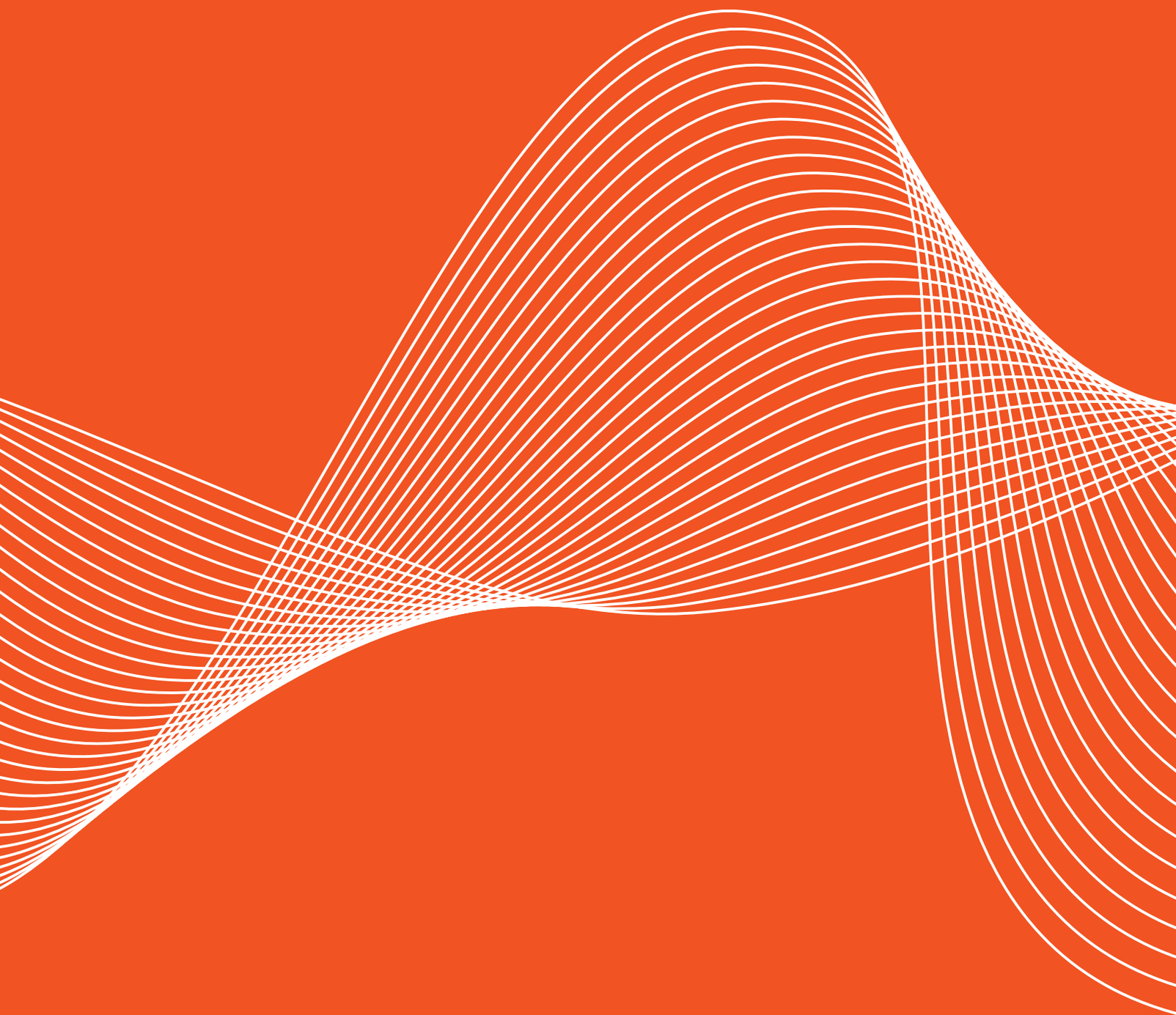
ÜNTES®
Building Trust since 1968



General Product Catalogue



Excellence requires mastery

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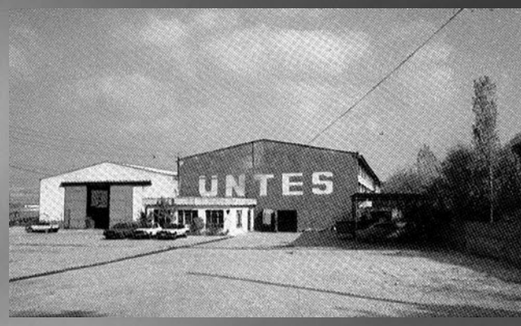
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GREAT IDEA WAS BORN IN 1968

Excellence is to be accepted by the world.

We have been trying to catch the excellence in the production of air conditioning systems by continuously improving our enhanced production capability, advanced R&D laboratories, qualified work force, wide service network and the most importantly our environmentally friendly factories, which became flawless from 1968.

Building trust since 1968

1968 Establishment & Industrial Fan Production

1973 Establishment of Air Handling & Ventilation Systems Production Plant

1980 Establishment of Regional Sales Office

1993 Forming 2nd. Generation Management Board

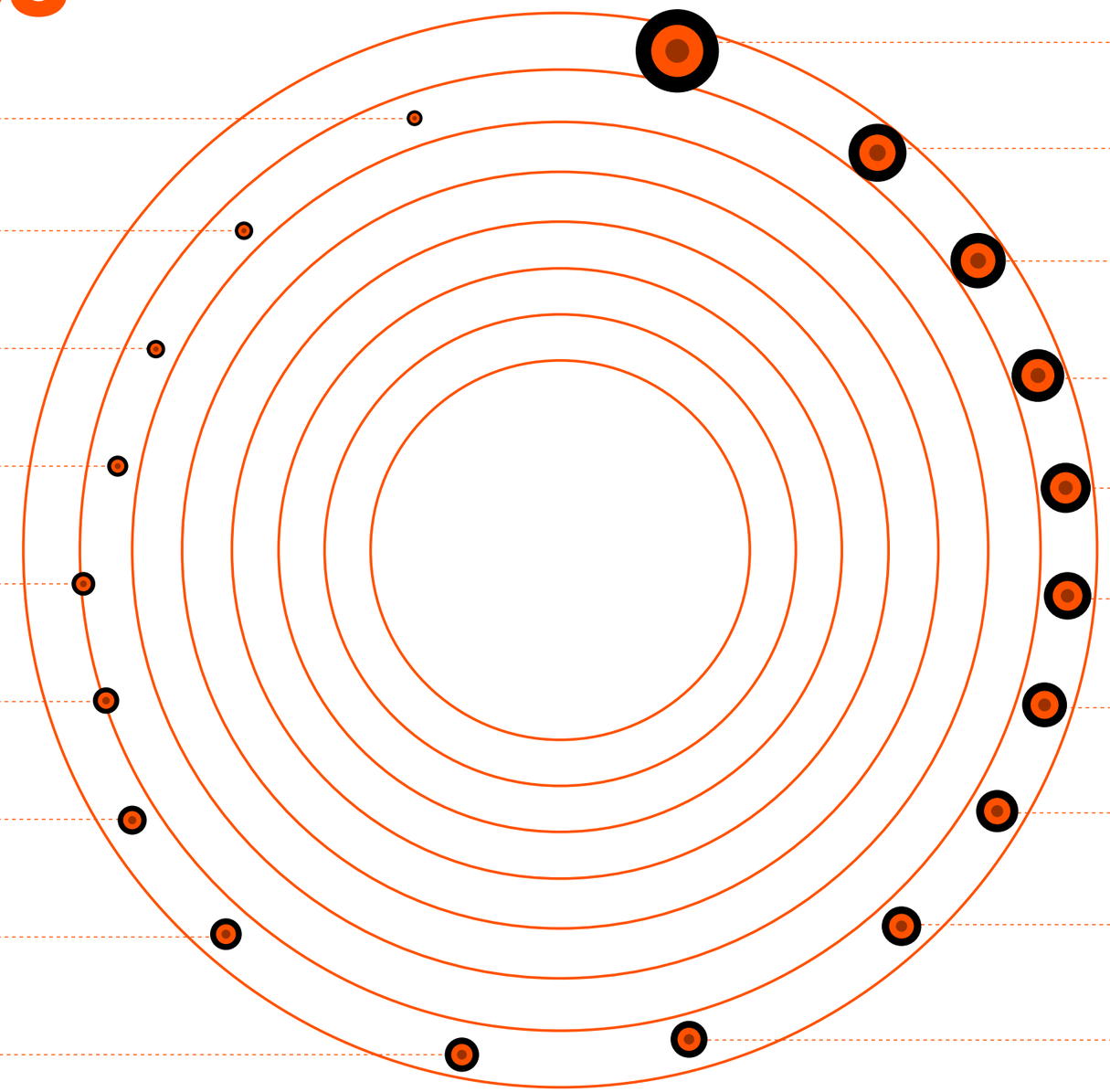
2001 Establishment of Regional Sales Office

2003 The Adoption of Total Quality Management System

2003 Establishment of Regional Sales Office

2004 Consignment of Eurovent Certification System for Air Handling Units

2004 Establishment of Regional Sales Office



2018 Tropical Range Rooftop Production

2017 Reaching of 29.000 m² Production Area

2016 Üntes VRF Systems Partnership

2015 Establishment of Package Air Conditioning Systems Production Plant, Test Laboratory and Research Center

2013 Establishment of Fan Coil Test Laboratory and Research Center

2013 Establishment of Water Chiller & Heat Pump Test Laboratory and Research Center

2012 Establishment of Water Chiller & Heat Pump Production Plant

2010 Consignment of Environmental Management Certificate

2006 Establishment of Fan Coil Production Plant with "JIT" Methodology

2004 Consignment of CE Marking & Certification Systems for Air Handling Units

QUALITY comes from GREAT company



We offer high technology products to the world at the same quality and standards with our customer-centric production skills. We manufacture in two separated factories reaching to

120.000 m² closed and 29.000 m² production area

and export to customers in over 45 countries, across commercial, industrial and public sectors. A pioneer in air conditioning technology, industry leader centralized air conditioning systems and the largest manufacturer in Turkey; customers benefit from our extensive HVAC experience, including systems and software and aftersales service.

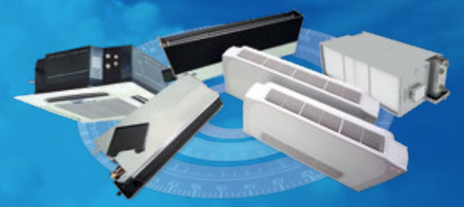
FACTORY 1



Air Handling & Ventilation Systems Production



Package Air Conditioning Systems Production



Fan-Coil & Air Terminal Units Production



FACTORY 1



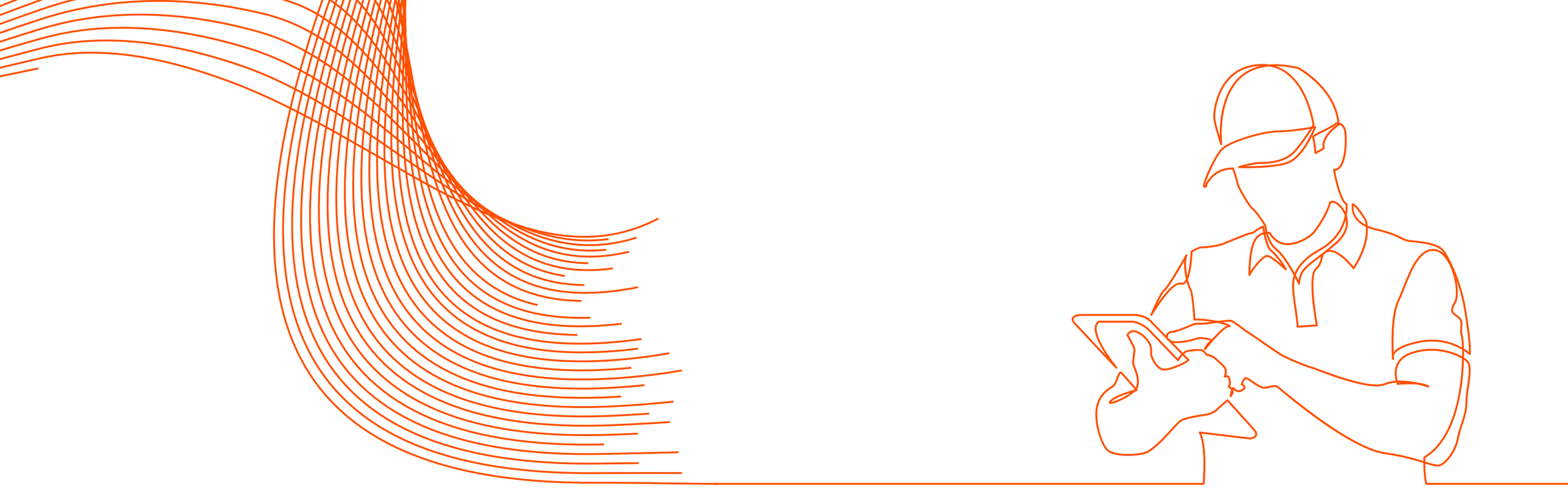
Water Chillers&Heat Pump
Systems Production

We present high-energy efficient solutions to our customers with our wide and versatile product range with 50 years' experience in the production and superb R&D facilities that has been producing class-leading products since 1968. Each product, system and service that we develop, is designed to provide maximum efficiency from the smallest possible footprint. Consequently, all of our systems have the capacity to significantly reduce operational costs.

FACTORY 2


ÜNTES
ÜNTES
CONDENSER ASSEMBLY
PIPE BENDING
FRAMEWORK STOCK AREA
ÜNTES

FACTORY 2



EXCELLENCE comes from GREAT performance test laboratories and research center











"Each kW is under control!"

Package & Rooftop Test Laboratory

Fan-Coil & Air Terminal Units Test Laboratory

Water Chillers & Heat Pump Systems Test Laboratory

Research & Development is utmost crucial for our business in line with the needs of building technologies and the growth rate of technology and the importance we attach to environmental sensitivity as a producer.
Our Performance Test Lab. Research Center provides the benefit of testing and measurement, increase the productions success continuously, eliminate all the risks at start-up, know in advance how the unit will operate at actual operating conditions, and verify unit limits at severe operating conditions.



GREAT
connection all around the world

With our service network spread over five continents,

We present continuous accessibility to our customers over the world, with high quality products and services. Our partners, dealers, suppliers, authorized service providers and high quality raw materials producers form the basis of our approach to create innovative air conditioning solutions.

Sustainable Success

Testing Facility of Capacity Verification

Creative Air Conditioning Solutions

Innovative Production Technologies

Wide & Versatile Product Portfolio



Wide Service Network

Partner Training Program Applications

300+
Employees

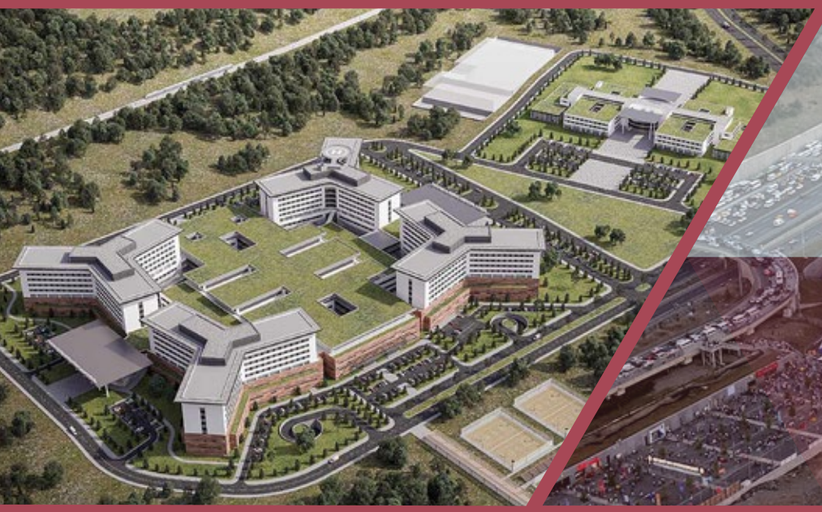
29.000m²
Production Area

Export Distributor & Partner Structures

45
Export to More Than 45 Countries

OEM
Production Capability

GREAT
comfort
everywhere







Bursa Integrated Health Campus / Bursa-Turkey
Galatasaray Turk Telecom Stadium / Istanbul-Turkey
Forum Almata Shopping Mall / Almaty-Kazakhstan
Uniq AVM and Uniq Hall / Istanbul-Turkey
Via Green Business Center / Ankara-Turkey
Medipol University Kavacık Campus / Istanbul-Turkey
Limak Cyprus Deluxe Hotel/ Iskele-Cyprus
Istanbul Aydın University Medicalpark Hospital / Istanbul-Turkey
Hampton by Hilton Sabiha Gökçen Airport / Istanbul-Turkey
Taksim Radisson Blu Pera Hotel / Istanbul-Turkey
Congo Kintele Congress Center / Kintele-Congo
Dakar Congress Center / Dakar-Senegal
Gebze Center and Gebze Hyatt House Hotel / Istanbul-Turkey
Vodafone Park / Istanbul-Turkey
Presidential Palace / Ankara-Turkey
National Command Center / Doha-Qatar
Memorial Hospital / Ankara-Turkey
Lyon Golf Hotel / Lyon-France
A city Shopping Mall / Ankara-Turkey
Ramada Hotel / Istanbul-Turkey

Alcatel – Lucent Head Quarter / Istanbul-Turkey
Donyaye Arezoo Shopping Center / Sari-Iran
Gilan "Gabala Canning Factory" / Baku- Azerbaijan
KoçSistem Data Center / Istanbul-Turkey
Bahçeşehir Spradon Residence / Istanbul-Turkey
Ağaoğlu My Office 212 / Istanbul-Turkey
Adana State Hospital / Adana-Turkey
İstanbul Çağlayan Courthouse / Istanbul-Turkey
Kahramanmaraş Airport / Kahramanmaraş-Turkey
President Hotel / Minsk-Belarus
Haydar Aliyev Airport / Baku-Azerbaijan
Plaza Hotel / Damascus-Syria
Şa Mekan Hotel / Turkmenbashi-Turkmenistan
Nerimanov Trade Center / Baku-Azerbaijan
Radisson BLU Tsinandali / Tsinandali-Georgia
Shaukat Khanum Memorial Cancer Hospital / Lahore-Pakistan
Krasni Kres Hospital / Ashgabat-Turkmenistan
Casino Eclipse / Batumi-Georgia
Shopping Mall Next / Tashkent-Uzbekistan
Imam Reza Shrine / Mashhad-Iran
MOI Qatar, General Directorate of Passports / Doha-Qatar

And a lot more...

Sustainable quality is a **GREAT** detail

Effectively application of Total Quality Management Systems for the best performance during life span.

Targeting the lowest impact to the environment while producing qualified products.

Competing with the most reliable hygiene standards.

Application of effective capacity verification systems.

Disciplining ourself by European quality standards and dynamic certification systems.

We're the **GREAT** friend of ecology

To protect our inspiration from nature, we are managing the whole infrastructure of our factories including all production processes with an environmental consciousness from a complete and multidisciplinary perspective.

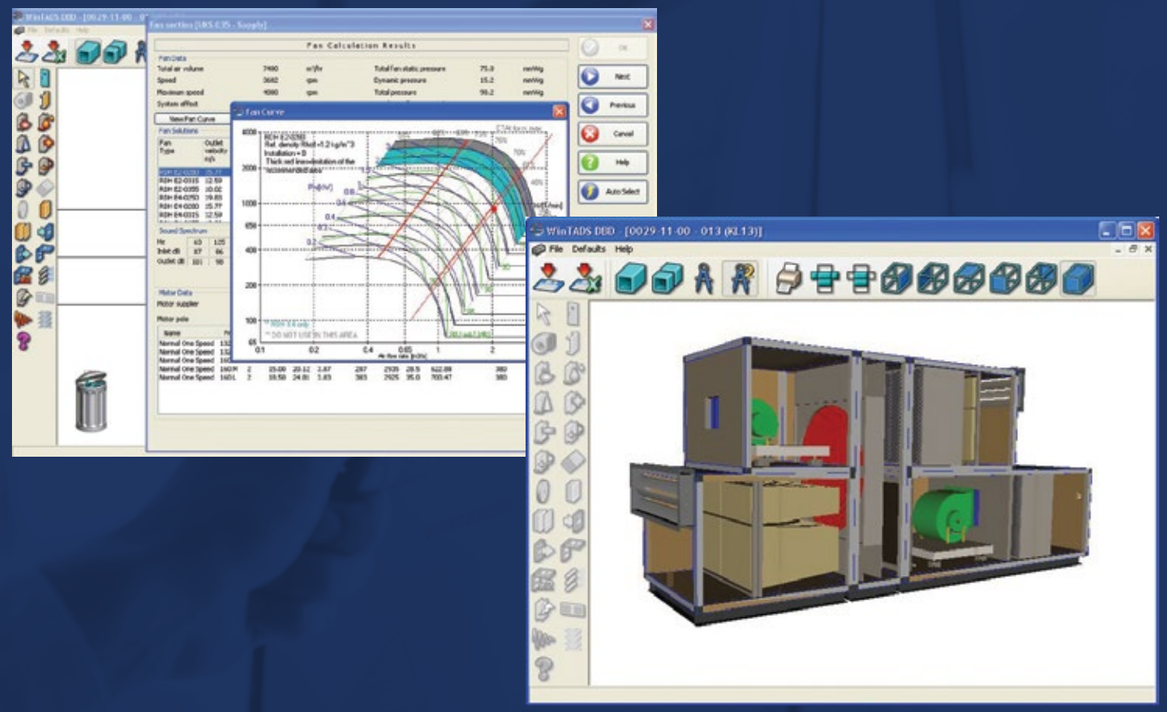
ECO-FRIENDLY PRODUCTION



While playing a pioneering role with our energy friendly products that are in conformity with the energy efficiency criteria, at the same time, by acquiring the energy requirement of our production facilities from nature, we also help the reduction of carbon dioxide emissions that occur during production.

Thanks to our environmentalist production technologies and new photovoltaic systems that are composed of 3.000 panels, we save approximately 800 trees and prevent 240 tons of CO_2 emission annually.

GREAT product management for your project



Not only with our production capability, but also at the same time with our own selection and optimization software, that enables us to plan the system integrations perfectly. Wherever there is a need to provide energy efficient air conditioning, we are confident we have a solution to meet your needs.

Advanced software selection programs for each product segments.

- Air Handling Units Selection Program
- Fancoil Units Selection Program
- Package Air Conditioning Systems Selection Program

- 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

Air Handling Units
Hygienic Air Handling Units
Duct Type Air Handling Units
Heat Recovery Units
Pool Dehumidifying Units
Package Hygienic Air Handling Units
Steam Humidifiers
Laminar Air Flow Units
HEPA Filter

Air Handling Units & Ventilation Systems

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
- 23 different cross section and unlimited product configurations
- Low energy consumption and high comfort
- Superior reliability and high quality
- High performance certified by Eurovent

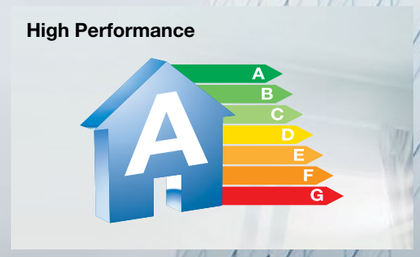
Air handling units' performances have been tested in TUV laboratories. The models and their conformity to the selection software has been certified by Eurovent.
As a result of the conducted mechanical tests, Untes Air Handling Units are certified to provide class values according to EN 1886 standards.

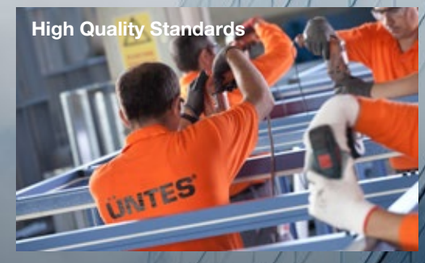


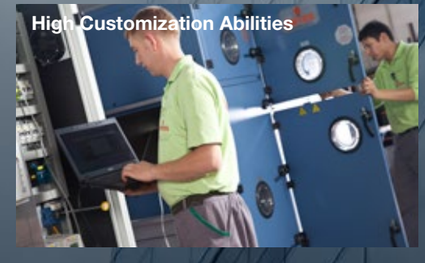
We Offer Sustainable Air Conditioning Solutions

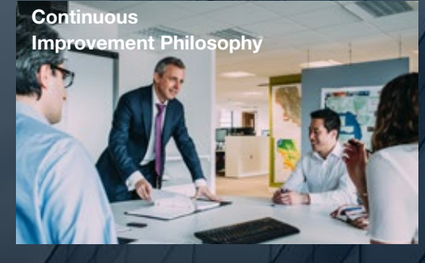
We ensure high energy efficiency in your buildings without compromising the quality of life and service, and we contribute to increasing the challenge against climate change. New products that are launched and added to the wide portfolio with all relevant certified products, those certifications are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

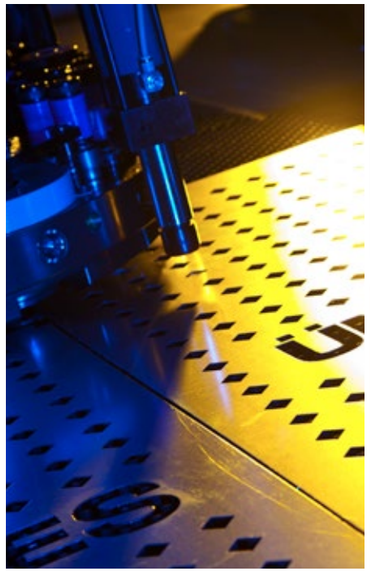
Our products are always produced in the same quality and performance, and we integrate customized products for our demanding project conditions into our existing production system.













Exclusive Design, High Flexibility

Untes 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!

Untes, 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.

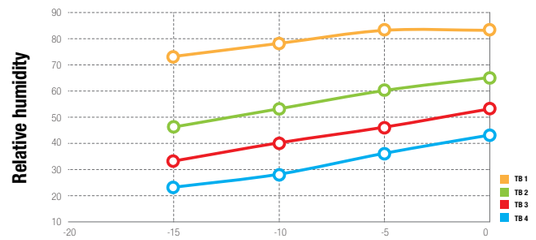
Beside the high thermal resistance of the panels being important in terms of heat loss, it has a huge role in preventing condensation that may occur in the inner surface of the unit. If the thermal resistance of the panels is low, the temperature in one of the panel sides may fall below the dew point 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.

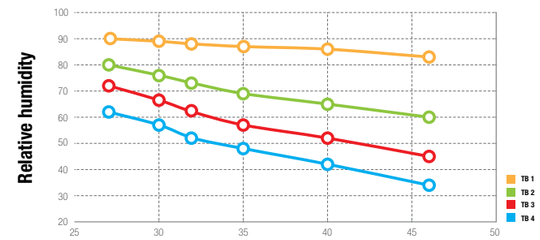
The condensation that occurs in the air handling units results in inefficient operation and causes non- hygienic operation conditions and corrosion. Untes air handling units provide the best thermal performance with a unique panel structure that prevents such unwanted situations from happening.

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 yea -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

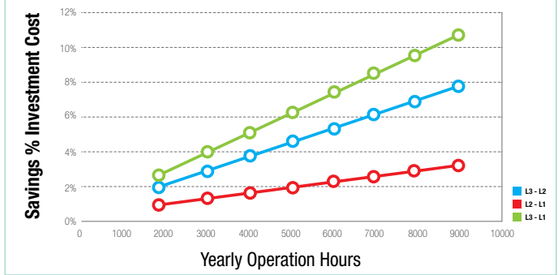
Improved Indoor and Air Quality
Unlimited Modular, Flexible and Energy Efficient Air Handling Units
Up to 100.000 m3/h airflow with 23 different cross section sizes
Approved by TUV in accordance with EN 1886



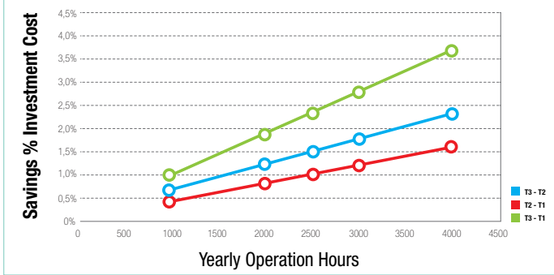
Get to Know the Modularity and Compactness

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 m^3 / 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 23 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**



MODULAR

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.

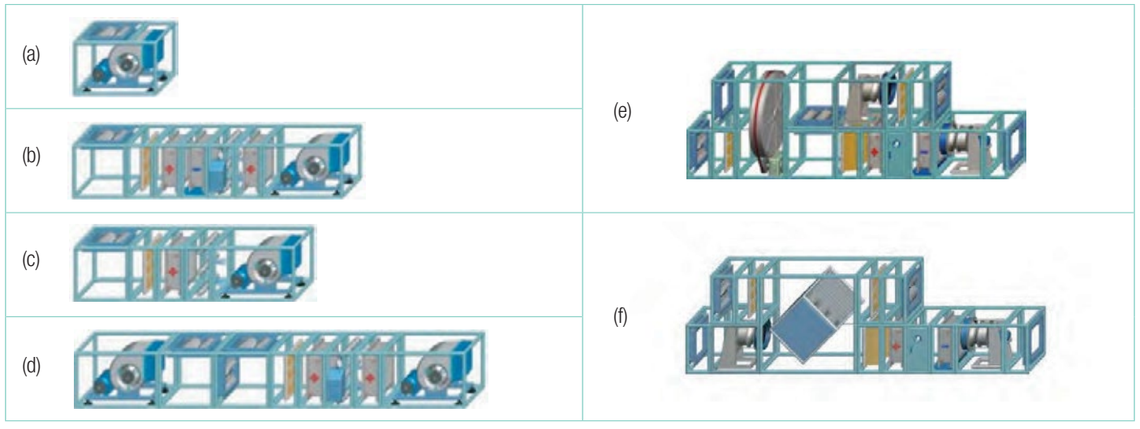
Production Quality and Standards

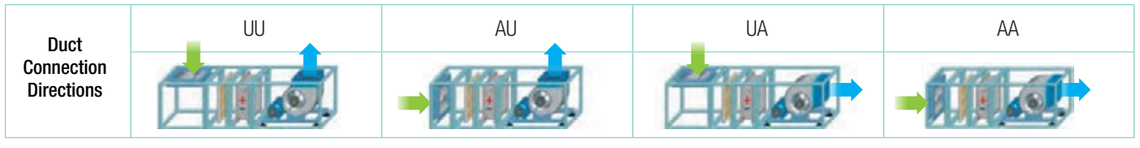
Conformity to EN1886 (Ventilation for Buildings - Air Handling Units - Mechanical Performance) with ideal mechanical characteristics (casing strength, air tightness, filter by-pass, thermal transmittance, thermal bridging and casing acoustical insulation).

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

Profile: 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







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.

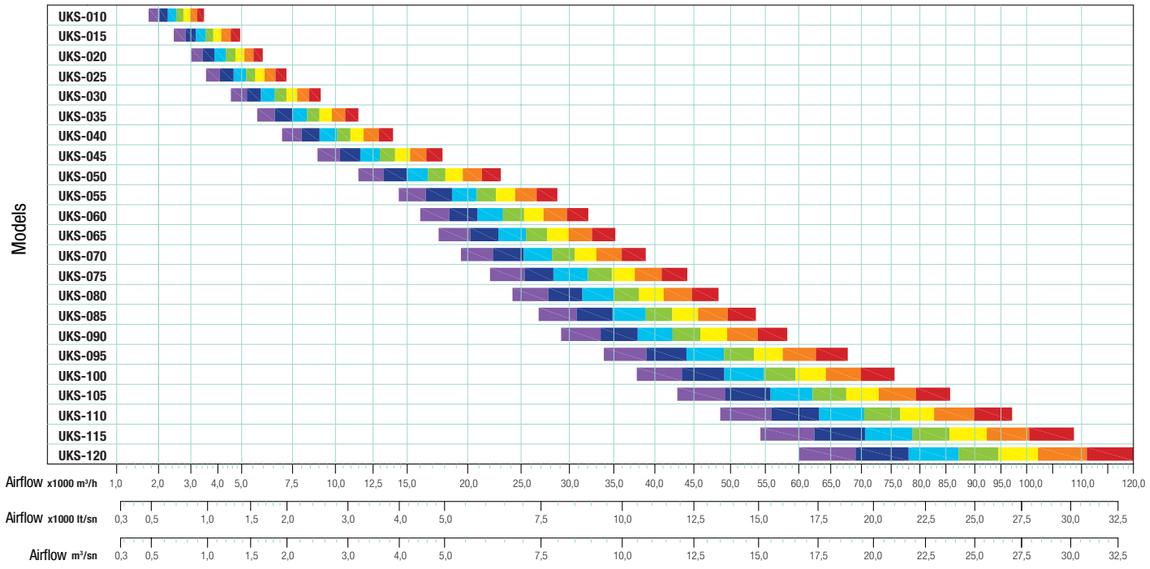
Corners and omega connection parts are made of glass reinforced polyamide material in full conformity to the profile and reinforcements.

Suitable for All Climatic Conditions

Thanks to its high quality material, workmanship and unique design, Untes 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.

Air Handling Units Quick Selection Table



Notes: This table should be used for a pre-selection of air handling units. Final selections will be, provided by our company. In this table 3.15 m/s unit air velocity has been considered. Different velocities to be defined by the project requirements and the unit configuration.

Coil Face velocity
2,00 2,30 2,60 2,90 3,15 3,40 3,70 4,00



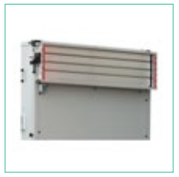
Structural Features and Components

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.



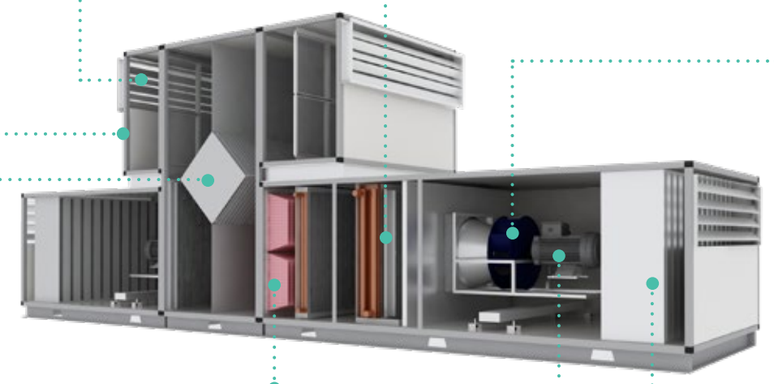
Heating and Cooling Coils

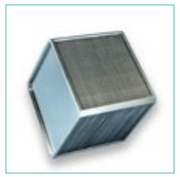
Eurovent certified coils EN1216:1998 and in accordance with AHRI 410. Wide range of possibilities are available as the tubes-fins combinations and, coating materials.



Fans

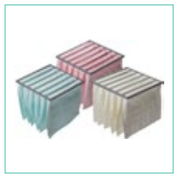
High efficient fans are compliant in accordance with AMCA 210 performance and AMCA 301 sound ratings. With a wide set of options, the fans can be belt driven, plug or EC motor fan. The motors are self- cooled TEFC type.





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.



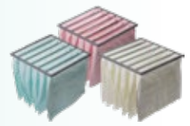
Dampers

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.

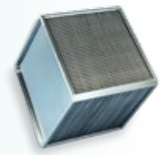
A) Heat Wheel Heat Recovery Units

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

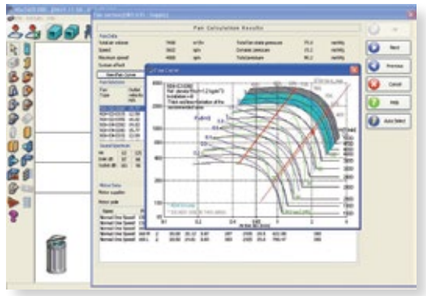
Untes, air conditioning specialist, ensures the best solutions to meet our business partners' expectations by providing comfort, innovative and integrated solutions for maximum energy efficiency, optimized investment targets and highest environmental standards. While investors get the most innovative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

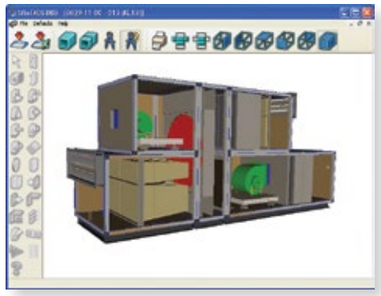


The fastest and most accurate selection results for our air handling units are available with KSSAS software. With KSSAS, very easy to use thanks to its user-friendly interface, you can complete the transition between models or sizes within seconds.

- 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 System

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 pan .

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 quality stainless steel.

Excellent Hygienic Air Control

With 23 different cross sections and high indoor air quality up to 100.000 m^3/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



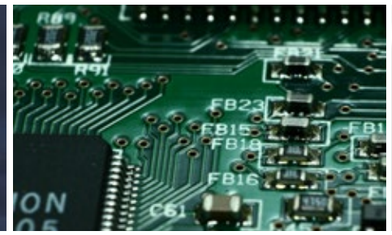
Food Industry



Genetics and Bioengineering



Nanotechnology



Electronics and Microelectronics

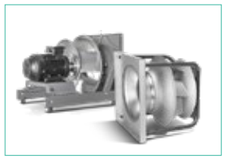


Automotive Industry



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.



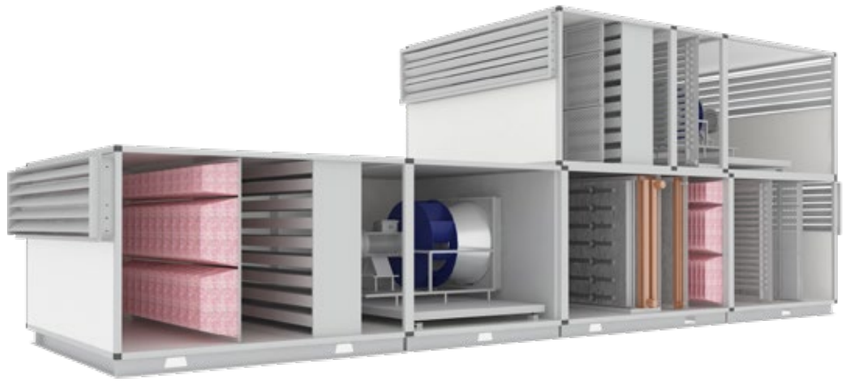
Filters

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.



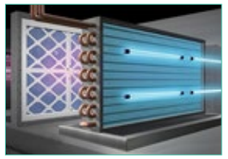
Lighting

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!

Untes 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.



Air Handling Unit



Expansion Valve Kit



VRF Outdoor Units

Automatic Control Field Elements



Controller

Refrigerant
Copper Pipe Line
Communication Line



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.

UKTS Series

- **Monoblock, Slim, Flexible and Energy Efficient Structure**
- **5 Different Frames Up to 6.000 m³/h Airflow**
- **Multi Zone Application for Existing Buildings**
- **Wide and Versatile Range**



Structural Features

- **Structure & Panel :** Self Supporting Frame
- **Profile :** Aluminum Alloy (AlMgSi0.5)
- **Sheet Material :** Dyed Galvanized Metal Sheet with Oven-Drying Powder Paint
- **Air Tightness :** EPDM Leak Proof Gaskets to Provide Full Air Tightness On The Panels
- **Heat And Sound Insulation :** K-Flex Insulation Materials
- **Heating / Cooling Coil :** Copper Pipe Aluminum Fin / Copper Pipe Copper Fin
- **Fan :** Double Inlet / Forward Blade Centrifugal Fan

Types

- **H :** Heating
- **S :** Cooling
- **H-S :** Heating / Cooling

Versions

- **2S :** 2-Row
- **4S :** 4-Row
- **6S :** 6-Row
- **8S :** 8-Row
- **1H :** 1-Row
- **2H :** 2-Row
- **3H :** 3-Row

UKTS Series		10~60				
		10	**20**	**32**	**45**	**60**
Technical Specifications						
Airflow	m³/h	1.000	2.000	3.200	4.500	6.000
❶ External Static Pressure (High)	Pa	-	575	500	555	480
❶ External Static Pressure (Med)	Pa	405	270	315	270	300
❶ External Static Pressure (Low)	Pa	240	115	100	115	105
Motor Power (High)	kW	-	1,10	1,50	2,20	3,00
Motor Power (Med)	kW	0,55	0,75	1,10	2,20	2,20
Motor Power (Low)	kW	0,37	0,55	0,75	1,50	1,50
Power Supply	V/Hz/Ph	400 V / 50 Hz / 3 Ph				
Heating Coil Options		1 Row (1H), 2 Row (2H), 3 Row (3H)				
Cooling Coil Options		2 Row (2H), 4 Row (4H), 6 Row (6H), 8 Row (8H)				
❷ **Sound Level**						
Sound Level (High)	dB(A)	-	68	66	71	70
Sound Level (Med)	dB(A)	60	64	64	67	67
Sound Level (Low)	dB(A)	56	62	61	64	64
Dimensions						
Height (H)	mm	410	460	510	560	620
❸ Width (W)	mm	1.340	1.370	1.470	1.470	1.570
Depth (D)	mm	655	890	1.120	1.280	1.430
❸ Weight	kg	118	142	174	210	227

❶ External static pressures are given for units which are with 2 row heating and 4 row cooling coils (2H4S).
❷ The sound level values given are the sound levels that are emitted from the device body and are valid for units with a channel connection with acoustic precautions.
❸ Width and weight information of 2H6S.

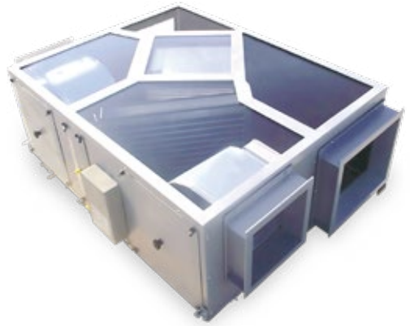
*Ambient temperature: 27°C, 65% RH.
** Width differs according to heating and cooling choice. For more details, please contact with the company.

Duct Type Air Handling Units



URTH Series

- Air Renewal Terminal Units with Heat Recovery
- Monoblock, Slim and Flexible Structure
- 7 Different Frames 4.000 m³/h Airflow
- Advance Control Equipment's for Easy Control
- Motorized Damper and Electric Heating Functions



Structural Features

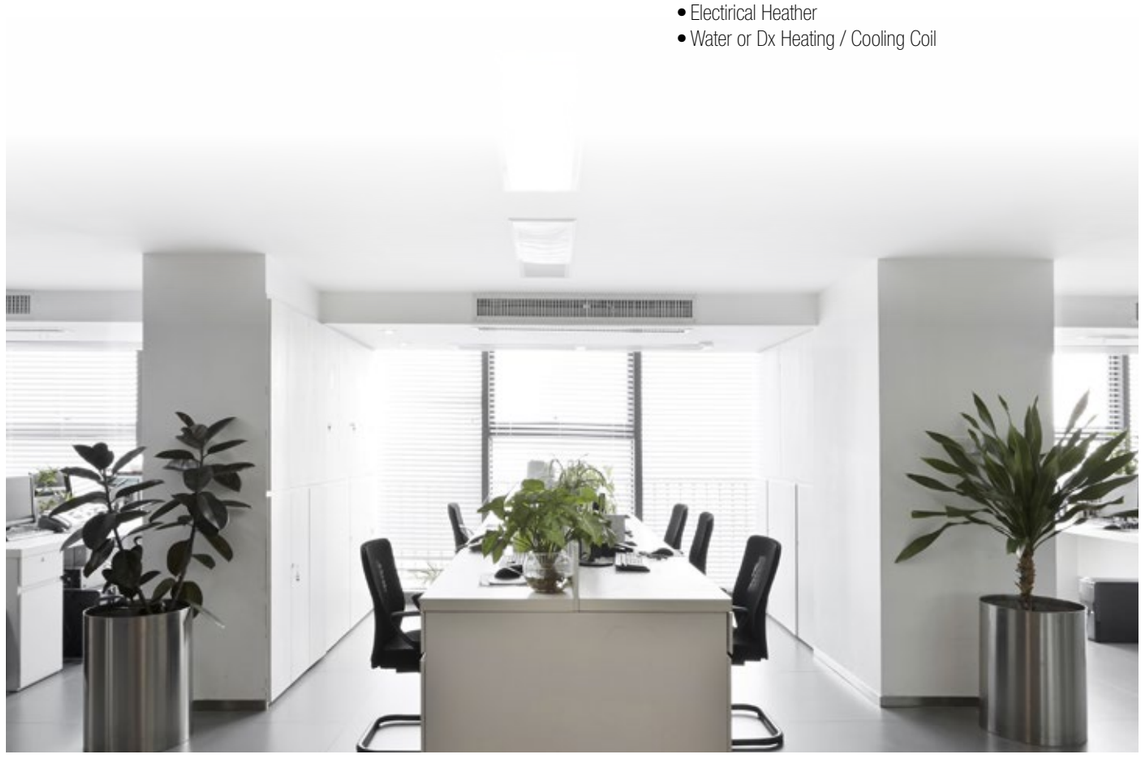
- **Structure & Panel:** Self Supporting Frame
- **Sheet Material:** Galvanized Steel Sheet
- **Air Tightness:** EPDM Leak Proof Gaskets to Provide Full Air Tightness On The Panels
- **Heat And Sound Insulation :** K-Flex Insulation Materials
- **Heat Recovery:** Plate Heat Recovery
- **Heating:** Electric Heating
- **Fan:** Backward / Plug Fan
- **Power And Regulation:** On Board Power And Electric Regulation Board
- **Monitoring / Management:** BMS Management Compatibility

Types / Version

- Series A
- Series B

Option / Accessories

- Fresh Air Damper
- Return Air Damper
- Dirty Filter Warning
- Fresh Air Quality Sensor
- Plate Heat Exchanger Frost Protection
- Fresh Air Blowing Temperature Limiting
- Water Coil Frost Protection
- Circular Connection
- Electirical Heather
- Water or Dx Heating / Cooling Coil

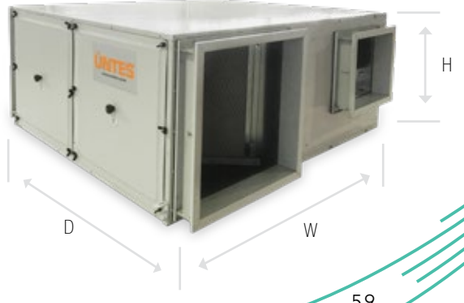


URTH Series		500~4.000						
		500	750	1000	1500	2000	3000	4000
Technical Specifications								
❶ Airflow	m³/h	500	750	1000	1500	2000	3000	4000
❶ External Static Pressure	Pa	170	247	126	75	165	91	147
Main Supply (For Fans)	V/Hz/ph	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1	230/50/1
Main Supply (Electrical Heater)	V/Hz/ph	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3	400/50/3
Aspirator / Vantilator Motor Power	W	60	160	184	300	420	550	550
❷ **Coil Capacities**								
1HOOOO Heating Capacity	Kw	3,73	5,52	8,06	10,09	13,08	19,88	26,65
1HOOOO External Static Pressure	Pa	159	235	116	56	147	70	126
2HOOOO Heating Capacity	Kw	7,25	10,20	14,83	19,48	26,39	38,07	49,90
2HOOOO External Static Pressure	Pa	147	223	105	38	130	51	106
OOS3SO Cooling Capacity	Kw	3,06	4,98	6,91	9,47	12,68	18,12	22,23
OOS3SO External Static Pressure	Pa	140	215	98	25	119	37	92
OODXCO Cooling Capacity	Kw	2,64	4,04	5,67	7,73	10,46	15,44	20,18
OODXCO External Static Pressure	Pa	140	221	98	26	119	43	98
OODXCO Heating Capacity	kW	4,02	5,92	9,04	12,03	15,62	22,54	30,09
OODXAO Cooling Capacity	Kw	4,09	6,25	8,46	10,68	15,23	22,69	29,96
OODXAO External Static Pressure	Pa	120	203	80	34	89	11	65
OODXAO Heating Capacity	kW	5,79	7,91	12,16	15,87	21,42	32,54	41,14
1HS3SO Cooling Capacity	Kw	3,03	4,94	6,85	9,40	12,58	17,98	22,14
1HS3SO External Static Pressure	Pa	129	203	87	7	101	16	71
1HS3SO Heating Capacity	kW	3,73	5,52	8,06	10,09	13,80	19,88	26,65
Heating Options								
Electrical Heater (Alt.1)	kW	4,0	4,0	5.0	7,0	7,5	10,5	12,5
Electrical Heater (Alt.2)	kW	8,0	8,0	10,0	13,5	12,0	16,5	25,0
Electrical Heater (Alt.3)	kW	-	-	-	-	19,5	25,5	37,5
❸ **Sound Level**								
Sound Level (High)	dB(A)	49	50	49	52	55	56	57
Sound Level (Medium)	dB(A)	47	45	48	51	53	55	54
Sound Level (Low)	dB(A)	41	38	45	48	49	50	49
Dimensions								
Height (H)	mm	260	290	380	380	430	510	610
Width (W)	mm	750	850	900	1.000	1.200	1.200	1.300
Depth (D)	mm	750	850	900	900	1.050	1.050	1.300
Depth (Unit with coil) (D)	mm	950	1.050	1.150	1.150	1.350	1.350	1.600
Weight	kg	39	53	65	78	97	109	136

❶ The specified capacities apply to high fan speeds. Contact us for pressure and capacity information at different flow rates.

❷ Heating coils inlet condition; 20°C DB room temperature, -5°C DB outdoor temperature and 90/70°C water temperature for water coils.Cooling coils inlet condition; 24°C DB - 50% RH room temperature, 33°C DB - 24°C WB outdoor temperature and 7/12°C water temperature for water coils.

❸ The sound level values given are the sound levels that are emitted from the device body and are valid for units with a channel connection with acoustic precautions.



UHNS Series

- **Energy Saving Customized Solutions for all Swimming Pools**
- **Dehumidification Capacity up to 200 kg/h**
- **Eco-Friendly R410a Refrigerant with Scroll Hermetic Compressor**
- **12 Different Cross-sections up to 31.500 m³/h Airflow**
- **Applied Energy Recovery**



Structural Features

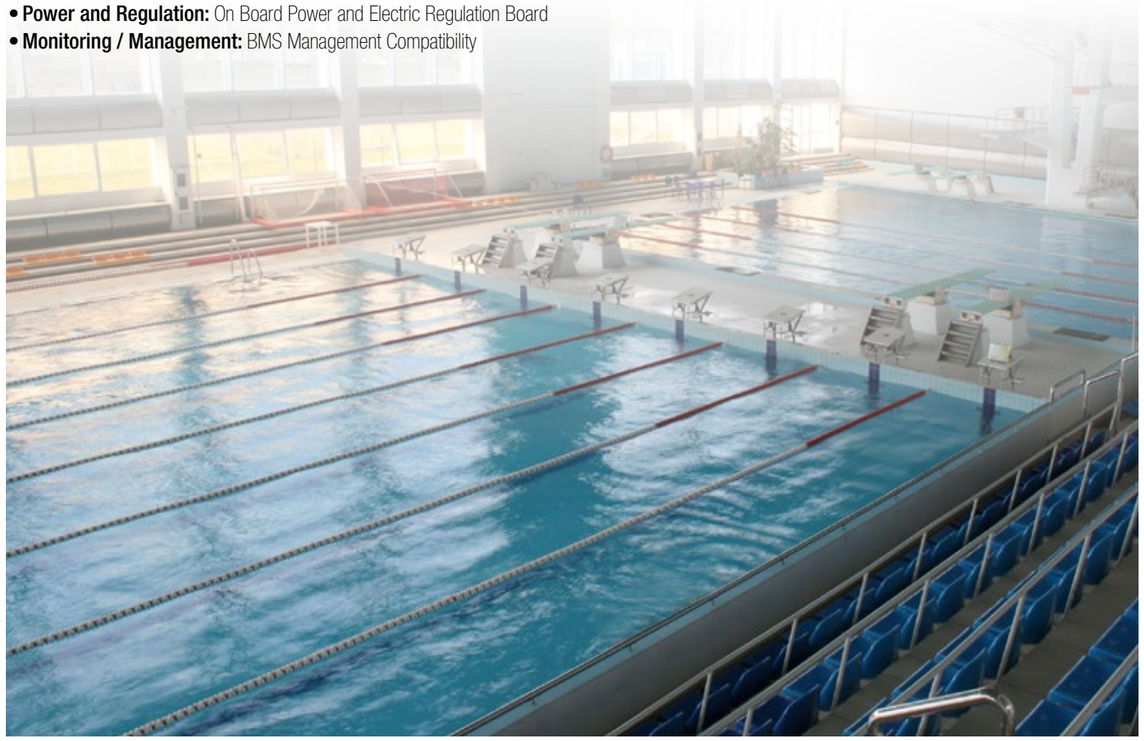
- **Structure & Panels:** Self Supporting Frame and Double Sheet Sandwich Panels
- **Profile :** Aluminum Alloy (AlMgSi0.5)
- **Sheet Material:** Dyed Galvanized Steel
- **Thermal and Acoustic Insulation:** Polyurethane / Rock Wool Refrigerant
- **Control:** Electronic Expansion Valve
- **Heating / Cooling Coil:** Cu / Al Epoxy Coated Hot Water Coil with 3-way Valve / Electric Heating
- **Fan:** Standard VFD Fans / Plug Fan
- **Condenser:** Copper Aluminum Epoxy Coated
- **Evaporator:** Copper Aluminum Hydrophilic Coated
- **Energy Saving:** Freecooling Option with VFD Control
- **Heat Recovery:** Plate / Heat Pipe
- **Power and Regulation:** On Board Power and Electric Regulation Board
- **Monitoring / Management:** BMS Management Compatibility

Versions

- **PL:** Plate Heat Recovery
- **HP:** Heat Pipe Heat Recovery
- **OO:** Without Heat Recovery

Options / Accessories

- **PHD:** Control Display on Electrical Panel
- **YDS:** Dry Cooler for High Ambient Temperature



UHNS Series			032~315											
			032	041	051	063	080	100	125	160	180	200	252	315
Technical Specifications														
Airflow		m³/h	3.200	4.100	5.100	6.300	8.000	10.000	12.500	16.000	18.000	20.000	25.200	31.500
❶ Dehumidifier Capacity		kg/h	20,0	25,6	32,4	40,1	50,9	63,6	79,5	101,8	114,5	127,2	160,3	200,3
❷ Dehumidifier Capacity	(PL)	kg/h	15,6	20,0	24,9	28,2	38,1	42,5	58,1	68,8	80,4	87,4	110,1	150,0
	(HP)	kg/h	15,7	20,2	25,1	27,7	38,1	42,2	57,0	65,6	79,3	85,7	109,2	143,4
	(OO)	kg/h	14,1	18,1	22,5	25,9	35,5	40,3	52,2	62,8	71,3	81,5	104,7	135,1
Cooling Capacity	(PL)	kW	16,1	20,8	31,9	37,3	48,9	57,8	74,7	88,4	95,5	114,0	144,6	189,1
	(HP)	kW	16,0	20,7	31,6	36,2	48,4	55,3	74,0	87,1	93,5	111,1	141,9	183,8
	(OO)	kW	17,8	23,3	34,0	40,2	51,8	61,2	80,9	95,2	101,5	122,4	155,9	206,6
❸ Heating Capacity		kW	33,4	44,9	63,6	68,9	103,9	111,2	138,2	157,7	219,0	224,6	280,3	318,8
Ventilator External Static Pressure (High pressure unit)	(PL)	Pa	450	550	500	550	600	625	800	850	825	625	750	700
	(HP)	Pa	500	600	550	650	675	750	575	600	575	750	800	850
	(OO)	Pa	450	550	500	550	625	700	825	550	525	675	825	800
Ventilator External Static Pressure (Low pressure unit)	(PL)	Pa	250	155	125	200	250	250	400	400	375	200	375	450
	(HP)	Pa	250	155	200	300	350	400	250	275	250	300	450	550
	(OO)	Pa	300	305	175	250	325	350	450	250	225	250	450	550
Aspirator External Static Pressure (High pressure unit)	(PL)	Pa	450	550	500	550	600	625	800	850	825	625	750	700
	(HP)	Pa	500	600	550	650	675	750	575	600	575	750	800	850
	(OO)	Pa	450	550	500	550	625	700	825	550	525	675	825	800
Aspirator External Static Pressure (Low pressure unit)	(PL)	Pa	250	155	125	200	250	250	400	400	375	200	375	450
	(HP)	Pa	250	155	200	300	350	400	250	275	250	300	450	550
	(OO)	Pa	300	265	175	250	325	350	450	250	225	250	450	550
Ventilator Motor Power (High pressure unit)	(PL)	kW	1,50	2,20	2,20	3,00	4,00	5,50	7,50	11,00	11,00	11,00	15,00	18,50
	(HP)	kW	1,50	2,20	2,20	3,00	4,00	5,50	5,50	7,50	7,50	11,00	15,00	18,50
	(OO)	kW	1,50	2,20	2,20	3,00	4,00	5,50	7,50	7,50	7,50	11,00	15,00	18,50
Vantilator Motor Power (Low pressure unit)	(PL)	kW	1,10	1,50	1,50	2,20	3,00	4,00	5,50	7,50	7,50	7,50	11,00	15,00
	(HP)	kW	1,10	1,50	1,50	2,20	3,00	4,00	4,00	5,50	5,50	7,50	11,00	15,00
	(OO)	kW	1,10	1,50	1,50	2,20	3,00	4,00	5,50	5,50	5,50	7,50	11,00	15,00
Aspirator Motor Power (High pressure unit)	(PL)	kW	1,50	2,20	2,20	3,00	4,00	5,50	7,50	11,00	11,00	11,00	15,00	18,50
	(HP)	kW	1,50	2,20	2,20	3,00	4,00	5,50	5,50	7,50	7,50	11,00	15,00	18,50
	(OO)	kW	1,50	2,20	1,50	2,20	3,00	4,00	5,50	5,50	5,50	7,50	11,00	15,00
Aspirator Motor Power (Low pressure unit)	(PL)	kW	1,10	1,50	1,50	2,20	3,00	4,00	5,50	7,50	7,50	7,50	11,00	15,00
	(HP)	kW	1,10	1,50	1,50	2,20	3,00	4,00	4,00	5,50	5,50	7,50	11,00	15,00
	(OO)	kW	1,10	1,50	1,10	1,50	2,20	3,00	4,00	4,00	4,00	5,50	7,50	11,00
Supply Power		V/ph/Hz	400 V / 3 ph / 50 Hz											
Dimensions														
Height (H)		mm	1.580	1.670	1.810	1.950	2.190	2.230	2.450	2.650	2.690	2.790	3.060	3.300
Width (W)		mm	910	1.060	1.175	1.290	1.370	1.495	1.710	1.890	2.170	2.170	2.370	2.660
Length (L)	(PL)	mm	3.645	3.690	3.535	3.880	3.962	4.360	4.645	4.840	4.840	5.435	6.040	6.425
	(HP)	mm	3.267	3.367	3.282	3.416	3.600	3.880	4.050	4.260	4.215	4.492	4.986	5.195
	(OO)	mm	3.330	3.370	3.195	3.289	3.500	3.795	3.945	4.150	4.190	4.520	4.920	5.230
Weight	(PL)	kg	500	600	1.060	1.220	1.400	1.750	2.050	2.600	2.600	2.860	3.580	4.490
	(HP)	kg	450	550	1.045	1.215	1.370	1.690	2.000	2.450	2.450	2.880	3.630	4.605
	(OO)	kg	400	500	860	980	1.130	1.440	1.670	2.050	2.050	2.310	2.895	3.540
Sound Level														
Sound Pressure Level	(PL)	dBA	75	80	67	67	68	69	70	74	74	74	74	76
	(HP)	dBA	75	80	67	67	68	69	72	73	73	74	74	76
	(OO)	dBA	74	79	67	67	68	68	71	72	72	73	74	76
Absorbed Power														
Absorbed Power	(PL)	kW	7,3	10,5	15,1	17,3	26,9	27,2	36,1	45,0	46,0	53,1	70,2	88,7
	(HP)	kW	7,3	10,6	14,9	17,9	26,5	28,1	32,9	42,0	43,0	55,2	71,6	90,5
	(OO)	kW	6,9	10,0	14,1	16,1	25,4	25,7	33,6	42,0	43,0	50,1	66,1	82,8

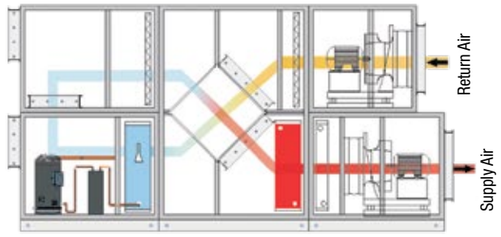
❶ According to VDI 2089.
❷ Values are at 30°C DB room conditions and 55% RH.
❸ Values are at -12°C outdoor temperature, 90% RH and 90-70°C water temperature.

(OO) Without heat recovery.
(HP) Heat pipe heat recovery.
(PL) Plate type heat recovery.

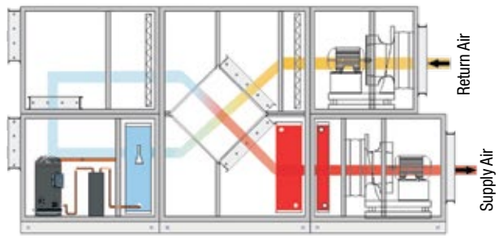
Operation Modes

Working With 100% Return Air

Humid Room Air

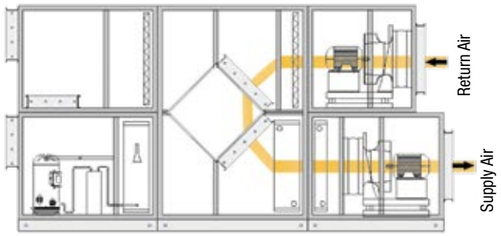


Picture - 1a (Humid and warm room air)



Picture - 1b (Humid and cool room air)

Dry Room Air



Picture - 1c (Dry and warm room air)



Picture - 1d (Dry and cool room air)

Working With 100% Fresh Air

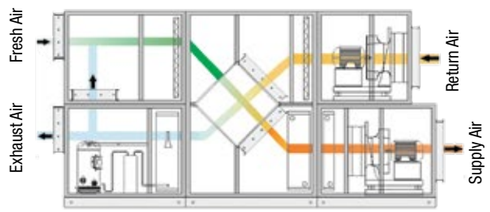


Picture - 2a (Dry and warm fresh air)

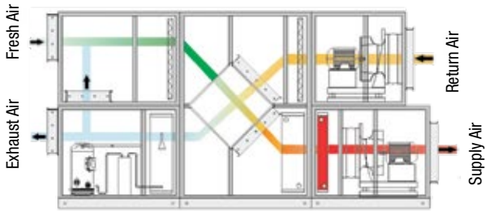


Picture - 2b (Dry and cool fresh air)

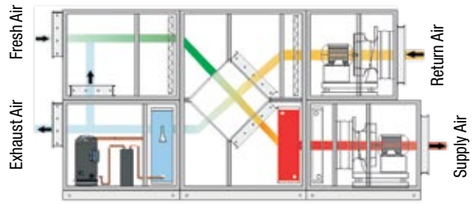
Working With Mixed Air



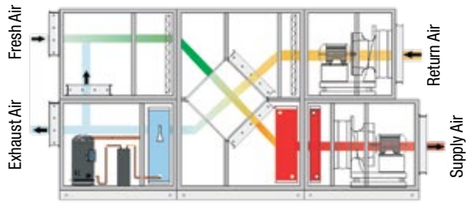
Picture - 3a (Dry and warm room & fresh air)



Picture - 3b (Dry and cool room & fresh air)



Picture - 3c (Humid and warm room & fresh air)



Picture - 3d (Humid and cool room & fresh air)



PHK Series

PHK : Standard
PHK HP : Heat Pump
PHK TO : Clean Room Air Handling Unit



- Up to 11.000 m³/h Airflow
- Complying with DiN 1946/4 Hygiene Criteria Tests in TUV Laboratories
- CE Approved PED, LVD and EMC Conditions from Third Party Institutions
- Energy Saving Customized Solutions for All Hygienic Environments

Structural features

- **Production Quality:** Casing Strength, Casing Air Leakage, Filter By-Pass Leakage, Thermal Transmittance, Thermal Bridging and Acoustical Insulation In Accordance with EN 1886
- **Structure & Panel:** Self Supporting Frame and Double Sheet Sandwich Panels
- **Profile:** Aluminum Alloy (AlMgSi0.5)
- **Sheet Material:** 304 Quality Stainless Steel
- **Panel Thickness:** 50mm (PHK-50)
- **Air Tightness:** EPDM Leak Proof Gaskets to Provide Full Air Tightness On The Panels
- **Heat and Sound Insulation:** Rock Wool
- **Heating / Cooling Coil:** Cu Pipe / Al Fin, Cu Pipe / Cu Fin, Epoxy Coated
- **Fan:** Plug Fan, EC Motor Fan
- **Humidification:** Sterile Steam
- **Heat Recovery:** Run Around Heat Recovery
- **Compressor:** Scroll Hermetic
- **User Panel:** Programmable Touch Screen
- **Air Control Technology:** Constant Airflow / Pressure Control
- **Capacity / Thermal Control:** Proportional Cooling Capacity Control Hot Gas By Pass
- **Power And Regulation:** On Board Power and Electric Regulation Board
- **Monitoring / Management:** BMS Management Compatibility

Types

- **PHK:** Standard (100% Fresh air and mixed air unit / Heat recovery unit)
- **PHK HP:** Heat Pump
- **PHK TO:** Clean Room Air Handling Unit

Options / Accessories

- **User Panel:** ProgrammableTouch-Screen Display
- **Heat Recovery:** Water to air / Thermodynamics
- EC Motor Fan



Package Hygienic Air Handling Units

PHK Series - Standard

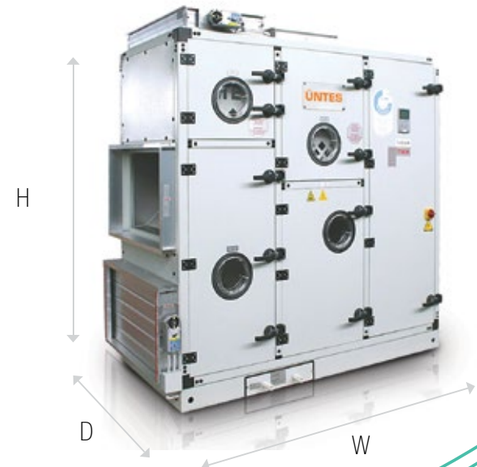
PHK Series		022~101						
		022	033	045	058	070	085	101
Technical Specifications								
❶ Vantilator Air Flow Rate	m³/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Max. External Static Pressure	Pa	800	800	800	800	800	800	800
Vantilator Motor Power	kW	1,50	3,00	4,00	5,50	5,50	2x4,00	2x5,50
❶ Aspirator Air Flow Rate	m³/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Max. External Static Pressure	Pa	350	350	350	350	350	350	350
Aspirator Motor Power	kW	0,75	1,10	1,50	2,20	3,00	2x1,50	2x2,20
❷ Total Cooling Capacity	kW	19,0	23,6	32,0	39,7	44,5	54,1	66,4
Compressor Absorbed Power	kW	5,30	5,30	7,10	12,4	11,9	17,0	21,7
❸ Heating Capacity (Hot Water)	kW	34,1	51,5	64,7	84,1	94,6	122,5	140,8
Steam Humidifer								
❹ Steam Humidifer Capacity	kg/h	10,0	15,0	20,0	30,0	40,0	50,0	60,0
Steam Humidifer Power	kW	7,5	11,3	15,0	22,6	30,1	37,6	45,1
Electrical Heater Capacity	kW	5,0	7,5	10,0	16,0	16,0	20,0	20,0
Cooling Circuit								
Refrigerant					R410a			
Compressor Type					Scroll			
Number of Compressor(s)		2	2	2	2	2	2	2
Number of Circuit(s)		2	2	2	2	2	2	2
Acoustics Data								
Sound Power - Outside Unit	dB(A)	59	60	62	62	65	62	64
Sound Power - Air Inlet	dB(A)	78	81	84	86	90	83	87
Sound Power - Air Outlet	dB(A)	81	82	84	84	87	84	86
Dimensions								
Height (H)	mm	1.880	2.070	2.150	2.150	2.270	2.270	2.270
Width (W)	mm	1.865	2.150	2.150	2.150	2.150	2.255	2.255
Depth (D)	mm	910	910	1.060	1.300	1.350	1.840	1.840

❶ Air ˜ow rates are nominal values.Ventilator and Aspirator ˜ows can be choosen differently within the range ±10%.

❷ Coil inlet temperature is 19°C WB.Cooling values may differ within the range ±%2 according to coil inlet air DB temperatures.

❸ Coil inlet-outlet temperature is 90°C/70°C and outside temperature is 0°C.

❹ Steam humidiÿying capacities are nominal values and for different values it is possible to make selection.



PHK HP Series - Heat Pump

PHK HP Series		022~101						
		022	033	045	058	070	085	101
Technical Specifications								
❶ Vantilator Air Flow Rate	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Max. External Static Pressure	Pa	800	800	800	800	800	800	800
Vantilator Motor Power	kW	1,50	3,00	4,00	5,50	5,50	2x4,00	2x5,50
❶ Aspirator Air Flow Rate	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Max. External Static Pressure	Pa	350	350	350	350	350	350	350
Aspirator Motor Power	kW	0,75	1,10	1,50	2,20	3,00	2x1,50	2x2,20
❷ Total Cooling Capacity	kW	21,7	31,8	43,1	56,5	66,8	86,6	103,4
Std. Compressor Power (Cooling)	kW	1,90	2,80	4,00	4,30	4,60	6,80	8,60
Inv. Compressor Power (Cooling)	kW	5,90	7,70	11,7	16,4	19,7	23,3	28,5
❸ Total Heating Capacity (Dx)	kW	20,9	29,2	40,8	56,8	68,5	85,7	101,0
Inv. Compressor Power (Heating)	kW	4,90	6,30	9,70	14,4	17,8	21,0	25,9
❹ Electrical Preheater	kW	12,0	18,0	23,0	29,0	35,0	43,0	51,0
Steam Humidifer								
❺ Steam Humidifer Capacity	kg/h	10,0	15,0	20,0	30,0	40,0	50,0	60,0
Steam Humidifer Power	kW	7,5	11,3	15,0	22,6	30,1	37,6	45,1
Electrical Heater Capacity	kW	5,0	7,5	10,0	16,0	16,0	20,0	20,0
Cooling Circuit								
Refrigerant					R410a			
Compressor Type					Scroll			
Number of Compressor(s)		2	2	2	2	2	2	2
Number of Circuit(s)		2	2	2	2	2	2	2
Acoustics Data								
Sound Power - Outside Unit	dB(A)	59	60	62	62	65	62	64
Sound Power - Air Inlet	dB(A)	78	81	84	86	90	83	87
Sound Power - Air Outlet	dB(A)	81	82	84	84	87	84	86
Dimensions								
Height (H)	mm	1.770	1.960	2.080	2.080	2.140	2.160	2.160
Width (W)	mm	2.500	2.800	2.850	2.975	2.975	2.975	2.975
Depth (D)	mm	910	910	1.060	1.300	1.350	1.840	1.840

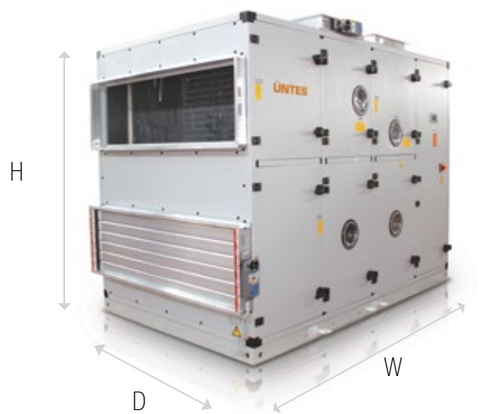
❶ Air °ow rates are nominal values. Ventilator and Aspirator °ows can be choosen differently within the range ±10%.

❷ Coil inlet temperature is 20°C WB. Cooling values may differ within the range ±%2 according to coil inlet air DB temperatures.

❸ Outside temperature is 0 °C.

❹ Electrical preheaters are used with 3 stages, when outside temperature below 0°C.

❺ Steam humidiÿying capacities are nominal values and for different values it is possible to make selection.



PHK TO Series - Clean Room Air Handling Unit

PHK TO Series		033~101					
		033	045	058	070	085	101
Technical Specifications							
❶ Vantilator Air Flow Rate	m^3/h	3.300	4.500	5.800	7.000	8.500	10.100
Max. External Static Pressure	Pa	1.000	1.000	1.000	1.000	1.000	1.000
Vantilator Motor Power	kW	3,00	4,00	5,50	5,50	2x4,00	2x5,50
❷ Total Cooling Capacity	kW	18,8	23,5	28,7	34,1	42,7	50,6
Compressor Absorbed Power	kW	6,36	7,33	9,00	10,52	13,46	15,58
Total Heating Capacity (Electric)	kW	14,0	18,0	24,0	30,0	35,0	42,0
Steam Humidifer							
❺ Steam Humidifer Capacity	kg/h	15,0	20,0	30,0	30,0	40,0	40,0
Steam Humidifer Power	kW	11,3	15,0	22,6	30,1	37,6	45,1
Cooling Circuit							
Refrigerant					R410a		
Compressor Type					Scroll		
Number of Compressor(s)		2	2	2	2	2	2
Number of Circuit(s)		1	1	1	1	1	1
Acoustics Data							
Sound Power - Outside Unit	dB(A)	60	62	62	65	62	64
Sound Power - Air Inlet	dB(A)	81	84	86	90	83	87
Sound Power - Air Outlet	dB(A)	82	84	84	87	84	86
Dimensions							
Height (H)	mm	1.960	2.005	2.005	2.105	2.055	2.155
Width (W)	mm	1.600	1.760	2.040	2.140	2.530	2.530
Depth (D)	mm	1.405	1.505	1.505	1.505	1.665	1.665

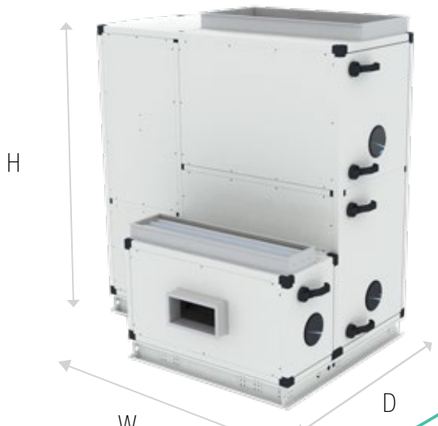
❶ Air °ow rates are nominal values. Ventilator and Aspirator °ows can be choosen differently within the range ±10%.

❷ Coil inlet temperature is 19°C WB. Cooling values may differ within the range ±%2 according to coil inlet air DB temperatures.

❸ Conditions of entry of the air cooling the table values battery 26 ° C dry thermometer and 50% relative humidity.

❹ Condenser air inlet dry thermometer temperature is 35 °C

❺ The values given are nominal steam humidiÿcation capacity of different values for device selection is possible.



ELMC Series

- **Low Energy Consumption Humidifiers**
- **Direct and Master / Slave Usage Options for Wide Humidification Capacity**
- **Effective and Humidification Functions for Sterile Areas**
- **Front Access feature for Easy Maintenance Facility**
- **Full Microprocessor Control**



Structural Features

- **Sheet Material:** Anticorrosive Sheet Material
- **Electrode:** Stainless Steel Electrodes
- **Hose:** Condensation & High Temperature Resisting Steam Distribution
- **Humidification Capacity:** 5 – 99 kg/h (Direct Use) Up To 990 kg/h (Master/Slave Use)
- **Capacity Control:** 20-100% Proportional Optional With Humidity Sensors,On/off switch
- **Operation:** With City Water And Water Conductivity Of 30-1.000 µs/cm
- **Steam Cylinder:** Disposable / Cleanable Cylinders
- **Power And Regulation:** On Board Power And Electric Regulation Board
- **Monitoring / Management:** BMS control facility (ModBus protocol)

Types / Versions

- **ELMC:** With Cabinet
- **HLK:** Without Cabinet (for 05,08,10,15-2,20, 30,40,50,60 models)

ELMC Series		05~90												
		05	08	10	15-2	20	30	30 HC	40	50	60	60 HC	90	90 HC
Technical Specifications														
Steam Capacity	kg/h	5	8	10	15	20	30	33	40	50	60	66	90	99
Total Power (max)	kW	4,24	6,63	8,21	12,18	16,07	24,01	26,42	31,94	39,88	47,74	52,56	71,55	78,71
Total Power (n)	kW	3,76	6,02	7,52	11,29	15,05	22,57	24,83	30,10	37,62	45,14	49,66	67,65	74,49
Total Current (max)	A	6,20	9,70	12,0	17,8	23,5	35,1	38,6	46,7	58,3	69,8	76,8	104,6	115,1
Total Current (n)	A	5,50	8,80	11,0	16,5	22,0	33,0	36,3	44,0	55,0	66,0	72,6	98,6	108,9
Power Supply	V/Hz/ph	400/50-60/3												
Cylinder Amount	pcs	1	1	1	1	1	1	1	2	2	2	2	3	3
Dimensions														
Steam Outlet Diameter	mm	25	25	25	25	40	40	40	40	40	40	40	40	40
Length (L)	mm	475	475	475	475	550	550	550	845	845	845	845	1.075	1.075
Height (H)	mm	540	540	540	540	680	680	680	680	680	680	680	680	680
Width (W)	mm	217	217	217	217	272	272	272	272	272	272	272	272	272
Weight (Empty)	kg	15	15	15	15	22	22	22	30	30	30	30	45	45
Weight (Gross)	kg	23	23	23	23	37	37	37	60	60	60	60	90	90

*HC is high capacity.

HPL Series

- Reducing Anesthectic Gas Concentration
- Adjusting The Needs of Air Related to Microorganism Concentration
- ISO5 (Class 100 US FEDERAL STD 209D) compatibility
- Laminator panels that could be easily mounted/demounted and disinfected
- Easy access to hepa filters
- Aerosol sampling probe for filter leakage test
- Test ducts for filter housing and filter seal leakage test
- H-13 Class according to DIN EN 1822 Standard
- Seal leakage test according to DIN 1946/4 and DIN 25414 Standard during the manufacture process
- The casing: 304 Stainless Steel sheet is used as a structural material to ensure resistance against abrasive impacts of disinfectants.
- Allowing no room for contamination as the surface ledges and indents are minimised.

Untes Laminar ceiling systems are equipment designed for all operating rooms and clean room systems where laminar flow in the supply air is required Laminar ceilings are produced for volumes that demand extra-low amounts of microorganisms and particles.

HPL Series		1~9								
		HPL-1	HPL-2	HPL-3	HPL-4	HPL-5	HPL-6	HPL-7	HPL-8	HPL-9
Technical Specifications										
Airflow	m^3/h	2.400	2.800	3.200	3.600	4.000	4.400	4.800	6.000	7.000
❶ Initial Resistance	Pa	100	110	125	150	160	125	135	175	135
Dimensions										
HEPA Filter Dimensions	mm	610x305	610x305	610x305	610x305	610x305	610x305	610x305	610x305	610x457
HEPA Filter Amount	pcs	4	4	4	4	4	4	4	4	4
❷ Width (W)	mm	1.200	1.400	1.600	1.800	2.000	2.200	2.400	2.400	2.800
Height (H)	mm	450	450	450	450	450	450	450	450	600
Depth (D)	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	3.000	3.000

❶ Initial filter pressure loss values are valid for the nominal flow rate valu . The filter replacement pressure is 600 a.

❷ 2x150 mm must be added to width measures for channel connections.



Hepa Filters

HEPA Filters

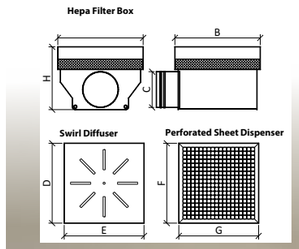


- Hepa filter boxes are manufactured from Sheet as welded and completely leakproof.
- Used on Laminar Ceiling are 99.999% (@ 0,3 Nm) Productive at Minimum
- Electrostatic powder paint.

The hepa filter , which are used to supply the conditioned air to be distributed hygienically and homogeneously in your sterile sites, are placed in such equipment.

HEPA Filters		305x305			457x457			575x575			610x610		
Technical Specifications													
Nominal Airflow	m³/h	290	450	490	660	940	1080	1050	1850	2100	1200	2095	3000
Initial Resistance (H13)	Pa		250			250			250			250	
Initial Resistance (H14)	Pa		320			320			320			320	
Dimensions													
Hepa Filtre Height	mm	78	150	292	78	150	292	78	150	292	78	150	292
A	mm		323			475			593			628	
B	mm		323			475			593			628	
H	mm	345	418	559	380	452	594	435	508	649	435	508	649
C	mm		Ø150			Ø193			Ø244			Ø244	
Swirl Diffuser Dimensions													
D	mm		370			520			640			670	
E	mm		370			520			640			670	
Perforated Shett Dimensions													
F	mm		370			520			640			670	
G	mm		370			520			640			670	

*Initial filter pressure loss values are valid for the nominal flow rate valu . The filter replacement pressure is 600 a.







URTP Series
URTT Tropical Series

Rooftop Packaged Air Conditioners

4 Seasons Smart Rooftop Packaged Air Conditioners

Varying a wide capacity range, Untes Packaged Rooftop Units have been exclusively designed mainly for large spaces such as shopping malls, conference and cinema halls, warehouses etc. produced for quick installation, low operating costs, the flexibility of cooling, heating and pressure options and more to discover.

Advanced controls options also provide flexibility and signify connectivity and intelligence to the whole building management system having the controls embedded and can communicate seamlessly to all controls systems.

On-board controls support the entire network, includes fault detection and support proactive maintenance and minimize downtime of the system for business contiunity as well as the best efficiency, extended equipment life and reduced operating costs.

Roof Top Package Air Conditioners

Flexible Package Air Conditioning Solutions
High Energy Efficient Roof Top Package Air Conditioners
Eco friendly R410A Refrigerant Gas
Proportionality Controlled Condensing Gas Fired Heating Option
Three Step Capacity Control by Uneven Cooling / Heating
Advanced Microprocessor Control

Compactness with Well Qualified Air

Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Range
Integrated Freecooling Options
Energy Saving Solutions for All Commercial Buildings

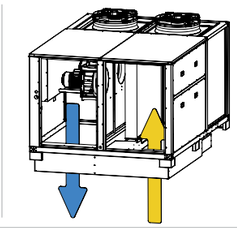
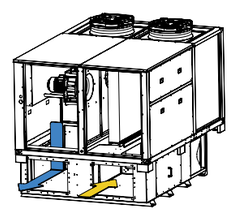
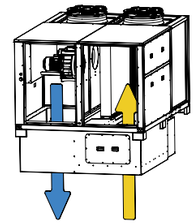
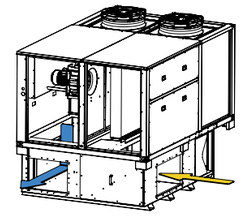
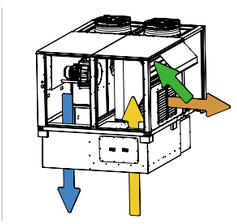
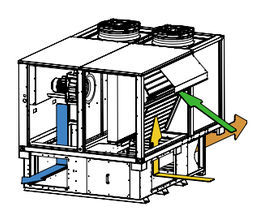
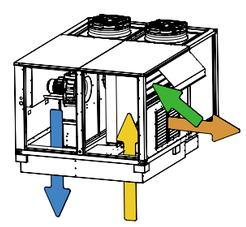
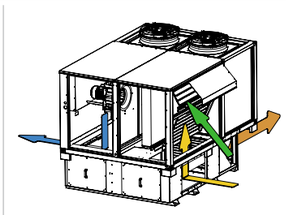


Rooftop Packaged Air Conditioners

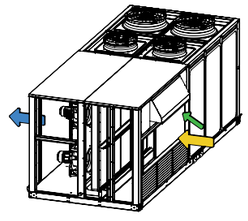
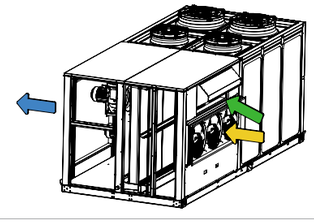
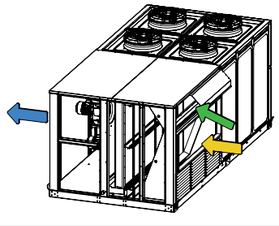
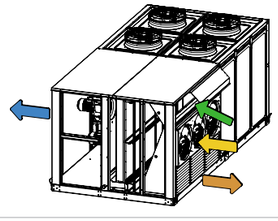
Range	Type	Versions	Pressure Class	Model
URTP	**BSC** **ECO**	**SS :** Cooling Only **HP :** Heat Pump	**YB :** High Pressure **OB :** Medium Pressure	055~460
URTT	**BSC** **ADV**	**SS :** Cooling Only	**YB :** High Pressure **OB :** Medium Pressure **DB :** Low Pressure	018~276

URTP Series Airflow Configurations

URTP 055-230

	Without Return Fan		Return Fan	
	Bottom Outlet	Side Outlet	Bottom Outlet	Side Outlet
BSC				
ECO				

URTP 280-460

	Without Return Fan	Return Fan
BSC		
ECO		

Supply Air
Return Air
Fresh Air
Exhaust Air

Options / Accessories

		
BRCA: Downflow Roof Curb [055-230]	**EBDD:** Exhaust Backdraft Damper	**MIIM:** Microprocessor Additional Module
		
BRCY: Sideflow Roof Curb [055-230]	**DGYI:** Direct Gas Heater	**OFKI:** Dirty Filter Warning
		
FRCA: Downflow Roof Curb +Return Fan [055-230]	**EIDK:** Low Capacity Electrical Heater **EIYK:** High Capacity Electrical Heater	**IUDK:** Indoor Fan Airflow Control
		
FRCY: Sideflow Roof Curb +Return Fan [055-230]	**SSIB:** Hot Water Heating Coil	**IHKS:** Indoor Air Quality Sensor (CO_2)
		
PEFA: Power Exhaust Fan [055-230]	**FCEC:** Enthalpy Control For ECO Type	**DDYA:** Smoke Detector

Rooftop Packaged Air Conditioners

Due to its elegant and ergonomic design, Rooftop units are the most ideal air treatment units for shopping malls, warehouses, offices, cinemas and large spaces . Its compact design perfectly suits all types of places in terms of decoration. BSC and ECO types offer smart air conditioning solutions to the customers.

Air Control

- Outstanding air flow control due to inverter control silent plug fan.
- Three different external static pressure option.
- Manual fresh air damper control (BSC)

Versions

Irreplaceable air treatment units of big volume places, the rooftop air conditioners are reinterpreted according to the requirements of our modern area.

- URTP Series includes package type BSC range responds basic unit requirements and package type ECO range based on energy saving including freecooling application.
- URTT Series includes package type BSC range with standard thermostad control and package type ADV range with advanced microprocessor control.
- All ranges offer wide solution alternatives for users with cooling or/and heating options.





Roof-Curb

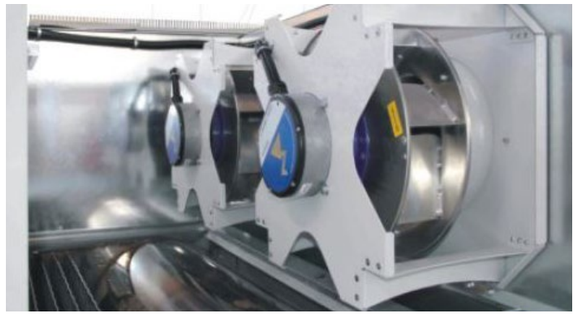
It offers solutions for all kinds of construction problems with its different connection equipment. Due to this specification, unit can be adapted without making ancy changes or modifications in the construction. Axial fan/ without axial fan, bottom inlet- bottom outlet connections. In addition to all these, the unit also offers automatically controlled fresh air and exhausts air damper as well as fresh air and exhaust air rain resistant solutions. (URTP Series)

Heating & Cooling

Eco-friendly R-410A refrigerant gas is used in the unit. The unit offers two independent gas circuits with “Cooling Only” and “Heat Pump” options. These asymmetrically designed circuits allow 3 steps capacity control . Larger capacity units, there is 4 steps capacity control with tandem connection. Three alternatives are offered for heating, namely “Natural Gas Heating (condensed and modulated)”, “Electric Heater (multi-phased)" and “Hot Water”. All problems are solved and due to whole heating solutions, all heating problems are responded. For URTT series capacity steps are to number of equal compressors and electrical heater options can be used for heating.



Rooftop Packaged Air Conditioners



Fans

Invertor controlled silent plug fans are used in inside air part. This specification offers different outside unit static pressure options by conducting flow control. Meanwhile, high energy efficiency, silent version tubeaxial fans are used for outside unit condenser cooling. This part is specially designed and submerged in the unit. High capacity plug fans used in ventilators eliminates the necessity of aspirator fans needed in the classical systems. For fresh air, “power exhaust fan” option is available for undesired positive pressure situations. (URTP Series)

Economizer (Free Cooling)

ECO range of URTP units offers “Thermic” or “Entalphy” control options that allows energy efficiency and reduce noise pollution by average outside air support during mid-seasons.. As an option, “Return Fan” or “Support Exhaust Fan” choices are offered.







URTP Series

URTP 055-230

Cooling capacity: 31,9 kW - 130,1 kW

Heating capacity: 35,5 kW - 143,1 kW

URTP 288-460

Cooling capacity: 165,0 kW - 262,0 kW

Heating capacity: 180,5 kW - 284,0 kW

- Natural Gas Heating Option
- High Energy Efficiency
- Eco-Friendly R410a Refrigerant Gas
- Integrated Free-Cooling Option
- Advanced Microprocessor Control Option



"Each kW is under control"

DIRECT
DIRECT GAS FIRED
OPTION

Structural features

- **Construction and Panel:** Corrosion Resistant Self-supported Frame
- **Sheet Metal Material:** Galvanized Steel
- **Thermal and Acustic Insulation:** High Performance Acoustic Insulation
- **Refrigerant Control:** Thermostatic Expansion Valve
- **Heating:** Heat Pump / Gas Heater / Hot Water / Electrical Heating
- **Heating / Cooling Coil:** Cupper Pipe Aluminum Fins with Various Coating Options
- **Fan:** VFD Control Plug Fan
- **Pressure:** High / Low Pressure Gauge
- **Energy Efficiency:** Free-cooling Option (Thermic / Enthalpy Free-cooling)
- **Power and Regulation:** Built-in Power and Control Panel
- **Monitor / Management:** BMS Management

Types

- **BSC:** Basic
- **ECO:** Free-cooling (Economizer)

Versions

- **SS:** Cooling Only
- **HP:** Heat pump

Options / Accessories

- Gas Heater
- Electric Heater
- Hot Water Heating Coil
- Roof Curb
- Return Fan
- Power Exhaust Fan
- F7 Filter
- Epoxy Coating
- CO_2 Sensor
- Smoke Detector
- Humidity Sensor
- Maintenance Warning
- Dirty Filter Warning
- Condenser Protection Grill
- Fresh Air / Exhaust Air Rain Protection



Rooftop Packaged Air Conditioners

URTP Series		055~230						
		055	070	090	110	140	180	230
Technical Specifications								
Air flow	m³/h	5.500	7.000	9.000	11.000	14.000	18.000	23.000
External Static Pressure	Pa	850	850	950	750	800	750	700
❶ Total Cooling Capacity	kW	31,5	38,8	51,8	60,7	79,8	102,0	130,1
Total Absorbed Energy (Cooling)	kW	17,0	20,8	29,0	32,2	41,9	51,6	65,9
❷ EER		2,83	2,86	2,94	2,86	2,96	2,85	2,75
❸ Heating Capacity (Heat Pump)	kW	35,3	43,7	56,4	67,1	87,5	111,2	142,4
Total Absorbed Energy (Heating)	kW	17,0	20,8	29,0	32,2	41,9	51,6	65,9
❷ COP		3,19	3,24	3,50	3,44	3,48	3,44	3,38
Heating Options								
Gas Heater Capacity	kW	33,6	33,6	62,9	62,9	80,0	97,2	97,2
❹ Electrical Heater Capacity	kW	34,0	43,0	55,0	67,0	85,0	110,0	140,0
❺ Hot Water Coil Capacity	kW	47,8	54,5	80,6	90,1	130,2	155,5	207,1
Cooling Circuit								
Refrigerant Gas		R410a	R410a	R410a	R410a	R410a	R410a	R410a
Type of Compressor		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor(s) / Step(s)		2/3	2/3	2/3	2/3	2/3	2/3	2/3
Cooling Circuit		2	2	2	2	2	2	2
Sound Information								
❻ Sound Power Level	dB(A)	81	82	84	84	83	84	85
❼ Sound Pressure Level	dB(A)	59	60	62	62	61	62	63
Dimensions								
Height (H)	mm	1.382	1.382	1.382	1.382	1.382	1.582	1.582
Width (W)	mm	1.865	1.865	2.335	2.335	2.991	2.991	3.850
Depth (D)	mm	1.735	1.735	1.950	1.950	2.164	2.164	2.295
Weight*	kg	755	815	910	955	1.204	1.534	1.794

URTP Series		280~460			
		280	345	410	460
Technical Specifications					
AirFlow	m³/h	28.000	34.500	41.000	46.000
External Static Pressure	Pa	800	800	760	760
❶ Cooling Capacity	kW	165,0	201,7	233,4	262,0
Total Absorbed Energy (Cooling)	kW	82,6	103,5	117,8	131,1
❷ EER		2,95	2,86	2,86	2,95
❸ Heating Capacity (Heat Pump)	kW	180,5	223,7	252,3	284,0
Total Absorbed Energy (Heating)	kW	82,6	103,5	117,8	131,1
❷ COP		3,39	3,30	3,04	3,22
Heating Options					
Gas Heather Capacity	kW	160,0	194,4	194,4	291,6
❹ Electrical Heater Capacity	kW	130,0	160,0	190,0	210,0
❻ Hot Water Coil Capacity	kW	256,5	305,3	356,6	401,8
Cooling Circuit					
Refrigerant Gas		R410a	R410a	R410a	R410a
Type of Compressor		Scroll	Scroll	Scroll	Scroll
Compressor(s) / Steps(s)		4/4	4/4	4/4	4/4
Cooling Circuit		2	2	2	2
Sound Information					
❻ Sound Power Level	dB(A)	87	86	86	85
❼ Sound Pressure Level	dB(A)	65	64	64	63
❽ **Dimensions**					
Height (H)	mm	1.960	2.160	2.160	2.360
Width (W)	mm	4.795	5.185	5.605	5.980
Depth (D)	mm	2.300	2.300	2.300	2.300
Weight*	kg	2.505	3.011	3.234	3.604

❶ Outside air temperature 35 °C DB, coil inlet temperature is 27 °C DB/19 °C WB.
❷ COP and EER values are calculated according to EN14511 standard. Mentioned values are average pressure values.
❸ Outside air temperature 7 °C DB, coil inlet temperature is 20 °C DB.
❹ High electric heater capacity.
❺ Outside air temperature 14 °C DB, coil water in/out is 90 / 70 °C.
❻ Measurements compatible with UNI EN-ISO 9614 are basically dB(A) type total sound power level.
❼ Measured in free area, 5 meters away from the unit.
❽ Dimensions are not include roof curb.
*Weight does not include options.Please contact Untes for options' weights.

Discover Innovative Rooftop Overall Test and Validation Laboratory!

Eliminate all the risks at start up.

Know in advance how the unit will operate at actual operating conditions

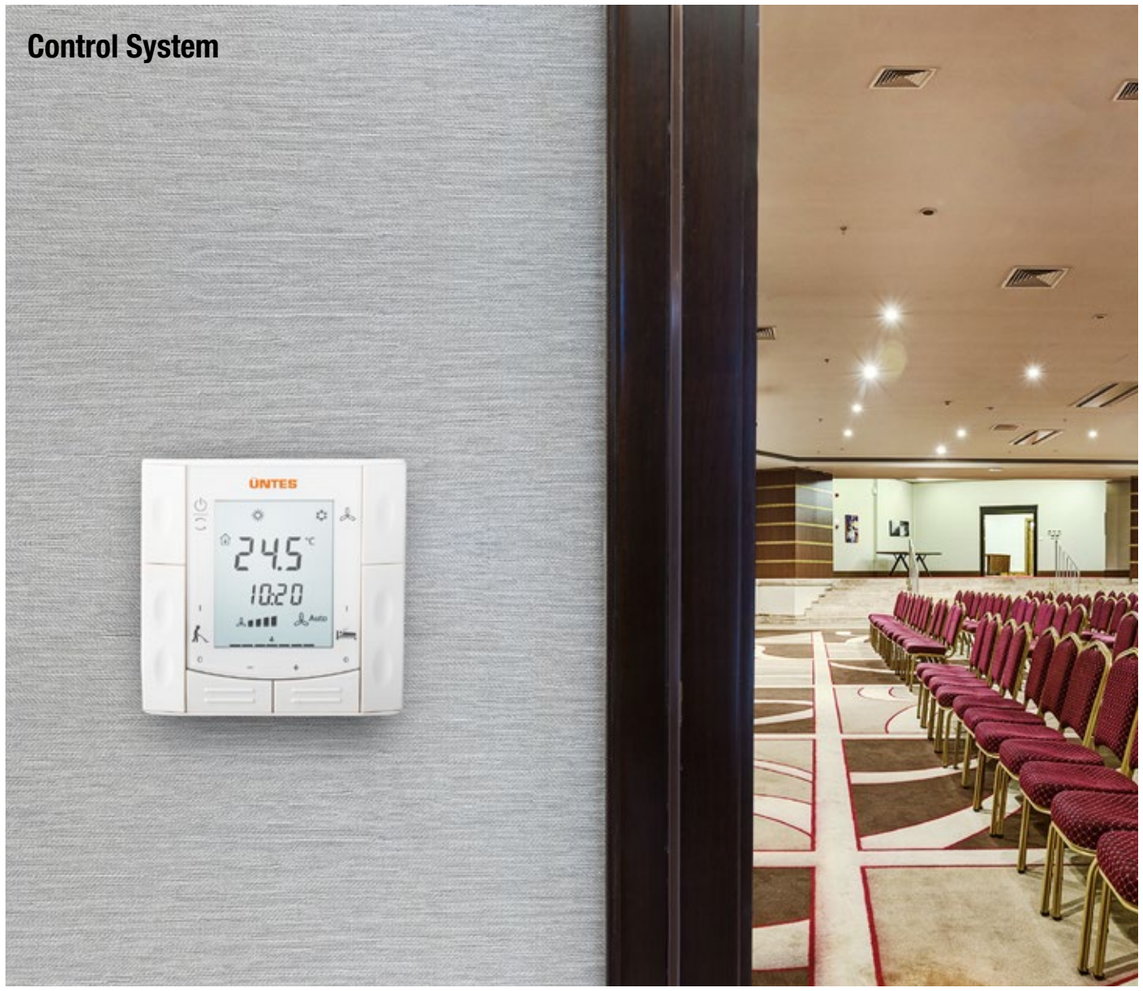
Verify unit limits at severe operating conditions.

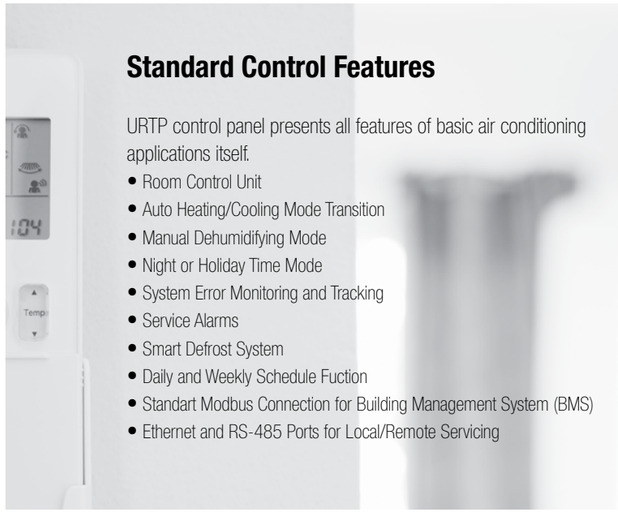




"Each kW is under control!"

Control System





Standard Control Features

URTP control panel presents all features of basic air conditioning applications itself.

- Room Control Unit
- Auto Heating/Cooling Mode Transition
- Manual Dehumidifying Mode
- Night or Holiday Time Mode
- System Error Monitoring and Tracking
- Service Alarms
- Smart Defrost System
- Daily and Weekly Schedule Fuction
- Standart Modbus Connection for Building Management System (BMS)
- Ethernet and RS-485 Ports for Local/Remote Servicing

Additional Control Options

- CO_2 Detector
- Smoke Detector
- Filter Clogging Alarm
- Humidity Sensor
- Maintenance Alarms
- Indoor Air Flow Rate Control (Constant Air Volume)
- Head Pressure Control for Low Temperature Cooling

URTT Series

Tropical Range Rooftop Packaged Units for T3 Air Climates

Cooling capacity: 18,33 kW - 275,96 kW

- **High Energy Efficient Packaged Air Conditioners**
- **Eco-Friendly R410a Refrigerant Gas**
- **Monoblock Compact Unit**
- **Advanced Control Options**
- **Optimal Energy Efficiency, Air Quality and Comfort**
- **Wide and Versatile Range**
- **Energy Saving Solutions for All Commercial Buildings**



AHRI CERTIFIED® www.ahridirectory.org Unitary Large AC AHRI Standard 340/360

Operation up to 54 °C

"Each kW is under control!"

ISO 9001 ISO 14001 plug & play CE PED

Structural Features

- **Construction and Panel:** Corrosion Resistant Self-supported Frame
- **Sheet Metal Material:** Powder Coated Galvanized Steel
- **Thermal and Acustic Insulation:** High Performance Thermal and Acustic Insulation with Various Options
- **Refrigerant Control:** Thermostatic / Electronic Expansion Valve Options
- **Heating:** Electrical Heating Options
- **Heating / Cooling Coil:** Cupper Pipe Aluminum Fins with Various Coating Options
- **Supply Fan & Motors:** High Efficiency Belt Driven ans with IE2 Motors
- **Pressure:** High / Low Pressure Gauge
- **Power and Regulation:** IP54 / IP55 Class Built-in Power and Control Panel

Types

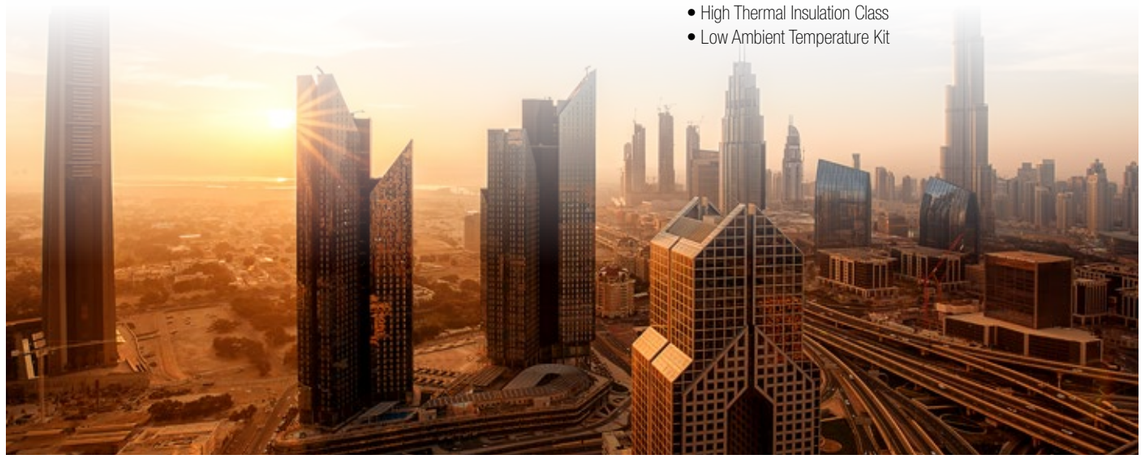
- **BSC SS:** Unit with Basic Controller
- **ADV SS:** Unit with Advanced Microprocessor

Versions

- **SS:** Cooling Only

Optional Features

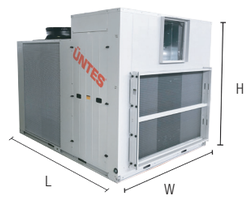
- Filter Clogging Alarm
- Coil Coating
- Outdoor Coil Protection Grill
- Stainless Steel Drain Pan
- High/Low Capacity Electrical Heater
- Electronic Expansion Valve
- Hot Gas Bypass
- Room Display Unit
- Pump-Down Application
- Dehumidification Control eature
- Supply Temperature Control
- Smoke Detector And Fire Alarm
- External Fire Alarm
- Low Pressure Transmitter
- High Pressure Transmitter
- IP55 Electrical Panel
- Main Circuit isolator
- Modbus Rtu Communication Card
- Safety Relief Valve
- Ball Type Shut-Off Valve
- Metal, Panel and Bag Filters
- Adjustble Belt Pulley System
- High Thermal Insulation Class
- Low Ambient Temperature Kit



URTT Series		018~094									
		018	023	032	037	047	054	064	072	080 (6)	094 (6)
Technical Specifications											
Nominal Airflow Rate	m³/h	2.800	3.600	4.750	5.600	7.200	8.200	9.300	10.800	12.100	14.000
❶ Gross Cooling Capacity	kW	18,81	23,61	32,08	37,38	47,90	55,97	64,13	73,79	82,18	95,05
❶ Net Cooling Capacity	kW	18,54	23,06	31,38	37,17	46,95	55,07	62,91	72,09	80,53	92,64
❶ Net Sensible Cooling Capacity	kW	12,95	16,24	22,04	25,95	33,36	38,66	43,86	50,37	57,11	65,39
❶ Comps. Abs. Power	kW	4,74	6,02	7,79	9,45	11,96	13,81	15,60	18,22	20,74	24,25
❷ Gross Cooling Capacity	kW	16,86	21,14	28,42	34,08	42,84	49,75	56,77	65,57	73,97	85,84
❷ Net Cooling Capacity	kW	16,60	20,58	27,72	33,37	41,89	48,84	55,55	63,87	72,33	83,43
❷ Net Sensible Cooling Capacity	kW	12,14	15,25	20,55	24,42	31,32	36,14	40,84	47,02	53,82	61,72
❸ EER	Btu/W.h	10,16	9,71	9,08	9,68	9,95	9,81	9,17	9,25	9,48	9,72
❹ EER	Btu/W.h	11,1	10,1	9,6	10,4	10,6	11,1	10,3	10,4	10,4	10,4
❺ Maximum External Static Pressure	Pa	518	530	606	511	571	590	564	676	583	670
Circuit-Compressor	Qty	1-1	1-1	1-1	2-2	2-2	2-2	2-2	2-2	2-2	2-2
Dimensions											
Width (W)	mm	1.362	1.362	1.362	1.360	1.550	1.770	1.920	1.920	2.080	2.220
Height (H)	mm	1.442	1.592	1.708	1.779	1.819	1.858	1.858	1.979	1.979	2.069
Length (L)	mm	1.846	1.846	1.926	2.208	2.358	2.358	2.358	2.688	2.688	2.938
Weight											
Total	kg	374	402	459	512	648	814	836	895	966	1.095

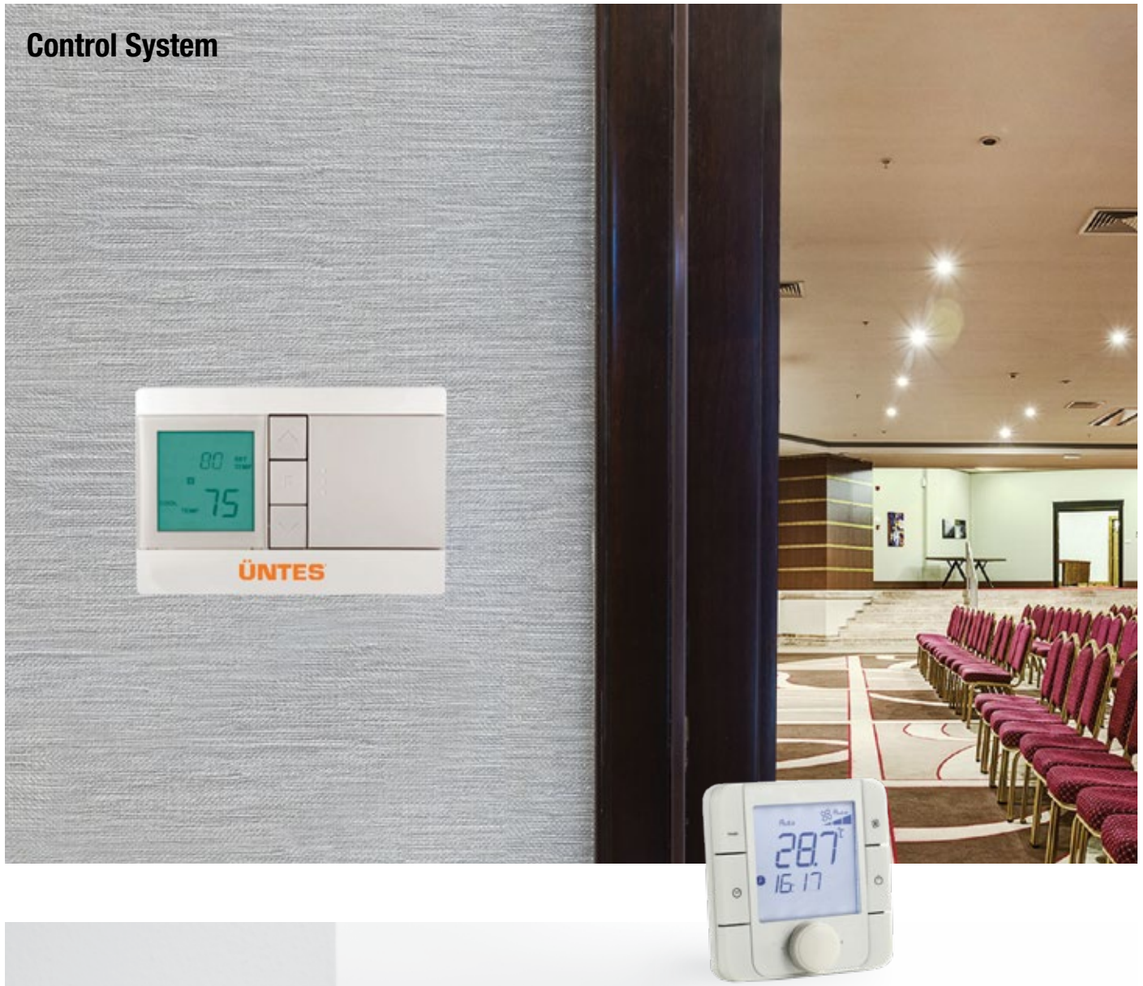
URTT Series		108~276									
		108 (6)	122 (6)	138	154	155	176	179	204	244	276
Technical Specifications											
Nominal Airflow Rate	m³/h	16.600	18.800	21.200	23.700	23.700	27.000	27.000	30.500	37.000	42.500
❶ Gross Cooling Capacity	kW	100,08	113,10	136,66	153,22	154,07	176,32	177,16	201,06	240,90	273,28
❶ Net Cooling Capacity	kW	96,73	109,76	133,03	149,29	151,18	171,22	173,20	197,32	234,72	267,20
❶ Net Sensible Cooling Capacity	kW	68,80	78,19	94,81	105,96	107,80	120,93	122,89	139,61	166,63	190,63
❶ Comps. Abs. Power	kW	27,05	31,57	33,98	37,92	37,99	44,05	44,13	50,31	60,33	68,22
❷ Gross Cooling Capacity	kW	90,21	101,82	122,10	136,08	136,76	156,96	157,62	179,15	216,69	244,02
❷ Net Cooling Capacity	kW	86,86	98,47	118,46	132,15	133,87	151,87	153,65	175,40	210,51	237,94
❷ Net Sensible Cooling Capacity	kW	64,85	73,66	88,92	99,02	100,77	113,10	114,96	130,72	156,90	178,81
❸ EER	Btu/W.h	8,28	7,91	8,93	9,26	10,11	9,00	9,92	10,17	9,68	10,04
❹ IEER	Btu/W.h	8,3	8,3	9,8	10,2	11,5	9,9	11,3	11,7	10,4	11,0
❺ Maximum External Static Pressure	Pa	447	410	705	541	863	587	847	943	824	741
Circuit-Compressor	Qty	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	4-4	4-4
Dimensions											
Width (W)	mm	2.220	2.220	2.200	2.310	2.206	2.310	2.266	2.266	2.266	2.266
Height (H)	mm	2.154	2.364	2.404	2.404	2.257	2.491	2.321	2.321	2.473	2.473
Length (L)	mm	3.208	3.288	3.478	3.448	4.577	3.848	4.677	5.017	5.790	6.030
Weight											
Total	kg	1.304	1.309	1.579	1.702	1.936	2.016	2.144	2.276	2.676	3.006

❶ Capacities as per AHRI 340/360 standard @ 26,67/19,4 °C coil inlet and 35 °C ambient temperature.
❷ Capacities @ 26,67/19,4 °C coil inlet and 46°C ambient temperature.
❸ Energy Efficiency Ratio at full load as per AHRI 340/360 standard
❹ Integrated Energy Efficiency Ratio as per AHRI 340/360 standard.
❺ Maximum ESP at nominal airflow rate according to metal filter for high pressure clas units
❻ AHRI certified product.



Rooftop Packaged Air Conditioners

Control System



Standard Control Features

URTT control panel presents all features of basic air conditioning applications itself.

- Stylish design, digital display
- Cool/Off/Heat and Fan Auto/On selection
- Cooling + Electric heater
- Integrated sensor
- Uptime counter for filter
- Ability to set the program as temporary or permanent

Additional Control Options

- Mode Area: Heating, cooling, automatic transition.
- Big Area: Selected value (room temperature, set values, etc.) are displayed with its unit. If rotating menu is selected, more than one value can be seen by pressing the setting key.
- Time Band: Passive/Active
- Small Area: The selected value can be seen with its unit or time value can be seen. The values displayed in this area can not be changed.
- Fan Area: The control status of inner unit fan is seen.
- Function Lock: It shows that the big area variable is locked against setting.
- Time Band Area: It shows which time band is active.
- Day Area: It shows the day.
- Icon Area: It shows the icons belonging to fan, alarm, etc. conditions.



Fan Coil Units
UNFC Series – Ceiling Concealed Types
UNFC Series – Cabinet Types

4-Way Cassette Fan Coil Units
UDFC Series

Air Terminal Units
UNAT Series

Fan Coil & Air Terminal Units

HOME COMFORT EVERYWHERE!

Untes, the HVAC expert, offers sustainable energy saving while bringing the most recent air conditioning technologies into the modern life. Green Line labeled fan coil units provides the comfort of home in all kinds of living environments by producing solutions and promoting sustainable systems in terms of energy productivity without sacrificing from comfort.

Distinctive Technology

Untes fan coil units offers just-in-time delivery based on its lean production philosophy.Due to its unique design and the most recent manufacturing technology, fan coil units are low noise, compact, easy to install as well as having aesthetic appearance.

All capacity and electrical tests are carried out at Fan Coil Test and Research Laboratories according EN1397, ANSI-ASHRAE79, ANSI-AHRI440 and ANSI-AMCA210 standards.

- Ideal room temperature and indoor air quality for all seasons
- Wide and versatile production options
- Advanced electronic control options
- Low energy consumption and high comfort
- Outstanding safety and high quality



Fan Coil Performance
Test Laboratory & Research Center



"Each kW is Under Control!"



Discover Innovative Fan Coil Test and Validation Laboratory!

Untes Fan Coil Performance Test Laboratory and Research Center provides its customers and business collaborates the opportunity to eliminate all risks at the start-up and know unit performance at actual operating conditions in advance and test the limits of units under challenging conditions.

Due to tests carried out in the Research Center, working performance of units is measured extensively and fault management functions are optimized before the installation on site.

Eliminate all the risks at start up.

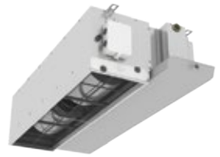
Know the unit operation at actual operating conditions.

Verify unit limits at severe operating conditions.

Series	Type	Version	Model	Connection
UNFC	**GTT:** Ceiling Concealed Type	**2Y**: 2-Pipe Up to 60 Pa **4Y**: 4-Pipe Up to 60 Pa **2D**: 2-Pipe Up to 40 Pa **4D**: 4- Pipe Up to 40 Pa	015~110	**L:** Left connection **R:** Right connection
	GTA: Ceiling Concealed Type			
	GBT: Ceiling Concealed Type (District Cooling)			
	GBA: Ceiling Concealed Type (District Cooling)			
	KTP: Cabinet Ceiling Type	**2B:** 2-Pipe **4B:** 4- Pipe		
	KTT: Cabinet Ceiling Type			
	KDT: Cabinet Floor Type			
	KYT: Cabinet Floor Type			
	GDT: Floor Type without Cabinet			



GTT-GBT: Ceiling concealed type, rear inlet and front supply



GTA-GBA: Ceiling concealed type, bottom inlet and front supply



KTP: Cabinet ceiling type, bottom inlet and front supply



KTT: Cabinet ceiling type, rear inlet and front supply



KDT: Cabinet floor type, bottom inlet and top supply (Feet are optinal)



KYT: Cabinet floor type, front inlet and top supply



GDT: Floor type without cabinet, bottom inlet and top supply

*GBT and GBA series are suitable for district cooling of GTT and GTA series.

Options / Accessories

CUT2



- For 2 pipes with valve control, 2 and 4 pipes without valve control
- Panel with three fan speed selection
- Fan Coil ON / OFF
- Summer / Winter selection
- Room thermostat

For Installation on Fan Coil Types KDT, KYT, KTP and KTT

CUT4



- For 4 pipes with valve control
- Panel with three fan speed selection
- Fan Coil ON / OFF
- Summer / Winter selection
- Room thermostat

For Installation on Fan Coil Types KDT, KYT, KTP and KTT

RDF 510 - 530



- 3-speed fan control
- Fan coil On/Off
- Heating or Cooling mode
- Summer/ Winter operation selector
- Timer specification
- Automatic backlighting

RDF 800



- 3-speed fan control
- Touch screen
- Heating and cooling mode at the same time
- BMS (Building Management System)
- Fan coil On/Off
- Summer/ Winter operation selector
- Operation timer
- Automatic backlighting

SM-2008 FFS-L



- 3-speed fan control
- Fan coil On/Off
- Heating or Cooling Mode
- Summer/ Winter operation selector
- Operation timer
- Fan speed control
- Automatic backlighting

Room thermostat (UOT)



- 3-speed fan control
- Fan coil On/Off
- Heating or Cooling mode
- Summer/ Winter operation selector
- Valve control for 2 pipes
- Valve control for 4 pipes (RAB31)

VM: 2 & 3-way valve options



2 and 3- way valves are used for the purpose of thermostatic fluid control for the coils and are supplied loose or factory fitted. 3-way valves are available with 4-port option for the installation convenience.

APK: Rear cover



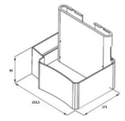
Used for covering the back of units in KDT and KYT types.

ALK: Lower cover



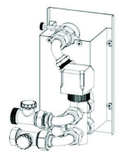
Used for covering the bottom of unit in KTP types.

AYK: Foot



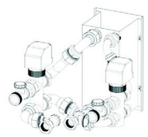
Used for installing the unit to the floor in KDT types.

3VM3SG: 3-way valve installation kit



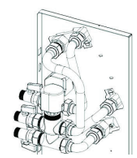
Used for 2-Pipe systems for GTT - GDT - GTA types.*

4VM3SG: 3-way valve installation kit



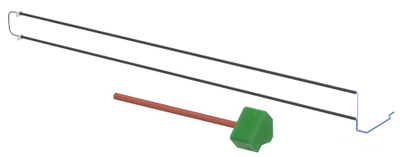
Used for 4-Pipe systems for GTT - GTA types. *

4VM3SK: 3-way valve installation kit



Used for 4-Pipe systems for GDT types. *

ELCH: Additional Electrical Heaters



For 2-Pipe systems. (GTT – GTA – GBT – GBA)

- Special design of electrical heaters which are integrated to coil allows lower surface temperatures with higher capacities.
- All electrical heaters are made of 304 quality Stainless steel and have halogen free cable connections.
- Option have integrated safety thermostat to prevent high surface temperatures which are resettable and already all cable connections are completed.
- Units have contactors (220 – 240 Vac, monophasic, 50 hz) and could be controlled by standard room thermostats.
- All Two pipe, ceiling concealed type UNFC series units can be equipped with electrical heaters.

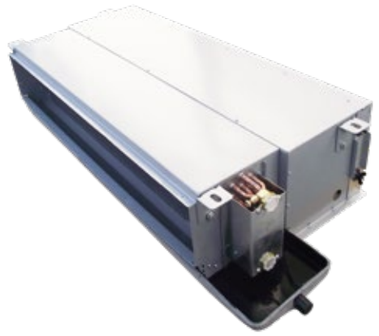
*** Supplied loose**

UNFC Series

Ceiling Concealed Type

Cooling capacity: 1,18-11,28 kW

Heating capacity: 2,44-40,58 kW



- **Ideal temperature and indoor air quality for all seasons**
- **Wide and versatile production options**
- **Advanced electronic control options**
- **Low energy consumption and high comfort**
- **Outstanding reliability and high quality**
- **Eurovent certified series**
- **Capacity testing facility at Fan Coil test laboratory**

Structural features

- Produced from high zinc ratio corrosion resistant galvanized sheet.
- High energy efficient and silent radial fans (230V-1ph-50Hz)
- Easy access for service and cleaning due to mesh filters.
- Specially designed waterproof terminal box are used for electrical connections.
- Coils are produced from high efficient, seamless copper pipe and aluminum fins. Each coil is installed in factory after test at 20 bar pressure.
- Special drip pan is used underneath the coil that prevents air leak and allows the transfer of condensed water into the drain pan.
- Drain pan is enameled with high protection specification and self-insulated.
- Additional drip pan, made up of ABS material, are used in order to prevent dripping at the coil and valve connection.

Types

- **GTT:** Ceiling concealed type, rear inlet and front supply
- **GTA:** Ceiling concealed type, bottom inlet and front supply

Versions

- **2Y:** 2-Pipe Up to 60 Pa
- **4Y:** 4-Pipe Up to 60 Pa
- **2D:** 2-Pipe Up to 40 Pa
- **4D:** 4-Pipe Up to 40 Pa

Options / Accessories

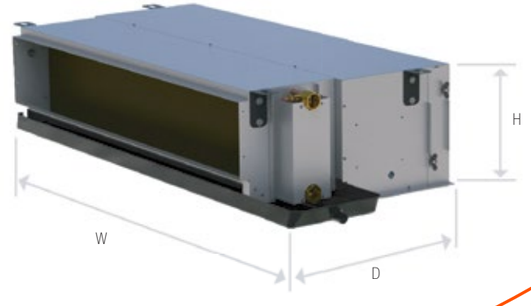
- Additional heating coil for 4-Pipe systems
- 2-way valves and actuators (Supplied loose)
- 3-way valves and actuators
- Room thermostat
- Digital room thermostat
- Stainless Steel Drain Pan
- Electrical Heater for 2-Pipe systems



UNFC Series		GTT - GTA TYPES 2-PIPE											
	2Y	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,45	2,18	2,59	2,98	4,28	4,62	5,23	6,37	6,90	8,11	9,45	11,28
❶ Sensible Cooling Capacity	kW	1,23	1,56	1,89	2,37	3,11	3,38	3,74	4,54	4,97	5,87	6,91	8,26
❷ Heating Capacity	kW	4,13	5,01	6,06	7,53	9,88	10,55	11,62	14,01	15,48	18,36	21,75	25,92
❸ Heating Capacity	kW	5,47	6,76	8,15	10,02	13,30	14,17	15,67	18,88	20,86	24,68	29,23	34,80
❺ Electrical Heater Capacity	kW	0,85	0,85	0,85	1,50	1,50	1,50	2,20	2,20	3,00	3,00	4,00	4,00
Airflow (High Speed)	m³/h	394	378	481	822	787	880	918	1.117	1.236	1.519	1.767	2.165
Airflow (Medium Speed)	m³/h	320	309	381	678	655	730	759	929	1.016	1.265	1.467	1.834
Airflow (Low Speed)	m³/h	183	177	228	408	395	498	519	525	669	719	1.001	1.006
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	480	480	480	480	480	480	480	480	480	480	480	480
Weight	kg	13,9	14,7	14,8	20,1	21,2	21,3	24,3	25,7	31,8	33,0	40,3	42,4
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	255	381	453	522	745	806	911	1.114	1.203	1.417	1.648	1.970
❶ Water Side Pressure Drop	kPa	3,3	10,0	13,8	18,0	15,8	18,2	25,5	39,3	24,4	33,9	21,1	30,7
❷ Water Flowrate (Heating)	l/h	359	436	528	656	862	920	1.014	1.222	1.351	1.601	1.898	2.261
❷ Water Side Pressure Drop	kPa	5,0	10,7	15,2	20,5	16,8	18,9	25,1	37,6	24,3	34,3	22,5	32,5
Water Content	l	0,75	1,05	1,05	1,06	1,52	1,52	1,75	1,89	2,18	2,26	2,83	3,03
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	40	40	45	45	45	47	47	48	48	50	51	52
Sound Pressure Level (Med)	dBA	36	36	40	40	40	41	41	43	43	45	46	47
Sound Pressure Level (Low)	dBA	34	28	32	29	31	35	34	35	36	39	37	39
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	42	45	56	77	72	83	88	131	113	152	169	207
Absorbed Power (Cooling) Medium Speed	W	36	39	48	72	68	76	80	123	102	143	154	196
Absorbed Power (Cooling) Low Speed	W	27	30	37	56	55	65	66	85	85	122	124	160

*All data given in the table is at 30 Pa external static pressure.

❶ Values are at high speed;, 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.
❺ All values are based on 230 Volt, 50 Hz electrical supply.



UNFC Series	4Y	015	020	025	030	035	040	050	060	070	080	100	110
GTT - GTA TYPES 4-PIPE													
Technical Specifications													
❶ Total Cooling Capacity	kW	1,41	2,13	2,53	3,28	4,21	4,57	5,12	6,19	6,76	7,37	9,26	10,95
❶ Sensible Cooling Capacity	kW	1,20	1,53	1,85	2,60	3,06	3,35	3,66	4,42	4,86	5,32	6,76	7,98
❷ Additional Coil Heating Capacity	kW	2,67	2,74	3,17	5,17	5,27	5,66	6,26	7,39	8,10	8,59	11,60	13,36
❸ Heating Capacity	kW	3,49	3,58	4,12	6,79	6,93	7,43	8,24	9,73	10,60	11,23	15,23	17,56
Air flow (High Speed)	m³/h	381	367	467	791	757	854	891	1.100	1.198	1.451	1.718	2.066
Air flow (Medium Speed)	m³/h	311	299	373	657	635	708	739	922	983	1.234	1.425	1.799
Air flow (Low Speed)	m³/h	177	172	224	396	384	480	504	510	650	693	967	968
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	480	480	480	480	480	480	480	480	480	480	480	480
Weight	kg	15,2	17,0	17,7	21,5	23,3	22,3	25,8	27,4	33,6	34,5	42,6	45,6
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	249	372	443	575	733	797	892	1.079	1.177	1.286	1.616	1.910
❶ Water Side Pressure Drop	kPa	3,1	9,6	13,3	19,7	15,3	17,8	24,6	37,1	23,4	28,4	20,3	29,0
❷ Water Flowrate (Heating)	l/h	231	237	273	447	456	490	542	639	702	741	1.003	1.155
❷ Water Side Pressure Drop	kPa	8,0	8,3	10,9	35,8	37,1	42,4	56,9	82,2	18,2	24,0	42,4	58,0
Water Content (Cooling)	l	0,75	1,05	1,05	1,06	1,52	1,52	1,75	1,89	2,18	2,26	2,83	3,03
Water Content (Heating)	l	0,38	0,38	0,38	0,54	0,54	0,54	0,61	0,66	0,76	0,79	0,98	1,04
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	40	40	45	45	45	47	47	48	48	50	51	52
Sound Pressure Level (Med)	dBA	36	36	40	40	40	41	41	43	43	45	46	47
Sound Pressure Level (Low)	dBA	24	28	32	29	31	35	34	35	36	39	37	39
Installation Data													
Coil In/ Out Diameter (Cooling Coil)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Coil In/ Out Diameter (Additional Heating Coil)	inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	41	40	52	75	68	79	83	107	105	144	165	196
Absorbed Power (Cooling) Medium Speed	W	35	35	46	69	64	73	77	103	96	139	151	192
Absorbed Power (Cooling) Low Speed	W	28	27	37	54	51	60	63	81	80	115	123	150

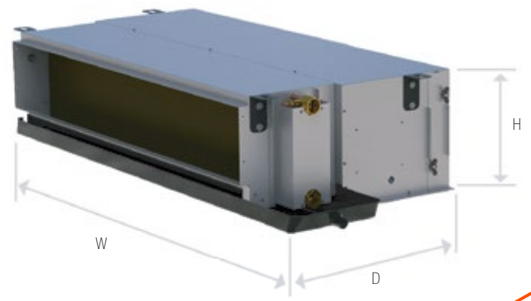
*All data given in the table is at 30 Pa external static pressure.

❶ Values are at high speed;, 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.

UNFC Series	2D	015	020	025	030	035	040	050	060	070	080	100	110
GTT - GTA TYPES 2-PIPE													
Technical Specifications													
❶ Total Cooling Capacity	kW	1,44	2,19	2,80	3,36	4,27	4,67	5,14	5,90	7,11	7,63	9,33	10,45
❶ Sensible Cooling Capacity	kW	1,23	1,58	2,06	2,67	3,11	3,42	3,67	4,20	5,14	5,49	6,82	7,64
❷ Heating Capacity	kW	4,08	5,01	6,61	8,24	9,74	10,74	11,39	12,95	15,99	17,18	21,39	24,21
❸ Heating Capacity	kW	5,41	6,77	8,87	10,98	13,12	14,44	15,36	17,48	21,53	23,12	28,76	32,52
❺ Electrical Heater Capacity	kW	0,85	0,85	0,85	1,50	1,50	1,50	2,20	2,20	3,00	3,00	4,00	4,00
Airflow (High Speed)	m³/h	395	380	538	814	774	878	895	1.025	1.289	1.392	1.731	2.126
Airflow (Medium Speed)	m³/h	326	312	414	633	615	692	707	802	1.008	1.110	1.361	1.700
Airflow (Low Speed)	m³/h	196	190	235	444	412	458	465	465	606	649	906	1.135
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	480	480	480	480	480	480	480	480	480	480	480	480
Weight	kg	13,8	14,6	14,6	20,0	21,1	21,1	24,0	25,6	31,8	32,1	40,2	42,3
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	252	382	489	586	745	813	895	1.028	1.238	1.334	1.625	1.822
❶ Water Side Pressure Drop	kPa	3,2	10,1	15,9	20,4	15,7	18,5	24,7	34,0	25,7	30,3	20,5	29,3
❷ Water Flowrate (Heating)	l/h	356	438	576	719	851	938	994	1.131	1.396	1.498	1.868	2.113
❷ Water Side Pressure Drop	kPa	5,0	10,7	17,9	24,1	16,4	19,6	24,2	32,6	25,8	30,3	21,8	28,8
Water Content	l	0,75	1,05	1,05	1,06	1,52	1,52	1,75	1,89	2,18	2,26	2,83	3,03
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	36	36	42	41	40	44	43	45	47	48	48	49
Sound Pressure Level (Med)	dBA	32	32	37	37	36	39	38	40	42	43	42	42
Sound Pressure Level (Low)	dBA	21	24	28	30	29	33	31	31	32	33	32	33
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	32	35	58	60	68	75	79	91	111	151	149	189
Absorbed Power (Cooling) Medium Speed	W	28	32	47	54	57	57	62	83	101	139	115	171
Absorbed Power (Cooling) Low Speed	W	23	26	36	42	49	46	48	66	82	106	94	138

*All data given in the table is at 0 Pa external static pressure.

❶ Values are at high speed;, 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.
❺ All values are based on 230 Volt, 50 Hz electrical supply.



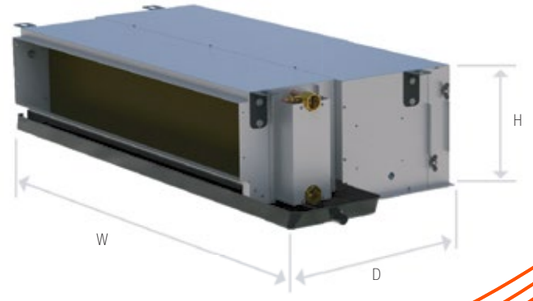
UNFC Series	4D	015	020	025	030	035	040	050	060	070	080	100	110
GTT - GTA TYPES 4-PIPE													
Technical Specifications													
❶ Total Cooling Capacity	kW	1,40	2,16	2,71	3,31	4,20	4,53	4,84	5,79	6,85	7,35	9,22	10,76
❶ Sensible Cooling Capacity	kW	1,19	1,56	1,99	2,63	3,05	3,31	3,45	4,11	4,93	5,28	6,71	7,84
❷ Additional Coil Heating Capacity	kW	2,70	2,52	3,55	5,27	5,57	5,96	5,57	7,40	8,74	9,31	10,19	13,87
❸ Additional Coil Heating Capacity	kW	3,53	3,30	4,63	6,93	7,32	7,82	7,34	9,76	11,42	12,18	13,39	18,21
Air flow (High Speed)	m³/h	385	372	513	797	751	841	861	996	1.225	1.317	1.651	2.012
Air flow (Medium Speed)	m³/h	317	304	393	627	598	663	677	782	972	1.067	1.302	1.636
Air flow (Low Speed)	m³/h	192	187	225	429	395	444	450	450	581	621	876	1.102
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	480	480	480	480	480	480	480	480	480	480	480	480
Weight	kg	15,1	16,9	17,5	21,4	23,2	22,1	25,5	27,3	33,6	34,4	42,5	45,5
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	245	376	473	578	729	789	843	1.008	1.195	1.283	1.606	1.875
❶ Water Side Pressure Drop	kPa	3,0	9,8	15,0	19,9	15,1	17,5	22,2	32,8	24,1	28,3	20,1	28,0
❷ Water Flowrate (Heating)	l/h	235	219	307	458	483	516	483	641	756	805	883	1.200
❷ Water Side Pressure Drop	kPa	8,2	7,2	13,4	37,4	41,1	46,5	46,1	82,4	20,8	23,9	33,7	62,1
Water Content (Cooling)	l	0,75	1,05	1,05	1,06	1,52	1,52	1,75	1,89	2,18	2,26	2,83	3,03
Water Content (Heating)	l	0,38	0,38	0,38	0,54	0,54	0,54	0,61	0,66	0,76	0,79	0,98	1,04
❹ Sound Level													
Sound Pressure Level (High)	dBA	36	36	42	41	40	44	43	45	47	48	48	49
Sound Pressure Level (Med)	dBA	32	32	37	37	36	39	38	40	42	43	43	42
Sound Pressure Level (Low)	dBA	21	24	28	30	29	33	31	31	32	33	33	33
Installation Data													
Coil In/Out Diameter (Cooling Coil)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Coil In/Out Diameter (Additional Heating Coil)	inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	31	30	56	59	56	71	79	89	117	130	146	179
Absorbed Power (Cooling) Medium Speed	W	27	26	45	54	47	55	61	81	108	121	113	165
Absorbed Power (Cooling) Low Speed	W	23	22	35	41	39	45	47	64	87	92	92	134

*All data given in the table is at 0 Pa external static pressure.

❶ Values are at high speed;, 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.

UNFC Series	2Y	015	020	025	030	035	040	050	060	070	080	100	110
GBA-GBT TYPES 2-PIPE													
Technical Specifications													
❶ Total Cooling Capacity	kW	1,22	1,72	2,15	3,34	3,60	3,98	4,60	5,67	6,02	7,09	8,08	9,71
❶ Sensible Cooling Capacity	kW	1,10	1,33	1,65	2,59	2,72	3,02	3,36	4,12	4,44	5,23	6,12	7,28
❷ Additional Coil Heating Capacity	kW	5,27	5,59	6,88	10,52	11,12	12,37	13,22	16,05	17,63	20,73	24,98	29,35
❸ Additional Coil Heating Capacity	kW	7,13	7,65	9,39	14,26	15,18	16,85	18,07	21,91	24,06	28,26	34,04	39,98
❺ Electrical Heater Capacity	kW	0,85	0,85	0,85	1,50	1,50	1,50	2,20	2,20	3,00	3,00	4,00	4,00
Airflow (High Speed)	m³/h	377	362	460	779	743	841	881	1.085	1.181	1.417	1.694	2.018
Airflow (Medium Speed)	m³/h	307	295	369	650	627	699	731	918	970	1.218	1.406	1.778
Airflow (Low Speed)	m³/h	176	170	222	392	380	473	498	503	642	683	953	954
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	483	483	483	483	483	483	483	483	483	483	483	483
Weight	kg	14,7	15,5	15,6	21,5	22,7	22,8	25,9	27,5	33,9	35,2	43,1	45,5
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	120	160	210	320	340	380	440	540	570	680	770	930
❶ Water Side Pressure Drop	kPa	1,18	2,91	4,33	9,99	5,10	6,07	8,92	13,88	8,29	11,43	6,59	9,66
❷ Water Flowrate (Heating)	l/h	460	490	610	920	980	1.090	1.160	1.410	1.550	1.820	2.200	2.280
❷ Water Side Pressure Drop	kPa	11,89	17,52	25,86	56,85	27,51	33,46	42,08	64,05	40,14	55,84	36,13	51,10
Water Content	l	1,05	1,35	1,35	1,52	1,98	1,98	2,28	2,47	2,85	2,96	3,72	3,99
❹ Sound Level													
Sound Pressure Level (High)	dBA	40	40	45	45	45	47	47	48	48	50	51	52
Sound Pressure Level (Med)	dBA	36	36	40	40	40	41	41	43	43	45	46	47
Sound Pressure Level (Low)	dBA	34	28	32	29	31	35	34	35	36	39	37	39
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	46	46	62	85	83	92	95	126	138	182	185	242
Absorbed Power (Cooling) Medium Speed	W	40	40	52	73	72	81	83	110	121	158	162	214
Absorbed Power (Cooling) Low Speed	W	32	32	41	60	60	67	67	89	99	129	133	177

*All data given in the table is at 30 Pa external static pressure.
❶ Values are at high speed;, 24 °C DB 50 % RH room conditions and 5,5/14,5 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.
❺ All values are based on 230 Volt, 50 Hz electrical supply.



UNFC Series	4Y	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,20	1,67	2,09	3,24	3,49	3,86	4,52	5,52	5,88	6,85	7,87	9,41
❶ Sensible Cooling Capacity	kW	1,08	1,29	1,60	2,51	2,63	2,93	3,29	3,99	4,32	5,04	5,94	7,03
❷ Heating Capacity	kW	2,52	2,46	2,84	4,81	4,68	5,04	5,63	6,58	7,24	8,16	10,25	11,71
❸ Heating Capacity	kW	3,30	3,24	3,71	6,34	6,18	6,65	7,44	8,71	9,51	10,72	13,53	15,46
Air flow (High Speed)	m³/h	365	353	444	748	715	811	860	1.045	1.144	1.353	1.636	1.933
Air flow (Medium Speed)	m³/h	297	287	360	630	608	679	713	904	942	1.187	1.367	1.729
Air flow (Low Speed)	m³/h	171	166	216	381	370	456	484	488	623	661	920	925
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	483	483	483	483	483	483	483	483	483	483	483	483
Weight	kg	16,7	17,8	16,5	22,9	24,8	23,8	27,4	29,2	35,7	36,7	45,4	48,7
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	110	160	210	320	340	380	440	540	570	680	770	930
❶ Water Side Pressure Drop	kPa	1,15	2,76	4,10	9,99	5,10	6,07	8,92	13,88	8,29	11,43	6,59	9,66
❷ Water Flowrate (Heating)	l/h	220	220	250	920	980	1.090	1.160	1.410	1.550	1.820	2.200	2.280
❷ Water Side Pressure Drop	kPa	7,38	7,10	9,22	32,36	30,79	35,42	48,32	68,79	15,25	19,52	35,03	47,19
Water Content (Cooling)	l	1,05	1,35	1,35	1,52	1,98	1,98	2,28	2,47	2,85	2,96	3,72	3,99
Water Content (Heating)	l	0,38	0,38	0,38	0,54	0,54	0,54	0,61	0,66	0,76	0,79	0,98	1,04
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	40	40	45	45	45	47	47	48	48	50	51	52
Sound Pressure Level (Med)	dBA	36	36	40	40	40	41	41	43	43	45	46	47
Sound Pressure Level (Low)	dBA	24	28	32	29	31	35	34	35	36	39	37	39
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	46	46	62	83	81	90	93	123	135	178	181	235
Absorbed Power (Cooling) Medium Speed	W	40	40	51	72	71	80	82	108	119	156	160	210
Absorbed Power (Cooling) Low Speed	W	32	32	41	60	60	66	67	88	98	129	133	176

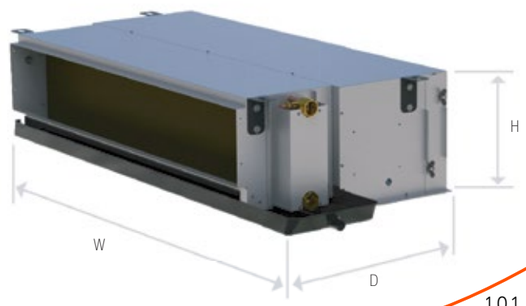
GBA-GBT TYPES 4-PIPE

*All data given in the table is at 30 Pa external static pressure.
❶ Values are at high speed;, 24 °C DB 50 % RH room conditions and 5,5/14,5 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.

UNFC Series	2D	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,19	1,66	2,39	3,22	3,48	3,91	4,54	5,46	6,21	7,03	7,96	9,84
❶ Sensible Cooling Capacity	kW	1,06	1,28	1,84	2,48	2,62	2,97	3,31	3,95	4,58	5,18	6,01	7,39
❷ Heating Capacity	kW	5,03	5,41	7,66	10,07	10,72	12,15	13,03	15,37	18,23	20,53	24,56	29,80
❸ Heating Capacity	kW	6,82	7,42	10,43	13,66	14,64	16,56	17,81	20,99	24,88	27,99	33,48	40,58
❺ Electrical Heater Capacity	kW	0,85	0,85	0,85	1,50	1,50	1,50	2,20	2,20	3,00	3,00	4,00	4,00
Airflow (High Speed)	m³/h	356	350	521	738	712	824	866	1.031	1.229	1.401	1.660	2.055
Airflow (Medium Speed)	m³/h	288	275	403	587	567	649	687	828	963	1.109	1.307	1.641
Airflow (Low Speed)	m³/h	179	172	229	392	374	433	450	468	580	648	870	1.093
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	483	483	483	483	483	483	483	483	483	483	483	483
Weight	kg	14,6	15,4	15,4	21,4	22,6	22,6	25,6	27,4	33,9	34,3	43,0	45,4
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	110	160	230	310	330	370	430	520	590	670	760	940
❶ Water Side Pressure Drop	kPa	1,12	2,71	5,22	9,34	4,79	5,90	8,71	12,99	8,74	11,26	6,41	9,89
❷ Water Flowrate (Heating)	l/h	440	480	670	890	940	1.070	1.150	1.350	1.600	1.800	2.160	2.620
❷ Water Side Pressure Drop	kPa	10,91	16,53	31,59	52,42	25,69	32,40	40,94	59,10	42,75	54,84	35,00	52,57
Water Content (Cooling)	l	1,05	1,35	1,35	1,52	1,98	1,98	2,28	2,47	2,85	2,96	3,72	3,99
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	36	36	42	41	40	44	43	45	47	48	48	49
Sound Pressure Level (Med)	dBA	32	32	37	37	36	39	38	40	42	43	42	42
Sound Pressure Level (Low)	dBA	24	28	32	29	31	35	34	35	36	39	37	39
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	35	353	65	64	64	79	80	126	125	154	159	203
Absorbed Power (Cooling) Medium Speed	W	31	31	53	56	56	62	62	108	109	132	123	176
Absorbed Power (Cooling) Low Speed	W	25	25	39	45	45	47	47	83	86	100	94	140

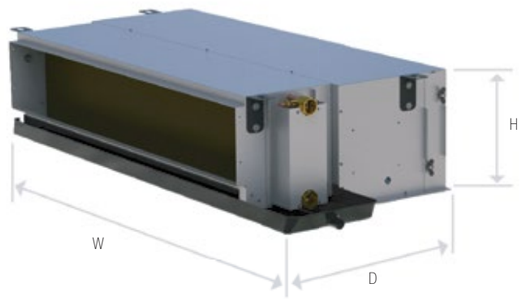
GBA - GBT TYPES 2-PIPE

*All data given in the table is at 0 Pa external static pressure.
❶ Values are at high speed, 24 °C DB 50 % RH room conditions and 5,5/14,5 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.
❺ All values are based on 230 Volt, 50 Hz electrical supply.



UNFC Series		GBA - GBT TYPES 4-PIPE											
	4D	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,18	1,64	2,33	3,14	3,40	3,80	4,46	5,42	6,03	6,85	7,74	9,56
❶ Sensible Cooling Capacity	kW	1,05	1,27	1,80	2,42	2,56	2,88	3,25	3,92	4,44	5,04	5,84	7,16
❷ Heating Capacity	kW	2,46	2,44	3,07	4,68	4,59	4,98	5,57	6,49	7,39	8,16	10,13	11,87
❸ Heating Capacity	kW	3,23	3,20	4,01	6,18	6,06	6,57	7,37	8,59	9,70	10,72	13,36	15,65
Air flow (High Speed)	m³/h	351	347	506	715	692	794	845	1.021	1.182	1.353	1.603	1.976
Air flow (Medium Speed)	m³/h	277	265	388	569	549	627	665	816	937	1.076	1.263	1.597
Air flow (Low Speed)	m³/h	173	167	221	376	361	422	440	461	562	629	849	1.075
Dimensions													
Height (H)	mm	235	235	235	235	235	235	235	235	235	235	235	235
Width (W)	mm	685	685	685	965	965	965	1.100	1.185	1.355	1.405	1.745	1.830
Depth (D)	mm	483	483	483	483	483	483	483	483	483	483	483	483
Weight	kg	15,9	17,7	16,3	22,8	25,0	23,6	27,1	29,1	35,7	36,6	45,3	48,6
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	110	160	220	300	320	360	420	520	570	650	740	910
❶ Water Side Pressure Drop	kPa	1,11	2,66	5,00	8,98	4,60	5,61	8,43	12,82	8,30	10,76	6,10	9,40
❷ Water Flowrate (Heating)	l/h	220	210	270	410	400	440	490	570	650	720	890	1.040
❷ Water Side Pressure Drop	kPa	7,06	6,96	10,67	30,78	29,66	34,62	47,34	67,07	15,81	19,52	34,23	48,34
Water Content (Cooling)	l	1,05	1,35	1,35	1,52	1,98	1,98	2,28	2,47	2,85	2,96	3,72	3,99
Water Content (Heating)	l	0,38	0,38	0,38	0,54	0,54	0,54	0,61	0,66	0,76	0,79	0,98	1,04
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	36	36	42	41	40	44	43	45	47	48	48	49
Sound Pressure Level (Med)	dBA	32	32	37	37	36	39	38	40	42	43	42	42
Sound Pressure Level (Low)	dBA	21	24	28	30	29	33	31	31	32	33	32	33
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	35	34	64	64	64	79	79	123	124	152	157	201
Absorbed Power (Cooling) Medium Speed	W	31	31	53	56	56	61	62	108	109	131	123	174
Absorbed Power (Cooling) Low Speed	W	25	25	39	45	44	47	47	83	86	100	94	139

*All data given in the table is at 0 Pa external static pressure.
❶ Values are at high speed;, 24 °C DB 50 % RH room conditions and 5,5/14,5 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.





UNFC Series

Cabinet Types

Cooling capacity: 1,46-9,88 kW

Heating capacity: 2,71-28,99 kW

- **Ideal temperature and indoor air quality for all seasons**
- **Wide and versatile production options**
- **Advanced electronic control options**
- **Low energy consumption and high comfort**
- **Outstanding reliability and high quality**



Structural features

- Produced from high zinc ratio corrosion resistant galvanized sheet and painted cabinet sheet with different color options.
- High energy efficient and silent radial fans (230V-1ph-50Hz)
- Easy access for service and cleaning due to mesh filters
- Specially designed waterproof terminal box are used for electrical connections.
- Coils are produced from high efficient, seamless copper pipe and aluminum fins. Each coil is installed in factory after test at 20 bar pressure.
- Special drip pan is used underneath the coil that prevents air leak and allows the transfer of condensed water into the drain pan.
- Drain pan is enameled with high protection specification and self-insulated.
- Additional drip pan, made up of ABS material, are used in order to prevent dripping at the coil and valve connection.

Types

- **KTP**: Cabinet ceiling type, bottom inlet and front supply
- **KTT**: Cabinet ceiling type, rear inlet and front supply
- **KDT**: Cabinet floor type, bottom inlet and top supply (Feet are optional)
- **KYT**: Cabinet floor type, front inlet and top supply
- **GDT**: Floor type without cabinet, bottom inlet and top supply

Versions

- **2B**: 2-Pipe
- **4B**: 4-Pipe

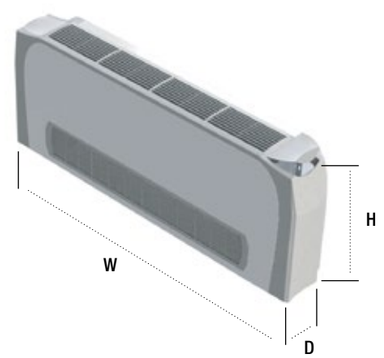
Options / Accessories

- Additional heating coil for 4-Pipe systems
- 2-way valves and actuators (Supplied loose)
- 3-way valves and actuators (Supplied loose)
- Room thermostat
- Digital room thermostat



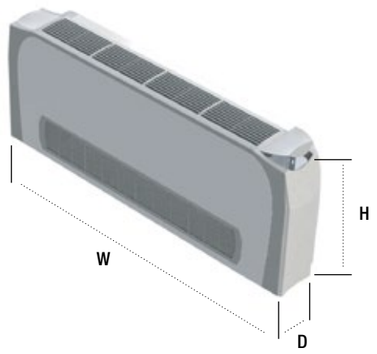
UNFC Series		KDT - KYT - KTP - KTT - GDT TYPES 2-PIPE											
	2	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,47	1,97	2,41	2,91	3,72	4,24	5,17	5,04	6,41	7,52	8,56	9,88
❶ Sensible Cooling Capacity	kW	1,21	1,40	1,73	2,23	2,63	3,04	3,56	3,68	4,49	5,36	5,95	6,94
❷ Heating Capacity	kW	3,65	4,18	5,25	6,72	8,04	9,23	10,37	11,68	13,50	16,06	18,23	20,78
❸ Heating Capacity	kW	4,86	5,66	7,07	8,98	10,88	12,45	14,09	15,72	18,30	21,69	24,71	28,09
Air flow (High Speed)	m³/h	363	356	470	686	667	828	862	1.150	1.102	1.405	1.534	1.808
Air flow (Medium Speed)	m³/h	285	269	370	545	527	686	682	961	868	1.156	1.242	1.499
Air flow (Low Speed)	m³/h	183	172	214	362	350	412	456	532	573	747	848	1.028
Dimensions													
Height (H)	mm	545	545	545	545	545	545	545	545	545	545	545	545
Width (W)	mm	850	850	850	1.110	1.110	1.110	1.370	1.370	1.630	1.630	1.890	1.890
Depth (D)	mm	231	231	231	231	231	231	231	231	231	231	231	231
Weight	kg	20,6	21,2	21,2	26,9	27,8	28,8	31,7	33,4	41,5	42,5	50,6	52,9
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	257	344	421	508	647	738	897	881	1.114	1.314	1.493	1.719
❶ Water Side Pressure Drop	kPa	4,0	10,9	15,8	20,1	15,6	20,2	35,6	10,8	17,3	23,6	34,8	44,1
❷ Water Flowrate (Heating)	l/h	319	365	457	586	702	806	906	1.019	1.179	1.401	1.591	1.814
❷ Water Side Pressure Drop	kPa	5,3	10,4	15,9	21,8	14,9	19,9	30,0	14,1	15,8	22,2	31,5	40,2
Water Content	l	0,86	1,19	1,19	1,22	1,73	1,73	2,28	2,28	2,83	2,83	3,37	3,37
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	36	36	42	40	40	46	42	44	45	47	49	48
Sound Pressure Level (Med)	dBA	32	32	38	36	35	43	37	39	39	42	43	42
Sound Pressure Level (Low)	dBA	19	23	27	29	29	32	30	30	30	32	32	32
Installation Data													
Coil In/Out Diameter	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	mm	20	20	20	20	20	20	20	20	20	20	20	20
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	30	32	55	61	60	73	70	123	96	138	160	162
Absorbed Power (Cooling) High Speed	W	27	29	45	55	55	68	57	112	81	119	124	147
Absorbed Power (Cooling) Low Speed	W	23	25	34	46	46	59	45	86	64	93	96	117

❶ Values are at high speed;, 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q:1.
❺ Floor without cabinet types' (GDT) external static pressure is considered as 12 Pa.



UNFC Series		KDT - KYT - KTP - KTT - GDT TYPES 4-PIPE											
	4	015	020	025	030	035	040	050	060	070	080	100	110
Technical Specifications													
❶ Total Cooling Capacity	kW	1,32	1,94	2,35	2,82	3,61	4,15	5,03	5,25	6,37	7,30	8,41	9,59
❶ Sensible Cooling Capacity	kW	1,09	1,37	1,69	2,15	2,54	2,96	3,45	3,83	4,47	5,17	5,84	6,72
❷ Additional Coil Heating Capacity	kW	1,85	1,95	2,33	3,71	3,67	4,10	4,90	5,92	6,24	7,21	8,26	9,21
❸ Additional Coil Heating Capacity	kW	2,41	2,54	3,03	4,87	4,81	5,37	6,47	7,78	8,18	9,42	10,85	12,08
Air flow (High Speed)	m³/h	358	347	456	654	640	789	830	1.093	1.109	1.349	1.467	1.733
Air flow (Medium Speed)	m³/h	274	260	364	517	505	661	657	942	833	1.120	1.208	1.440
Air flow (Low Speed)	m³/h	174	165	208	343	336	398	443	506	549	723	821	969
Dimensions													
Height (H)	mm	545	545	545	545	545	545	545	545	545	545	545	545
Width (W)	mm	850	850	850	1.110	1.110	1.110	1.370	1.370	1.630	1.630	1.890	1.890
Depth (D)	mm	231	231	231	231	231	231	231	231	231	231	231	231
Weight	kg	23,2	23,8	23,8	30,3	31,2	32,2	36,0	37,7	46,6	47,6	56,5	58,8
Fluid Data													
❶ Water Flowrate (Cooling)	l/h	232	337	412	493	627	722	873	917	1.107	1.276	1.462	1.668
❶ Water Side Pressure Drop	kPa	3,6	10,5	15,2	19,0	14,7	19,2	33,9	10,9	17,2	22,4	33,2	41,8
❷ Water Flowrate (Heating)	l/h	160	169	201	322	318	355	425	511	541	621	715	797
❷ Water Side Pressure Drop	kPa	4,6	4,7	6,5	20,1	19,6	24,3	42,0	58,1	13,0	18,5	24,3	29,4
Water Content (Cooling)	l	0,86	1,19	1,19	1,22	1,73	1,73	2,28	2,28	2,83	2,83	3,37	3,37
Water Content (Heating)	l	0,35	0,35	0,35	0,50	0,50	0,50	0,64	0,64	0,79	0,79	0,93	0,93
❹ **Sound Level**													
Sound Pressure Level (High)	dBA	36	36	42	40	40	46	42	44	45	47	49	48
Sound Pressure Level (Med)	dBA	32	32	38	36	36	43	37	39	39	42	43	42
Sound Pressure Level (Low)	dBA	19	23	27	29	29	32	30	30	30	32	32	32
Installation Data													
Coil In/Out Diameter (Cooling Coil)	inch	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Coil In/Out Diameter (Additional Heating Coil)	inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Drain Pipe Diameter	mm	20	20	20	20	20	20	20	20	20	20	20	20
Absorbed Power													
Absorbed Power (Cooling) High Speed	W	34	31	54	60	59	71	68	110	94	160	129	156
Absorbed Power (Cooling) High Speed	W	30	28	44	54	54	66	56	100	79	137	99	142
Absorbed Power (Cooling) Low Speed	W	26	24	33	45	45	58	44	77	62	107	76	111

❶ Values are at high speed; 27 °C DB 50 % RH room conditions and 7/12 °C in/out water temperatures.
❷ Values are at high speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.
❸ Values are at high speed, 20 °C DB room conditions and 90/70 °C water in/out temperatures.
❹ Sound pressure levels are measured at 1 mt. distance from the tested unit and Q: 1.
❺ Floor without cabinet types' (GDT) external static pressure is considered as 12 Pa





4-Way Cassette Fan Coil Units

UDFC Series

Cooling capacity: 2,1 - 12,04 kW

Heating capacity: 2,8 - 14,37 kW



• Ideal temperature and indoor air quality for all seasons
• Wide and versatile production options
• Advanced electronic control options
• Low energy consumption and high comfort
• Outstanding reliability and high quality
• Fresh air option

Structural features

- The units are aesthetically-designed and easy to service and operate.
- Fresh air inlet is available to make fresh air connection when required.
- Washable and reusable filters are user- and environment-friendly.
- High-quality, plastic and single suction fans make sure that the operation noise is low even when air flows are at higher velocities.
- With their slim and compact designs, the units can be easily installed in spaces such as attics.
- They can be precisely adjusted with 5-speed PSC electric motors.
- Drainage pump drains up to 650 mm in head.
- Remote controller is available as standard. Wired controller options are also available on request.
- The units can be supplied with electric heaters on request.

Types

- 4-Way cassette

Versions

- **2B:** 2-Pipe
- **4B:** 4-Pipe

Options / Accessories

- 2-way valves and actuators (Supplied loose)
- 3-way valves and actuators (Supplied loose)
- Standard remote control
- Central or individual wired control options





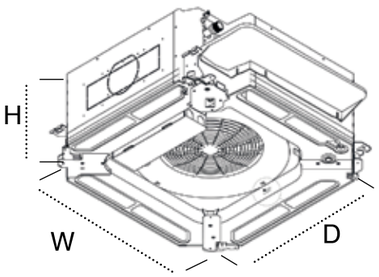
UDFC Series		2 PIPE								
	2	910	913	918	924	932	936	942	948	960
Technical Specifications										
❶ Total Cooling Capacity	kW	2,07	3,15	4,18	4,41	6,86	8,15	9,94	11,16	12,04
❶ Sensible Cooling Capacity	kW	1,63	2,22	3,09	3,29	5,00	6,02	7,08	8,00	9,09
❷ Heating Capacity	kW	2,77	3,90	5,27	5,59	8,10	9,85	11,88	13,34	14,37
Air flow (Turbo)	m^3/h	630	540	760	810	1.140	1.410	1.510	1.720	1.840
Air flow (High Speed)	m^3/h	510	415	610	760	1.020	1.240	1.345	1.485	1.720
Air flow (Medium Speed)	m^3/h	410	360	400	610	815	1.040	1.170	1.203	1.485
Air flow (Low Speed)	m^3/h	340	220	290	400	610	815	940	936	1.203
Dimensions (Unit)										
Height (H)	mm	280	280	280	280	320	320	320	320	320
Width (W)	mm	574	574	574	574	844	844	844	844	844
Depth (D)	mm	574	574	574	574	844	844	844	844	844
Weight	kg	18	19	19	19	32	32	35	35	35
Dimensions (Panel)										
Height (H)	mm	65	65	65	65	67	67	67	67	67
Width (W)	mm	720	720	720	720	950	950	950	950	950
Depth (D)	mm	720	720	720	720	950	950	950	950	950
Weight	kg	3	3	3	3	5	5	5	5	5
Fluid Data										
❶ Water Flowrate (Cooling)	l/h	356	540	720	756	1.180	1.400	1.706	1.915	2.070
❶ Water Side Pressure Drop (Cooling)	kPa	16,5	10,8	16,4	17,8	17,0	22,0	22,7	28,0	32,0
❷ Water Side Pressure Drop (Heating)	kPa	14,3	9,2	15,0	16,2	15,8	20,0	20,0	24,5	29,0
Water Content	l	0,56	1,06	1,06	1,06	2,12	2,12	2,99	2,99	2,99
❸ **Sound Level**										
Sound Pressure Level (Turbo)	dBA	43	43	48	50	43	46	47	50	53
Sound Pressure Level (High Speed)	dBA	42	39	43	48	41	44	44	46	50
Sound Pressure Level (Medium Speed)	dBA	36	37	37	43	38	42	42	40	46
Sound Pressure Level (Low Speed)	dBA	34	33	33	37	36	39	37	37	40
Installation Data										
Coil Inlet-Outlet Diameter	inch	3/4	3/4	3/4	3/4	1	1	1	1	1
Drain Pipe Diameter (Outer)	mm	24	24	24	24	26	26	26	26	26
Absorbed Power										
Absorbed Power (Cooling) - Turbo	W	85	74	132	153	124	150	185	225	255
Absorbed Power (Cooling) - High Speed	W	70	56	94	132	108	134	162	190	225
Absorbed Power (Cooling) - Medium Speed	W	53	45	61	94	88	115	138	142	190
Absorbed Power (Cooling) - Low Speed	W	43	29	45	61	65	92	108	113	142

* All data given in the table is at 0 Pa external static pressure.

❶ Values are at turbo speed, 27 °C DB, 19 °C WB room conditions and 7/12 °C in/out water temperatures.

❷ Values are at turbo speed, 20 °C DB room conditions and 50 °C water inlet temperature.

❸ Sound pressure levels are measured at 1 meter distance from the tested unit and Q:1



4-Way Cassette Fan Coil Units

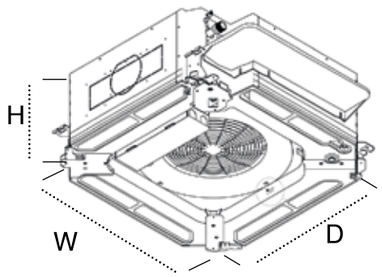
UDFC Series		4 PIPE								
	4	910	913	918	924	932	936	942	948	960
Technical Specifications										
❶ Total Cooling Capacity	kW	1,87	2,64	3,53	3,72	5,70	6,74	8,71	9,72	10,47
❶ Sensible Cooling Capacity	kW	1,49	1,94	2,69	2,87	4,53	5,44	6,42	7,26	7,83
❷ Heating Capacity	kW	1,45	3,14	4,12	4,35	5,54	6,44	7,66	8,38	8,88
Air˜ow (Turbo)	m^3/h	630	540	760	810	1.140	1.410	1.510	1.720	1.840
Air˜ow (High Speed)	m^3/h	510	415	610	760	1.020	1.240	1.345	1.485	1.720
Air˜ow (Medium Speed)	m^3/h	410	360	400	610	815	1.040	1.170	1.203	1.485
Air˜ow (Low Speed)	m^3/h	340	220	290	400	610	815	940	936	1.203
Dimensions (Unit)										
Height (H)	mm	280	280	280	280	320	320	320	320	320
Width (W)	mm	574	574	574	574	844	844	844	844	844
Depth (D)	mm	574	574	574	574	844	844	844	844	844
Weight	kg	18	19	19	19	32	32	35	35	35
Dimensions (Panel)										
Height (H)	mm	65	65	65	65	67	67	67	67	67
Width (W)	mm	720	720	720	720	950	950	950	950	950
Depth (D)	mm	720	720	720	720	950	950	950	950	950
Weight	kg	3	3	3	3	5	5	5	5	5
Fluid Data										
❶ Water Flowrate (Cooling)	l/h	320	454	605	640	979	1.159	1.494	1.670	1.800
❶ Water Side Pressure Drop (Cooling)	kPa	15,0	13,3	19,0	20,8	14,3	17,5	19,5	23,5	26,5
❷ Water Flowrate (Heating)	l/h	126	274	360	382	486	565	673	734	778
❷ Water Side Pressure Drop (Heating)	kPa	10,0	14,0	20,5	22,0	14,4	18,7	17,0	20,5	22,0
Water Content (Cooling Coil)	l	0,46	0,86	0,86	0,86	1,76	1,76	2,55	2,55	2,55
Water Content (Additional Heating Coil)	l	0,11	0,22	0,22	0,22	0,45	0,45	0,54	0,54	0,54
❸ **Sound Level**										
Sound Pressure Level (Turbo)	dBA	43	43	48	50	43	46	47	50	53
Sound Pressure Level (High Speed)	dBA	42	39	43	48	41	44	44	46	50
Sound Pressure Level (Medium Speed)	dBA	36	37	37	43	38	42	42	40	46
Sound Pressure Level (Low Speed)	dBA	34	33	33	37	36	39	37	37	40
Installation Data										
Coil Inlet-Outlet Diameter (Cooling Coil)	inch	3/4	3/4	3/4	3/4	1	1	1	1	1
Coil Inlet-Outlet Diameter (Heating Coil)	inch	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter (Outer)	mm	24	24	24	24	26	26	26	26	26
Absorbed Power										
Absorbed Power (Cooling) - Turbo	W	85	74	132	153	124	150	185	225	255
Absorbed Power (Cooling) - High Speed	W	70	56	94	132	108	134	162	190	225
Absorbed Power (Cooling) - Medium Speed	W	53	45	61	94	88	115	138	142	190
Absorbed Power (Cooling) - Low Speed	W	43	29	45	61	65	92	108	113	142

* All data given in the table is at 0 Pa external static pressure.

❶ Values are at turbo speed, 27 °C DB, 19 °C WB room conditions and 7/12 °C in/out water temperatures.

❷ Values are at turbo speed, 20 °C DB room conditions and 70/60 °C in/out temperatures.

❸ Sound pressure levels are measured at 1 meter distance from the tested unit and Q=1





UNAT Series

High Pressure Air Terminal Unit

Cooling capacity: 9,79 kW - 39,51 kW

Heating capacity: 10,43 kW – 101,39 kW



- **Operation up to 150 Pa ESP**
- **Thermally and acoustically insulated unit case**
- **Ideal comfort and indoor air quality for all seasons**
- **Wide and versatile options**
- **Advanced control and electronic control options**
- **Low energy consumption and high comfort**
- **Superior reliability and high quality**
- **Low sound levels**

Structural features

- Made from corrosion resistant galvanized steel with high zinc content.
- High efficiency and silent centrifugal fans (3 speed/ 220-240V / 1 phase / 50Hz).
- Easy maintenance and cleaning due to the G2 synthetic filter provided as standard.
- High efficient coils are made of seamless copper pipes and aluminum fins. Each coil is factory tested to 20 bar pressure. A drain pan against sweating is provided to drain the condensation occuring on the coil.
- The drain pan is enamel-coated and self-insulated with high protection properties.
- Corrosion-resistant, galvanized steel electrical terminal box accommodates electrical cables and connections.
- Specially designed to minimize air bubbles on the coil, there is a droplet sheet that allows condensing water to go to the pan.
- Extension dropper made of ABS material is also available against dripping from the coil valve connections.
- Hydrophobic coated drain pan.
- AC, 3 stages Motor with IP 20 protection class, B class insulation.
- Flexible plenum box connections are available on the suction and supply sides

Electirical Heater Options;

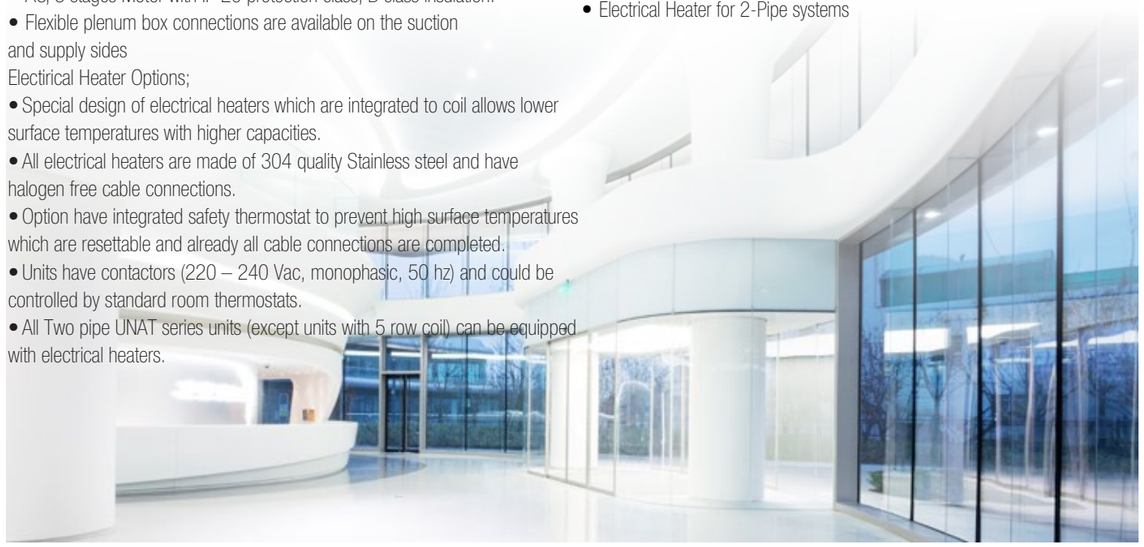
- Special design of electrical heaters which are integrated to coil allows lower surface temperatures with higher capacities.
- All electrical heaters are made of 304 quality Stainless steel and have halogen free cable connections.
- Option have integrated safety thermostat to prevent high surface temperatures which are resettable and already all cable connections are completed.
- Units have contactors (220 – 240 Vac, monophasic, 50 hz) and could be controlled by standard room thermostats.
- All Two pipe UNAT series units (except units with 5 row coil) can be equipped with electrical heaters.

Versions

- **2B** (2 Pipe)
- **4B** (4 Pipe)
- **3R** (3 Rows Coil)
- **4R** (4 Rows Coil)
- **5R** (5 Rows Coil)

Options / Accessories

- 2-Way Valve and Motor (Supplied Loose)
- 3-Way Valve and motor (Supplied loose)
- Room Thermostat
- Digital Room Thermostat
- Washable Metal Filter
- Synthetic G3 Filter
- Plenum Box On The Suction and Supply Sides
- IP 44 Motor Protection Class
- Stainless Steel Drain Pan
- Electrical Heater for 2-Pipe systems



UNAT Series		2 PIPES								
		305	405	505	310	410	510	315	415	515
Technical Specifications										
❶ Total Cooling Capacity	kW	9,96	12,14	13,48	12,55	15,26	16,93	15,09	18,18	20,14
❶ Sensible Cooling Capacity	kW	7,40	8,40	8,97	9,20	10,46	11,20	10,87	12,34	13,25
❷ Heating Capacity	kW	22,62	24,88	25,76	27,91	30,77	31,99	32,62	35,96	37,53
❸ Heating Capacity	kW	30,38	33,74	35,16	37,58	41,83	43,75	44,03	48,98	51,48
❺ Electrical Heater Capacity	kW	3,20	3,20	-	3,70	3,70	-	4,10	4,10	-
Airflow (High Speed)	m³/h	1.736	1.695	1651	2.108	2.077	2.039	2.442	2.414	2.384
Airflow (Medium Speed)	m³/h	1.398	1.373	1.347	1.617	1.591	1.563	1.883	1.858	1.831
Dimensions										
Height (H)	mm	335	335	335	385	385	385	385	385	385
Width (W)	mm	1.157	1.157	1.157	1.242	1.242	1.242	1.412	1.412	1.412
Depth (D)	mm	558	558	558	558	558	558	589	589	589
Weight	kg	40,1	42,4	44,7	45,1	48	50,7	52,3	55,6	58,6
Fluid Data										
❶ Water Flowrate (Coolling)	L/h	1.708	2.084	2.313	2.153	2.618	2.905	2.589	3.119	3.456
❶ Water Side Pressure Drop	kPa	15,90	30,4	46	19,6	37,3	56,3	31,1	58	87,4
❷ Water Flowrate (Heating)	L/h	1.945	2.139	2.214	2.399	2.645	2.750	2.805	3.091	3.226
❷ Water Side Pressure Drop	kPa	16,7	26,4	35,2	19,7	31,4	42,1	29,5	47	63,6
Water Content (Cooling)	L	2,71	3,51	4,48	3,62	4,63	5,92	4,11	5,29	6,75
Sound Level (4)										
Sound Pressure Level (High)	dBA	51	51	51,5	53	53	53,5	50	50,5	50,5
Sound Pressure Level (Med)	dBA	45	45	45,5	45	45,5	45,5	43,5	44	44
Sound Pressure Level (Low)	dBA	40	41	41	39	39,5	40	36	36,5	36,5
İnstallation Data										
Coil In/ Out Diameter (Cooling Coil)	inch	3/4	3/4	1	1	1	1 1/4	1	1	1 1/4
Drain Pipe Diameter	inch					3/4				
Absorved Power										
Absorbed Power (Cooling) High Speed	W	271	264	258	358	350	344	405	399	393
Absorbed Power (Cooling) Medium Speed	W	224	230	214	265	280	255	288	303	281

UNAT Series		2 PIPES								
		320	420	520	325	425	525	330	430	530
Technical Specifications										
❶ Total Cooling Capacity	kW	21,73	24,91	28,12	27,13	31,16	35,37	29,87	34,55	39,51
❶ Sensible Cooling Capacity	kW	15,57	17,13	18,51	19,33	21,32	23,19	21,47	23,83	26,06
❷ Heating Capacity	kW	46,52	50,55	52,45	57,65	62,79	65,47	64,21	70,47	74,01
❸ Heating Capacity	kW	62,78	68,64	71,76	77,95	85,46	89,82	86,64	95,74	101,39
❺ Electrical Heater Capacity	kW	6,50	6,50	-	7,50	7,50	-	8,20	8,20	-
Airflow (High Speed)	m³/h	3.489	3.416	3.336	4.240	4.191	4.132	4.859	4.796	4.730
Airflow (Medium Speed)	m³/h	2.806	2.760	2.714	3.256	3.212	3.165	3.744	3.687	3.625
Dimensions										
Height (H)	mm	335	335	335	435	435	435	435	435	435
Width (W)	mm	2.143	2.143	2.143	2.143	2.143	2.143	2.143	2.143	2.143
Depth (D)	mm	558	558	558	558	558	558	589	589	589
Weight	kg	80	84,9	88,7	87,7	93,9	101,7	92,4	98,6	106,4
Fluid Data										
❶ Water Flowrate (Coolling)	L/h	3.728	4.274	4.824	4.655	5.346	6.068	5.125	5.927	6.779
❶ Water Side Pressure Drop	kPa	38,1	29,1	75,2	33,9	26	72,8	40,3	31,3	88,7
❷ Water Flowrate (Heating)	L/h	3.999	4.346	4.509	4.956	5.398	5.628	5.520	6.058	6.362
❷ Water Side Pressure Drop	kPa	34,9	24	53,7	30,5	21,1	51,1	37,2	26	64
Water Content (Cooling)	L	5,57	7,19	8,80	7,43	9,58	12,41	7,43	9,58	12,41
Sound Level (4)										
Sound Pressure Level (High)	dBA	54	54	54,5	53,5	53,5	53,5	53	53,5	54
Sound Pressure Level (Med)	dBA	48	48	48,5	46,5	46,5	47	47	47	47,5
Sound Pressure Level (Low)	dBA	43	44	44	39	39	39,5	39,5	39,5	39,5
İnstallation Data										
Coil In/ Out Diameter (Cooling Coil)	inch	1	1	1 1/4	1	1	1 1/2	1	1	1 1/2
Drain Pipe Diameter	inch					3/4				
Absorved Power										
Absorbed Power (Cooling) High Speed	W	549	531	521	723	708	697	806	790	776
Absorbed Power (Cooling) Medium Speed	W	450	464	432	534	567	516	573	601	559

* Values in the table above are valid for units with G2 filter and 50 Pa external static pressure.

❶ High speed, room temperature of 27°C DB, 50% RH and 7/12 °C water inlet / outlet temperatures.

❷ High speed, room temperature of 20°C DB and 70/60 °C water inlet / outlet temperatures.

❸ High speed, room temperature of 20°C DB and 90/70 °C water inlet / outlet temperatures.

❹ Sound levels at a distance of 1 meter from the unit and for direction factor Q=1.

❺ All values are based on 230 Volt, 50 Hz electrical supply.

Air Terminal Units

UNAT Series		4 PIPES											
		305	405	310	410	315	415	320	420	325	425	330	430
Technical Specifications													
❶ Total Cooling Capacity	kW	9,79	11,90	12,42	15,04	14,96	18,01	21,40	24,46	26,91	30,81	29,60	34,18
❶ Sensible Cooling Capacity	kW	7,27	8,21	9,09	10,30	10,77	12,21	15,32	16,79	19,15	21,07	21,26	23,56
❷ Heating Capacity	kW	10,43	10,26	13,16	13,01	15,47	15,36	21,74	21,43	27,87	27,62	30,21	29,95
❸ Heating Capacity	kW	13,69	13,46	17,36	17,14	20,46	20,29	28,69	28,25	36,97	36,60	39,99	39,63
Airflow (High Speed)	m³/h	1.695	1.650	2.077	2.038	2.414	2.384	3.414	3.334	4.190	4.130	4.796	4.729
Airflow (Medium Speed)	m³/h	1.373	1.363	1.591	1.591	1.858	1.894	2.760	2.713	3.211	3.164	3.686	3.624
Dimensions													
Height (H)	mm	335	335	385	385	385	385	335	335	435	435	435	435
Width (W)	mm	1.157	1.157	1.242	1.242	1.412	1.412	2.143	2.143	2.143	2.143	2.143	2.143
Depth (D)	mm	558	558	558	558	589	589	558	558	558	558	589	589
Weight	kg	45,3	47,6	51,6	54,5	53,9	63,3	90,5	95,4	100,2	106,4	104,9	111,1
Fluid Data													
❶ Water Flowrate (Coolling)	L/h	1.680	2.042	2.130	2.581	2.567	3.089	3.671	4.196	4.616	5.286	5.078	5.864
❶ Water Side Pressure Drop	kPa	15,4	29,3	19,2	36,3	30,6	57,0	37,1	28,2	33,4	25,5	39,6	30,7
❷ Water Flowrate (Heating)	L/h	897	882	1.132	1.119	1.330	1.320	1.869	1.843	2.396	2.375	2.597	2.575
❷ Water Side Pressure Drop	kPa	30,4	29,5	58,2	56,9	88,1	86,8	65,0	63,3	136,9	134,6	158,9	156,3
Water Content (Cooling)	L	2,71	3,51	3,62	4,63	4,11	5,29	5,57	7,19	7,43	9,58	7,43	9,58
Water Content (Heating)	L	0,92	0,92	1,16	1,16	1,44	1,44	1,84	1,84	2,45	2,45	2,45	2,45
Sound Level ❹													
Sound Pressure Level (High)	dBA	51	51,5	53	53,5	50,5	50,5	54	54,5	53,5	53,5	53,5	54
Sound Pressure Level (Med)	dBA	45	45,5	45,5	45,5	44	44	48	48,5	46,5	47	47	47,5
Sound Pressure Level (Low)	dBA	41	41	39,5	40	36,5	36,5	44	44	39	39,5	39,5	39,5
İnstallation Data													
Coil In/ Out Diameter (Cooling Coil)	inch	3/4	3/4	1	1	1	1	1	1	1	1	1	1
Coil In/ Out Diameter (Additional Heating Coil)	inch	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Drain Pipe Diameter	inch	3/4											
Absorved Power													
Absorbed Power (Cooling) High Speed	W	264	258	350	343	399	393	532	520	708	696	790	776
Absorbed Power (Cooling) Medium Speed	W	220	219	261	276	286	290	443	435	527	519	568	561

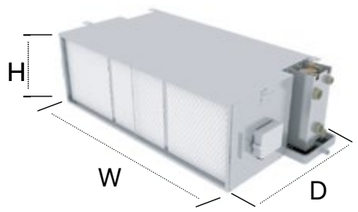
* Values in the table above are valid for units with G2 filter and 50 Pa external static pressure.

❶ High speed, room temperature of 27°C DB, 50% RH and 7/12 °C water inlet / outlet temperatures.

❷ High speed, room temperature of 20°C DB and 70/60 °C water inlet / outlet temperatures.

❸ High speed, room temperature of 20°C DB and 90/70 °C water inlet / outlet temperatures.

❹ Sound levels at a distance of 1 meter from the unit and for direction factor Q=1.





Air Cooled Chillers & Heat Pumps-Screw
FullPOWER HE-A TCAVTZ-TCAVQZ 2345-21335
FullPOWER SE TCAVBZ-TCAVSZ 2335-21275
FullPOWER VFD TCAITZ-TCAIQZ 2565-21005
FullPOWER VFD (1+i) TCAITZ-TCAIQZ 2560-21310
Z-Power HE TCAVZ 2770-21290
Z-Power HE TCAVZ 2330-2700
Z-Power SE TCAVZ 2710-21750
Z-Power SE TCAVZ 2331-2701
Z-Power SE TCAVZ 1270-1390

Air Cooled Chillers & Heat Pumps-Scroll
WinPOWER HE-A TCAEY 4385-8920 / THAEY 4385-6700
WinPOWER SE TCAEY 4360-8860 / THAEY 4360-6670
WinPACK HE-A TCAEY-THAEY 2110-4340
WinPACK SE TCAEY-THAEY 2110-4340
WinPACK-R HE-A TCAETY-TCAEQY 4235-4370
WinPACK-R SE TCAEBY-TCAESY 4225-4345
EasyPACK TCAEY-THAEY 269-2146
EasyPACK-I TCAIY-THAIY 270-2130
Compact-Y MD TCAEY-THAEY 233-265
Compact-I MD TCAITY-THAITY 236-260
Compact-Y-SM THAEY 122-130
Y-Pack C-PF TCCETY-THCETY 233-2160

Air Cooled Chillers & Heat Pumps-Turbocor
TurboPOWER TCATBZ-TCATTZ-TCATQZ 1300-31100
TurboPOWER ECO TCATTE-TCATQE 1330-3950

Air Cooled Chillers & Heat Pumps

FullPOWER HE-A

TCAVTZ-TCAVQZ 2345-21335

Cooling capacity: 317-1.325 kW

- **Efficient range in class A**
- **Extended operating limits**
- **Linear capacity control (25-100%)**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**



TCAVTZ 2425
with FIAP accessory and BCI

TCAVQZ 2715

Packaged air-cooled water chillers with axial fans.

Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with linear capacity control (25-100%). Star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High efficiency version with oversized condensing section (TCAVTZ).
- Q - Super-silenced version complete with soundproof compressor technical compartment, super-reduced speed fans and oversized condensing section (TCAVQZ).

Models

- TCAVTZ: high efficiency unit designed for cooling only.
- TCAVQZ: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Oil level sensor.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

	TCAVTZ-TCAVQZ MODEL		2345	2385	2425	2475	2525	2585	2655	2715
❶	Nominal cooling capacity	kW	339,9	379,6	423,7	474,3	524,8	577,3	655,8	712,2
❶	Nominal cooling capacity	kW	317,1	352,8	389,0	452,4	481,2	525,9	601,2	659,6
❶	E.E.R.		3,24	3,23	3,20	3,23	3,20	3,18	3,23	3,21
❶	E.E.R.		3,02	2,96	2,88	2,97	2,87	2,75	2,81	2,76
❶	Absorbed power	kW	104,9	117,5	132,4	146,8	164,0	181,5	203,0	221,9
❶	Absorbed power	kW	105,0	119,2	135,1	152,3	167,7	191,2	214,0	239,0
	TCAVTZ-TCAVQZ MODEL		**2345**	**2385**	**2425**	**2475**	**2525**	**2585**	**2655**	**2715**
❷	Sound pressure	dB(A)	66	66	66	66	66	67	67	67
❷	Sound pressure	dB(A)	56	56	56	56	56	56	56	56
❸	Sound power	dB(A)	98	98	98	98	98	99	99	99
❸	Sound power	dB(A)	88	88	88	88	88	89	89	89
	Screw/step compressor	no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
	Circuits	no.	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**2345**	**2385**	**2425**	**2475**	**2525**	**2585**	**2655**	**2715**
	L - Width	mm	4.840	4.840	4.840	5.990	5.990	5.990	7.150	7.150
	H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAVTZ weight	kg	3.040	3.045	3.070	3.415	4.170	4.200	4.690	4.720
❹	TCAVQZ weight	kg	3.315	3.320	3.345	3.690	4.550	4.580	5.090	5.120

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

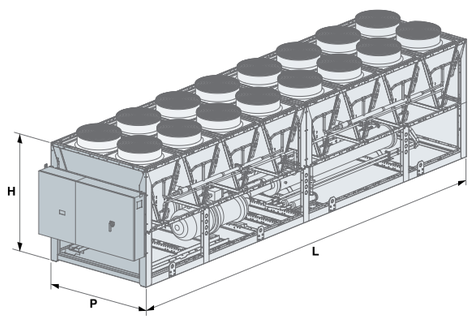
TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2345	2385	2425	2475	2525	2585	2655	2715
	TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	339,8	379,4	423,6	474,1	524,7	577,2	655,6	712,0
①	SEER (EN 14825)		4,38	4,36	4,36	4,34	4,37	4,36	4,39	4,41
②	$\eta_{s,c}$	%	172	171	171	170	172	171	173	173
	TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	317,0	352,7	388,9	452,3	481,0	525,7	601,1	659,5
①	SEER (EN 14825)		4,31	4,26	4,24	4,26	4,24	4,21	4,25	4,18
②	$\eta_{s,c}$	%	169	167	167	167	167	166	167	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



	TCAVTZ-TCAVQZ MODEL		2765	2815	2885	2955	21025	21105	21175	21335
❶	Nominal cooling capacity	kW	760,7	813,3	879,7	955,9	1.020,5	1.100,8	1.167,3	1.324,6
❶	Nominal cooling capacity	kW	711,2	749,9	795,4	868,6	924,3	1.000,7	1.055,4	1.229,7
❶	E.E.R.		3,19	3,24	3,19	3,27	3,22	3,20	3,17	3,21
❶	E.E.R.		2,75	2,86	2,73	2,83	2,74	2,77	2,71	2,76
❶	Absorbed power	kW	238,5	251,0	275,8	292,3	316,9	344,0	368,2	412,6
❶	Absorbed power	kW	258,6	262,2	291,4	306,9	337,3	361,3	389,4	445,5
	TCAVTZ-TCAVQZ MODEL		**2765**	**2815**	**2885**	**2955**	**21025**	**21105**	**21175**	**21335**
❷	Sound pressure	dB(A)	67	67	68	68	68	69	69	69
❷	Sound pressure	dB(A)	57	58	59	59	59	59	60	60
❸	Sound power	dB(A)	100	100	101	101	101	102	102	102
❸	Sound power	dB(A)	90	91	92	92	92	92	93	93
	Screw/step compressor	no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
	Circuits	no.	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**2765**	**2815**	**2885**	**2955**	**21025**	**21105**	**21175**	**21335**
	L - Width	mm	7.150	8.250	8.250	9.350	9.350	10.450	10.450	11.550
	H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAVTZ weight	kg	4.740	5.565	5.995	6.520	6.585	6.950	6.970	7.355
❹	TCAVQZ weight	kg	5.140	5.965	6.395	6.920	6.985	7.350	7.370	7.755

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

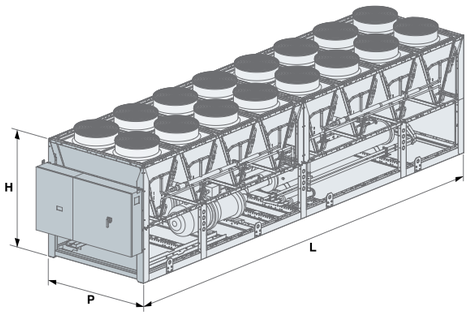
TCAVQZ super-silenced versions.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2765	2815	2885	2955	21025	21105	21175	21335
	TCAVTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	760,6	813,1	879,4	955,6	1.020,2	1.100,4	1.167,1	1.324,3
①	SEER (EN 14825)		4,37	4,41	4,33	4,43	4,41	4,43	4,42	4,37
②	$\eta_{S,C}$	%	172	173	170	174	173	174	174	172
	TCAVQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	711,0	749,6	795,2	868,3	924,0	1.000,4	1.055	1.229,4
①	SEER (EN 14825)		4,19	4,25	4,27	4,27	4,21	4,19	4,17	4,16
②	$\eta_{S,C}$	%	164	167	168	168	165	165	164	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)





FullPOWER SE

TCAVBZ-TCAVSZ 2335-21275

Cooling capacity: 319-1.271 kW

- **Efficient range in R134a**
- **Operation up to 50°C**
- **Linear capacity control (25-100%)**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**



TCAVSZ 2865

TCAVTZ 2515
with FIAP accessory and BCI

Packaged air-cooled water chillers with axial fans.
Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with linear capacity control (25-100%). Star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- B - Standard version (TCAVBZ).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TCAVSZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit intended for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control (standard in S versions).
- -15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Oil level sensor.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

	TCAVBZ-TCAVSZ MODEL		2335	2365	2405	2465	2515	2565	2645	2705
❶	Nominal cooling capacity	kW	328,8	364,5	400,4	460,0	512,8	559,6	641,3	701,6
❶	Nominal cooling capacity	kW	318,9	353,6	388,5	450,1	494,0	536,8	618,5	679,7
❶	E.E.R.		3,01	2,90	2,85	3,01	2,91	2,85	2,94	2,91
❶	E.E.R.		2,92	2,80	2,77	2,91	2,76	2,72	2,80	2,74
❶	Absorbed power	kW	109,2	125,7	140,5	152,8	176,2	196,4	218,1	241,1
❶	Absorbed power	kW	109,2	126,3	140,3	154,7	179,0	197,4	220,9	248,1
	TCAVBZ-TCAVSZ MODEL		**2335**	**2365**	**2405**	**2465**	**2515**	**2565**	**2645**	**2705**
❷	Sound pressure	dB(A)	65	65	66	66	66	66	67	67
❷	Sound pressure	dB(A)	59	59	60	60	60	60	61	61
❸	Sound power	dB(A)	97	97	98	98	98	98	99	99
❸	Sound power	dB(A)	91	91	92	92	92	92	93	93
	Screw/step compressor	no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
	Circuits	no.	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**2335**	**2365**	**2405**	**2465**	**2515**	**2565**	**2645**	**2705**
	L - Width	mm	3.740	3.740	3.740	4.840	4.840	4.840	5.990	5.990
	H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAVBZ weight	kg	2.700	2.710	2.730	3.140	3.700	3.910	4.230	4.260
❹	TCAVSZ weight	kg	2.930	2.940	2.960	3.370	4.010	4.220	4.540	4.570

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

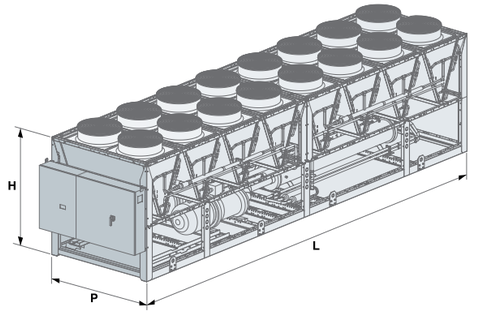
TCAVSZ silenced versions

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2335	2365	2405	2465	2515	2565	2645	2705
	TCAVBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	328,7	364,4	400,3	459,9	512,7	559,5	641,1	701,4
①	SEER (EN 14825)		4,23	4,20	4,18	4,23	4,25	4,18	4,25	4,27
②	$\eta_{S,C}$	%	166	165	164	166	167	164	167	168
	TCAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	318,8	353,5	388,4	450,0	493,9	536,7	618,4	679,5
①	SEER (EN 14825)		4,23	4,21	4,18	4,19	4,21	4,20	4,21	4,18
②	$\eta_{S,C}$	%	166	165	164	164	165	165	165	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



	TCAVBZ-TCAVSZ MODEL		2755	2805	2865	2935	2995	21075	21115	21275
❶	Nominal cooling capacity	kW	751,1	797,5	857,9	930,2	985,7	1.072,1	1.110,7	1.271,0
❶	Nominal cooling capacity	kW	731,3	777,6	822,2	896,6	948,0	1.033,4	1.069,1	1.236,4
❶	E.E.R.		2,89	3,00	2,90	2,98	2,92	3,06	2,94	3,06
❶	E.E.R.		2,71	2,90	2,73	2,85	2,76	2,94	2,78	2,90
❶	Absorbed power	kW	259,9	265,8	295,8	312,1	337,6	350,4	377,8	415,4
❶	Absorbed power	kW	269,9	268,1	301,2	314,6	343,5	351,5	384,6	426,3
	TCAVBZ-TCAVSZ MODEL		**2755**	**2805**	**2865**	**2935**	**2995**	**21075**	**21115**	**21275**
❷	Sound pressure	dB(A)	68	68	68	68	68	69	69	69
❷	Sound pressure	dB(A)	62	62	62	62	62	63	63	63
❸	Sound power	dB(A)	100	100	101	101	101	102	102	102
❸	Sound power	dB(A)	94	94	95	95	95	96	96	96
	Screw/step compressor	no.	2/ CONTINUOUS LINEAR REGULATION (25-100%)							
	Circuits	no.	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**2755**	**2805**	**2865**	**2935**	**2995**	**21075**	**21115**	**21275**
	L - Width	mm	5.990	7.150	7.150	8.250	8.250	9.350	9.350	10.450
	H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAVBZ weight	kg	4.290	5.280	5.700	6.070	6.130	6.620	6.640	7.000
❹	TCAVSZ weight	kg	4.600	5.590	6.010	6.380	6.440	6.930	6.950	7.310

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

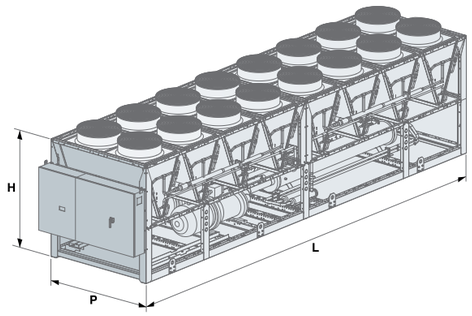
TCAVSZ silenced versions

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2755	2805	2865	2935	2995	21075	21115	21275
	TCAVBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	750,9	797,2	857,6	930,0	985,5	1.071,8	1.110,4	1.270,7
①	SEER (EN 14825)		4,24	4,22	4,21	4,24	4,21	4,24	4,23	4,24
②	$\eta_{s,c}$	%	167	166	165	167	165	166	166	166
	TCAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	731,1	777,4	822,0	896,3	947,8	1.033,1	1.068,8	1.236,1
①	SEER (EN 14825)		4,18	4,24	4,22	4,17	4,18	4,19	4,20	4,17
②	$\eta_{s,c}$	%	164	167	166	164	164	165	165	164

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)





FullPOWER VFD

TCAITZ-TCAIQZ 2565-21005

Cooling capacity: 510-1.001,5 kW

- **Variable Vi screw compressor suitable for all applications**
- **Continuous power regulation from 12.5 to 100%**
- **High efficiency levels**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**



TCAITZ 2565 with BCI60 accessory

Packaged air-cooled water chillers with axial fans.
Range with semi-hermetic screw compressors with variable Vi, inverter regulation and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with variable Vi intrinsic compression ratio, star-delta limited start, inverter rotation regulation, complete with integral protection, casing heater, oil level sensor and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High efficiency version with oversized condensing section (TCAITZ).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAIQZ).

Models

- TCAITZ: high efficiency unit designed for cooling only.
- TCAIQZ: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\varphi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- EMC anti-disturbance filters
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAITZ-TCAIQZ MODEL		2565	2615	2685	2775	2845	2945	21005
❶ Nominal cooling capacity	kW	562,4	610,9	680,5	772,5	844,9	943,0	1.001,5
❶ Nominal cooling capacity	kW	510,0	555,4	633,0	717,9	791,5	859,7	934,2
❶ E.E.R.		3,11	3,15	3,13	3,13	3,11	3,13	3,11
❶ E.E.R.		2,77	2,85	2,79	2,86	2,78	2,83	2,79
❶ Absorbed power	kW	180,8	193,9	217,4	246,8	271,7	301,3	322,0
❶ Absorbed power	kW	184,1	194,9	226,9	251,0	284,7	303,8	334,8
TCAITZ-TCAIQZ MODEL		**2565**	**2615**	**2685**	**2775**	**2845**	**2945**	**21005**
❷ Sound pressure	dB(A)	70	70	70	71	71	72	72
❷ Sound pressure	dB(A)	60	60	60	61	62	62	63
❸ Sound power	dB(A)	102	103	103	104	104	105	105
❸ Sound power	dB(A)	92	93	93	94	95	95	96
Screw/step compressor	no.	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION
Circuits	no.	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2565**	**2615**	**2685**	**2775**	**2845**	**2945**	**21005**
L - Width	mm	6.090	7.250	7.250	8.350	8.350	10.550	10.550
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ TCAITZ weight	kg	4.220	4.650	4.750	5.070	5.190	5.850	5.960
❹ TCAIQZ weight	kg	4.600	5.050	5.150	5.470	5.590	6.250	6.360

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

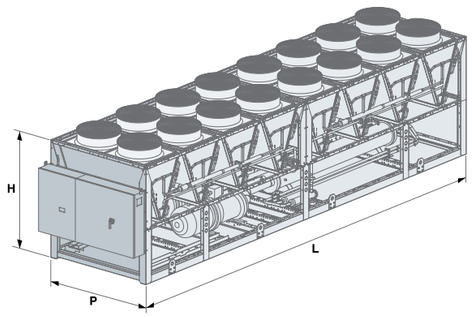
TCAIQZ super-silenced versions.

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2565	2615	2685	2775	2845	2945	21005
TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	562,4	610,9	680,5	772,5	844,9	943,0	1.001,5
① SEER (EN 14825)		5,10	5,12	5,00	5,08	4,98	5,12	5,02
② $\eta_{s,c}$	%	201	202	197	200	196	202	198
TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	510,0	555,4	633,0	717,9	791,5	859,7	934,2
① SEER (EN 14825)		4,73	4,92	4,88	4,89	4,85	4,93	4,90
② $\eta_{s,c}$	%	186	194	192	192	191	194	193

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



FullPOWER VFD (1+i)

TCAITZ-TCAIQZ 2560-21310

Cooling capacity: 518-1.307,4 kW

- **Continuous power regulation from 12.5 to 100%**
- **High efficiency levels**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**



TCAITZ 24560 with BCI60 accessory

Packaged air-cooled water chillers with axial fans. Range with stepless semi-hermetic screw compressors and with variable Vi with inverter regulation and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw driven by fixed speed motor with linear capacity control and variable Vi regulated by inverter (12.5-100%), limited start, complete with integral protection, casing heater, oil level sensor and shut-off valve on refrigerant gas outlet piping.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High efficiency version with oversized condensing section (TCAITZ).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAIQZ).

Models

- TCAITZ: high efficiency unit designed for cooling only.
- TCAIQZ: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- EMC anti-disturbance filters
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter
- Soundproofed compressor box.
- Inlet compressor shut-off valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps and heat exchangers for heat recovery if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

	TCAITZ-TCAIQZ MODEL		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310
❶	Nominal cooling capacity	kW	561,4	602,2	671,6	712,3	766,5	861,7	933,1	978,8	1.079,8	1.156,8	1.307,4
❶	Nominal cooling capacity	kW	517,9	553,5	633,9	670,7	707,0	804,2	869,5	909,4	1.009,5	1.067,6	1.192,4
❶	E.E.R.		3,11	3,17	3,15	3,13	3,19	3,15	3,23	3,20	3,16	3,16	3,17
❶	E.E.R.		2,74	2,86	2,79	2,76	2,85	2,80	2,84	2,83	2,82	2,81	2,81
❶	Absorbed power	kW	180,5	189,9	213,2	227,6	240,3	273,6	288,9	305,9	341,7	366,1	412,4
❶	Absorbed power	kW	189,0	193,5	227,2	243,0	248,1	287,2	306,2	321,3	357,9	379,9	424,3
	TCAITZ-TCAIQZ MODEL		**2560**	**2600**	**2670**	**2710**	**2770**	**2860**	**2930**	**2980**	**21080**	**21160**	**21310**
❷	Sound pressure	dB(A)	69	69	69	69	70	70	71	71	71	71	72
❷	Sound pressure	dB(A)	59	59	59	59	60	61	61	61	62	62	63
❸	Sound power	dB(A)	101	102	102	102	103	103	104	104	104	104	105
❸	Sound power	dB(A)	91	92	92	92	93	94	94	94	95	95	96
	Screw/step compressor	no.	1+i / CONTINUOUS REGULATION										
	Circuits	no.	2	2	2	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**2560**	**2600**	**2670**	**2710**	**2770**	**2860**	**2930**	**2980**	**21080**	**21160**	**21310**
	L - Width	mm	6.090	7.250	7.250	7.250	8.350	8.350	9.400	10.550	10.550	10.550	11.750
	H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹	TCAITZ weight	kg	4.390	4.770	4.840	4.850	5.690	5.790	6.250	6.500	6.610	6.970	7.330
❹	TCAIQZ weight	kg	4.770	5.170	5.240	5.250	6.090	6.190	6.650	6.900	7.010	7.370	7.730

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

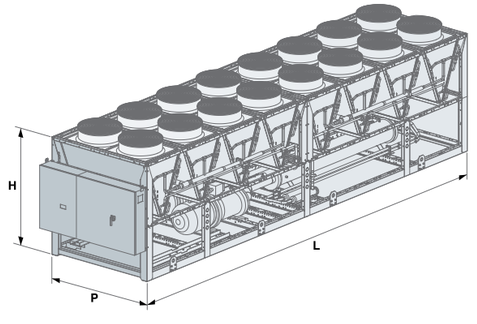
TCAIQZ super-silenced versions.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2560	2600	2670	2710	2770	2860	2930	2980	21080	21160	21310
	TCAITZ MODEL SEASONAL PERFORMANCE IN COOLING MODE												
①	Pdesignc (EN 14825)	kW	561,4	602,2	671,6	712,3	766,5	861,7	933,1	978,8	1.079,8	1.156,8	1.307,4
①	SEER (EN 14825)		4,81	4,84	4,81	4,80	4,82	4,80	4,84	4,85	4,84	4,80	4,81
②	$\eta_{s,c}$	%	189	191	189	189	190	189	190	191	191	189	189
	TCAIQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE												
①	Pdesignc (EN 14825)	kW	517,9	553,5	633,9	670,7	707,0	804,2	869,5	909,4	1.009,5	1.067,6	1.192,4
①	SEER (EN 14825)		4,68	4,74	4,73	4,72	4,74	4,72	4,71	4,76	4,74	4,72	4,74
②	$\eta_{s,c}$	%	184	187	186	186	187	186	186	187	187	186	187

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Z-POWER HE

TCAVZ 2770-21290

Cooling capacity: 721,7-1.277,7 kW



- **Efficient range in CLASS A with EER>3.2 and ESEER up to 4.45**
- **Working limits up to 55°C (HT set up)**
- **Standard electronic expansion valve**
- **Built-in MASTER/SLAVE management**

Packaged air-cooled water chillers with axial fans. Range with semi-hermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start, complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger: dry expansion shell and tube exchanger, complete with closed cell polyurethane rubber foam insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric helical fans with external rotor, equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation (S version only).
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
- display of cooling circuit high/low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board.

Versions

- B -Standard version (TCAVBZ).
- S - Silenced version with lower speed fans and soundproofed compressor cover (TCAVSZ).
- I - Soundproofed version with soundproofed compressor cover (TCAVIZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit designed for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF management.
- Desuperheater.
- 100% Heat recovery unit
- Thermostat with display for heat recovery unit/ desuperheater.
- -10°C condensing control (as per standard in S version).
- -15°C condensing control with fans with EC motor.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Linear capacity control compressor.
- Evaporator antifreeze heater and heat recovery exchangers if present.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue input for shifting set-point.
- Low temperature water production.
- Pre-painted copper/aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keyboard with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of several water chillers.

TCAVBZ-TCAVSZ-TCAVIZ-TCAVQZ MODEL		2770	2830	2890	2960	21010	21040
❶ Nominal cooling capacity	kW	762,1	828,2	884,0	953,9	1.006,1	1.033,0
❶ Nominal cooling capacity	kW	743,7	808,1	861,8	921,3	970,2	1.000,2
❶ Nominal cooling capacity	kW	721,7	784,9	841,5	894,3	946,9	972,6
❶ E.E.R.		3,31	3,26	3,20	3,32	3,30	3,29
❶ E.E.R.		3,19	3,12	3,04	3,12	3,08	3,11
❶ E.E.R.		3,07	3,01	2,95	2,99	2,98	3,00
● E.S.E.E.R.		4,32	4,21	4,17	4,35	4,29	4,27
● E.S.E.E.R.		4,18	4,05	3,96	4,07	3,99	4,04
● E.S.E.E.R.		4,41	4,34	4,26	4,38	4,34	4,38
❷ IPLV		4,63	4,57	4,51	4,66	4,65	4,63
❷ IPLV		4,48	4,39	4,28	4,37	4,33	4,37
❷ IPLV		4,65	4,57	4,48	4,61	4,58	4,59
❶ Absorbed power	kW	230,24	254,05	276,25	287,32	304,88	313,98
❶ Absorbed power	kW	233,13	259,01	283,49	295,29	315,0	321,61
❶ Absorbed power	kW	235,08	260,76	285,25	299,10	317,75	324,20
TCAVBZ-TCAVSZ-TCAVQZ MODEL		**2770**	**2830**	**2890**	**2960**	**21010**	**21040**
❸ Sound pressure	dB(A)	67	67	67	68	68	68
❸ Sound pressure	dB(A)	61	61	61	62	62	62
❸ Sound pressure	dB(A)	57	58	58	59	59	59
❹ Sound power	dB(A)	100	100	100	101	101	101
❹ Sound power	dB(A)	94	94	94	95	95	95
❹ Sound power	dB(A)	90	91	91	92	92	92
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2770**	**2830**	**2890**	**2960**	**21010**	**21040**
L - Width	mm	7.680	7.680	7.680	8.980	8.980	9.980
H - Height	mm	2.430	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	6.070	6.690	7.190	7.820	7.840	8.350
❺ TCAVIZ-TCAVSZ weight	kg	6.390	7.040	7.540	8.170	8.190	8.700
❺ TCAVQZ weight	kg	6.598	7.280	7.780	8.410	8.430	8.940

TCAVBZ-TCAVSZ-TCAVIZ-TCAVQZ MODEL		21080	21130	21150	21220	21290
❶ Nominal cooling capacity	kW	1.076,7	1.122,4	1.148,6	1.213,3	1.277,7
❶ Nominal cooling capacity	kW	1.048,1	1.096,6	1.112,8	1.173,9	1.235,1
❶ Nominal cooling capacity	kW	1.016,9	1.069,8	1.079,7	1.139,4	1.206,0
❶ E.E.R.		3,32	3,18	3,38	3,35	3,32
❶ E.E.R.		3,19	3,04	3,17	3,09	3,03
❶ E.E.R.		3,05	2,94	3,04	2,97	2,93
● E.S.E.E.R.		4,35	4,16	4,39	4,35	4,33
● E.S.E.E.R.		4,16	3,98	4,14	3,99	3,94
● E.S.E.E.R.		4,42	4,23	4,45	4,37	4,33
❷ IPLV		4,66	4,46	4,75	4,71	4,69
❷ IPLV		4,47	4,26	4,44	4,33	4,26
❷ IPLV		4,65	4,45	4,69	4,61	4,56
❶ Absorbed power	kW	324,31	352,96	339,82	362,18	384,85
❶ Absorbed power	kW	328,56	360,72	351,04	379,90	407,62
❶ Absorbed power	kW	333,41	363,88	355,16	383,63	411,60
TCAVBZ-TCAVSZ-TCAVQZ MODEL		**21080**	**21130**	**21150**	**21220**	**21290**
❸ Sound pressure	dB(A)	69	69	69	69	69
❸ Sound pressure	dB(A)	63	63	63	63	63
❸ Sound pressure	dB(A)	59	59	59	60	60
❹ Sound power	dB(A)	102	102	102	102	102
❹ Sound power	dB(A)	96	96	96	96	96
❹ Sound power	dB(A)	92	92	92	93	93
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**21080**	**21130**	**21150**	**21220**	**21290**
L - Width	mm	10.980	10.980	10.980	10.980	10.980
H - Height	mm	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	8.670	8.670	8.690	9.020	9.050
❺ TCAVIZ-TCAVSZ weight	kg	9.020	9.020	9.310	9.370	9.400
❺ TCAVQZ weight	kg	9.260	9.260	9.550	9.610	9.640

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ IPLV (Itegrated Part Load Value) - ARI standard 550/590.

❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

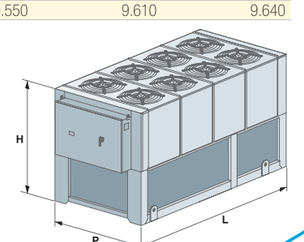
❺ Weight refers to the accessorised unit with RPE - KRP when empty.

● ESEER = (European seasonal EER) - Average European seasonal efficiency.

TCAVSZ silenced versions.

TCAVQZ super-silenced versions.

Performance according to EN 14511:2013



Z-POWER HE

TCAVZ 2330-2700

Cooling capacity: 315,4-690,7 kW

- **Efficient range up to CLASS A with EER≥3.1**
- **Working limits up to 55°C (HT set up)**
- **Wide range of accessories**
- **Built-in MASTER/SLAVE management**



High energy efficiency packaged air cooled water chillers with axial fans. Range with semi-hermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger (mod. 2330-2460): stainless steel plate exchanger with closed cell polyurethane foam rubber insulation, complete with water flow differential pressure switch and Victaulic fittings.
- Water side heat exchanger (mod. 2510-2700): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane rubber foam insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric helical fans with external rotor, equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous regulation of fan rotation speed (S version only) and fans with an EC motor with continuous regulation of the speed control (Q version only).
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- display of cooling circuit high/low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board.

Versions

- B - High energy efficiency standard version (TCAVBZ).
- S - Silenced version with lower speed fans and soundproofed compressor cover (TCAVSZ).
- I - High energy efficiency soundproofed version with soundproofed compressor cover (TCAVIZ).
- Q - Supersilenced version with super-low speed fans with EC motor, high acoustic impedance and soundproofed compressor cover and a larger condensing section (TCAVQZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit designed for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.
- TCAVQZ: super-silenced unit designed for cooling only.

Factory fitted accessories

- HT set up for outdoor air temperature up to 55°C.
- Shell and tube evaporator (mod. 2330-2460).
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP (mod. 2330-2460) with 1100 litre integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve, and water side pressure gauge.
- VPF management.
- Desuperheater.
- 100% Heat recovery unit
- Thermostat with display for heat recovery unit/desuperheater.
- -10°C condensing control (as per standard in S version).
- -15°C condensing control with fans with EC motor (as per standard in the Q version).
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Linear compressor capacity control (25-100 %).
- Evaporator antifreeze heater, buffer tank and heat exchangers for heat recovery if present.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue input for shifting set-point.
- Pre-painted copper/aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

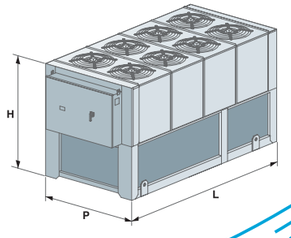
Separately supplied accessories

- Remote keyboard with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of several water chillers.

TCAVBZ-TCAVSZ-TCAVIZ-TCAVQZ MODEL		2330	2350	2370	2390	2420	2460	2510
❶ Nominal cooling capacity	kW	332,5	352,6	372,9	389,7	415,7	457,1	509,1
❶ Nominal cooling capacity	kW	324,3	343,5	361,1	378,7	406,1	442,9	494,3
❶ Nominal cooling capacity		315,4	335,4	353,3	369,2	394,2	432,0	482,8
❶ E.E.R.		3,12	3,11	3,11	3,10	3,11	3,11	3,11
❶ E.E.R.		3,07	3,04	3,02	2,94	3,05	3,02	2,99
❶ E.E.R.		2,93	2,93	2,90	2,82	2,92	2,90	2,87
● E.S.E.E.R.		4,00	4,02	4,04	4,02	4,00	3,98	4,00
● E.S.E.E.R.		3,93	3,94	3,95	3,95	3,95	3,92	3,85
● E.S.E.E.R.		4,05	4,06	4,08	4,07	4,06	4,05	4,01
❷ IPLV		4,20	4,22	4,24	4,22	4,20	4,22	4,24
❷ IPLV		4,13	4,14	4,15	4,15	4,15	4,12	4,09
❷ IPLV		4,25	4,26	4,28	4,27	4,26	4,26	4,25
❶ Absorbed power	kW	106,57	113,38	119,90	125,71	133,67	146,98	163,70
❶ Absorbed power	kW	105,64	112,99	119,57	128,81	133,15	146,66	165,32
❶ Absorbed power	kW	107,65	114,47	121,83	130,92	135,00	148,97	168,22
TCAVBZ-TCAVSZ-TCAVQZ MODEL		**2330**	**2350**	**2370**	**2390**	**2420**	**2460**	**2510**
❸ Sound pressure	dB(A)	65	65	65	65	65	65	65
❸ Sound pressure	dB(A)	59	59	59	59	59	59	59
❸ Sound pressure	dB(A)	55	55	55	55	55	55	55
❹ Sound power	dB(A)	98	98	98	98	98	98	98
❹ Sound power	dB(A)	92	92	92	92	92	92	92
❹ Sound power	dB(A)	88	88	88	88	88	88	88
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2330**	**2350**	**2370**	**2390**	**2420**	**2460**	**2510**
L - Width	mm	4.830	4.830	4.830	4.830	5.830	5.830	5.830
H - Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	3.490	3.530	3.570	3.600	3.860	4.290	4.950
❺ TCAVIZ-TCAVSZ weight	kg	3.810	3.850	3.890	3.920	4.180	4.610	5.270
❺ TCAVQZ weight	kg	3.970	4.010	4.050	4.080	4.340	4.770	5.430

TCAVBZ-TCAVSZ-TCAVIZ-TCAVQZ MODEL		2550	2570	2610	2640	2680	2700
❶ Nominal cooling capacity	kW	543,5	568,4	609,1	642,6	672,2	690,7
❶ Nominal cooling capacity	kW	529,6	553,3	591,3	622,6	654,8	673,8
❶ Nominal cooling capacity		514,6	537,4	574,6	607,5	636,1	653,9
❶ E.E.R.		3,13	3,12	3,10	3,11	3,11	3,11
❶ E.E.R.		3,07	3,04	3,03	2,97	3,04	3,00
❶ E.E.R.		2,95	2,91	2,91	2,87	2,92	2,88
● E.S.E.E.R.		4,05	4,04	4,07	4,04	4,01	4,01
● E.S.E.E.R.		3,85	3,80	3,85	3,89	3,92	3,9
● E.S.E.E.R.		3,99	4,00	4,03	4,13	4,14	4,15
❷ IPLV		4,29	4,34	4,34	4,34	4,34	4,35
❷ IPLV		4,08	4,08	4,12	4,17	4,20	4,22
❷ IPLV		4,27	4,30	4,31	4,34	4,35	4,37
❶ Absorbed power	kW	173,64	182,18	196,48	206,62	216,14	222,09
❶ Absorbed power	kW	172,51	182,01	195,15	209,63	215,39	224,6
❶ Absorbed power	kW	174,44	184,67	197,46	211,67	217,84	227,05
TCAVBZ-TCAVSZ-TCAVQZ MODEL		**2550**	**2570**	**2610**	**2640**	**2680**	**2700**
❸ Sound pressure	dB(A)	66	66	66	66	66	66
❸ Sound pressure	dB(A)	60	60	60	60	60	60
❸ Sound pressure	dB(A)	56	56	56	56	56	56
❹ Sound power	dB(A)	99	99	99	99	99	99
❹ Sound power	dB(A)	93	93	93	93	93	93
❹ Sound power	dB(A)	89	89	89	89	89	89
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2550**	**2570**	**2610**	**2640**	**2680**	**2700**
L - Width	mm	6.680	6.680	6.680	6.680	7.680	7.680
H - Height	mm	2.430	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	5.560	5.680	5.720	5.740	6.010	6.030
❺ TCAVIZ-TCAVSZ weight	kg	5.880	6.000	6.040	6.060	6.330	6.350
❺ TCAVQZ weight	kg	6.088	6.208	6.248	6.268	6.538	6.558

Data at the following conditions:
❶ Air: 35°C - Water: 12/7°C.
❷ IPLV (Itegrated Part Load Value) - ARI standard 550/590.
❸ In open yield (Q = 2) at 10 m from the unit.
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
❺ Weight refers to the accessorised unit with RPE - KRP when empty.
● ESEER = (European seasonal EER) - Average European seasonal efficiency.
TCAVSZ silenced versions.
TCAVQZ super-silenced versions.
Performance according to EN 14511:2013



Z-POWER SE

TCAVZ 2710-21750

Cooling capacity: 687,0-1.750 kW

- **Efficient range in R134a**
- **Installation flexibility up to 1,750 kW**
- **Standard electronic expansion valve**
- **Integrated MASTER/SLAVE control**



TCAVSZ 21600 with DS accessory and pump unit

Packaged air-cooled water chillers with axial fans.
Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger: dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation (S version only).
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - display of cooling circuit high/low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- B - Standard version (TCAVBZ).
- S - Silenced version with reduced speed fans and soundproofing compressor lining (TCAVSZ).
- I - Soundproofed version with soundproofing compressor lining (TCAVIZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit intended for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- VPF control.
- Desuperheater.
- 100% heat recovery unit
- Thermostat with display for heat recovery unit/desuperheater.
- -10°C condensing control (standard with S version).
- -15°C condensing control with fans with EC motor.
- Power factor correction capacitors (cosφ > 0.94).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection grilles.
- Linear compressor capacity control (25-100 %).
- Evaporator antifreeze heater and heat recovery exchangers if applicable.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Low temperature water production.
- Copper/pre-painted aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAVBZ-TCAVSZ-TCAVIZ MODEL		2710	2750	2810	2870	2940	2990	21020
❶ Nominal Cooling Capacity	kW	706,7	747,7	806,5	860,1	932,7	981,2	1.011,4
❶ Nominal Cooling Capacity	kW	687,0	728,8	783,3	835,0	906,1	950,9	980,8
❶ E.E.R		2,91	2,93	2,92	2,87	2,98	2,94	3,00
❶ E.E.R.		2,77	2,80	2,79	2,73	2,83	2,77	2,83
● E.S.E.E.R.		3,80	3,57	3,54	3,39	3,65	3,59	3,65
● E.S.E.E.R.		3,65	2,80	2,79	2,73	2,83	2,77	2,83
❷ IPLV		4,10	4,12	4,09	4,03	4,17	4,14	4,21
❷ IPLV		3,92	3,94	3,91	3,83	3,95	3,89	3,97
❶ Absorved Power	kW	242,85	255,19	276,20	299,69	312,99	333,74	337,13
❶ Absorved Power	kW	248,01	260,29	280,75	305,86	320,18	343,29	346,57
TCAVBZ-TCAVSZ MODEL		**2710**	**2750**	**2810**	**2870**	**2940**	**2990**	**21020**
❸ Sound Pressure	dB(A)	67	67	67	70	68	68	68
❸ Sound Pressure	dB(A)	61	61	61	64	62	62	62
❹ Sound Power	dB(A)	100	100	100	103	101	101	101
❹ Sound Power	dB(A)	94	94	94	97	95	95	95
Screw/Step Compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2
Electrical Supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2710**	**2750**	**2810**	**2870**	**2940**	**2990**	**21020**
L-Width	mm	6.680	6.680	7.680	7.680	7.680	7.680	7.680
H-Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430
P-Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ Weight	kg	5.590	5.600	6.490	6.990	7.020	7.040	7.220
❺ TCAVIZ-TCAVSZ Weight	kg	5.910	5.920	6.840	7.340	7.370	7.390	7.570

TCAVBZ-TCAVSZ-TCAVIZ MODEL		21060	21110	21180	21250	21330	21400	21500	21600	21750
❶ Nominal Cooling Capacity	kW	1.048,6	1104,0	1175,6	1249,7	1327,7	1404,4	1497,6	1609,7	1.750
❶ Nominal Cooling Capacity	kW	1016,9	1068,7	1138,9	1207,3	1283,5	1347,9	1441,7	1542,3	-
❶ E.E.R		3,1	2,9	3,0	3,1	3,1	3,1	3,1	3,1	3,39
❶ E.E.R.		2,92	2,75	2,81	2,86	2,87	2,87	2,84	2,76	-
● E.S.E.E.R.		3,81	3,63	3,69	3,77	3,80	3,85	3,90	4,02	4,3
● E.S.E.E.R.		3,58	3,37	3,40	3,48	3,50	3,67	3,66	3,67	-
❷ IPLV		4,34	4,14	4,25	4,35	4,36	4,30	4,33	4,39	4,6
❷ IPLV		4,09	3,85	3,93	4,02	4,02	4,01	4,00	3,87	-
❶ Absorved Power	kW	338,26	374,24	387,99	403,13	428,29	453,03	483,10	519,26	516
❶ Absorved Power	kW	348,25	388,62	405,30	422,13	447,21	469,65	507,64	558,80	-
TCAVBZ-TCAVSZ MODEL		**21060**	**21110**	**21180**	**21250**	**21330**	**21400**	**21500**	**21600**	**21750**
❸ Sound Pressure	dB(A)	69	69	69	69	69	70	71	71	72
❸ Sound Pressure	dB(A)	63	63	63	63	63	64	65	65	-
❹ Sound Power	dB(A)	102	102	102	102	102	103	104	104	105
❹ Sound Power	dB(A)	96	96	96	96	96	97	98	98	-
Screw/Step Compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2	2
Electrical Supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**21060**	**21110**	**21180**	**21250**	**21330**	**21400**	**21500**	**21600**	**21750**
L-Width	mm	7.680	8.980	8.980	8.980	9.980	10.980	12.980	12.980	12.980
H-Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.456
P-Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ Weight	kg	7.383	7.760	8.170	8.190	8.820	9.310	10.220	10.460	10.770
❺ TCAVIZ-TCAVSZ Weight	kg	7.733	8.110	8.520	8.540	9.170	9.660	10.540	10.780	-

Data at the following conditions:
❶ Air: 35°C - Water: 12/7°C
❷ IPLV (Itegrated Part Load Value) - ARI standart 550/590.
❸ In open field (Q=2) at 10 m from the unit.
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614
❺ Weight refers to the accessorised unit with RPE-KRP when empty.
● ESEER=(European Seasonal EER) - Average European Seasonal Efficiency.
TCAVSZ silenced versions.
Performance according to EN 14511:2013



Z-POWER SE

TCAVZ 2331-2701

Cooling capacity: 320-688,5 kW

- **Efficient range in R134a**
- **Working limits up to 50°C**
- **TANK&PUMP set up up to 500 kW**
- **Built-in MASTER/SLAVE management**



TCAVSZ 2641

Packaged air-cooled water chillers with axial fans. Range with semihermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger (mod. 2331-2511): stainless steel plate exchanger with closed cell polyurethane foam rubber insulation, complete with water flow differential pressure switch and Victaulic fittings.
- Water side heat exchanger (mod. 2551-2701): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane rubber foam insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric helical fans with external rotor, equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation (S version only).
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
- display of cooling circuit high/low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board.

Versions

- B -Standard version (TCAVBZ).
- S - Silenced version with lower speed fans and soundproofed compressor cover (TCAVSZ).
- I - Soundproofed version with soundproofed compressor cover (TCAVIZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit intended for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- Shell and tube evaporator (mod. 2331-2511).
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP (mod. 2331-2511) with 1000 litre integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF management:
- Desuperheater.
- 100% Heat recovery unit
- Thermostat with display for heat recovery unit/ desuperheater.
- -10°C condensing control (as per standard in S version).
- -15°C condensing control with fans with EC motor.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Linear compressor capacity control (25-100 %).
- Evaporator antifreeze heater, buffer tank and heat exchangers for heat recovery if present.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue input for shifting set-point.
- Low temperature water production.
- Pre-painted copper/aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keyboard with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of several water chillers.

TCAVBZ-TCAVSZ-TCAVIZ MODEL		2331	2351	2371	2391	2421	2461	2511
❶ Nominal cooling capacity	kW	330,5	350,0	369,8	389,3	412,8	453,4	506,8
❶ Nominal cooling capacity	kW	320	338,3	358,4	372,6	400,3	438,1	485,8
❶ E.E.R.		2,92	2,93	2,90	2,90	2,91	2,90	2,90
❶ E.E.R.		2,83	2,81	2,78	2,69	2,83	2,78	2,74
● E.S.E.E.R.		3,92	3,93	3,93	3,95	3,95	3,88	3,81
● E.S.E.E.R.		3,72	3,75	3,78	3,80	3,82	3,70	3,54
❷ IPLV		4,11	4,11	4,12	4,13	4,15	4,07	3,98
❷ IPLV		3,90	3,93	3,96	3,99	4,01	3,88	3,74
❶ Absorbed power	kW	113.18	119.45	127.52	134.24	141.86	156.34	174.76
❶ Absorbed power	kW	113,07	120,39	128,92	138,51	141,45	157,59	177,30
TCAVBZ-TCAVSZ MODEL		**2331**	**2351**	**2371**	**2391**	**2421**	**2461**	**2511**
❸ Sound pressure	dB(A)	64	64	64	64	65	65	65
❸ Sound pressure	dB(A)	58	58	58	58	59	59	59
❹ Sound power	dB(A)	97	97	97	97	98	98	98
❹ Sound power	dB(A)	91	91	91	91	92	92	92
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Electrical supply	V-ph-Hz	2	2	2	2	2	2	2
Circuits	no.	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2331**	**2351**	**2371**	**2391**	**2421**	**2461**	**2511**
L - Width	mm	3.830	3.830	3.830	3.830	4.830	4.830	4.830
H - Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	3.080	3.100	3.130	3.200	3.520	3.950	4.300
❺ TCAVIZ-TCAVSZ weight	kg	3.400	3.420	3.450	3.520	3.840	4.270	4.620

TCAVBZ-TCAVSZ-TCAVIZ MODEL		2551	2571	2611	2641	2681	2701
❶ Nominal cooling capacity	kW	539,4	563,0	607,1	644,8	669,1	688,5
❶ Nominal cooling capacity	kW	523,1	545,1	583,3	615,4	649,7	669,3
❶ E.E.R.		2,93	2,90	2,90	2,90	2,88	2,86
❶ E.E.R.		2,85	2,80	2,74	2,72	2,78	2,75
● E.S.E.E.R.		3,80	3,83	3,85	3,84	3,80	3,80
● E.S.E.E.R.		3,62	3,72	3,72	3,72	3,70	3,65
❷ IPLV		4,07	4,15	4,13	4,11	4,11	4,12
❷ IPLV		3,87	3,99	3,98	3,97	3,96	3,95
❶ Absorbed power	kW	184.1	194.14	209.34	222.34	232.33	240.73
❶ Absorbed power	kW	183,54	194,68	212,88	226,25	233,71	243,38
TCAVBZ-TCAVSZ MODEL		**2551**	**2571**	**2611**	**2641**	**2681**	**2701**
❸ Sound pressure	dB(A)	65	65	65	65	66	66
❸ Sound pressure	dB(A)	59	59	59	59	60	60
❹ Sound power	dB(A)	98	98	98	98	99	99
❹ Sound power	dB(A)	92	92	92	92	93	93
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
Electrical supply	V-ph-Hz	2	2	2	2	2	2
Circuits	no.	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2551**	**2571**	**2611**	**2641**	**2681**	**2701**
L - Width	mm	5.830	5.830	5.830	5.830	6.680	6.680
H - Height	mm	2.430	2.430	2.430	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAVBZ weight	kg	4.780	4.800	4.920	5.010	5.560	5.580
❺ TCAVIZ-TCAVSZ weight	kg	5.100	5.120	5.240	5.330	5.880	5.900

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ IPLV (Itegrated Part Load Value) - ARI standard 550/590.

❸ In open ÿeld (Q = 2) at 10 m from the unit.

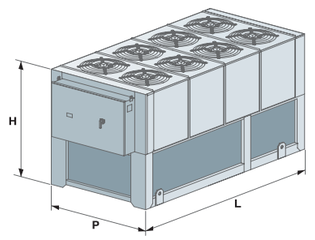
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight refers to the accessorised unit with RPE - KRP when empty.

● ESEER = (European seasonal EER) - Average European seasonal eÿciency.

TCAVSZ silenced versions.

Performance according to EN 14511:2013



Z-POWER SE

TCAVZ 1270-1390

Cooling capacity: 259,1-392,7 kW

- **Efficient and compact range in R134a**
- **Working limits up to 50°C**
- **Range with single compressor up to 390 kW**
- **Built-in MASTER/SLAVE management**



Packaged air-cooled water chillers with axial fans. Range with semi-hermetic screw compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start, complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger: dry expansion shell and tube exchanger, complete with closed cell polyurethane rubber foam insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric helical fans with external rotor, equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation (S version only).
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
- display of cooling circuit high/low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board.

Versions

- B -Standard version (TCAVBZ).
- S - Silenced version with lower speed fans and soundproofed compressor cover (TCAVSZ).
- I - Soundproofed version with soundproofed compressor cover (TCAVIZ).

Models

- TCAVBZ: unit designed for cooling only.
- TCAVSZ: silenced unit designed for cooling only.
- TCAVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF management.
- Desuperheater.
- 100% Heat recovery unit
- Thermostat with display for heat recovery unit/ desuperheater.
- -10°C condensing control (as per standard in S version).
- -15°C condensing control with fans with EC motor.
- Power factor correction capacitors (cosϕ > 0.94).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection nets.
- Linear capacity control compressor.
- Evaporator antifreeze heater and heat recovery exchangers if present.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue input for shifting set-point.
- Low temperature water production.
- Pre-painted copper/aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keyboard with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of several water chillers.

	TCAVBZ-TCAVIZ-TCAVSZ MODEL		1270	1310	1350	1390
❶	Nominal cooling capacity	kW	269.1	307.9	352.9	392.7
❶	Nominal cooling capacity	kW	259.1	298.9	339.0	372.8
❶	E.E.R.		2.67	2.77	2.70	2.70
❶	E.E.R.		2.59	2.68	2.57	2.52
●	E.S.E.E.R.		3.37	3.48	3.38	3.37
●	E.S.E.E.R.		3.19	3.31	3.20	3.16
❶	Absorbed power	kW	100,79	111,16	130,70	145,41
❶	Absorbed power	kW	100,04	111,53	131,91	147,94
	TCAVBZ-TCAVSZ MODEL		**1270**	**1310**	**1350**	**1390**
❸	Sound pressure	dB(A)	64	65	65	65
❸	Sound pressure	dB(A)	58	59	59	59
❹	Sound power	dB(A)	97	98	98	98
❹	Sound power	dB(A)	91	92	92	92
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**1270**	**1310**	**1350**	**1390**
	L - Width	mm	3.830	3.830	3.830	3.830
	H - Height	mm	2.430	2.430	2.430	2.430
	P - Depth	mm	2.260	2.260	2.260	2.260
❺	TCAVBZ weight	kg	2.850	2.970	3.430	3.530
❺	TCAVSZ weight	kg	3.010	3.130	3.590	3.690

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❸ In open ÿeld (Q = 2) at 10 m from the unit.

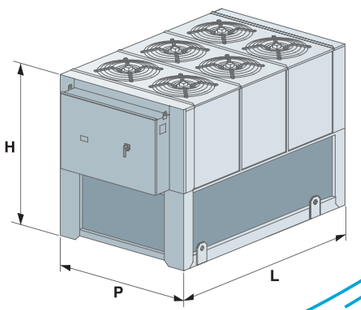
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight refers to the accessorised unit with RPE - KRP when empty.

● ESEER = (European seasonal EER) - Average European seasonal eÿciency.

TCAVSZ silenced versions.

Performance according to EN 14511:2013



WinPOWER HE-A

TCAEY 4385-8920 / THAEY 4385-6700

Cooling capacity: 337,3-916,8 kW

Heating capacity: 368,8-698,9 kW

- **CLASS A chillers**
- **Extended operating limits**
- **Up to 6 capacity steps**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**



TCAEQY 8920

THAETY 4460
with BFI accessory

Reversible air cooled heat pumps and water chillers with axial fans.Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Up to 6 capacity steps with high efficiency at partial loads.
- Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: featuring micro-channels (TCAEY) or finned coil with copper pipes and aluminium fins (THAEY).
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches,
  - display of cooling circuit high and low pressure,
  - electronic expansion valve.
  - clock board.
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High efficiency version with oversized condensing section (TCAETY - THAETY).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: high efficiency heat pump unit.
- THAEQY: super silenced heat pump unit.

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP with 700 or 1000 litre integrated buffer tank (depending on size) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box or Compressor box and soundproofed cooling circuit (THAEY).
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves
- Metal filters (THAEY) or Coil protection grilles.
- Micro-channel coils with E-coating treatment (TCAEY).
- Copper/copper or copper/pre-painted aluminium coils (THAEY).
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAETY-TCAEQY MODEL		4385	4415	4460	5525	6570	6625
❶ Nominal cooling capacity	kW	385,0	414,0	460,8	524,5	569,5	623,1
❶ Nominal cooling capacity	kW	355,2	381,1	420,1	469,9	510,8	558,6
❶ E.E.R.		3,24	3,16	3,13	3,19	3,17	3,10
❶ E.E.R.		2,87	2,71	2,64	2,71	2,63	2,47
❶ Absorbed power	kW	118,9	131,1	147,3	164,5	179,7	201,0
❶ Absorbed power	kW	123,8	140,7	159,2	173,4	194,3	226,2
TCAETY-TCAEQY MODEL		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
❸ TCAETY sound pressure	dB(A)	63	64	65	65	65	65
❸ TCAEQY sound pressure	dB(A)	54	54	55	55	55	55
❹ TCAETY sound power	dB(A)	95	96	97	97	97	97
❹ TCAEQY sound power	dB(A)	86	86	87	87	87	87
Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
L - Width	mm	4.840	4.840	4.840	5.940	5.940	5.940
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAETY weight	kg	2.440	2.460	2.510	2.980	3.200	3.210
❺ TCAEQY weight	kg	2.715	2.735	2.785	3.300	3.565	3.575

THAETY-THAEQY MODEL		4385	4415	4460	5525	6570	6625
❷ Nominal heating capacity	kW	386,9	425,0	464,2	520,4	571,5	626,8
❷ Nominal heating capacity	kW	368,8	404,9	441,0	493,2	535,3	598,6
❷ C.O.P.		3,20	3,20	3,20	3,20	3,20	3,20
❷ C.O.P.		3,24	3,22	3,22	3,20	3,20	3,21
❶ Nominal cooling capacity		359,2	399,0	439,9	498,7	538,6	584,4
❶ Nominal cooling capacity		337,3	367,2	401,1	453,0	483,9	520,8
❶ E.E.R.		2,97	2,96	2,95	3,02	2,95	2,90
❶ E.E.R.		2,66	2,55	2,49	2,60	2,47	2,29
❷ Absorbed power	kW	121,0	132,9	145,1	162,7	178,6	195,9
❷ Absorbed power	kW	113,9	125,8	137,0	154,2	167,3	186,5
THAETY-THAEQY MODEL		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
❸ THAETY sound pressure	dB(A)	63	64	65	65	65	65
❸ THAEQY sound pressure	dB(A)	54	54	55	55	55	55
❹ THAETY sound power	dB(A)	95	96	97	97	97	97
❹ THAEQY sound power	dB(A)	86	86	87	87	87	87
Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4385**	**4415**	**4460**	**5525**	**6570**	**6625**
L - Width	mm	4.840	4.840	4.840	5.940	5.940	5.940
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ THAETY weight	kg	3.030	3.200	3.250	3.830	4.040	4.070
❺ THAEQY weight	kg	3.395	3.565	3.615	4.310	4.520	4.550

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

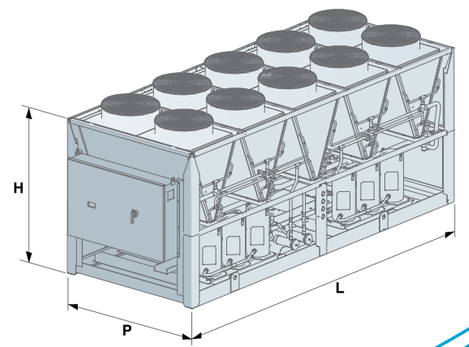
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY super-silenced versions.

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		4385	4415	4460	5525	6570	6625
TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	384,9	413,8	460,7	524,3	569,3	622,9
① SEER (EN 14825)		4,44	4,43	4,40	4,49	4,44	4,42
② $\eta_{s,c}$	%	175	174	173	176	174	174
TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	355,1	381,0	419,9	469,7	510,7	558,4
① SEER (EN 14825)		4,31	4,19	4,23	4,24	4,19	4,23
② $\eta_{s,c}$	%	169	165	166	167	165	166
THAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	-	-	439,8	498,5	538,4	584,2
① SEER (EN 14825)		-	-	4,18	4,22	4,17	4,19
② $\eta_{s,c}$	%	-	-	164	166	164	165
THAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	-	-	401,0	452,8	483,8	520,6
① SEER (EN 14825)		-	-	4,18	4,21	4,17	4,20
② $\eta_{s,c}$	%	-	-	164	165	164	165
THAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	354	388	-	-	-	-
③ SCOP (EN 14825)		3,61	3,64	-	-	-	-
④ η_s	%	141	143	-	-	-	-
THAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	337	370	-	-	-	-
③ SCOP (EN 14825)		3,71	3,71	-	-	-	-
④ η_s	%	145	145	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

TCAETY-TCAEQY MODEL		6665	6700	7760	8820	8870	8920
❶ Nominal cooling capacity	kW	665,3	695,2	758,3	819,9	870,0	916,8
❶ Nominal cooling capacity	kW	604,7	632,6	694,7	753,3	791,5	827,3
❶ E.E.R.		3,16	3,13	3,14	3,15	3,14	3,13
❶ E.E.R.		2,70	2,65	2,67	2,67	2,64	2,60
❶ Absorbed power	kW	210,6	222,2	241,5	260,3	277,1	293,0
❶ Absorbed power	kW	224,0	238,8	260,2	282,2	299,9	318,2
TCAETY-TCAEQY MODEL		**6665**	**6700**	**7760**	**8820**	**8870**	**8920**
❸ TCAETY sound pressure	dB(A)	66	66	66	66	66	67
❸ TCAEQY sound pressure	dB(A)	56	57	57	57	58	59
❹ TCAETY sound power	dB(A)	98	98	98	98	99	100
❹ TCAEQY sound power	dB(A)	88	89	90	90	91	92
Scroll/step compressor	no.	6/6	6/6	7/6	8/6	8/6	8/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**6665**	**6700**	**7760**	**8820**	**8870**	**8920**
L - Width	mm	7.100	7.100	8.250	9.350	9.350	9.350
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAETY weight	kg	3.715	3.740	4.250	4.650	4.750	4.770
❺ TCAEQY weight	kg	4.080	4.105	4.655	5.105	5.205	5.225

THAETY-THAEQY MODEL		6665	6700
❷ Nominal heating capacity	kW	662,6	698,9
❷ Nominal heating capacity	kW	631,4	661,6
❷ C.O.P.		3,21	3,22
❷ C.O.P.		3,25	3,23
❶ Nominal cooling capacity		633,5	660,3
❶ Nominal cooling capacity		578,9	601,7
❶ E.E.R.		3,02	2,97
❶ E.E.R.		2,54	2,51
❷ Absorbed power	kW	206,5	217,1
❷ Absorbed power	kW	194,3	204,9
THAETY-THAEQY MODEL		**6665**	**6700**
❸ THAETY sound pressure	dB(A)	66	66
❸ THAEQY sound pressure	dB(A)	56	57
❹ THAETY sound power	dB(A)	98	98
❹ THAEQY sound power	dB(A)	88	89
Scroll/step compressor	no.	6/6	6/6
Circuits	no.	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**6665**	**6700**
L - Width	mm	7.100	7.100
H - Height	mm	2.450	2.450
P - Depth	mm	2.260	2.260
❺ THAETY weight	kg	4.680	4.710
❺ THAEQY weight	kg	5.210	5.240

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

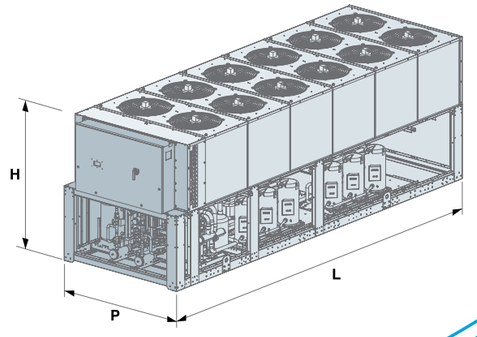
❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY super-silenced versions.



SEASONAL ENERGY PERFORMANCE		6665	6700	7760	8820	8870	8920
TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	665,2	695,1	758,3	819,9	870,0	916,7
① SEER (EN 14825)		4,40	4,31	4,51	4,51	4,48	4,42
② $\eta_{s,c}$	%	173	169	178	178	176	174
TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	604,6	632,5	694,6	753,3	791,4	827,3
① SEER (EN 14825)		4,23	4,22	4,26	4,24	4,20	4,15
② $\eta_{s,c}$	%	166	166	167	167	165	163
THAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	633,4	660,2	-	-	-	-
① SEER (EN 14825)		4,19	4,16	-	-	-	-
② $\eta_{s,c}$	%	165	163	-	-	-	-
❖ **THAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE**							
① Pdesignc (EN 14825)	kW	578,7	601,6	-	-	-	-
① SEER (EN 14825)		4,16	4,20	-	-	-	-
② $\eta_{s,c}$	%	163	165	-	-	-	-

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
③ In Average climatic conditions, low temperature application (35°C)
④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



WinPOWER SE

TCAEY 4360-8860 / THAEY 4360-6670

Cooling capacity: 335,0-861,8 kW

Heating capacity: 358,1-671,5 kW

- **Version B compact and high-performance for replacement markets**
- **Up to 6 capacity steps**
- **Simplified installation thanks to pump unit accessories**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**



TCAESY 8860

THAESY 6590
with BFI accessory

Reversible air cooled heat pumps and water chillers with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- up to 6 capacity steps with high efficiency at partial loads.
- Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: featuring micro-channels (TCAEY) or finned coil with copper pipes and aluminium fins (THAEY).
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches,
  - display of cooling circuit high and low pressure,
  - electronic expansion valve.
  - clock board.
  - Master/Slave control up to 4 units in parallel

Versions

- B -Standard version (TCAEBY-THAEBY).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TCAESY - THAESY).

Models

- TCAEBY: unit intended for cooling only.
- TCAESY: silenced unit designed for cooling only.
- THAEBY: heat pump unit.
- THAESY: silenced heat pump unit.

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP with 700 or 1000 litre integrated buffer tank (depending on size) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control (standard with S versions).
- -15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box or Compressor box and soundproofed cooling circuit (THAEY).
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters (THAEY) or Coil protection grilles.
- Micro-channel coils with E-coating treatment (for TCAEY).
- Copper/copper or copper/pre-painted aluminium coils (for THAEY).
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAEBY-TCAESY MODEL		4360	4390	4435	5500	6540	6590
❶ Nominal cooling capacity	kW	359,8	389,6	434,6	496,3	538,9	587,9
❶ Nominal cooling capacity	kW	350,9	374,7	416,7	478,4	517,1	560,1
❶ E.E.R.		2,90	2,84	2,81	2,96	2,90	2,77
❶ E.E.R.		2,76	2,62	2,60	2,77	2,68	2,52
❶ Absorbed power	kW	124,1	137,2	154,7	167,7	185,9	212,3
❶ Absorbed power	kW	127,2	143,1	160,3	172,8	193,0	222,3
TCAEBY-TCAESY MODEL		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
❸ Sound pressure	dB(A)	62	63	64	64	64	64
❸ Sound pressure	dB(A)	57	58	59	59	59	59
❹ Sound power	dB(A)	94	95	96	96	96	96
❹ Sound power	dB(A)	89	90	91	91	91	91
Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
L - Width	mm	3.740	3.740	3.740	4.840	4.840	4.840
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAEBY Weight	kg	2.130	2.140	2.200	2.670	2.860	2.890
❺ TCAESY Weight	kg	2.360	2.370	2.430	2.940	3.165	3.195

THAEBY-THAESY MODEL		4360	4390	4435	5500	6540	6590
❷ Nominal heating capacity	kW	374,2	398,4	437,4	487,7	530,0	592,1
❷ Nominal heating capacity	kW	358,1	386,3	424,3	473,6	518,9	575,0
❷ C.O.P.		3,01	2,94	3,03	2,98	2,93	2,97
❷ C.O.P.		3,01	2,94	3,02	2,99	2,95	2,96
❶ Nominal cooling capacity	kW	346,9	368,7	410,7	465,4	509,1	553,2
❶ Nominal cooling capacity	kW	335,0	355,9	389,9	444,6	486,4	532,4
❶ E.E.R.		2,80	2,67	2,64	2,78	2,71	2,60
❶ E.E.R.		2,64	2,49	2,42	2,55	2,51	2,41
❷ Absorbed power	kW	124,4	135,6	144,4	163,7	180,9	199,4
❷ Absorbed power	kW	119,0	131,4	140,5	158,4	175,9	194,3
THAEBY-THAESY MODEL		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
❸ Sound pressure	dB(A)	62	63	64	64	64	64
❸ Sound pressure	dB(A)	57	58	59	59	59	59
❹ Sound power	dB(A)	94	95	96	96	96	96
❹ Sound power	dB(A)	89	90	91	91	91	91
Scroll/step compressor	no.	4/4	4/4	4/4	5/5	6/6	6/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4360**	**4390**	**4435**	**5500**	**6540**	**6590**
L - Width	mm	3.740	3.740	3.740	4.840	4.840	4.840
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ THAEBY weight	kg	2.700	2.710	2.780	3.400	3.580	3.640
❺ THAESY weight	kg	2.900	2.910	2.980	3.710	3.910	3.970

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

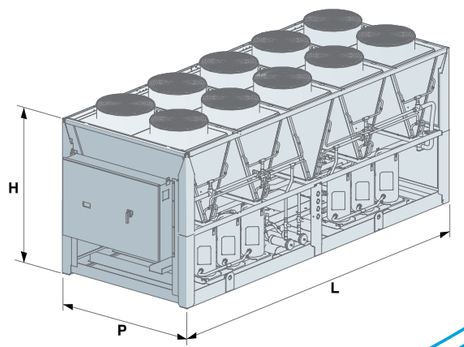
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY - THAESY silenced versions

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		4360	4390	4435	5500	6540	6590
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	359,7	389,5	434,4	496,1	538,7	587,7
① SEER (EN 14825)		4,18	4,17	4,21	4,25	4,20	4,18
② $\eta_{s,c}$	%	164	164	165	167	165	164
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	350,8	374,6	416,6	478,2	517,0	560,0
① SEER (EN 14825)		4,27	4,16	4,16	4,37	4,27	4,19
② $\eta_{s,c}$	%	168	163	164	172	168	165
THAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	-	-	410,6	465,3	509,0	553,0
① SEER (EN 14825)		-	-	4,21	4,12	4,13	4,17
② $\eta_{s,c}$	%	-	-	166	162	162	164
THAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	-	-	-	444,4	486,2	532,2
① SEER (EN 14825)		-	-	-	4,12	4,11	4,17
② $\eta_{s,c}$	%	-	-	-	162	161	164
THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	343	367	-	-	-	-
③ SCOP (EN 14825)		3,44	3,38	-	-	-	-
④ η_S	%	135	132	-	-	-	-
THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	328	355	391	-	-	-
③ SCOP (EN 14825)		3,45	3,39	3,46	-	-	-
④ η_S	%	135	132	136	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

TCAEBY-TCAESY MODEL		6635	6670	7730	8790	8830	8860
❶ Nominal cooling capacity	kW	637,7	666,5	732,4	784,0	827,1	861,8
❶ Nominal cooling capacity	kW	611,9	637,8	705,6	752,3	790,4	825,1
❶ E.E.R.		2,93	2,90	2,93	2,84	2,81	2,80
❶ E.E.R.		2,74	2,72	2,76	2,63	2,61	2,60
❶ Absorbed power	kW	217,7	229,9	250,0	276,1	294,4	307,8
❶ Absorbed power	kW	223,4	234,5	255,7	286,1	302,9	317,4
TCAEBY-TCAESY MODEL		**6635**	**6670**	**7730**	**8790**	**8830**	**8860**
❸ Sound pressure	dB(A)	65	65	65	65	65	66
❸ Sound pressure	dB(A)	60	60	60	60	61	62
❹ Sound power	dB(A)	97	97	97	97	98	99
❹ Sound power	dB(A)	92	93	93	93	93	94
Scroll/step compressor	no.	6/6	6/6	7/6	8/6	8/6	8/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**6635**	**6670**	**7730**	**8790**	**8830**	**8860**
L - Width	mm	5.940	5.940	7.150	7.150	7.150	7.150
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCAEBY Weight	kg	3.205	3.230	3.870	4.020	4.100	4.120
❺ TCAESY Weight	kg	3.510	3.535	4.210	4.410	4.490	4.510

THAEBY-THAESY MODEL		6635	6670
❷ Nominal heating capacity	kW	638,3	671,5
❷ Nominal heating capacity	kW	616,1	648,4
❷ C.O.P.		3,04	3,00
❷ C.O.P.		3,03	3,00
❶ Nominal cooling capacity	kW	600,9	631,7
❶ Nominal cooling capacity	kW	576,1	603,9
❶ E.E.R.		2,76	2,75
❶ E.E.R.		2,60	2,58
❷ Absorbed power	kW	210,0	223,9
❷ Absorbed power	kW	203,4	216,2
THAEBY-THAESY MODEL		**6635**	**6670**
❸ Sound pressure	dB(A)	65	65
❸ Sound pressure	dB(A)	60	60
❹ Sound power	dB(A)	97	97
❹ Sound power	dB(A)	92	93
Scroll/step compressor	no.	6/6	6/6
Circuits	no.	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**6635**	**6670**
L - Width	mm	5.940	5.940
H - Height	mm	2.450	2.450
P - Depth	mm	2.260	2.260
❺ THAEBY weight	kg	4.080	4.120
❺ THAESY weight	kg	4.490	4.530

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

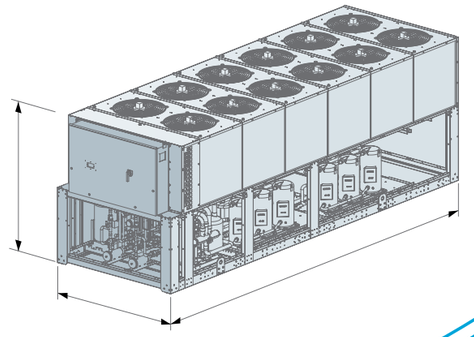
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY - THAESY silenced versions

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		6635	6670	7730	8790	8830	8860
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	637,5	666,3	732,3	783,9	827,0	861,7
① SEER (EN 14825)		4,23	4,19	4,26	4,17	4,15	4,11
② $\eta_{s,c}$	%	166	164	167	164	163	162
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	611,7	637,6	705,6	752,2	790,4	825,1
① SEER (EN 14825)		4,33	4,20	4,23	4,15	4,12	4,12
② $\eta_{s,c}$	%	170	165	166	163	162	162
THAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	600,7	631,5	-	-	-	-
① SEER (EN 14825)		4,19	4,17	-	-	-	-
② $\eta_{s,c}$	%	165	164	-	-	-	-
THAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	575,9	603,7	-	-	-	-
① SEER (EN 14825)		4,17	4,18	-	-	-	-
② $\eta_{s,c}$	%	164	164	-	-	-	-

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
③ In Average climatic conditions, low temperature application (35°C)
④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



WinPACK HE-A

TCAEY-THAEY 2110-4340

Cooling capacity: 91,6-345 kW

Heating capacity: 110,5-357 kW

- **Class A chillers and heat pumps**
- **Standard electronic expansion valve**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**



TCAEQY 2150
with Tank&Pump

THAETY 4270 with coil protection nets accessory

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 2, 3 or 4 capacity steps with high efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

- Air side heat exchanger: featuring micro-channels or finned coil with copper pipes and aluminium fins depending on models/sizes.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- T - High efficiency version with oversized condensing section (TCAETY-THAETY).
- Q - Super-silenced version complete with soundproofing compressor technical compartment, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: heat pump unit.
- THAEQY: super silenced heat pump unit.

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP with integrated buffer tank from 300 to 700 litres (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve, and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box or technical compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Copper/copper or copper/pre-painted aluminium coils.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery if applicable.
- Buffer tank integrative heaters
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAETY-TCAEQY MODEL		2110	2120	2140	2150	2170	2200	2220	4240	4270	4310	4340
❶ Nominal cooling capacity	kW	110,5	121,5	138,4	156,4	175,4	200,3	223,2	241,3	276,3	309,1	345,1
❶ Nominal cooling capacity	kW	100,6	108,6	126,5	140,5	155,5	181,4	199,4	218,4	251,4	280,2	318,2
❶ E.E.R.		3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10	3,10
❶ E.E.R.		2,73	2,60	2,69	2,65	2,60	2,64	2,61	2,56	2,68	2,62	2,63
❶ Absorbed power	kW	35,3	39,2	44,2	50,3	56,6	64,4	72,0	77,8	88,8	99,7	111,3
❶ Absorbed power	kW	36,8	41,8	47,0	53,0	59,8	68,7	76,4	85,0	93,8	106,9	121,0
THAETY-THAEQY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
❷ Nominal heating capacity	kW	114,5	124,5	141,6	161,6	181,7	204,8	233,9	249,8	282,8	321,0	357,0
❷ Nominal heating capacity	kW	110,5	118,5	136,5	153,6	171,6	194,7	221,8	236,7	266,7	301,0	341,9
❷ C.O.P.		3,22	3,22	3,21	3,22	3,23	3,22	3,21	3,20	3,20	3,20	3,20
❷ C.O.P.		3,28	3,29	3,27	3,26	3,26	3,23	3,26	3,12	3,11	2,95	3,08
❶ Nominal cooling capacity	kW	101,6	112,6	126,5	145,4	161,4	186,3	209,3	231,3	263,3	301,1	334,1
❶ Nominal cooling capacity	kW	91,6	100,6	118,6	130,6	144,5	169,5	187,4	206,5	238,4	270,3	302,3
❷ Absorbed power	kW	35,6	38,7	44,1	50,2	56,3	63,6	72,9	78,1	88,4	100,3	111,6
❷ Absorbed power	kW	33,7	36,0	41,7	47,1	52,6	60,3	68,0	75,9	85,8	102,0	111,0
TCAETY-TCAEQY-THAETY-THAEQY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
❸ TCAETY sound pressure	dB(A)	55	56	57	57	58	59	59	58	60	60	62
❸ THAETY sound pressure	dB(A)	53	54	55	55	56	57	57	58	60	60	62
❸ TCAEQY-THAEQY sound pressure	dB(A)	47	47	48	48	49	50	50	51	53	53	54
❹ TCAETY sound power	dB(A)	87	88	89	89	90	91	91	90	92	92	94
❹ THAETY sound power	dB(A)	85	86	87	87	88	89	89	90	92	92	94
❹ TCAEQY-THAEQY sound power	dB(A)	79	79	80	80	81	82	82	83	85	85	86
Scroll/step compressor	no.	2/3	2/3	2/2	2/3	2/2	2/3	2/2	4/4	4/4	4/4	4/4
Circuits	no.	1	1	1	1	1	1	1	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**	**4240**	**4270**	**4310**	**4340**
L - Width	mm	3.600	3.600	3.600	3.600	4.550	4.550	4.550	4.800	4.800	5.300	5.300
H - Height	mm	2.440	2.440	2.440	2440	2.440	2.440	2.440	2.030	2.030	2.030	2.030
P - Depth	mm	1.350	1.350	1.350	1.350	1.350	1.350	1.350	2.090	2.090	2.090	2.090
❺ TCAETY weight	kg	1.090	1.100	1.110	1.130	1.280	1.300	1.320	2.290	2.390	2.520	2.640
❺ TCAEQY weight	kg	1.250	1.260	1.270	1.290	1.440	1.460	1.480	2.420	2.520	2.650	2.770
❺ THAETY weight	kg	1.380	1.410	1.420	1.500	1.670	1.690	1.780	2.470	2.570	2.720	2.840
❺ THAEQY weight	kg	1.420	1.450	1.460	1.540	1.710	1.730	1.820	2.600	2.700	2.850	2.970

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

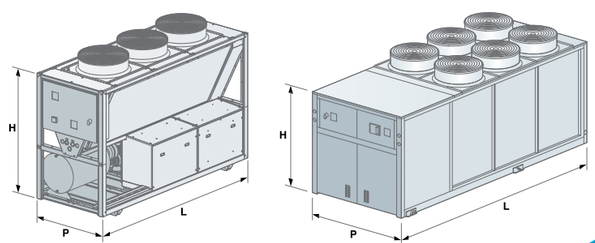
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAEQY-THAEQY super-silenced versions.

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		2110	2120	2140	2150	2170	2200	2220	4240	4270	4310	4340
TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE												
① Pdesignc (EN 14825)	kW	110,5	121,5	138,4	156,3	175,3	200,2	223,1	241,3	276,2	309,1	345,0
① SEER (EN 14825)		4,21	4,26	4,10	4,22	4,27	4,21	4,24	4,29	4,30	4,29	4,30
② $\eta_{s,c}$	%	165	167	161	166	168	165	167	169	169	168	169
TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE												
① Pdesignc (EN 14825)	kW	100,6	108,6	126,5	140,5	155,4	181,3	199,3	218,4	251,4	280,2	318,2
① SEER (EN 14825)		4,13	3,99	4,01	4,07	3,95	4,08	4,00	4,09	4,17	4,17	4,13
② $\eta_{s,c}$	%	162	157	157	160	155	160	157	160	164	164	162
THAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE												
③ Pdesignh (EN 14825)	kW	96	104	118	135	150	173	201	211	242	273	302
③ SCOP (EN 14825)		3,53	3,51	3,75	3,49	3,76	3,39	3,57	3,64	3,62	3,64	3,63
④ η_s	%	138	138	147	137	148	133	140	142	142	143	142
THAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE												
③ Pdesignh (EN 14825)	kW	91	98	113	127	141	165	190	199	227	254	288
③ SCOP (EN 14825)		3,62	3,61	3,84	3,59	3,87	3,53	3,65	3,56	3,54	3,37	3,52
④ η_s	%	142	141	151	141	152	138	143	139	139	132	138

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



WinPACK SE

TCAEY-THAEY 2110-4340

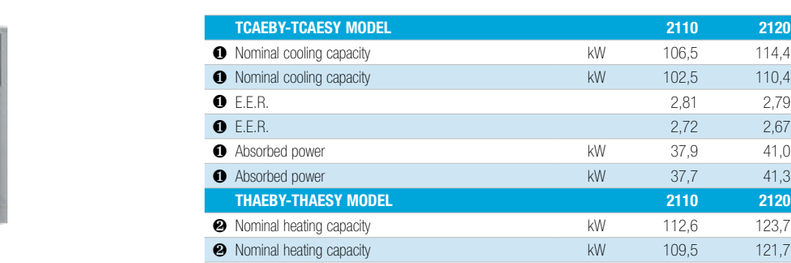
Cooling capacity: 97,6-328,6 kW

Heating capacity: 109,5-354,6 kW

- **High performance range with extended operating limits**
- **Wide range of accessories**
- **Compact version B for replacement markets**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**



TCAESY 2200 with Tank&Pump



THAEBY 4310 with coil protection nets accessory

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 2, 3 or 4 capacity steps with high efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

- Air side heat exchanger: featuring micro-channels or finned coil with copper pipes and aluminium fins depending on models/sizes.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- B -Standard version (TCAEBY-THAEBY).
- S - Silenced version complete with compressor technical compartment soundproofing, reduced speed fans (TCAESY-THAESY).

Models

- TCAEBY: standard unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.
- THAEBY: heat pump unit.
- THAESY: silenced heat pump unit

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP with integrated buffer tank from 300 to 700 litres (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve, and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit
- Electronic expansion valve.
- -10°C condensing control (standard in S versions).
- -15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\varphi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box or technical compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Copper/copper or copper/pre-painted aluminium coils.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery if applicable.
- Buffer tank integrative heaters
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAEBY-TCAESY MODEL		2110	2120	2140	2150	2170	2200	2220
❶ Nominal cooling capacity	kW	106,5	114,4	127,4	147,3	165,2	188,1	212,1
❶ Nominal cooling capacity	kW	102,5	110,4	122,4	142,3	159,2	183,2	205,1
❶ E.E.R.		2,81	2,79	2,80	2,81	2,81	2,80	2,80
❶ E.E.R.		2,72	2,67	2,65	2,71	2,70	2,66	2,70
❶ Absorbed power	kW	37,9	41,0	45,5	52,4	58,8	67,2	75,8
❶ Absorbed power	kW	37,7	41,3	46,2	52,5	59,0	68,9	76,0
THAEBY-THAESY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
❷ Nominal heating capacity	kW	112,6	123,7	139,7	158,8	176,9	198,0	229,1
❷ Nominal heating capacity	kW	109,5	121,7	135,7	155,8	173,9	195,9	226,0
❷ C.O.P.		3,05	3,08	3,08	3,04	3,06	3,07	3,07
❷ C.O.P.		3,10	3,13	3,10	3,13	3,10	3,09	3,13
❶ Nominal cooling capacity	kW	99,5	110,4	123,4	142,3	159,3	182,2	206,1
❶ Nominal cooling capacity	kW	97,6	106,5	117,5	136,4	152,3	175,3	199,2
❷ Absorbed power	kW	36,9	40,2	45,4	52,2	57,8	64,5	74,6
❷ Absorbed power	kW	35,3	38,9	43,8	49,8	56,1	63,4	72,2
TCAEBY-TCAESY-THAEBY-THAESY MODEL		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
❸ TCAEBY sound pressure	dB(A)	55	56	56	57	58	58	59
❸ THAEBY sound pressure	dB(A)	53	54	54	55	56	56	57
❸ TCAESY sound pressure	dB(A)	49	50	50	51	52	52	53
❸ THAESY sound pressure	dB(A)	49	50	50	51	52	52	53
❹ TCAEBY sound power	dB(A)	87	88	88	89	90	90	91
❹ THAEBY sound power	dB(A)	85	86	86	87	88	88	89
❹ TCAESY sound power	dB(A)	81	82	82	83	84	84	85
❹ THAESY sound power	dB(A)	81	82	82	83	84	84	85
Scroll/step compressor	no.	2/3	2/3	2/2	2/3	2/2	2/3	2/2
Circuits	no.	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2110**	**2120**	**2140**	**2150**	**2170**	**2200**	**2220**
L - TCAEBY-TCAESY width	mm	2.650	2.650	2.650	3.600	3.600	3.600	4.550
L - THAEBY-THAESY width	mm	2.650	2.650	2.650	3.600	3.600	3.600	4.550
H - TCAEBY-TCAESY height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440
H - THAEBY-THAESY height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440
P - TCAEBY-TCAESY depth	mm	1.350	1.350	1.350	1.350	1.350	1.350	1.350
P - THAEBY-THAESY depth	mm	1.350	1.350	1.350	1.350	1.350	1.350	1.350
❺ TCAEBY Weight	kg	990	1.000	1.010	1.160	1.180	1.180	1.340
❺ TCAESY Weight	kg	1.110	1.120	1.130	1.280	1.300	1.300	1.460
❺ THAEBY weight	kg	1.250	1.310	1.320	1.470	1.480	1.565	1.730
❺ THAESY weight	kg	1.250	1.310	1.320	1.470	1.480	1.565	1.730

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

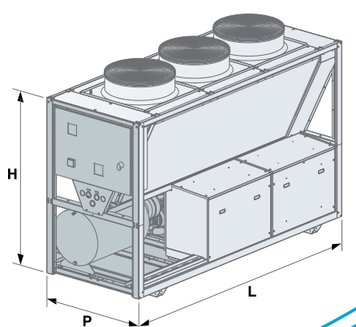
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		2110	2120	2140	2150	2170	2200	2220
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	106,5	114,4	127,3	147,2	165,2	188,1	212,0
① SEER (EN 14825)		3,85	3,87	3,89	3,84	3,91	4,00	3,89
② $\eta_{s,c}$	%	151	152	153	150	153	157	153
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	102,5	110,4	122,4	142,3	159,2	183,2	205,1
① SEER (EN 14825)		3,92	3,94	3,93	3,96	3,95	4,00	3,96
② $\eta_{s,c}$	%	154	155	154	155	155	157	155
THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	95	104	119	134	149	170	200
③ SCOP (EN 14825)		3,38	3,40	3,67	3,36	3,63	3,34	3,53
④ η_s	%	132	133	144	131	142	131	138
THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	92	102	115	131	146	167	197
③ SCOP (EN 14825)		3,47	3,49	3,71	3,50	3,72	3,39	3,62
④ η_s	%	136	136	145	137	146	133	142

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

TCAEBY-TCAESY MODEL		4150	4170	4200	4220	4240	4270	4310	4340
❶ Nominal cooling capacity	kW	146,3	166,4	189,2	213,2	229,2	256,0	299,9	328,7
❶ Nominal cooling capacity	kW	142,3	161,4	182,3	207,2	224,2	250,0	291,0	319,7
❶ E.E.R.		2,99	2,90	2,83	2,92	2,80	2,80	2,81	2,76
❶ E.E.R.		2,93	2,82	2,67	2,82	2,68	2,66	2,68	2,61
❶ Absorbed power	kW	48,9	57,4	66,9	73,0	81,9	91,4	106,7	119,1
❶ Absorbed power	kW	48,6	57,2	68,3	73,5	83,7	94,0	108,6	122,5
THAEBY-THAESY MODEL		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
❷ Nominal heating capacity	kW	152,7	172,6	197,8	225,9	249,0	281,3	319,3	354,6
❷ Nominal heating capacity	kW	147,7	167,6	192,8	219,9	245,0	278,3	315,2	345,5
❷ C.O.P.		3,09	3,14	3,04	3,04	3,03	3,01	3,01	2,98
❷ C.O.P.		3,10	3,12	3,09	3,09	3,09	3,05	3,07	3,03
❶ Nominal cooling capacity	kW	141,3	163,4	186,2	209,1	227,1	253,9	295,9	324,7
❶ Nominal cooling capacity	kW	136,4	156,4	180,3	200,2	220,2	248,0	286,1	313,8
❷ Absorbed power	kW	49,4	55,0	65,1	74,3	82,2	93,5	106,1	119,0
❷ Absorbed power	kW	47,6	53,7	62,4	71,2	79,3	91,2	102,7	114,0
TCAEBY-TCAESY-THAEBY-THAESY MODEL		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
❸ TCAEBY sound pressure	dB(A)	57	57	57	58	60	60	60	61
❸ THAEBY sound pressure	dB(A)	54	54	56	56	58	60	60	61
❸ TCAESY sound pressure	dB(A)	51	51	51	52	54	54	56	57
❸ THAESY sound pressure	dB(A)	50	50	52	52	54	55	56	57
❹ TCAEBY sound power	dB(A)	89	89	89	90	92	92	92	93
❹ THAEBY sound power	dB(A)	86	86	88	88	90	92	92	93
❹ TCAESY sound power	dB(A)	83	83	83	84	86	86	88	89
❹ THAESY sound power	dB(A)	82	82	84	84	86	87	88	89
Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4150**	**4170**	**4200**	**4220**	**4240**	**4270**	**4310**	**4340**
L - TCAEBY-TCAESY width	mm	3.600	3.600	3.600	4.550	4.550	4.550	4.800	4.800
L - THAEBY-THAESY width	mm	3.450	3.450	3.700	3.700	4.800	4.800	4.800	4.800
H - TCAEBY-TCAESY height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.030	2.030
H - THAEBY-THAESY height	mm	2.000	2.000	2.030	2.030	2.030	2.030	2.030	2.030
P - TCAEBY-TCAESY depth	mm	1.350	1.350	1.350	1.350	1.350	1.350	2.090	2.090
P - THAEBY-THAESY depth	mm	1.520	1.520	2.090	2.090	2.090	2.090	2.090	2.090
❺ TCAEBY Weight	kg	1.165	1.185	1.190	1.335	1.670	1.690	2.400	2.410
❺ TCAESY Weight	kg	1.300	1.320	1.325	1.470	1.830	1.850	2.440	2.450
❺ THAEBY weight	kg	1.450	1.525	1.725	1.800	2.375	2.460	2.580	2.595
❺ THAESY weight	kg	1.475	1.550	1.765	1.840	2.415	2.500	2.620	2.635

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C, D.B. 6°C W.B.- Water: 40/45°C.

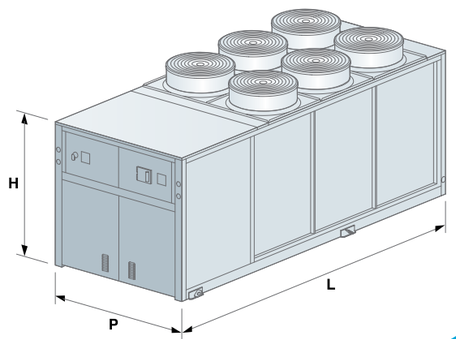
❸ In open field (Q = 2) at 10 m from the unit.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		4150	4170	4200	4220	4240	4270	4310	4340
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	146,3	166,4	189,2	213,1	229,2	256,0	299,9	328,6
① SEER (EN 14825)		4,05	4,09	4,09	4,12	4,04	4,10	4,02	4,03
② $\eta_{s,c}$	%	159	161	161	162	159	161	158	158
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW	142,3	161,4	182,3	207,2	224,2	250,0	291,0	319,7
① SEER (EN 14825)		4,15	4,15	4,03	4,16	4,06	4,07	4,07	4,03
② $\eta_{s,c}$	%	163	163	158	163	159	160	160	158
THAEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③ Pdesignh (EN 14825)	kW	129	145	168	192	211	240	271	301
③ SCOP (EN 14825)		3,41	3,47	3,33	3,33	3,35	3,34	3,35	3,32
④ η_s	%	133	136	130	130	131	130	131	130
THAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③ Pdesignh (EN 14825)	kW	125	140	164	187	207	238	267	292
③ SCOP (EN 14825)		3,42	3,46	3,40	3,40	3,44	3,39	3,41	3,37
④ η_s	%	134	135	133	133	135	133	133	132

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



WinPACK-R HE-A

TCAETY-TCAEQY 4235-4370

Cooling capacity: 221,4-372,0 kW

- **Class A compact chillers with SEER up to 4.43**
- **Standard electronic expansion valve**
- **Integrated MASTER/SLAVE control**



TCAETY 4290 with Tank&Pump and BCI, RPB, RPE, FI10 accessories

Packaged air-cooled water chillers with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 4 capacity steps with high efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection of accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - fan and compressor circuit breaker switches;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- T - High efficiency version with oversized condensing section.
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section.

Models

- TCAETY: high efficiency unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- TANK&PUMP with integrated 700 - 1000 litre buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit.
- -10°C condensing control.
- -15°C condensing control with fans with EC motor (standard in Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\varphi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection nets.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery, if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

	TCAETY-TCAEQY MODEL		4235	4260	4290	4330	4370
❶	Nominal cooling capacity	kW	235,3	261,3	292,2	334,0	372,0
❶	Nominal cooling capacity	kW	221,4	243,4	269,4	312,1	343,1
❶	E.E.R.		3,27	3,20	3,12	3,19	3,15
❶	E.E.R.		3,12	2,88	2,68	2,89	2,75
❶	Absorbed power	kW	72,0	81,7	93,7	104,7	118,1
❶	Absorbed power	kW	71,0	84,5	100,5	108,0	124,8
	TCAETY-TCAEQY MODEL		**4235**	**4260**	**4290**	**4330**	**4370**
❷	TCAETY sound pressure	dB(A)	59	60	61	62	63
❷	TCAEQY sound pressure	dB(A)	50	51	52	53	54
❸	TCAETY sound power	dB(A)	91	92	93	94	95
❸	TCAEQY sound power	dB(A)	82	83	84	85	86
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4
	Circuits	no.	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**4235**	**4260**	**4290**	**4330**	**4371**
	L - Width	mm	3.650	3.650	3.650	4.750	4.750
	H - Height	mm	2.450	2.450	2.450	2.450	2.450
	P - Depth	mm	2.260	2.260	2.260	2.260	2.260
❹	TCAETY weight	kg	1.620	1.820	1.985	2.265	2.310
❹	TCAEQY weight	kg	1.895	2.095	2.260	2.540	2.585

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ In open field (Q = 2) at 10 m from the unit.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

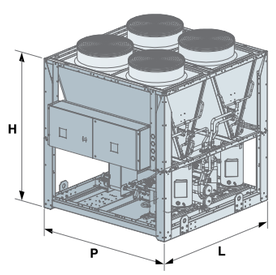
☐ TCAEQY super-silenced versions.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		4235	4260	4290	4330	4370
	TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	235,3	261,3	292,2	334,0	372,0
①	SEER (EN 14825)		4,34	4,34	4,31	4,43	4,40
②	ηs,c	%	170	170	170	174	173
	TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
①	Pdesignc (EN 14825)	kW	221,4	243,4	269,4	312,1	343,1
①	SEER (EN 14825)		4,29	4,24	4,22	4,30	4,30
②	ηs,c	%	169	167	166	169	169

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



WinPACK-R SE

TCAEBY-TCAESY 4225-4345

Cooling capacity: 214,2-345,7 kW

- **Compact chillers also for replacement markets**
- **High performance range with extended operating limits**
- **Simplified installation thanks to the pumping unit accessories**
- **Integrated MASTER/SLAVE control**



TCAESY 4245 with Tank&Pump and PTL, RPE accessories

Packaged air-cooled water chillers with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features
- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 4 capacity steps with high efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection of accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - fan and compressor circuit breaker switches;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions
- B - Standard version.
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans.

Models
- TCAEBY: standard unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.

Factory fitted accessories
- Shell and tube evaporator.
- PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- TANK&PUMP with integrated 500 - 700 litre buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit.
- Electronic expansion valve.
- -10°C condensing control (standard in S versions).
- -15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans.
- Power factor correction capacitors (cosφ > 0.94).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Soundproofed compressor box.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection nets.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery, if applicable.
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

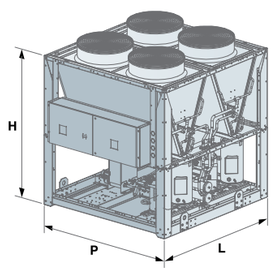
Separately supplied accessories
- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAEBY-TCAESY MODEL		4225	4245	4265	4315	4345
❶ Nominal cooling capacity	kW	220,2	241,2	264,0	313,9	345,7
❶ Nominal cooling capacity	kW	214,2	234,2	252,1	305,0	333,8
❶ E.E.R.		3,00	2,81	2,61	2,88	2,81
❶ E.E.R.		2,90	2,67	2,40	2,76	2,66
❶ Absorbed power	kW	73,4	85,8	101,1	108,9	123,0
❶ Absorbed power	kW	73,9	87,7	105,0	110,5	125,5
TCAEBY-TCAESY MODEL		**4225**	**4245**	**4265**	**4315**	**4345**
❷ Sound pressure	dB(A)	58	59	60	61	62
❷ Sound pressure	dB(A)	52	53	54	56	57
❸ Sound power	dB(A)	90	91	92	93	94
❸ Sound power	dB(A)	84	85	86	88	89
Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4225**	**4245**	**4265**	**4315**	**4345**
L - Width	mm	2.550	2.550	2.550	3.650	3.650
H - Height	mm	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260
❹ TCAEBY weight	kg	1.300	1.500	1.650	1.985	2.000
❹ TCAESY weight	kg	1.460	1.660	1.810	2.215	2.230

Data at the following conditions:
❶ Air: 35°C - Water: 12/7°C.
❷ In open field (Q = 2) at 10 m from the unit.
❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
❹ Weight referred to the unit without load and not accessorised.
TCAESY silenced versions
Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		4225	4245	4265	4315	4345
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
① Pdesignc (EN 14825)	kW	220,2	241,2	264,0	313,9	345,7
① SEER (EN 14825)		4,17	4,16	4,14	4,18	4,16
② ηs,c	%	164	163	163	164	163
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
① Pdesignc (EN 14825)	kW	214,2	234,2	252,1	305,0	333,8
① SEER (EN 14825)		4,15	4,13	4,12	4,15	4,14
② ηs,c	%	163	162	162	163	163

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



EasyPACK

TCAEY-THAEY 269-2146

- Cooling capacity: 63,7-144,4 kW
- Heating capacity: 70,3-151,7 kW

- **Complete and flexible range of accessories and set-ups**
- **Multipurpose for systems with 2 pipes+DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**
- **HT65 version for 65°C water production (°)**



TCAETY 289 with coil protection metal filters accessory

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 3 capacity steps with high efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- B - Standard version (TCAEBY).
- T - High efficiency version with oversized condensing section (TCAETY-THAETY).
- S - Silenced version complete with compressor compartment soundproofing, reduced speed fans, and oversized condensing section (TCAESY-THAESY).
- Q - Super-silenced version complete with compressor technical compartment soundproofing, super-reduced speed fans and oversized condensing section (TCAEQY-THAEQY).

Models

- TCAEBY: standard unit designed for cooling only.
- TCAETY: high efficiency unit designed for cooling only.
- TCAESY: silenced unit designed for cooling only.
- TCAEQY: super silenced unit designed for cooling only.
- THAETY: heat pump unit.
- THAESY: silenced heat pump unit.
- THAEQY: super silenced heat pump unit.

Factory fitted accessories

- Shell and tube evaporator.
- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP with 230 to 440 litre integrated buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve, and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit.
- Electronic expansion valve.
- -10°C condensing control (standard in S-Q versions).
- -15°C condensing control with fans with EC motor.
- Condensing control with over-pressure fans (B-T version only).
- Power factor correction capacitors ($\cos\varphi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Technical compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or Coil protection grilles.
- Copper/copper or copper/pre-painted aluminium coils.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery if applicable.
- Buffer tank integrative heaters
- Low temperature water production.
- Interfaces for serial communication with other devices.
- Rubber anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAEBY MODEL		269	279	289	296	2112	2125	2146
❶ Nominal cooling capacity	kW	65,6	72,1	77,6	86,5	105,5	-	-
❶ E.E.R.		2,74	2,81	2,81	2,62	2,79	-	-
❶ Absorbed power	kW	23,94	25,66	27,62	33,02	37,81	-	-
TCAETY-TCAESY-TCAEQY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❶ Nominal cooling capacity	kW	69,2	79,1	90,1	96,1	112,0	125,5	144,4
❶ Nominal cooling capacity	kW	67,7	76,7	87,6	92,1	108,0	122,0	138,9
❶ Nominal cooling capacity	kW	64,7	71,2	84,6	89,6	101,1	116,5	131,0
❶ E.E.R.		3,12	3,18	3,12	3,11	3,10	3,12	3,12
❶ E.E.R.		2,92	3,05	2,95	2,92	2,94	2,99	2,94
❶ E.E.R.		2,82	2,72	2,80	2,72	2,53	2,72	2,59
❶ Absorbed power	kW	22,18	24,87	28,88	30,90	36,13	40,22	46,28
❶ Absorbed power	kW	23,18	25,15	29,69	31,54	36,73	40,80	47,24
❶ Absorbed power	kW	22,94	26,18	30,21	32,94	39,96	42,83	50,58
THAETY-THAESY-THAEQY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❷ Nominal heating capacity	kW	73,4	82,4	92,4	100,5	118,5	133,1	151,7
❷ Nominal heating capacity	kW	70,8	80,4	90,4	98,0	115,0	129,1	147,6
❷ Nominal heating capacity	kW	70,3	77,3	88,4	95,4	111,0	125,5	143,6
❷ C.O.P.		3,35	3,36	3,31	3,28	3,31	3,25	3,23
❷ C.O.P.		3,32	3,36	3,31	3,29	3,30	3,27	3,27
❷ C.O.P.		3,31	3,30	3,27	3,26	3,21	3,23	3,22
❶ Nominal cooling capacity	kW	67,2	76,7	86,6	93,6	107,5	121,5	139,4
❶ Nominal cooling capacity	kW	66,2	74,7	85,7	89,6	104,6	119,0	136,9
❶ Nominal cooling capacity	kW	63,7	69,7	82,7	86,6	99,1	112,1	128,5
❷ Absorbed power	kW	21,91	24,52	27,92	30,64	35,80	40,95	46,97
❷ Absorbed power	kW	21,33	23,93	27,31	29,79	34,85	39,48	45,14
❷ Absorbed power	kW	21,24	23,42	27,03	29,26	34,58	38,85	44,6
TCAEY-THAEY MODEL		**269**	**279**	**289**	**296**	**2112**	**2125**	**2146**
❸ TCAEBY sound pressure	dB(A)	50	50	50	50	52	-	-
❸ TCAETY-THAETY sound pressure	dB(A)	50	51	51	51	53	54	54
❸ TCAESY-THAESY sound pressure	dB(A)	46	47	47	47	49	50	50
❸ TCAEQY-THAEQY sound pressure	dB(A)	42	42	43	43	46	47	47
❹ TCAEBY sound power	dB(A)	82	82	82	82	84	-	-
❹ TCAETY-THAETY sound power	dB(A)	82	83	83	83	85	86	86
❹ TCAESY-THAESY sound power	dB(A)	78	79	79	79	81	82	82
❹ TCAEQY-THAEQY sound power	dB(A)	74	74	75	75	78	79	79
Scroll/step compressor	no.	2/3	2/3	2/3	2/3	2/3	2/3	2/3
Circuits	no.	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**269**	**279**	**289**	**296**	**2112**	**2125**	**269**
L - Width of version B	mm	2.650	2.650	2.650	2.650	3.250	-	-
L - Width of version T - S - Q	mm	3.250	3.250	3.250	3.250	3.450	3.450	3.450
H - Height of version B	mm	1.700	1.700	1.700	1.700	1.700	-	-
H - Height of version T - S	mm	1.700	1.700	1.700	1.700	2.000	2.000	2.000
H - Height of version Q	mm	1.520	1.520	1.520	1.520	2.000	2.000	2.000
P - Depth of version B	mm	1.210	1.210	1.210	1.210	1.210	-	-
P - Depth of version T - S - Q	mm	1.210	1.210	1.210	1.210	1.520	1.520	1.520
❺ TCAEBY Weight	kg	755	760	795	800	980	-	-
❺ TCAETY weight	kg	850	865	870	905	1.160	1.195	1.255
❺ THAETY weight	kg	915	930	935	980	1.240	1.280	1.355

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❷ Air: 7°C, D.B. - 6°C W.B.- Water: 40/45°C.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

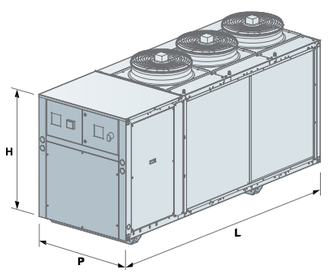
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

TCAESY-THAESY silenced versions.

TCAEQY-THAEQY super-silenced versions.

Performance according to EN 14511:2013.



SEASONAL ENERGY PERFORMANCE		269	279	289	296	2112	2125	2146
TCAEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	65,6	72,1	77,6	86,5	105,5	-	-
① SEER (EN 14825)		4,11	3,95	3,96	3,92	4,11	-	-
② $\eta_{s,c}$	%	161	155	156	154	161	-	-
TCAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	69,2	79,1	90,1	96,1	112,0	125,5	144,4
① SEER (EN 14825)		4,29	4,22	4,30	4,32	4,29	4,26	4,27
② $\eta_{s,c}$	%	169	166	169	170	169	167	168
TCAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	67,7	76,7	87,6	92,1	108,0	122,0	138,9
① SEER (EN 14825)		4,21	4,22	4,24	4,24	4,25	4,28	4,25
② $\eta_{s,c}$	%	165	166	167	166	167	168	167
TCAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	64,7	71,2	84,6	89,6	101,1	116,5	131,0
① SEER (EN 14825)		4,17	4,07	4,19	4,12	4,04	4,05	3,99
② $\eta_{s,c}$	%	164	160	164	162	159	159	157
THAETY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	66	74	84	91	108	121	138
③ SCOP (EN 14825)		3,99	3,97	3,91	3,90	4,03	3,89	3,87
④ η_s	%	157	156	153	153	158	153	152
④ Energy class		A++	-	-	-	-	-	-
THAESY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	64	73	82	89	104	117	134
③ SCOP (EN 14825)		3,97	3,99	3,92	3,92	4,02	3,96	3,93
④ η_s	%	156	157	154	154	158	155	154
④ Energy class		A++	-	-	-	-	-	-
THAEQY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	64	70	80	86	100	114	130
③ SCOP (EN 14825)		3,99	3,97	3,91	3,91	3,93	3,92	3,88
④ η_s	%	157	156	154	154	154	154	152
④ Energy class		A++	A++	-	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



EasyPACK-I

TCAIY-THAIY 270-2130

Cooling capacity: 67,1-130,4 kW

Heating capacity: 71,2-134,6 kW

- **Chillers and heat pumps with inverter compressors**
- **Precise and efficient power modulation**
- **Plug&Play unit with integrated hydronic module and heat recovery**
- **Integrated MASTER/SLAVE control**



THAITY 2130 with coil protection metal filters accessory

TCAITY 2100 with coil protection metal filters accessory

Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors, DC Inverter and R410A refrigerant.

Construction features

- Compressor: Scroll type, rotary, hermetic and with Inverter actuation (1+i) complete with thermal protection and casing heater.
- Continuous regulation wwith high efficiency at partial loads. Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: Featuring micro-channels or finned coil with copper pipes and aluminium fins depending on models/sizes.
- Fan: External rotor axial type electric fans with internal thermal protection, accident protection grilles. The electric fans, based on the sizes, are EC fans or fitted with a proportional electronic device for continuous regulation of the rotation speed.
- Control: Microprocessor electronic control with Adaptive Function Plus logic.
- Structure: Load-bearing structure made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - fan and compressor circuit breaker switches;
  - electronic expansion valve;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Versions

- T-High efficiency version with oversized condensing section (TCAITY-THAITY).
- Q-Super-silenced version complete with compressor technical compartment soundproofing, reduced speed fans and oversized condensing section (TCAIQY-THAIQY).

Models

- TCAITY: High efficiency unit designed for cooling only.
- TCAIQY: Super silenced unit designed for cooling only.
- THAITY: Heat pump unit.
- THAIQY: Super silenced heat pump unit.

Factory fitted accessories

- PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- TANK&PUMP with 230-440 litre integrated buffer tank (depending on the sizes) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- VPF control.
- Desuperheater.
- 100% heat recovery unit.
- Condensing control with fans with EC motor (standard in sizes 270-2100).
- Condensing control with over-pressure fans (T version only)
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Technical compressor compartment soundproofing.
- Compressor soundproof enclosures.
- Cooling circuit outlet and inlet valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Metal filters or coil protection nets.
- Microchannel coils with E-coating treatment, copper/copper or pre-painted copper/aluminium depending on the versions.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, buffer tank, electric pumps and heat exchangers for heat recovery, if applicable.
- Interfaces for serial communication with other devices.
- Rubber anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCAITY-TCAIQY MODEL		270	280	290	2.100	2.115	2.130
❶ Nominal cooling capacity	kW	69,8	82,6	90,3	97,9	117	130,4
❶ Nominal cooling capacity	kW	67,8	80,8	87,7	93,4	111,4	125,5
❶ E.E.R.		3,16	3,17	3,15	3,02	3,10	3,14
❶ E.E.R.		3,01	3,06	3,00	2,84	2,90	3,01
❶ Absorbed power	kW	22,09	26,06	28,67	32,42	37,74	41,53
❶ Absorbed power	kW	22,52	26,41	29,23	32,89	38,41	41,69
THAITY-THAIQY MODEL		**270**	**280**	**290**	**2.100**	**2.115**	**2.130**
❷ Nominal heating capacity	kW	73,4	85,4	92,5	100,6	121,5	134,6
❷ Nominal heating capacity	kW	71,2	83,4	90,4	98,7	117,4	130,6
❷ C.O.P.		3,37	3,34	3,36	3,34	3,37	3,32
❷ C.O.P.		3,31	3,33	3,32	3,30	3,34	3,36
❶ Nominal cooling capacity	kW	67,1	79,3	86,8	93,5	112,6	126,5
❶ Nominal cooling capacity	kW	65	77,9	84,7	90,3	108,6	123,5
❷ Absorbed power	kW	21,78	25,57	27,53	30,12	36,05	40,54
❷ Absorbed power	kW	21,51	25,05	27,23	29,91	35,15	38,87
TCAIY-THAIY MODEL		**270**	**280**	**290**	**2.100**	**2.115**	**2.130**
❸ TCAITY-THAITY sound pressure	dB(A)	52	53	53	53	55	56
❸ TCAIQY-THAIQY sound pressure	dB(A)	45	46	46	46	49	50
❹ TCAITY-THAITY sound power	dB(A)	84	85	85	85	87	88
❹ TCAIQY-THAIQY sound power	dB(A)	77	77,5	77,5	77,5	81	82
Scroll/step compressor		no.1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation	1+i / continuous regulation
Circuits	no.	1	1	1	1	2	2
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**270**	**280**	**290**	**2.100**	**2.115**	**2.130**
L - Width	mm	3.250	3.250	3.250	3.250	3.450	3.450
H - Height	mm	1.540	1.540	1.540	1.540	2.000	2.000
P - Depth	mm	1.210	1.210	1.210	1.210	1.520	1.520
❺ TCAITY weight	kg	765	790	795	800	1.125	1.145
❺ THAITY weight	kg	880	915	920	925	1.325	1.345

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C
❷ Air: 7°C, D.B. - 6°C W.B.- Water: 40/45°C.
❸ In open field (Q = 2) at 10 m from the unit on the coil side.
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
❺ Weight referred to the unit without load and not accessorised.

TCAIQY-THAIQY super-silenced versions.
Performance according to EN 14511:2018.

SEASONAL ENERGY PERFORMANCE		270	280	290	2100	2115	2130
TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
❶ Pdesignc (EN 14825)	kW	69,8	82,6	90,3	97,9	117	130,4
❶ SEER (EN 14825)		4,45	4,55	4,53	4,49	4,19	4,17
❷ $\eta_{s,c}$	%	175	179	178	176	165	164
TCAIQY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
❶ Pdesignc (EN 14825)	kW	67,8	80,8	87,7	93,4	111,4	125,5
❶ SEER (EN 14825)		4,36	4,45	4,39	4,33	4	4,04
❷ $\eta_{s,c}$	%	172	175	173	170	157	159
THAITY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
❸ Pdesignh (EN 14825)	kW	71	78	85	92	121	126
❸ SCOP (EN 14825)		4,09	4,18	4,16	4,16	3,99	4,03
❹ η_s	%	161	164	164	163	156	158
❹ Energy class		-	-	-	-	-	-
THAIQY MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE							
❸ Pdesignh (EN 14825)	kW	64	77	83	91	111	133
❸ SCOP (EN 14825)		3,99	4,08	4,04	4,06	3,88	3,96
❹ η_s	%	156	160	159	159	152	155
❹ Energy class		A++	-	-	-	-	-

❶ Low temperature application (7°C)
❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
❸ In Average climatic conditions, low temperature application (35°C)
❹ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/2013 and No.813/2013)

Compact-Y MD

TCAEY-THAEY 233-265

- Cooling capacity: 32.3-63.7 kW
- Heating capacity: 37.8-68.3 kW

- **3 capacity steps (mod. 245-265)**
- **HT65 version for 65°C water production (°)**



Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll type, complete with thermal protection and casing heater. 3 capacity steps with high efficiency at partial loads for models 245-265.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- Fan: external rotor axial type electric fan equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan speed regulation.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted sheet steel.

Models

- TCAEY: unit designed for cooling only.
- THAEY: heat pump unit.

Factory fitted accessories

PUMP with single or double electric pump (mod. 245-265) including an automatic pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The electric pumps are available in the low or high pressure head versions.

- TANK&PUMP with inertial buffer tank and single or double electric pump (mod. 245-265) including an automatic pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The electric pumps are available in the low or high pressure head versions.
- Soft-start device.
- Silenced set up.
- 15% desuperheater.
- 100% heat recovery unit.
- Cooling circuit high and low pressure gauges (mod. 245-265).
- Antifreeze heater for buffer tank and electric pumps (mod. 245-265).
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.
- Copper/pre-painted aluminium or copper/copper coils.

Separately supplied accessories

- Outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Rubber anti-vibration mounts.
- Water filter.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.

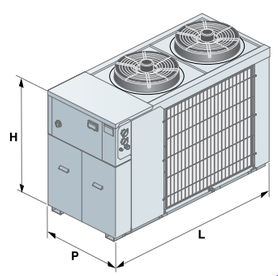
TCAEY MODEL		233	238	245	250	260	265
❶ Cooling capacity	kW	32,3	38,5	44,0	51,0	58,9	63,7
❶ Absorbed power	kW	12,47	13,05	17,67	19,92	22,40	24,31
❶ E.E.R.		2,59	2,95	2,50	2,55	2,63	2,62
THAEY MODEL							
❷ Heating capacity	kW	37,8	42,1	48,1	56,2	62,6	68,3
❷ Absorbed power	kW	12,54	13,19	16,82	18,97	20,86	23,71
❷ C.O.P.		3,01	3,19	2,86	2,96	3,00	2,88
❶ Cooling capacity		32,3	38,5	42,3	50,3	57,8	61,6
❶ E.E.R.		2,59	2,95	2,49	2,68	2,64	2,54
TCAEY-THAEY MODEL		233	238	245	250	260	265
❸ Sound pressure	dB(A)	54	54	56	56	57	57
❸ Silenced set up sound pressure	dB(A)	51	51	53	53	54	54
Scroll/step compressor	no.	2/2	2/2	2/3	2/3	2/3	2/3
Circuits	no.	1	1	1	1	1	1
Buffer tank water content (TANK&PUMP)	l	80	150	150	150	150	150
❶ Available nominal head of standard electric pump	kPa	106	87	113	103	88	75
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		233	238	245	250	260	265
L - Width	mm	1.660	2.260	2.260	2.260	2.260	2.260
H - Height	mm	1.570	1.570	1.570	1.570	1.570	1.570
P - Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000
❹ TCAEY weight	kg	465	625	725	750	775	820
❹ THAEY weight	kg	475	645	745	770	795	840

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.
❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.
❸ In open field (Q = 2) at 5 m from the unit.
❹ Weight refers to most complete set up.
Performance according to EN 14511:2013

SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265
TCAEY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51,0	58,8	63,7
① SEER (EN 14825)		3,90	3,96	4,00	4,09	4,06	4,04
② $\eta_{s,c}$	%	153	155	157	160	159	159
THAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	36	41	49	56	62	70
③ SCOP (EN 14825)		3,72	3,72	3,61	3,58	3,56	3,66
④ η_s	%	146	146	141	140	140	144
④ Energy class		A+	A+	A+	A+	A+	A+

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
③ In Average climatic conditions, low temperature application (35°C)
④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Compact-I MD

TCAITY-THAITY 236-260

Cooling capacity: 34,3-58,3 kW
Heating capacity: 39,9-68,9 kW

- **Operation up to -15°C outdoor air**
- **Hot water production up to 60°C**
- **Plug&Play unit with integrated hydraulic module**
- **Optional EC fans and inverter-based circulation pump**
- **Multipurpose for systems with 2 pipes + DHW (with optional RC100)**
- **Integrated MASTER/SLAVE control**



Water chillers and packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors, DC Inverter and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic with Inverter actuation, complete with thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate
- The unit is also complete with:
  - outdoor air temperature probe for set-point compensation;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - Master/Slave control up to 4 units in parallel;
  - clock board.

Version

T - High efficiency.

Models

TCAITY: unit designed for cooling only.
THAITY: heat pump unit.

PUMP set up

- Pump unit with single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The pumps are available in low or high pressure head versions, and with INVERTER operation.

TANK&PUMP set up

- Pump unit complete with inertial buffer tank and single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, air vent valves, safety valve and water side pressure gauge. The pumps are available in low or high pressure head versions, and with INVERTER operation.

Factory fitted accessories

- Copper/pre-painted aluminium coils with hydrophilic treatment or copper/copper.
- Desuperheater.
- 100% heat recovery unit
- 3-way diverter valve for the production of domestic hot water, managed by regulation.
- -15°C condensing control with fans with EC motor.
- Base antifreeze heater
- Antifreeze heater for buffer tank and electric pumps
- Forced Download. Compressor partialisation or switch-off to limit power and current consumption (digital input).
- Refrigerant leak detector
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Energy parameters measurement.
- Silenced set up.
- Cooling circuit high and low pressure gauges.

Separately supplied accessories

- 3-way valve for the production of domestic hot water, managed by regulation.
- Remotely controllable outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Rubber anti-vibration mounts.
- Water filter.
- Thermostat with display.
- Remote keypad with display.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.

TCAITY MODEL		236	245	250	260
❶ MIN/NOM/MAX cooling capacity	kW	11,0/34,3/35,2	14,7/45,7/46,9	16,0/50,0/51,3	18,2/58,3/59,9
❶ NOM absorbed power		13,40	15,44	16,89	21,51
❶ E.E.R. NOM		2,56	2,96	2,96	2,71
THAITY MODEL		**236**	**245**	**250**	**260**
❷ MIN/NOM/MAX heating capacity	kW	8,9/39,9/41,2	10,4/50,5/52,3	13,0/56,5/58,2	14,1/68,9/71,3
❷ NOM absorbed power	kW	12,4	15,3	17,5	21,5
❷ C.O.P. NOM		3,22	3,30	3,23	3,20
❸ MIN/NOM/MAX heating capacity	kW	9,7/39,3/40,5	12,0/51,3/53,0	13,9/54,7/56,4	16,3/70,3/72,6
❸ NOM absorbed power	kW	10,4	13,3	14,1	18,3
❸ C.O.P. NOM		3,77	3,85	3,89	3,84
❹ MIN/NOM/MAX heating capacity	kW	8,3/28,6/29,2	10,9/38,6/39,4	11,4/39,0/39,7	14,9/53,0/54,1
❹ NOM absorbed power	kW	11,7	15,1	14,9	20,7
❹ C.O.P. NOM		2,45	2,56	2,61	2,56
❶ MIN/NOM/MAX cooling capacity	kW	11,0/34,3/35,2	14,7/45,7/46,9	16,0/50,0/51,3	18,2/58,3/59,9
❶ E.E.R. NOM		2,56	2,96	2,96	2,71
TCAITY-THAITY MODEL		**236**	**245**	**250**	**260**
❺ Sound pressure	dB(A)	54	56	56	57
❺ Silenced set up sound pressure	dB(A)	51	53	53	54
Scroll inverter compressor	no.	1+i	1+i	1+i	1+i
Circuits	no.	1	1	1	1
Buffer tank water content (TANK&PUMP)	l	80	150	150	150
❶ Basic head pump nominal available head	kPa	129	101	114	111
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**236**	**245**	**250**	**260**
L - Width	mm	1.660	2.660	2.660	2.660
H - Height	mm	1.570	1.570	1.570	1.570
P - Depth	mm	1.000	1.000	1.000	1.000
❻ TCAITY weight	kg	497	697	712	740
❻ THAITY weight	kg	507	717	732	760

Data at the following conditions:
❶ Air: 35° D.B. - Water: 12/7°C.
❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.
❸ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.
❹ Air: -7°C D.B. - Water: 30/35°C.
❺ In open field (Q = 2) at 5 m from the unit.
❻ Weight refers to most complete set up.
Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		236	245	250	260
TCAITY MODEL SEASONAL PERFORMANCE IN COOLING MODE					
① Pdesignc (EN 14825)	kW	34,3	45,7	50,0	58,3
① SEER (EN 14825)		4,41	4,36	4,31	4,22
② $\eta_{s,c}$	%	173	171	169	166
THAITY MODEL SEASONAL PERFORMANCE IN HEATING MODE					
③ Pdesignh (EN 14825)	kW	33	44	45	60
③ SCOP (EN 14825)		4,23	4,06	4,36	4,24
④ η_s	%	166	159	171	167
④ Energy class		A++	A++	A++	A++

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
③ In Average climatic conditions, low temperature application (35°C)
④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

Compact-Y SM

THAEY 122-130

Cooling capacity: 22,7-29,0 kW

Heating capacity: 23,5-34,0 kW

- **SCOP up to 3,26**
- **A+ Energy Class**



Packaged reversible air-cooled heat pumps with axial fans. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic, rotary scroll compressor, complete with thermal protection and casing heater for mod. 127-130.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins, complete with protection grilles.
- Fan: external rotor axial type electric fans equipped with internal thermal protection and accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: in galvanised and painted steel plate, complete with condensate drain pan.

Models

- THAEY: heat pump unit.

PUMP set up

- Pump unit complete with: circulator or electric circulation pump, membrane expansion tank, manual air vent valve, safety valve and pressure gauge.

TANK & PUMP set up

- Pump unit complete with: inertial buffer tank, circulator or electric circulation pump, membrane expansion tank, manual air vent valve, automatic air vent valve, safety valve, and pressure gauge.

Factory fitted accessories

- Soft-start device.
- Silenced set up.
- -10°C condensing control.
- Antifreeze heater on the buffer tank.
- Compressor casing heater (mod. 122).
- Unit base antifreeze heater for operation in heat pump mode at low outdoor air temperatures.
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Low water set-point temperature.
- Copper/pre-painted aluminium or copper/copper coils.

Separately supplied accessories

- Rubber anti-vibration mounts.
- -10°C condensing control.
- Water filter.
- 3-way valve for the production of domestic hot water.
- Outdoor air temperature probe for set-point compensation.
- Additional electrical resistance for heat pump, managed by regulation.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.

THAEY MODEL		122	127	130
❶ Heating capacity	kW	23,5	30,3	34, 0
❶ Absorbed power	kW	7,94	10,16	11,25
❶ C.O.P.		2,96	3,02	3,02
❷ Heating capacity	kW	24,0	30,9	34,5
❷ C.O.P.		3,75	3,80	3,72
❸ Cooling capacity	kW	22,7	26,7	29,0
❸ Absorbed power	kW	7,99	10,23	11,84
❸ E.E.R.		2,84	2,64	2,45
❹ Sound pressure	dB(A)	52	53	53
❹ Silenced set up sound pressure	dB(A)	49	50	50
Scroll/step compressor	no.	1/1	1/1	1/1
Circuits	no.	1	1	1
Buffer tank water content	l	45	45	45
❸ Circulator/standard electric pump nominal available head	kPa	64/131	61/116	57/112
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**122**	**127**	**130**
L - PUMP width	mm	1.230	1.535	1.535
W - TANK & PUMP width	mm	1.522	1.822	1.822
H - Height	mm	1.280	1.510	1.510
P - Depth	mm	600	695	695
❺ THAEY weight	kg	278	320	380

Data at the following conditions:

❶ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 30/35°C.

❸ Air: 35°C - Water: 12/7°C.

❹ In open field (Q = 2) at 5 m from the unit.

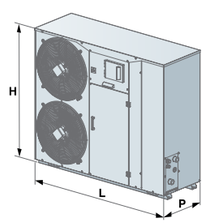
❺ Weight refers to most complete set up.

Performance according to EN 14511:2013. Set up with electric pump.

SEASONAL ENERGY PERFORMANCE		122	127	130
THAEY MODEL SEASONAL PERFORMANCE IN HEATING MODE				
③ Pdesignh (EN 14825)	kW	24	32	36
③ SCOP (EN 14825)		3,21	3,26	3,19
④ η_s	%	125	127	125
④ Energy class		A+	A+	A+

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Y-Pack C-PF

TCCETY-THCETY 233-2160

Cooling capacity: 32,3-160,2 kW

Heating capacity: 37,7-175,6 kW

- **High energy efficiency range**
- **"Plug-Fan" type centrifugal fans with EC motor (brushless)**
- **3 capacity steps**



TCCETY 2130

THCETY 2270

Water chillers and high efficiency packaged reversible heat pumps with air cooled and Plug-Fan type centrifugal fans with EC motors. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 2 or 3 capacity steps depending on the models, to obtain excellent load modulation along with high energy efficiency at partial loads.

Water side heat exchanger: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins.
- Plug-Fan type centrifugal electric fans with EC motors, equipped with internal thermal protection arranged in single row with horizontal outlet. Horizontal outlet of the evaporation condensing air opposite side to finned coil or vertical outlet can be easily transformed on site.
- Proportional electronic device for continuous fan rotation speed regulation up to an outdoor air temperature of -15°C in chiller mode and up to an outdoor air temperature of 40°C in heat pump mode.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Load-bearing structure and panelling made of painted and galvanised sheet steel (RAL 9018); galvanised sheet steel base

Versions

- T - High efficiency version (TCCETY-THCETY).

Models

- TCCETY: unit for cooling only.
- THCETY: reversible heat pump unit.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic actuation pump in standby, complete with expansion tank, safety valve and water side pressure gauge.
  The pumps are available in the low or high head versions.
- TANK&PUMP with integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water pressure gauge.
- Desuperheater.
- 100% heat recovery unit
- Electronic expansion valve.
- Power factor correction capacitors (cosφ > 0.94).
- Soft starter.
- Compressor soundproofing.
- Cooling circuit high and low pressure gauges.
- Copper/copper or copper/pre-painted aluminium coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, buffer tank, pumps and heat exchangers for heat recovery if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Clock board.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCCETY MODEL		233	238	245	250	260	265	270
❶ Nominal cooling capacity	kW	32,3	38,5	43,9	51,0	58,9	63,7	69,9
❶ E.E.R.		2,61	2,77	2,70	2,73	2,67	2,62	2,83
❶ Absorbed power	kW	12,38	13,90	16,26	18,55	21,98	24,31	24,53
THCETY MODEL		**233**	**238**	**245**	**250**	**260**	**265**	**270**
❷ Nominal heating capacity	kW	37,7	42,1	48,1	56,2	62,5	68,3	79,4
❷ C.O.P.		3,00	3,00	3,01	2,96	2,97	2,86	3,23
❷ Absorbed power in winter mode	kW	12,57	14,03	15,98	18,80	20,90	23,72	24,36
❶ Nominal cooling capacity	kW	32,3	38,5	42,3	50,3	57,8	61,6	69,1
❸ Sound power	dB(A)	82	82	83	85	85	85	85
Scroll/step compressor	no.	2/2	2/2	2/3	2/3	2/3	2/3	2/3
Circuits	no.	1	1	1	1	1	1	1
Fan nominal air flow	m³/h	13.000	13.000	13.000	26.000	26.000	26.000	26.000
Fan maximum available static pressure	Pa	250	250	250	250	250	250	250
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS		**233**	**238**	**245**	**250**	**260**	**265**	**270**
L - Width	mm	2.650	2.650	2.650	2.650	2.650	2.650	3.650
H - Height	mm	1.920	1.920	1.920	1.920	1.920	1.920	1.920
P - Depth	mm	870	870	870	870	870	870	1.100

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C and ESP: 250 Pa.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C and ESP: 250 Pa.

❸ Total sound power level in dB(A) on the basis of measurements taken in accordance with RS S/C/005-2009 and UNI EN-ISO 9614. Performance according to EN 14511:2013.

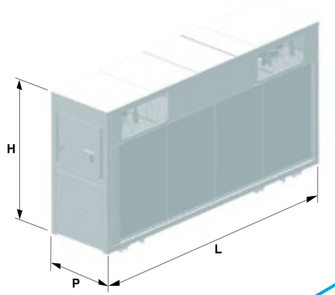
SEASONAL ENERGY PERFORMANCE		233	238	245	250	260	265	270
TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	32,3	38,5	43,9	51,0	58,8	63,7	69,9
① SEER (EN 14825)		4,41	4,39	4,36	4,40	4,41	4,41	4,42
② $\eta_{s,c}$	%	173	172	172	173	173	173	174
THCETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	31	35	42	48	53	60	66
③ SCOP (EN 14825)		3,52	3,27	3,86	3,52	3,46	3,57	3,70
④ η_s	%	138	128	151	138	135	140	145
④ Energy class		A+	A+	A++	A+	A+	A+	A+

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



TCCETY MODEL		280	290	2100	2115	2130	2145	2160
❶ Nominal cooling capacity	kW	79,1	87,5	100,6	113,9	125,3	142,3	160,2
❶ E.E.R.		2,90	2,81	2,71	2,93	2,89	2,86	2,86
❶ Absorbed power	kW	27.28	31,03	36,72	38,87	43,36	49,07	55,43
THCETY MODEL		**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
❷ Nominal heating capacity	kW	86,3	96,4	111,5	122,5	139,6	157,6	175,6
❷ C.O.P.		3,36	3,20	3,16	3,21	3,33	3,21	3,20
❷ Absorbed power in winter mode	kW	25,53	30,13	34,95	37,69	41,92	48,49	54,20
❶ Nominal cooling capacity	kW	77,4	84,9	98,9	110,6	123,4	140,8	159,3
❸ Sound power	dB(A)	85	86	88	88	88	89	89
Scroll/step compressor	no.	2/2	2/3	2/3	2/3	2/2	2/3	2/2
Circuits	no.	1	1	1	1	1	1	1
Fan nominal air flow	m³/h	26.000	27.000	39.000	39.000	39.000	52.000	52.000
Fan maximum available static pressure	Pa	250	250	250	250	250	250	250
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS		**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
L - Width	mm	3.650	3.650	3.650	4.450	4.450	4.450	4.450
H - Height	mm	1.920	1.920	1.920	2.320	2.320	2.320	2.320
P - Depth	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C and ESP: 250 Pa.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C and ESP: 250 Pa.

❸ Total sound power level in dB(A) on the basis of measurements taken in accordance with RS S/C/005-2009 and UNI EN-ISO 9614.
Performance according to EN 14511:2013.

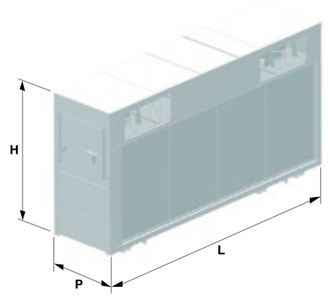
SEASONAL ENERGY PERFORMANCE		280	290	2100	2115	2130	2145	2160
TCCETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	79,1	87,5	100,6	113,9	125,3	142,2	160,1
① SEER (EN 14825)		4,40	4,38	4,37	4,41	4,35	4,39	4,34
② $\eta_{s,c}$	%	173	172	172	173	171	173	171
THCETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	71	80	93	102	117	132	147
③ SCOP (EN 14825)		4,12	3,66	3,58	3,67	4,05	3,63	3,93
④ η_s	%	162	143	140	144	159	142	154
④ Energy class		-	-	-	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)





TurboPOWER

TCATBZ-TCATTZ-TCATQZ 1300-31100

Cooling capacity: 267,0-1.101 kW

- **Efficient, quiet and low start-up current oil-free compressor**
- **Efficiency above Class A, with SEER up to 5.86**
- **Wide range of accessories**
- **Integrated MASTER/SLAVE control**

ErP READY 2021 – APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

HIGH EFFICIENCY TURBOCOR COMPRESSORS



TCATTZ 31100 with FIAP accessory

TCATBZ 1400 with PTL-RPE-FIAP accessories

Packaged air-cooled water chillers with axial fans.
Range with oil-free centrifugal compressors and R134a refrigerant gas.

Construction features

- Compressor: high energy efficiency, oil-free, centrifugal compressor with limited start-up, equipped with magnetic levitation bearings and complete with integral protection and suction and delivery shut-off valves.
- Water side heat exchanger: flooded type shell and tube, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type electric fans with internal thermal protection, accident protection grilles. Version B is equipped with a proportional electronic device for continuous fan rotation speed regulation, while versions T-Q are equipped with EC motor fans.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Double safety valve;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- B - Basic version, efficiency class A, soundproofed technical compressor compartment (TCATBZ).
- T - High-efficiency version, above class A, soundproofed technical compressor compartment (TCATTZ).
- Q - Super silenced version, efficiency class A, super-soundproofed technical compartment, reduced speed fans (TCATQZ).

Models

- TCATBZ: standard unit designed for cooling only.
- TCATTZ: high efficiency unit designed for cooling only.
- TCATQZ: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- -15°C condensing control with fans with EC motor (standard in T-Q versions).
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soundproofed compressor box.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps, if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCATBZ-TCATTZ-TCATQZ MODEL		1300	1400	2500	2590	2680	2760	2820	2880	3990	31100
❶ TCATBZ nominal cooling capacity	kW	284,9	376,6	489,2	577,8	675,1	749,2	808,9	874,4	982,2	1.089,1
❶ TCATTZ nominal cooling capacity	kW	298,8	402,3	498,1	593,6	685,0	760,0	820,8	882,3	993,1	1.101,0
❶ TCATQZ nominal cooling capacity	kW	267,1	369,7	463,4	541,2	639,5	721,5	792,1	871,6	970,4	ND
❶ E.E.R. TCATBZ		3,20	3,18	3,26	3,22	3,20	3,20	3,22	3,14	3,25	3,22
❶ E.E.R. TCATTZ		3,46	3,42	3,46	3,48	3,37	3,52	3,50	3,33	3,47	3,45
❶ E.E.R. TCATQZ		3,22	3,32	3,25	3,28	3,21	3,24	3,36	3,31	3,27	ND
❶ TCATBZ absorbed power	kW	89,0	118,4	150,1	179,4	211,0	234,1	251,2	278,5	302,2	338,2
❶ TCATTZ absorbed power	kW	86,4	117,6	144,0	170,6	203,3	215,9	234,5	265,0	286,2	319,1
❶ TCATQZ absorbed power	kW	83,0	111,4	142,6	165,0	199,2	222,7	235,7	263,3	296,8	ND
TCATBZ-TCATTZ-TCATQZ MODEL		**1300**	**1400**	**2500**	**2590**	**2680**	**2760**	**2820**	**2880**	**3990**	**31100**
❷ TCATBZ sound pressure	dB(A)	60	62	63	63	63	64	64	64	64	65
❷ TCATTZ sound pressure	dB(A)	60	62	63	63	63	64	64	64	64	65
❷ TCATQZ sound pressure	dB(A)	55	56	57	57	58	58	58	59	59	ND
❸ TCATBZ sound power	dB(A)	92	94	95	95	96	97	97	97	97	98
❸ TCATTZ sound power	dB(A)	92	94	95	95	96	97	97	97	97	98
❸ TCATQZ sound power	dB(A)	87	88	89	90	91	91	91	92	92	ND
Compressor/steps	no.	1/ CONTINUOUS REGULATION	1/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION
Circuits	no.	1	1	1	1	1	1	1	1	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**1300**	**1400**	**2500**	**2590**	**2680**	**2760**	**2820**	**2880**	**3990**	**31100**
W - Width of version B	mm	3.840	4.940	6.090	7.250	8.350	9.450	9.450	10.550	11.650	12.810
W - Width of version T	mm	3.840	4.940	6.090	7.250	8.350	9.450	10.550	11.650	11.650	12.810
W - Width of version Q	mm	3.840	4.940	6.090	7.250	8.350	9.450	10.550	11.650	12.810	ND
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ TCATBZ weight	kg	2.390	2.740	3.490	3.950	4.350	4.800	4.910	5.210	6.040	6.560
❹ TCATTZ weight	kg	2.410	2.760	3.470	3.980	4.320	4.840	5.140	5.440	6.000	6.520
❹ TCATQZ weight	kg	2.390	2.730	3.500	3.960	4.350	4.800	5.160	5.460	6.500	ND

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❷ In open field (Q = 2) at 10 m from the unit on the coil side.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Weight referred to the unit without load and not accessorised.

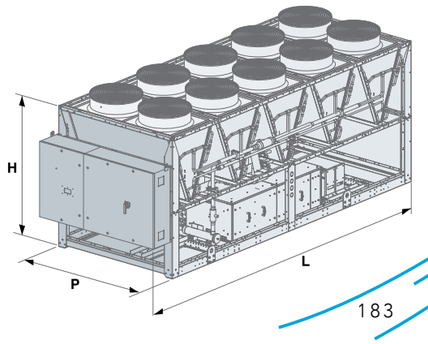
TCATQZ super silenced versions

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		1300	1400	2500	2590	2680	2760	2820	2880	3990	31100
TCATBZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc (EN 14825)	kW	283,8	375,2	487,3	575,6	672,2	746,4	805,7	870,8	978,3	1.085,1
① SEER (EN 14825)		5,14	5,02	5,16	5,13	5,13	5,20	5,13	5,07	5,21	5,19
② $\eta_{s,c}$	%	202	198	203	202	202	205	202	200	205	205
TCATTZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc EN 14825)	kW	297,5	400,6	496,3	591,2	682,1	757,2	817,6	878,7	989,2	1.097,0
① SEER (EN 14825)		5,46	5,56	5,64	5,68	5,66	5,76	5,80	5,77	5,82	5,78
② $\eta_{s,c}$	%	215	219	222	224	223	228	229	228	230	228
TCATQZ MODEL SEASONAL PERFORMANCE IN COOLING MODE											
① Pdesignc (EN 14825)	kW	266,1	368,5	461,7	539,3	637,0	719,0	789,1	868,1	966,8	-
① SEER (EN 14825)		5,47	5,57	5,69	5,66	5,66	5,76	5,82	5,81	5,86	-
② $\eta_{s,c}$	%	216	220	224	224	223	227	230	229	231	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



TurboPOWER ECO

TCATTE-TCATQE 1330-3950

Cooling capacity: 323,2-948,6 kW

- **Efficiency above Class A, with SEER up to 5.85**
- **Efficient, quiet and low start-up current oil-free compressor**
- **HFO R1234ze ecological gas**
- **Integrated MASTER/SLAVE control**

ErP READY 2021 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS

HIGH EFFICIENCY TURBOCOR COMPRESSORS



TCATTE 3950 with FIAP accessory

TCATTE 1330 with PTL-RPE-FIAP accessories

Packaged air-cooled water chillers with axial fans.
Range with oil-free centrifugal compressors and R1234ze refrigerant gas.

Construction features

- Compressor: high energy efficiency, oil-free, centrifugal compressor with limited start-up, equipped with magnetic levitation bearings and complete with integral protection and suction and delivery shut-off valves. The compressor was specifically designed for R1234ze gas with zero environmental impact.
- Water side heat exchanger: spray flooded type shell and tube exchanger, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: with micro-channels.
- Fan: external rotor axial type EC motor electric fans with internal thermal protection and accident protection grilles.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - Display of cooling circuit high/low pressure;
  - Electronic expansion valve;
  - Double safety valve;
  - Leak detector;
  - Clock board;
  - Master/Slave control up to 4 units in parallel.

Versions

- T - High-efficiency version, above class A, soundproofed technical compressor compartment (TCATTE).
- Q - Super silenced version, efficiency class A, super-soundproofed technical compartment, reduced speed fans (TCATQE).

Models

- TCATTE: high efficiency unit designed for cooling only.
- TCATQE: super silenced unit designed for cooling only.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- VPF control.
- Condensing control with over-pressure fans.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Compressor circuit breaker switches.
- Electro-mechanical flow switch.
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soundproofed compressor box.
- Cooling circuit high and low pressure gauges.
- Coil protection grilles.
- Micro-channel coils with E-coating treatment.
- Control of min/max power supply voltage.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electrical panel, electric pumps, if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCATTE-TCATQE MODEL		1330	2400	2470	2550	2660	3790	3950
❶ Nominal cooling capacity	kW	334,2	399,1	470,0	548,9	660,5	792,1	948,6
❶ Nominal cooling capacity	kW	323,2	386,1	450,1	536,9	639,7	767,3	916,9
❶ E.E.R.		3,45	3,44	3,50	3,45	3,40	3,49	3,46
❶ E.E.R.		3,45	3,39	3,46	3,37	3,38	3,45	3,43
❶ Absorbed power	kW	96,9	116,0	134,3	159,1	194,3	227,0	274,2
❶ Absorbed power	kW	93,7	113,9	130,1	159,3	189,3	222,4	267,3
TCATTE-TCATQE MODEL		**1330**	**2400**	**2470**	**2550**	**2660**	**3790**	**3950**
❸ TCATTE sound pressure	dB(A)	62	63	63	63	64	64	65
❸ TCATQE sound pressure	dB(A)	56	57	57	58	58	59	60
❹ TCATTE sound power	dB(A)	94	95	95	96	97	97	98
❹ TCATQE sound power	dB(A)	88	89	90	91	91	92	93
Compressor/steps	no.	1/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	2/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION	3/ CONTINUOUS REGULATION
Circuits	no.	1	1	1	1	1	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**1330**	**2400**	**2470**	**2550**	**2660**	**3790**	**3950**
L - Width	mm	4.940	6.090	7.250	8.350	9.450	11.650	12.810
H - Height	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❺ TCATTE weight	kg	2.770	3.410	3.960	4.270	4.880	6.280	6.840
❺ TCATQE weight	kg	2.790	3.440	3.990	4.300	4.910	6.310	6.880

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the unit without load and not accessorised.

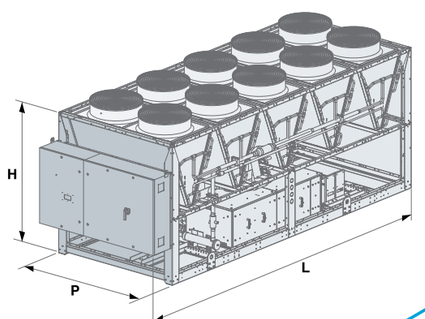
TCATQE super silenced versions

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		1330	2400	2470	2550	2660	3790	3950
TCATTE MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	333,3	398,1	468,9	547,7	658,0	789,2	945,2
① SEER (EN 14825)		5,61	5,63	5,66	5,68	5,66	5,85	5,84
② $\eta_{s,c}$	%	221	222	223	224	223	231	230
TCATQE MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	322,5	385,2	449,1	535,8	637,4	764,6	913,7
① SEER (EN 14825)		5,62	5,66	5,74	5,70	5,72	5,90	5,83
② $\eta_{s,c}$	%	222	223	227	225	226	233	230

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Water Cooled Chillers & Heat Pumps-Screw
Z-Flow HE TCHVZ 1201-31631
Water Cooled Chillers & Heat Pumps-Scroll
Y-Flow TCHEY-THHEY 245-4450
Y-Flow TCHEY-THHEY 115-240
Air Cooled Condenserless Chillers
Z-Flow E TCEVZ 1200-31630
Y-Flow E TCEEBY 245-4360

Water Cooled Chillers & Heat Pumps

Z-Flow HE

TCHVZ 1201-31631

Cooling capacity: 203,3-1.627,6 kW

- 33 sizes up to more than 1,600 kW
- Wide range of standard equipment
- Integrated MASTER/SLAVE control



TCHVBZ 31637 HE

Water cooled packaged water chillers. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta or part winding limited start up (depending on models) and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger (evaporator): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Water side heat exchanger (condenser): tube and shell complete with safety valve, and service valve on the high-pressure refrigerant gas circuit.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - clock board;
  - display of cooling circuit high/low pressure;
  - Master/Slave control up to 4 units in parallel;
  - 0-10V analogue signal for condensing control from external device.

Versions

- B - Standard version (TCHVBZ).
- I - Soundproofed version with soundproofing compressor lining (TCHVIZ).

Models

- TCHVBZ: unit designed for cooling only.
- TCHVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- VPF control.
- Desuperheater.
- 100% heat recovery unit
- Thermostat with display for heat recovery unit/desuperheater.
- Set up for heat pump operation.
- Condenser Victaulic fittings.
- Power factor correction capacitors (cosϕ > 0.94).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves
- Linear capacity control compressors (50-100 % for each compressor).
- Evaporator antifreeze heater.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.
- Rubber anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCHVBZ-TCHVIZ MODEL		1201	1231	1281	1311	1351	1421	1481	1531	1611
❶ Nominal cooling capacity	kW	203,3	230,2	282,1	308,0	352,8	416,4	478,2	533,0	605,9
❶ E.E.R.		4,95	4,96	4,97	4,96	4,95	4,93	4,94	4,94	4,95
❶ Absorbed power	kW	41,07	46,41	56,76	62,10	71,27	84,46	96,80	107,89	122,40
❷ Sound power	dB(A)	94	94	97	97	97	97	97	98	98
❷ Sound power	dB(A)	92	92	95	95	95	95	95	96	96
Screw/step compressor	no.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
Circuits	no.	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		**1201**	**1231**	**1281**	**1311**	**1351**	**1421**	**1481**	**1531**	**1611**
L - Width	mm	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460
H - Height	mm	1.580	1.580	1.580	1.580	1.660	1.660	1.660	1.760	1.760
P - Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
❸ TCHVBZ Weight	kg	1.343	1.369	1.715	1.733	1.885	2.374	2.413	2.652	2.697
❸ TCHVIZ Weight	kg	1.598	1.624	1.970	1.988	2.140	2.629	2.668	2.917	2.952

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❸ Empty weight.

TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		1201	1231	1281	1311	1351	1421	1481	1531	1611
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	203,3	230,2	282,1	308,0	352,8	416,4	478,2	533,0	605,9
① SEER (EN 14825)		5,83	5,71	5,75	5,69	5,85	6,05	5,92	5,89	5,90
② $\eta_{s,c}$	%	225	220	222	220	226	234	229	227	228

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

TCHVBZ-TCHVIZ MODEL		2411	2431	2461	2511	2561	2601	2631	2681	2711
❶ Nominal cooling capacity	kW	405,5	433,6	460,4	512,7	563,3	596,9	626,6	674,8	712,5
❶ E.E.R.		4,95	4,96	4,95	4,97	4,97	4,96	4,95	4,98	4,94
❶ Absorbed power	kW	81,92	87,42	93,01	103,16	113,34	120,34	126,59	135,50	144,23
❷ Sound power	dB(A)	97	97	97	99	99	99	99	99	99
❷ Sound power	dB(A)	95	95	95	97	97	97	97	97	97
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		**2411**	**2431**	**2461**	**2511**	**2561**	**2601**	**2631**	**2681**	**2711**
L - Width	mm	3.780	3.860	3.860	4.040	4.040	4.040	4.040	4.040	4.040
H - Height	mm	1.770	1.770	1.770	1.960	1.960	1.960	1.960	1.960	1.960
P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸ TCHVBZ Weight	kg	2.386	2.413	2.458	2.953	3.297	3.320	3.337	3.404	3.447
❸ TCHVIZ Weight	kg	2.816	2.843	2.888	3.383	3.727	3.750	3.767	3.834	3.877

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❸ Empty weight.

TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2411	2431	2461	2511	2561	2601	2631	2681	2711
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
① Pdesignc (EN 14825)	kW	405,5	433,6	460,4	512,7	563,3	596,9	626,6	674,8	712,5
① SEER (EN 14825)		6,03	6,03	6,03	6,13	5,89	6,01	5,96	6,01	5,95
② $\eta_{s,c}$	%	233	233	233	237	228	233	230	233	230

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

	TCHVBZ-TCHVIZ MODEL		2781	2841	2901	2961	21031	21111	21181	21261
❶	Nominal cooling capacity	kW	774,9	835,2	898,0	954,5	1026,1	1105,5	1176,7	1253,1
❶	E.E.R.		4,94	4,92	4,95	4,94	4,98	5,06	5,08	5,08
❶	Absorbed power	kW	156,86	169,76	181,41	193,22	206,04	218,48	231,63	246,67
❷	Sound power	dB(A)	99	99	99	99	99	99	99	99
❷	Sound power	dB(A)	97	97	97	97	97	97	97	97
	Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
	Circuits	no.	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	TCHVBZ DIMENSIONS AND WEIGHTS		**2781**	**2841**	**2901**	**2961**	**21031**	**21111**	**21181**	**21261**
	L - Width	mm	4.120	4.000	4.000	4.000	4.000	4.000	4.000	4.000
	H - Height	mm	1.960	1.830	1.910	1.910	1.950	1.950	1.950	1.950
	P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸	TCHVBZ Weight	kg	3.920	4.406	4.636	4.669	4.779	4.870	4.908	4.934
❸	TCHVIZ Weight	kg	4.350	4.836	5.066	5.099	5.209	5.300	5.338	5.364

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❸ Empty weight.

☐ TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		2781	2841	2901	2961	21031	21111	21181	21261
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
①	Pdesignc (EN 14825)	kW	774,9	835,2	898,0	954,5	1026,1	1105,5	1176,7	1253,1
①	SEER (EN 14825)		5,92	5,89	5,88	5,98	5,90	5,95	5,95	6,01
②	$\eta_{s,c}$	%	229	228	227	231	228	230	230	233

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

	TCHVBZ-TCHVIZ MODEL		31301	31351	31401	31461	31521	31591	31631
❶	Nominal cooling capacity	kW	1.303,6	1.351,2	1.400,8	1.457,3	1.517,8	1.576,2	1.627,6
❶	E.E.R.		5,09	5,04	5,00	4,98	4,98	4,99	4,97
❶	Absorbed power	kW	256,11	268,10	280,16	292,63	304,78	315,87	327,48
❷	Sound power	dB(A)	101	101	101	102	102	102	102
❷	Sound power	dB(A)	99	99	99	100	100	100	100
	Screw/step compressor	no.	3/9	3/9	3/9	3/9	3/9	3/9	3/9
	Circuits	no.	3	3	3	3	3	3	3
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	TCHVBZ DIMENSIONS AND WEIGHTS		**31301**	**31351**	**31401**	**31461**	**31521**	**31591**	**31631**
	L - Width	mm	4.940	4.940	4.940	4.940	4.940	4.940	4.940
	H - Height	mm	2.180	2.180	2.180	2.180	2.220	2.220	2.220
	P - Depth	mm	1.790	1.790	1.790	1.790	1.790	1.790	1.790
❸	TCHVBZ Weight	kg	6.795	6.827	6.852	6.891	6.980	7.068	7.157
❸	TCHVIZ Weight	kg	7.395	7.427	7.452	7.491	7.580	7.668	7.757

Data at the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❸ Empty weight.

☐ TCHVIZ soundproofed version.

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		31301	31351	31401	31461	31521	31591	31631
	TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
①	Pdesignc (EN 14825)	kW	1.303,6	1.351,2	1.400,8	1.457,3	1.517,8	1.576,2	1.627,6
①	SEER (EN 14825)		6,19	6,12	6,17	6,15	6,39	6,35	6,34
②	$\eta_{s,c}$	%	240	237	239	238	247	246	246

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



Y-Flow

TCHEY-THHEY 245-4450

Cooling capacity: 41,2-448,8 kW

Heating capacity: 50,23-515,49 kW

- **Applications with well water, water mains or geothermal probes**
- **Integrated MASTER/SLAVE control**
- **HT65 version for 65°C water production (°)**



TCHEY 2100

Reversible packaged heat pumps and water chillers on the cooling circuit with water-cooling. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll complete with thermal protection and casing heater.
- Primary side (user) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Disposal unit side (well/mains/geothermal probes) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch (for THHEY).
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- compressor circuit breaker switches;
- display of cooling circuit high and low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board;
- 0-10V analogue signal for condensing/evaporating control performed by external device.

Versions

- LT - Hot water production up to 52°C.
- HT - Hot water production up to 55°C.

Models

- TCHEY: unit designed for cooling only.
- THHEY: heat pump unit.

Factory fitted accessories

- PUMP primary side (user): with single or double electric pump, including an automatic pump in standby, complete with expansion tank, safety valve, water fill/drain valve, air vent valve and pressure gauge. The electric pumps are available in the low or high pressure head versions.
- PUMP disposal side (geothermal probes/dry cooler): with single or double electric pump regulated via inverter including an automatic actuation pump in standby.
- Desuperheater.
- 100% heat recovery unit (mod. 245-4360).
- Water circuit heat pump (for TCHEY only).
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft-starter.
- Energy parameter measuring device.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Forced limit of power consumption.
- Electronic expansion valve (standard for mod. 4410-4450).
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Silenced set up.
- Control of min/max power supply voltage.
- Low temperature water production.
- Digital input for double set-point.
- 4-20mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Rubber anti-vibration mounts.

Separately supplied accessories

- 3-way modulating condensing control valve.
- 2-way modulating condensing control valve.
- Outdoor air temperature probe for set-point compensation.
- Free-cooling kit (mod. 245-2185).
- Water filter.
- Remote keypad with display.
- Thermostat with display.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCHEY MODEL		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
❶ Cooling capacity	kW	45,0	53,0	60,3	68,9	75,5	89,6	102,6	116,8	130,5	145,1	164,9	184,0
❶ Absorbed power	kW	9,85	11,42	13,19	15,01	16,52	19,27	22,55	25,55	29,00	31,82	37,06	42,01
❶ E.E.R.		4,57	4,64	4,57	4,59	4,57	4,65	4,55	4,56	4,50	4,56	4,45	4,38
THHEY MODEL		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❷ Heating capacity	kW	50,2	59,1	67,9	75,7	84,1	102,4	117,0	133,9	147,9	163,4	186,9	209,7
❷ Absorbed power	kW	12,24	14,00	15,98	17,73	19,93	24,04	27,86	31,58	35,47	39,56	45,92	52,29
❷ C.O.P.		4,10	4,22	4,25	4,27	4,22	4,26	4,20	4,24	4,17	4,13	4,07	4,01
❶ Cooling capacity	kW	41,2	48,5	55,2	63,0	69,1	81,9	95,7	109,1	120,7	134,3	152,2	169,9
❶ E.E.R.		4,32	4,38	4,36	4,31	4,31	4,31	4,35	4,35	4,30	4,29	4,08	4,02
TCHEY - THHEY MODEL		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❸ Sound power	dB(A)	67	67	68	68	69	70	71	72	73	74	74	75
Scroll/step compressor	no.	2/2	2/2	2/2	2/2	2/3	2/2	2/3	2/3	2/3	2/2	2/3	2/2
Circuits	no.	1	1	1	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
❹ L - Width	mm	1.020	1.020	1.020	1.020	1.020	1.020	1.270	1.270	1.270	1.270	1.270	1.270
❺ L - Width	mm	1.250	1.250	1.250	1.250	1.250	1.250	1.500	1.500	1.500	1.500	1.500	1.500
H - Height	mm	1.470	1.470	1.470	1.470	1.470	1.470	1.620	1.620	1.620	1.620	1.620	1.620
P - Depth	mm	870	870	870	870	870	870	870	870	870	870	870	870
❻ Weight TCHEY LT	kg	395	405	410	425	435	450	695	710	730	755	770	775
❻ Weight TCHEY HT	kg	425	430	440	460	470	480	740	770	800	825	850	855
❻ Weight THHEY LT	kg	405	415	425	440	450	460	700	720	750	755	790	800
❻ Weight THHEY HT	kg	435	445	455	470	480	495	755	790	820	845	870	880

Data at the following conditions:

❶ Chilled water: 12/7°C. - Condenser water: 30/35°C.

❷ Hot water: 40/45°C. - Evaporator water: 10/7°C.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Width referring to the unit with standard set up or supplied with "recovery" or "desuperheater" accessories.

❺ Width referring to the PUMP set up, up to a maximum of 2 pumps in mod. 245÷2185 (2 user side or disposal unit side pumps or 1 user side pump + 1 disposal unit side pump) and up to a maximum of 4 pumps in mod. 4180÷4450 (2 pumps on user side and 2 pumps on disposal unit side).

❻ Empty weight

Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE													
① Pdesignc (EN 14825)	kW	45,1	53,1	60,4	69,0	75,6	89,8	102,7	117,0	130,7	145,3	165,1	184,1
① SEER (EN 14825)		5,68	5,82	5,91	5,83	6,00	5,85	5,81	5,97	5,91	5,88	5,97	5,72
② $\eta_{s,c}$	%	219	225	229	225	232	226	224	231	228	227	231	221
THHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE													
① Pdesignc (EN 14825)	kW	-	-	-	-	-	-	-	-	-	-	-	-
① SEER (EN 14825)		-	-	-	-	-	-	-	-	-	-	-	-
② $\eta_{s,c}$	%	-	-	-	-	-	-	-	-	-	-	-	-
THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE													
③ Pdesignh (EN 14825)	kW	61	71	81	91	101	122	140	159	174	196	224	250
③ SCOP (EN 14825)		6,48	6,53	6,42	6,40	6,68	6,32	6,37	6,34	6,13	6,05	6,13	5,84
④ η_s	%	251	253	249	248	259	245	247	246	237	234	237	226
④ Energy class		A++	-	-	-	-	-	-	-	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

	TCHEY MODEL		4180	4205	4235	4260	4290	4330	4360	4410	4450
❶	Cooling capacity	kW	180,6	206,5	232,2	259,8	287,2	325,6	362,8	407,1	448,8
❶	Absorbed power	kW	37,78	43,20	48,58	54,58	60,46	69,72	79,39	90,87	103,17
❶	E.E.R.		4,78	4,78	4,78	4,76	4,75	4,67	4,57	4,48	4,35
	THHEY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❷	Heating capacity	kW	202,2	231,0	259,2	292,3	323,9	369,3	414,0	464,4	515,5
❷	Absorbed power	kW	45,95	53,35	60,85	68,45	75,85	87,93	99,52	116,98	127,92
❷	C.O.P.		4,40	4,33	4,26	4,27	4,27	4,20	4,16	3,97	4,03
❶	Cooling capacity	kW	160,4	183,5	206,5	231,4	255,2	292,7	330,1	373,9	412,9
❶	E.E.R.		4,42	4,29	4,22	4,19	4,16	4,14	4,16	4,10	4,03
	TCHEY - THHEY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❸	Sound power	dB(A)	77	77	78	79	80	81	82	83	84
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
	Circuits	no.	2	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❹	L - Width	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
❺	L - Width	mm	3.734	3.734	3.734	3.734	3.734	3.734	3.734	3.734	3.734
	H - Height	mm	1.860	1.860	1.860	1.860	1.860	1.860	1.860	1.860	1.860
	P - Depth	mm	870	870	870	870	870	870	870	870	870
❻	Weight TCHEY LT	kg	1.350	1.410	1.440	1.460	1.500	1.530	1.570	1.720	1.750
❻	Weight TCHEY HT	kg	1.440	1.470	1.510	1.540	1.600	1.650	1.680	1.750	1.790
❻	Weight THHEY LT	kg	1.380	1.440	1.470	1.500	1.530	1.560	1.600	1.750	1.780
❻	Weight THHEY HT	kg	1.470	1.500	1.550	1.570	1.630	1.680	1.720	1.790	1.820

Data at the following conditions:

❶ Chilled water: 12/7°C. - Condenser water: 30/35°C.

❷ Hot water: 40/45°C. - Evaporator water: 10/7°C.

❸ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❹ Width referring to the unit with standard set up or supplied with "recovery" or "desuperheater" accessories.

❺ Width referring to the PUMP set up, up to a maximum of 2 pumps in mod. 245-2185 (2 user side or disposal unit side pumps or 1 user side pump + 1 disposal unit side pump) and up to a maximum of 4 pumps in mod. 4180÷4450 (2 pumps on user side and 2 pumps on disposal unit side).

❻ Empty weight

Performance according to EN 14511:2013.

	SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360	4410	4450
	TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	180,8	206,8	232,5	260,1	287,4	325,9	363,0	407,3	449,0
①	SEER (EN 14825)		5,75	5,93	6,11	6,12	6,10	6,03	5,93	6,02	5,92
②	$\eta_{s,c}$	%	222	229	236	237	236	233	229	233	229
	THHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	-	-	-	-	255,3	293,0	330,4	374,0	413,1
①	SEER (EN 14825)		-	-	-	-	5,82	5,79	5,88	5,51	5,91
②	$\eta_{s,c}$	%	-	-	-	-	225	224	227	213	228
	THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③	Pdesignh (EN 14825)	kW	262	302	340	383	-	-	-	-	-
③	SCOP (EN 14825)		6,87	6,63	6,49	6,47	-	-	-	-	-
④	η_s	%	267	257	251	251	-	-	-	-	-
④	Energy class		-	-	-	-	-	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Y-Flow

TCHEY-THHEY 115-240

Cooling capacity: 15,5-41,7 kW
Heating capacity: 17,4-45,1 kW

- **Applications with well water, water mains or geothermal probes**
- **Plug&Play Unit with upward hydraulic connections**



Reversible packaged heat pumps and water chillers on the cooling circuit with water-cooling. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll complete with thermal protection and casing heater.
- Primary side (user) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Disposal unit side (well/mains/geothermal probes) heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch (for THHEY).
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating, internally covered with soundproof panelling.

Models

- TCHEY: unit designed for cooling only.
- THHEY: heat pump unit.

Factory fitted accessories

- PUMP:
  - Primary side (user): pump unit complete with electric circulation pump with standard or oversized head, membrane expansion tank, safety valve, water fill/drain valve, manual air vent valve and pressure gauge.
  - Disposal side (geothermal probes/dry cooler): pump unit complete with phase cutting electric pump, water fill/drain valve and manual air vent valve.
- Silenced set up.
- Pressure switch valve with water flow lock solenoid.
- Pressure switch valve with water flow lock solenoid and bypass solenoid valve.
- Water circuit heat pump (for TCHEY only).
- Soft-start device.
- Low water set-point temperature.
- Digital input for double set-point.
- 4-20mA analogue signal for shifting set-point.

Separately supplied accessories

- 3-way valve for the production of domestic hot water.
- Additional electrical resistance for heat pump, managed by regulation.
- Outdoor air temperature probe for set-point compensation.
- Free-cooling kit.
- Water filter.
- Rubber anti-vibration mounts.
- Remote keypad with display.
- Clock board.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.

TCHEY MODEL		115	118	122	125	230	240
❶ Cooling capacity	kW	15,5	18,4	22,7	26,3	30,5	41,7
❶ Absorbed power	kW	3,27	3,49	4,50	5,01	6,64	8,07
❶ E.E.R.		4,74	5,27	5,04	5,25	4,59	5,17
THHEY MODEL		**115**	**118**	**122**	**125**	**230**	**240**
❷ Heating capacity	kW	17,4	20,2	25,1	28,9	35,9	45,1
❷ Absorbed power	kW	3,95	4,41	5,59	6,30	8,05	10,11
❷ C.O.P.		4,40	4,58	4,49	4,59	4,46	4,46
❸ Heating capacity	kW	18,6	21,5	26,6	30,7	38,5	47,9
❸ Absorbed power	kW	3,29	3,55	4,45	5,04	6,63	8,09
❸ C.O.P.		5,66	6,05	5,97	6,09	5,81	5,92
❹ Heating capacity (geothermal)	kW	13,4	15,3	18,6	21,7	27,7	33,8
❹ C.O.P. (geothermal)		4,12	4,21	4,37	4,49	4,23	4,30
❶ Cooling capacity	kW	13,9	16,3	20,0	23,1	27,3	35,9
❶ E.E.R.		3,81	4,13	4,15	4,19	3,79	4,09
TCHEY - THHEY MODEL		**115**	**118**	**122**	**125**	**230**	**240**
❺ Sound pressure	dB(A)	42	42	46	47	48	52
Scroll/step compressor	no.	1/1	1/1	1/1	1/1	2/2	2/2
Circuits	no.	1	1	1	1	1	1
❶ Std system side electric pump available head	kPa	88	81	73	113	105	115
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**115**	**118**	**122**	**125**	**230**	**240**
L - Width	mm	700	700	700	700	700	700
H - STANDARD height - PUMP	mm	1.140	1.140	1.140	1.140	1.140	1.140
P - Depth	mm	560	560	780	780	780	780
❻ Weight	kg	193	193	230	254	278	298

Data at the following conditions:

❶ Chilled water: 12/7°C - Condenser water: 30/35°C.
❷ Hot water: 40/45°C - Evaporator water: 10/7°C.
❸ Hot water: 30/35°C - Evaporator water: 10/7°C.
❹ Hot water: 30/35°C - Evaporator water: 0/–3°C, 30% glycol.
❺ In open field (Q = 2) at 1 m from the unit, with silenced set up.
❻ Weight refers to most complete set up.
Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		115	118	122	125	230	240
TCHEY MODEL SEASONAL PERFORMANCE IN COOLING MODE							
① Pdesignc (EN 14825)	kW	15,5	18,4	22,7	26,3	30,5	41,7
① SEER (EN 14825)		5,35	5,58	5,57	5,72	6,08	5,82
② $\eta_{s,c}$	%	206	215	215	221	235	225
THHEY MODEL SEASONAL PERFORMANCE IN HEATING MODE							
③ Pdesignh (EN 14825)	kW	23	27	33	38	48	59
③ SCOP (EN 14825)		6,09	6,42	6,43	6,53	6,58	6,72
④ η_s	%	236	249	249	253	255	261
④ Energy class		A++	A++	A++	A++	A++	A++

① Low temperature application (7°C)
② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
③ In Average climatic conditions, low temperature application (35°C)
④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Z-Flow E

TCEVZ 1200-31630

Cooling capacity: 171,9-1.424,8 kW

- **Efficient condenserless unit in R134a**
- **33 sizes in standard and soundproofed versions**
- **Wide range of standard equipment**
- **Integrated MASTER/SLAVE control**



TCEVBZ 2630

Cooling only condenserless units. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features
- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta or part winding limited start up (depending on models) and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger (evaporator): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - clock board;
  - display of cooling circuit high and low pressure;
  - Master/Slave control up to 4 units in parallel.

Versions
- B -Standard version (TCEVBZ).
- I -Soundproofed version with soundproofing compressor lining (TCEVIZ).

Models
- TCEVBZ: unit designed for cooling only.
- TCEVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories
- Power factor correction capacitors (cosϕ > 0.94).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves
- Linear capacity control compressors (50-100 % for each compressor).
- Evaporator antifreeze heater.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.
- Rubber anti-vibration mounts.

Separately supplied accessories
- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCEVBZ-TCEVIZ MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
❶ Nominal cooling capacity	kW	171,9	190,8	238,1	260,4	300,6	346,2	399,7	446,4	508,9
❶ E.E.R.		3,40	3,28	3,30	3,30	3,41	3,30	3,30	3,30	3,40
❶ Absorbed power	kW	50,5	58,1	72,2	79,0	88,1	104,0	122,2	135,3	149,7
❷ Sound power	dB(A)	94	94	97	97	97	97	97	98	98
❷ Sound power	dB(A)	92	92	95	95	95	95	95	96	96
Screw/step compressor	no.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
Circuits	no.	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCEVBZ DIMENSIONS AND WEIGHTS		**1200**	**130**	**1280**	**1310**	**1350**	**1410**	**1460**	**1530**	**1590**
L - Width	mm	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460
H - Height	mm	1.580	1.580	1.580	1.580	1.660	1.660	1.660	1.760	1.760
P - Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
❸ TCEVBZ Weight	kg	1.078	1.093	1.410	1.414	1.557	2.032	2.038	2.252	2.281
❸ TCEVIZ Weight	kg	1.333	1.348	1.665	1.669	1.812	2.287	2.293	2.507	2.536

TCEVBZ-TCEVIZ MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
❶ Nominal cooling capacity	kW	335,8	356,6	372,1	431,9	473,4	506,4	529,3	581,4	614,1
❶ E.E.R.		3,33	3,29	3,22	3,31	3,28	3,34	3,34	3,46	3,48
❶ Absorbed power	kW	100,7	108,3	115,7	130,6	144,4	151,5	158,4	168,0	176,6
❷ Sound power	dB(A)	97	97	97	99	99	99	99	99	99
❷ Sound power	dB(A)	95	95	95	97	97	97	97	97	97
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCEVBZ DIMENSIONS AND WEIGHTS		**2400**	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
L - Width	mm	3.780	3.880	3.880	4.040	4.040	4.040	4.040	4.040	4.040
H - Height	mm	1.420	1.420	1.420	1.610	1.610	1.610	1.610	1.610	1.610
P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸ TCEVBZ Weight	kg	1.797	1.811	1.819	2.311	2.629	2.637	2.638	2.698	2.733
❸ TCEVIZ Weight	kg	2.227	2.241	2.249	2.741	3.059	3.067	3.068	3.128	3.163

TCEVBZ-TCEVIZ MODEL		2750	2790	2880	2930	21030	21110	21180	21260
❶ Nominal cooling capacity	kW	647,8	681,6	753,9	801,4	896,1	959,4	1.027,8	1.101,5
❶ E.E.R.		3,37	3,28	3,33	3,28	3,47	3,54	3,60	3,68
❶ Absorbed power	kW	192,1	207,6	226,5	244,4	257,9	271,0	285,5	299,4
❷ Sound power	dB(A)	99	99	99	99	99	99	99	99
❷ Sound power	dB(A)	97	97	97	97	97	97	97	97
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCEVBZ DIMENSIONS AND WEIGHTS		**2750**	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
L - Width	mm	4.120	4.000	4.000	4.000	4.000	4.000	4.000	4.000
H - Height	mm	1.610	1.480	1.560	1.560	1.600	1.600	1.600	1.600
P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸ TCEVBZ Weight	kg	3.176	3.631	3.844	3.859	3.936	3.993	4.024	4.044
❸ TCEVIZ Weight	kg	3.606	4.061	4.272	4.289	4.366	4.423	4.454	4.474

TCEVBZ-TCEVIZ MODEL		31300	31350	31390	31460	31520	31590	31630
❶ Nominal cooling capacity	kW	1.129,6	1.178,3	1.227,0	1.287,5	1.340,1	1.388,5	1.424,8
❶ E.E.R.		3,60	3,55	3,51	3,51	3,52	3,53	3,51
❶ Absorbed power	kW	314,1	331,8	349,5	367,1	380,4	393,4	406,4
❷ Sound power	dB(A)	101	101	101	102	102	102	102
❷ Sound power	dB(A)	99	99	99	100	100	100	100
Screw/step compressor	no.	3/9	3/9	3/9	3/9	3/9	3/9	3/9
Circuits	no.	3	3	3	3	3	3	3
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCEVBZ DIMENSIONS AND WEIGHTS		**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
L - Width	mm	4.940	4.940	4.940	4.940	4.940	4.940	4.940
H - Height	mm	1.580	1.580	1.580	1.580	1.620	1.620	1.620
P - Depth	mm	2.100	2.100	2.100	2.100	2.100	2.100	2.100
❸ TCEVBZ Weight	kg	5.555	5.570	5.585	5.600	5.678	5.710	5.790
❸ TCEVIZ Weight	kg	6.155	6.170	6.185	6.200	6.278	6.310	6.390

Data at the following conditions:
❶ Chilled water: 12/7°C - Condensing temperature: 50°C (dew point).
❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
❸ Weight without load refers to fully accessorised unit.
TCEVIZ soundproofed version.

Y-Flow E

TCEEBY 245-4360

Cooling capacity: 39,8-320,9 kW



• Integrated MASTER/SLAVE control

Cooling only condenserless units to couple with CCAMY remote condensers. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: hermetic rotary scroll complete with thermal protection and casing heater.
- Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater and water flow differential pressure switch.
- Control: microprocessor electronic control, with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- compressor circuit breaker switches;
- display of cooling circuit high and low pressure;
- Master/Slave control up to 4 units in parallel;
- clock board;
- 0-10V analogue signal for condensing control from external device.

Models

- TCEEBY: unit designed for cooling only.

Factory fitted accessories

- PUMP primary side (user): pump unit complete with single or double electric circulation pump, membrane expansion tank, safety valve, water fill/ drain valve, manual air vent valve and pressure gauge. The electric pumps are available with low or high head.
- Power factor correction capacitors ($\cos\phi > 0.94$)
- Cooling circuit high and low pressure gauges.
- Power factor correction capacitors.
- Soft start device.
- Forced limit of power consumption.
- Energy parameter measuring device.
- Control of min/max power supply voltage.
- Double safety valves.
- Silenced set up.
- Interfaces for serial communication with other devices.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Rubber anti-vibration mounts (or spring-operated for models 4180-4360) supplied unassembled.

Separately supplied accessories

- Outdoor air temperature probe for set-point compensation.
- Water filter.
- Rubber anti-vibration mounts.
- Clock board.
- Remote keypad with display.
- Serial converter (RS485/USB).

TCEEBY MODEL		245	250	260	270	275	290	2100	2115	2130	2145	2165	2185
❶ Nominal cooling capacity	kW	39,8	47,3	53,6	61,3	67,9	80,6	91,7	103,4	115,0	128,2	145,7	162,3
❶ EER		3,29	3,38	3,30	3,76	3,39	3,49	3,38	3,34	3,29	3,34	3,26	3,19
❶ Absorbed power (*)	kW	12,1	14,0	16,2	18,2	20,0	23,1	27,1	31,0	35,0	38,4	44,7	50,8
❶ Available head of standard electric pump	kPa	116	108	134	94	84	86	117	119	133	117	119	106
❶ Available head of high head pump	kPa	182	187	171	185	177	180	169	178	190	176	177	172
❷ Sound power	dB(A)	67	67	68	68	69	70	71	72	73	74	74	75
❷ Silenced set up sound power	dB(A)	63	63	64	64	65	66	67	68	69	70	70	71
Scroll/ step compressors	no.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Circuits	no.	1	1	1	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**275**	**290**	**2100**	**2115**	**2130**	**2145**	**2165**	**2185**
L - Width	mm	1.020	1.020	1.020	1.020	1.020	1.020	1.270	1.270	1.270	1.270	1.270	1.270
W - Width (PUMP set up)	mm	1.250	1.250	1.250	1.250	1.250	1.250	1.500	1.500	1.500	1.500	1.500	1.500
H - Height	mm	1.470	1.470	1.470	1.470	1.470	1.470	1.620	1.620	1.620	1.620	1.620	1.620
P - Depth	mm	870	870	870	870	870	870	870	870	870	870	870	870

TCEEBY MODEL		4180	4205	4235	4260	4290	4330	4360
❶ Nominal cooling capacity	kW	161,2	182,9	205,0	229,4	253,8	287,4	320,9
❶ EER		3,53	3,50	3,48	3,49	3,50	3,42	3,36
❶ Absorbed power (*)	kW	45,7	52,3	58,9	65,8	72,6	84,0	95,5
❶ Available head of standard electric pump	kPa	140	132	114	117	111	136	168
❶ Available head of high head pump	kPa	195	200	196	240	273	241	257
❷ Sound power	dB(A)	77	77	78	79	80	81	82
❷ Silenced set up sound power	dB(A)	75	75	76	77	78	79	80
Scroll/ step compressors	no.	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4
Circuits	no.	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**
L - Width	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600
W - Width (PUMP set up)	mm	3.734	3.734	3.734	3.734	3.734	3.734	3.734
H - Height	mm	1.860	1.860	1.860	1.860	1.860	1.860	1.860
P - Depth	mm	870	870	870	870	870	870	870

Data at the following conditions:

❶ Chilled water: 12/7°C - Condensing temperature: 50°C (dew point)

❷ Sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN ISO 9614

(*) Unit without electric pumps.

Recommended combinations with CCAMY condensers for TCEEBY models 4180÷4360								
TCEEBY MODEL		4180	4205	4235	4260	4290	4330	4360
CCAMY MODEL		CCAMY 290	CCAMY 2110	CCAMY 2115	CCAMY 2130	CCAMY 2145	CCAMY 2165	CCAMY 2185
		CCAMY 290	CCAMY 2110	CCAMY 2115	CCAMY 2130	CCAMY 2145	CCAMY 2165	CCAMY 2185

SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360
TCEEBY + CCAMBY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
① SEER (EN 14825)		4,19	4,22	4,24	4,25	4,26	4,27	4,22
② $\eta_{s,c}$	%	165	166	167	167	167	168	166
TCEEBY + CCAMSY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
① SEER (EN 14825)		4,18	4,21	4,23	4,22	4,24	4,24	4,20
② $\eta_{s,c}$	%	164	165	166	166	167	167	165
TCEEBY + CCAMQY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
① Pdesignc (EN 14825)	kW	160,6	182,2	204,2	228,5	252,9	286,3	319,7
① SEER (EN 14825)		4,14	4,18	4,19	4,20	4,23	4,22	4,19
② $\eta_{s,c}$	%	163	164	165	165	166	166	165

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

Z-Power FREECOOLING TFAVBZ - TFAVIZ - TFAVSZ 2420-21100
Y-Pack FREECOOLING TFAEY - TGAEY 4160-4320

Freecooling Chillers

Z-Power FREECOOLING

TFAVBZ-TFAVIZ-TFAVSZ 2420-21100

Cooling capacity: 469-1,216 kW

- High efficiency
- Standard electronic expansion valve
- Extended operation limits



TFAVBZ 2500 with FMB accessory

Air cooled water chillers in Freecooling mode with axial fans. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- 2 circuits/ 6 capacity steps.
- Water side heat exchanger: counterflow dry expansion shell and tube type, complete with: differential pressure switch, air vent valve, water drain cock, closed cell polyurethane foam rubber insulation with protection film against UVA rays. Victaulic connections.
- Air side heat exchanger: consisting of coil made of copper pipes and aluminium fins divided into two sections: one dedicated to the condensation of the refrigerant gas and one dedicated to cooling the water in free-cooling mode.
- 3-way modulating valve to divert the water flow from the system towards the free-cooling coil or directly towards the evaporator.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, accident protection grilles and a proportional electronic device for pressurised and continuous fan rotation speed regulation up to an outdoor air temperature of -15°C.
- Control: electronic microprocessor control prepared for the connection with the main BMS available on the market (MODBUS RTU, LON, BacNet).
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
  The unit is also complete with:
  - display of cooling circuit high and low pressure;
  - clock board

Versions

- B - High efficiency standard version (TFAVBZ).
- I -Soundproofed version with soundproofing lining on the compressor compartment (TFAVIZ).
- S - Silenced version with soundproofing lining on the compressor compartment and reduced speed fans (TFAVSZ).

Models

- TFAVBZ: high efficiency base unit in Freecooling mode.
- TFAVIZ: soundproofed unit in Freecooling mode.
- TFAVSZ: silenced unit in Freecooling mode.

Factory fitted accessories

- -20°C condensing control with fans with EC motor.
- Power factor correction capacitors (cosϕ > 0.94).
- Compressor and fan circuit breaker switches.
- Forced limit of power consumption.
- Inlet compressor shut-off valves.
- Low and high pressure gauges for each cooling circuit.
- Bottom compartment protection nets.
- Coil protection grilles.
- Coil protection metal filter.
- Compressors with linear capacity control (25-100 %).
- Evaporator antifreeze heater.
- Digital input for double set-point.
- Low water temperature.
- Double high pressure safety valve with exchange valve.
- Stainless steel cooling circuit.
- Electrical panel heater.
- Soft starter.
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Copper/pre-painted aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.

TFAVBZ - TFAVIZ - TFAVSZ MODEL		2420	2450	2500	2560	2660	2750
FREE-COOLING OFF							
❶ Nominal cooling capacity	kW	481	512	574	636	756	825
❶ Nominal cooling capacity	kW	469	499	555	618	737	811
❶ E.E.R.		3,79	3,79	3,70	3,72	3,74	3,77
❶ E.E.R.		3,78	3,78	3,60	3,68	3,76	3,75
❶ Absorbed power	kW	127	135	155	171	202	219
❶ Absorbed power	kW	124	132	154	168	196	216
FREE-COOLING ON 100%							
❷ Nominal cooling capacity	kW	481	512	574	636	756	825
❷ Nominal cooling capacity	kW	469	499	555	618	737	811
❷ E.E.R.		24,05	25,60	28,70	26,50	23,63	25,78
❷ E.E.R.		37,50	39,89	44,43	41,19	36,84	40,57
❷ Absorbed power	kW	20	20	20	24	32	32
❷ Absorbed power	kW	12,5	12,5	12,5	15,0	20,0	20,0
❷ Total Free-cooling Temperature	°C	2,4	1,8	1,1	1,8	2,3	1,9
❷ Total Free-cooling Temperature	°C	1,2	0,5	0,0	0,8	1,1	0,5
TFAVBZ - TFAVSZ MODEL		**2420**	**2450**	**2500**	**2560**	**2660**	**2750**
❸ Sound pressure	dB(A)	65	65	65	66	68	68
❸ Sound pressure	dB(A)	60	60	60	60	62	62
❹ Sound power	dB(A)	98	98	98	99	101	101
❹ Sound power	dB(A)	92	92	92	93	95	95
Scroll/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2420**	**2450**	**2500**	**2560**	**2660**	**2750**
L - Width	mm	6.130	6.130	6.130	7.160	10.080	10.080
H - Height	mm	2.580	2.580	2.580	2.580	2.580	2.580
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.
❷ Water: 15/10°C – Ethylene glycol 30%.
❸ In open field (Q = 2) at 10 m from the unit on the coil side.
❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
☐ TFAVSZ silenced version.

SEASONAL ENERGY PERFORMANCE		2420	2450	2500	2560	2660	2750
TFAVBZ - TFAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤ PdesignR	kW	419,8	447,6	501,5	554,3	658,9	745,2
⑤ SEPR		5,59	5,59	5,57	5,57	5,60	5,61
TFAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤ PdesignR	kW	408,8	435,9	484,8	538,7	641,9	731,1
⑤ SEPR		5,64	5,64	5,62	5,65	5,63	5,63

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)

TFAVBZ - TFAVIZ - TFAVSZ MODEL		2800	2850	2920	2990	21050	21100
FREE-COOLING OFF							
❶ Nominal cooling capacity	kW	885	944	1.019	1.093	1.155	1.216
❶ Nominal cooling capacity	kW	867	922	1.000	1.071	1.129	1.186
❶ E.E.R.		3,71	3,66	3,69	3,72	3,68	3,64
❶ E.E.R.		3,66	3,57	3,68	3,69	3,61	3,55
❶ Absorbed power	kW	238,5	258,0	276,0	294,0	313,0	334,0
❶ Absorbed power	kW	237,0	258,0	272,0	290,0	313,0	334,0
FREE-COOLING ON 100%							
❷ Nominal cooling capacity	kW	885	944	1.019	1.093	1.155	1.216
❷ Nominal cooling capacity	kW	867	922	1.000	1.071	1.129	1.186
❷ E.E.R.		27,66	29,50	25,48	27,33	28,88	30,40
❷ E.E.R.		43,36	46,12	39,99	42,84	45,15	47,44
❷ Absorbed power	kW	32	32	40	40	40	40
❷ Absorbed power	kW	20	20	25	25	25	25
❷ Total Free-cooling Temperature	°C	1,2	0,6	1,1	1,6	1,1	0,5
❷ Total Free-cooling Temperature	°C	0,0	-0,7	0,0	0,3	-0,5	-1,0
TFAVBZ - TFAVSZ MODEL		**2800**	**2850**	**2920**	**2990**	**21050**	**21100**
❸ Sound pressure	dB(A)	68	68	69	69	69	69
❸ Sound pressure	dB(A)	62	62	63	63	63	63
❹ Sound power	dB(A)	101	101	102	102	102	102
❹ Sound power	dB(A)	95	95	96	96	96	96
Scroll/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2800**	**2850**	**2920**	**2990**	**21050**	**21100**
L - Width	mm	10.080	10.080	12.080	12.080	12.080	12.080
H - Height	mm	2.580	2.580	2.580	2.580	2.580	2.580
P - Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.

❷ Water: 15/10°C – Ethylene glycol 30%.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

☐ TFAVSZ silenced version.

SEASONAL ENERGY PERFORMANCE		2800	2850	2920	2990	21050	21100
TFAVBZ - TFAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤ PdesignR	kW	796,8	847,0	917,5	983,2	1.038,8	1.092,7
⑤ SEPR		5,56	5,54	5,60	5,61	5,61	5,58
TFAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE							
⑤ PdesignR	kW	779,0	825,5	898,2	961,1	1013,1	1.063,4
⑤ SEPR		5,61	5,60	5,65	5,63	5,68	5,60

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)



Y-Pack FREECOOLING

TFAEY-TGAEY 4160-4320

Cooling capacity: 170-361 kW

- NO GLYCOL version available
- Plug&Play Range
- Software to estimate energy savings



TFAETY 4230 with coil protection nets accessory

Air cooled water chillers in Freecooling mode (TFAEY) and Freecooling NO-GLYCOL mode (TGAEY) with axial fans. Range with scroll hermetic compressors and R410A refrigerant.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- 4 capacity steps with high efficiency at partial loads.
- Water side heat exchanger (evaporator): with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch (TFAEY) or flow switch (TGAEY).
- Heat exchanger (water-water) in Freecooling NO-GLYCOL: with stainless steel plates, complete with closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger (condenser): featuring finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans equipped with internal thermal protection, accident protection grilles and proportional electronic device for continuous fan rotation speed regulation.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - clock board;
  - water side 3-way modulating valve.

Versions

- T - High efficiency version (TFAETY-TGAETY).
- S - Silenced version complete with compressor technical compartment soundproofing and reduced speed fans (TFAESY - TGAESY).

Models

- TFAETY: high efficiency unit in Freecooling mode.
- TFAESY: silenced unit in Freecooling mode.
- TGAETY: high efficiency unit in Freecooling NO-GLYCOL mode.
- TGAESY: silenced unit in Freecooling NO-GLYCOL mode.

Factory fitted accessories

- PUMP with single or double electric pump, including an automatic actuation pump in standby complete with safety valve. The pumps are available in the low or high head versions.
- Electronic expansion valve.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter.
- Cooling circuit high and low pressure gauges.
- Metal filters or Coil protection grilles.
- Copper/copper or copper/pre-painted aluminium coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Evaporator antifreeze heater, electric pumps if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.

TFAETY-TFAESY MODEL		4160	4180	4200	4230	4260	4290	4320
FREE-COOLING OFF								
❶ Nominal cooling capacity	kW	178	202	224	251	286	326	361
❶ Nominal cooling capacity	kW	170	197	215	240	274	312	344
❶ E.E.R.		3,31	3,41	3,27	3,20	3,34	3,20	3,09
❶ E.E.R.		3,21	3,32	3,11	3,11	3,22	3,09	2,92
❶ Absorbed power	kW	53,8	59,3	68,4	78,5	85,6	102,0	117,0
❶ Absorbed power	kW	53,0	59,3	69,2	77,2	85,2	100,9	117,9
FREE-COOLING ON 100%								
❷ Nominal cooling capacity	kW	178	202	224	251	286	326	361
❷ Nominal cooling capacity	kW	170	197	215	240	274	312	344
❷ E.E.R.		21,3	24,4	26,9	20,5	22,8	19,5	21,5
❷ E.E.R.		33,0	37,8	41,4	31,7	35,2	30,0	32,9
❷ Absorbed power	kW	8,0	8,0	8,0	12,0	12,0	16,0	16,0
❷ Absorbed power	kW	5,0	5,0	5,0	7,5	7,5	10,0	10,0
❷ Total Free-cooling Temperature	°C	0,3	1,0	0,4	0,7	0,9	0,4	–0,8
❷ Total Free-cooling Temperature	°C	–1,3	–0,8	–1,5	–1,3	–1,1	–1,6	–3,0
TFAETY-TFAESY MODEL		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
❸ Sound pressure	dB(A)	60	63	63	65	65	66	66
❸ Sound pressure	dB(A)	55	56	56	58	59	60	60
❹ Sound power	dB(A)	89	91	91	93	93	94	94
❹ Sound power	dB(A)	85	86	86	88	89	90	90
Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
L - Width	mm	4.800	4.800	4.800	4.800	5.300	5.300	5.300
H - Height	mm	2.030	2.030	2.030	2.030	2.030	2.030	2.030
P - Depth	mm	2.090	2.090	2.090	2.090	2.090	2.090	2.090
❺ TFAETY-TFAESY Weight	kg	2.370	2.820	2.920	3.020	3.230	3.380	3.430
❺ TGAETY-TGAESY Weight	kg	2.470	2.970	3.070	3.170	3.280	3.430	3.480

Data at the following conditions:

❶ Air: 30°C - Water: 15/10°C - Ethylene glycol 30%.

❷ Water: 15/10°C – Ethylene glycol 30%.

❸ In open field (Q = 2) at 10 m from the unit on the coil side.

❹ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❺ Weight referred to the accessorised unit without load.

TFAESY silenced version.

SEASONAL ENERGY PERFORMANCE		4160	4180	4200	4230	4260	4290	4320
TFAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	158,2	179,4	198,9	222,8	254,0	289,5	320,5
⑤ SEPR		5,10	5,14	5,11	5,06	5,13	5,11	5,09
TFAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	151,2	175,1	191,0	213,1	243,5	277,1	305,5
⑤ SEPR		5,10	5,09	5,08	5,04	5,10	5,08	5,05
TGAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	155,3	178,4	197,4	220,6	250,9	286,9	317,1
⑤ SEPR		4,83	4,87	4,90	4,78	4,84	4,77	4,64
TGAESY MODEL SEASONAL PERFORMANCE IN COOLING MODE								
⑤ PdesignR	kW	148,5	171,6	188,9	211,1	240,7	274,2	300,9
⑤ SEPR		4,81	4,81	4,83	4,74	4,80	4,71	4,57

⑤ Application for high temperature (7°C) process chiller (EU Regulation 2016/2281)

Polyvalent Heat Pumps - Air&Water Cooled
Z-Power EXP TXAVZ 2550-2700
WinPOWER EXP TXAEY 4400-6660
Y-Pack EXP TXAEY 280-4320
Y-Flow EXP TXHEY 245-4450

Polyvalent Heat Pumps

Z-Power EXP

TXAVZ 2550-2700

- Cooling capacity: 530,3-695,1 kW
- Heating capacity: 548-709,9 kW

• T.E.R. up to 8.33



TXAVSZ 2550

TXAVSZ 2700

EXPsystems - Air cooled multi-purpose ecological system with axial fans. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta limited start and complete with integral protection, casing heater, refrigerant gas intake and delivery piping shut-off valve and compressor oil level sensor.
- Main and secondary heat exchangers: dry expansion shell and tube with counterflow heat exchange, complete with antifreeze heater, closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, accident protection grilles and a proportional electronic device for continuous fan rotation speed regulation.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating
- The unit is also complete with:
  - display of cooling circuit high/low pressure;
  - clock board;
  - electronic expansion valve.

Versions

- B - Standard version (TXAVBZ).
- S - Silenced version with reduced speed fans and soundproofing compressor lining (TXAVSZ).
- I -Soundproofed version with soundproofing compressor lining (TXAVSZ).

Models

- TXAVBZ: standard EXPsystems unit.
- TXAVSZ: silenced EXPsystems unit.
- TXAVIZ: soundproofed EXPsystems unit.

Factory fitted accessories

- -15°C condensing control with fans with EC motor.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Fan and compressor circuit breaker switches.
- Forced limit of power consumption.
- Coil protection grilles.
- Bottom compartment protection nets.
- Digital input for double set-point
- Low and high pressure gauges for each cooling circuit.
- Electrical panel heater.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Copper/pre-painted aluminium or copper/copper coils.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TXAVBZ MODEL		2550	2610	2700
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	552,0	615,0	695,1
❸ Recovery heating capacity (AUTOMATIC 2)	kW	709,0	786,0	888,0
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	571,2	627,1	709,9
❶ Absorbed power (AUTOMATIC 1)	kW	182,2	200,4	227,2
❸ Absorbed power (AUTOMATIC 2)	kW	155,8	170,7	190,9
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	180,8	196,6	224,0
E.E.R. (AUTOMATIC 1)		3,03	3,07	3,06
T.E.R. (AUTOMATIC 2)		8,13	8,24	8,33
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,16	3,19	3,17
❹ Sound pressure	dB(A)	65	66	67
❻ Sound power	dB(A)	98	99	99
TXAVSZ MODEL		**2550**	**2610**	**2700**
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	530,3	590,1	667,4
❸ Recovery heating capacity (AUTOMATIC 2)	kW	709,0	786,0	888,0
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	548,0	601,9	681,7
❶ Absorbed power (AUTOMATIC 1)	kW	181,0	199,4	225,5
❸ Absorbed power (AUTOMATIC 2)	kW	155,8	170,7	190,9
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	179,7	195,5	222,1
E.E.R. (AUTOMATIC 1)		2,93	2,96	2,96
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,05	3,08	3,07
❹ Sound pressure	dB(A)	59	60	61
❺ Sound power	dB(A)	92	93	93
MODEL		**2550**	**2610**	**2700**
Screw/step compressor	no.	2/6	2/6	2/6
Circuits	no.	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50
TXAVBZ-TXAVSZ DIMENSIONS AND WEIGHT		**2550**	**2610**	**2700**
L - Width	mm	6.130	6.980	7.980
H - Height	mm	2.430	2.430	2.430
P - Depth	mm	2.260	2.260	2.260
❻ TXAVBZ weight	kg	6.360	7.460	8.380

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

❹ In open field (Q = 2) at 10 m from the unit.

❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❻ Empty weight.

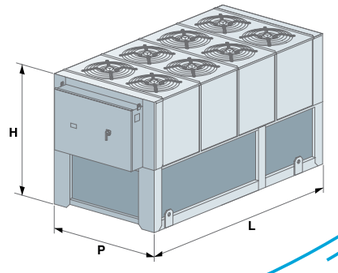
Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

SEASONAL ENERGY PERFORMANCE		2550	2610	2700
TXAVBZ-TXAVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
① Pdesignc (EN 14825)	kW	551,9	614,8	695
① SEER (EN 14825)		4,2	4,23	4,15
② $\eta_{s,c}$	%	165	166	163
TXAVSZ MODEL SEASONAL PERFORMANCE IN COOLING MODE				
① Pdesignc (EN 14825)	kW	530,2	589,9	667,2
① SEER (EN 14825)		4,13	4,14	4,13
② $\eta_{s,c}$	%	162	163	162

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)



WinPOWER EXP

TXAEY 4400-6660

- Cooling capacity: 361,2-648,1 kW
- Heating capacity: 405-706,2 kW

- **Multi-purpose units in CLASS A with TER up to 7.9**
- **Extended operating limits**
- **Units for systems with 2, 4 and 6 pipes**



TXAESY 6580 with STE accessory and RPB coil protection nets accessory

EXPsystems - Air cooled multi-purpose ecological system with axial fans. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Up to 6 capacity steps with high efficiency at partial loads.
- Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, accident protection grilles and a proportional electronic device for continuous fan rotation speed regulation (T version; fans with an EC motor are standard in the Q version)
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: load bearing structure made of galvanised and painted steel plate coated with polyester powders.
- The unit is also complete with:
  - fan and compressor circuit breaker switches, heat exchanger antifreeze heater;
  - display of cooling circuit high and low pressure;
  - electronic expansion valve;
  - clock board.

Versions

- T - High efficiency version.
- Q - Super silenced version complete with compressor technical compartment soundproofing, fans with EC motor at super reduced speed.

Models

- TXAETY: EXPsystems unit.
- TXAEQY: super silenced EXPsystems unit.

Factory fitted accessories

- Tube and shell main and secondary heat exchangers.
- PUMP with single or double electric pump, including an automatic pump in standby. The electric pumps are available in the main and secondary/ recovery heat exchanger low or high head set-ups.
- TANK&PUMP with 700-1000 litre integrated buffer tank (depending on models) and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- Desuperheater.
- -15°C condensing control with fans with EC motor (standard with Q versions).
- Condensing control with over-pressure fans (T version only).
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Optimised energy efficiency.
- Soft starter.
- Compressor box and soundproofed cooling circuit.
- Compressor soundproof enclosures.
- Cooling circuit delivery and intake valves.
- Refrigerant leak detector.
- Cooling circuit high and low pressure gauges.
- Double safety valves.
- Coil protection nets or metal filters.
- Bottom compartment protection nets.
- Copper/pre-painted aluminium or copper/copper coils.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Electrical panel antifreeze heater, buffer tank, electric pumps and desuperheater, if applicable.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TXAETY MODEL		4400	4440	6520	6580	6660
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	397,0	434,8	525,4	577,4	648,1
❸ Recovery heating capacity (AUTOMATIC 2)	kW	515,0	567,0	685,0	759,0	845,0
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	426,1	470,4	569,8	629,9	706,2
❶ Absorbed power (AUTOMATIC 1)	kW	131,9	145,0	176,4	198,5	218,3
❸ Absorbed power (AUTOMATIC 2)	kW	116,6	128,6	157,0	179,0	194,4
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	131,2	144,3	177,0	195,1	217,3
E.E.R. (AUTOMATIC 1)		3,01	3,00	2,98	2,91	2,97
T.E.R. (AUTOMATIC 2)		7,9	7,8	7,8	7,5	7,7
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,25	3,26	3,22	3,23	3,25
❹ Sound pressure	dB(A)	76	77	77	77	77
❺ Sound power	dB(A)	96	97	97	97	98
TXAEQY MODEL		**4400**	**4440**	**6520**	**6580**	**6660**
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	361,2	390,1	474,8	515,8	580,5
❸ Recovery heating capacity (AUTOMATIC 2)	kW	515	567	685	759	845
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	405,0	445,2	547,6	598,7	669,9
❶ Absorbed power (AUTOMATIC 1)	kW	141,7	159,3	192,3	222,4	236,0
❸ Absorbed power (AUTOMATIC 2)	kW	116,6	128,6	157,0	179,0	194,4
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	125,0	137,5	168,5	184,8	206,2
E.E.R. (AUTOMATIC 1)		2,55	2,45	2,47	2,32	2,46
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,24	3,24	3,25	3,24	3,25
❹ Sound pressure	dB(A)	53,5	54,5	54,5	54,5	56,5
❺ Sound power	dB(A)	86	87	87	87	89
MODEL		**4400**	**4440**	**6520**	**6580**	**6660**
Scroll/step compressor	no.	4/4	4/4	6/6	6/6	6/6
Circuits	no.	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS		**4400**	**4440**	**6520**	**6580**	**6660**
L - Width	mm	4.840	4.840	5.940	5.940	6.840
H - Height	mm	2.450	2.450	2.450	2.450	2.450
P - Depth	mm	2.260	2.260	2.260	2.260	2.260
❻ TXAETY weight	kg	3.650	3.760	4.480	4.580	5.250
❻ TXAEQY weight	kg	4.340	4.360	5.270	5.370	6.070

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

❹ In open field (Q = 2) at 10 m from the unit.

❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❻ Weight refers to the unit without load.

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

SEASONAL ENERGY PERFORMANCE		4400	4440	6520	6580	6660
TXAETY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
① Pdesignc (EN 14825)	kW	-	434,7	525,3	577,2	647,9
① SEER (EN 14825)		-	4,13	4,25	4,23	4,26
② $\eta_{s,c}$	%	-	162	167	166	167
TXAEQY MODEL SEASONAL PERFORMANCE IN COOLING MODE						
① Pdesignc (EN 14825)	kW	-	-	474,7	515,7	580,4
① SEER (EN 14825)		-	-	4,25	4,20	4,24
② $\eta_{s,c}$	%	-	-	167	165	167
TXAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③ Pdesignh (EN 14825)	kW	361	-	-	-	-
③ SCOP (EN 14825)		3,63	-	-	-	-
④ η_S	%	142	-	-	-	-
TXAEQY MODEL SEASONAL PERFORMANCE IN HEATING MODE						
③ Pdesignh (EN 14825)	kW	344	382	-	-	-
③ SCOP (EN 14825)		3,64	3,65	-	-	-
④ η_S	%	142	143	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

Y-Pack EXP

TXAEY 280-4320

- Cooling capacity: 80,7-332,9 kW
- Heating capacity: 84,3-354,3 kW

• T.E.R. up to 8.18



TXAESY 4320 with coil protection nets accessory

EXPsystems - Air cooled multi-purpose ecological system with axial fans. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: electric axial fans with EC motor with continuous regulation of rotation speed, equipped with internal thermal protection and complete with accident protection grilles.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - clock board;
  - electronic expansion valve;
  - display of cooling circuit high/low pressure.

Versions

- T - High efficiency version with fans with EC motor.
- S - Silenced version complete with compressor technical compartment soundproofing, reduced speed fans with EC motor.

Models

- TXAETY: EXPsystems unit.
- TXAESY: silenced EXPsystems unit.

Factory fitted accessories

- PUMP (for main and secondary circuit) with single or double electric pump, including an automatic pump in standby. The pumps are available in the low or high head versions.
- TANK&PUMP (for main circuit only) with integrated buffer tank and single or double electric pump, complete with expansion tank, air vent valves, safety valve and water side pressure gauge.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Soft starter forced limit of power consumption.
- Cooling circuit high and low pressure gauges.
- Metal filters or Coil protection grilles.
- Copper/copper or copper/pre-painted aluminium coils.
- Digital input for double set-point
- 4-20 mA analogue signal for shifting set-point.
- Buffer tank antifreeze heaters and electric pumps if applicable.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TXAETY MODEL		280	2100	2130	4160	4200	4260	4320
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	83,7	107,6	134,6	162,5	206,2	263,1	332,9
❸ Recovery heating capacity (AUTOMATIC 2)	kW	108,0	140,0	174,0	215,0	272,0	346,0	440,0
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	86,3	111,4	139,5	171,6	227,9	282,0	354,3
❶ Absorbed power (AUTOMATIC 1)	kW	27,0	35,2	43,8	56,6	72,6	93,9	118,5
❸ Absorbed power (AUTOMATIC 2)	kW	23,6	32,2	39,3	51,5	65,2	81,4	106,5
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	25,6	33,9	42,9	55,2	73,9	91,9	116,5
E.E.R. (AUTOMATIC 1)		3,10	3,06	3,07	2,87	2,84	2,80	2,81
T.E.R. (AUTOMATIC 2)		8,18	7,76	7,89	7,36	7,39	7,53	7,36
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,37	3,29	3,25	3,11	3,08	3,07	3,04
❹ Sound pressure	dB(A)	52	52	53	54	59	61	61
❺ Sound power	dB(A)	84	84	85	86	91	93	93
TXAESY MODEL		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	80,7	103,7	129,6	156,5	199,3	254,1	316,0
❸ Recovery heating capacity (AUTOMATIC 2)	kW	108,0	140,0	174,0	215,0	272,0	346,0	440,0
❷ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	84,3	108,4	136,4	167,6	221,8	275,0	345,2
❶ Absorbed power (AUTOMATIC 1)	kW	27,3	35,6	44,3	57,2	73,6	94,9	119,3
❸ Absorbed power (AUTOMATIC 2)	kW	23,6	32,2	39,3	51,5	65,2	81,4	106,5
❷ Absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	24,6	32,5	41,1	52,9	71,1	88,5	111,8
E.E.R. (AUTOMATIC 1)		2,96	2,92	2,93	2,74	2,71	2,68	2,65
C.O.P. (SELECT 1-2 AUTOMATIC 3)		3,43	3,34	3,32	3,17	3,12	3,11	3,09
❹ Sound pressure	dB(A)	49	49	50	51	54	57	57
❺ Sound power	dB(A)	81	81	82	83	86	89	89
MODEL		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
Scroll/step compressor	no.	2/2	2/2	2/2	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS		**280**	**2100**	**2130**	**4160**	**4200**	**4260**	**4320**
L - Width	mm	2.600	2.600	3.700	3.700	4.800	4.800	4.800
H - Height	mm	2.000	2.000	2.000	2.000	2.030	2.030	2.030
P - Depth	mm	2.090	2.090	2.090	2.090	2.090	2.090	2.090

Data at the following conditions:

❶ Air: 35°C - Water: 12/7°C.

❷ Air: 7°C D.B. - 6°C W.B. - Water: 40/45°C.

❸ Evaporator water: 12/7°C. Recovery output water 45°C - Nominal flow rate. (Gross value)

❹ In open field (Q = 2) at 10 m from the unit.

❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

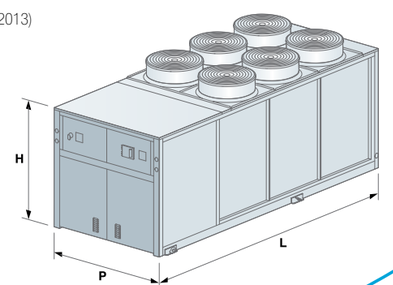
Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

SEASONAL ENERGY PERFORMANCE		280	2100	2130	4160	4200	4260	4320
TXAETY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	77	98	124	153	201	252	314
③ SCOP (EN 14825)		3,99	3,85	3,81	3,46	3,41	3,37	3,36
④ η_s	%	157	151	149	136	133	132	131
TXAESY MODEL SEASONAL PERFORMANCE IN HEATING MODE								
③ Pdesignh (EN 14825)	kW	75	95	121	148	196	246	305
③ SCOP (EN 14825)		4,10	3,92	3,91	3,52	3,48	3,44	3,43
④ η_s	%	161	154	153	138	136	135	134

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



Y-Flow EXP

TXHEY 245-4450

- Cooling capacity: 44,2-437,8 kW
- Heating capacity: 50,7-518,9 kW



EXPsystems - Polyvalent ecological water-cooled system. Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features

- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Primary side (user), secondary side (recovery) heat exchangers and disposal unit: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
  - compressor circuit breaker switches,
  - electronic expansion valve,
  - display of cooling circuit high and low pressure,
  - clock board,
  - outdoor temperature probe for set-point compensation,
  - 0-10V analogue signal for condensing/evaporating control performed by external device.

Versions

- B - Standard version.

Models

- TXHEBY: EXPsystems unit.

Factory fitted accessories

- Cooling circuit high and low pressure gauges.
- Forced limit of power consumption.
- Soft starter.
- Silenced set up.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Anti-vibration mounts.

Separately supplied accessories

- 3-way modulating condensing control valve.
- 2-way modulating condensing control valve.
- Water filter.
- Remote keypad with display.
- Thermostat with display.
- Serial converter (RS485/USB).
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TXHEBY MODEL		245	250	260	270	290	2115	2130	2145	2165	2185
❶ Nominal cooling capacity (AUTOMATIC 1)	kW	47,0	55,6	62,7	71,8	92,8	123,8	137,5	153,9	173,3	193,2
❷ Nominal cooling capacity (AUTOMATIC 1)	kW	44,2	52,0	59,2	67,6	88,0	114,6	128,0	142,4	161,7	180,6
❸ Recovery heating capacity (AUTOMATIC 2)	kW	50,6	59,6	68,5	76,2	102,9	134,9	148,9	164,8	187,8	211,1
❹ Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	50,7	59,8	68,7	76,4	103,3	135,2	149,2	165,2	188,2	211,7
❶ Total absorbed power (AUTOMATIC 1)	kW	8,5	9,8	11,3	13,0	16,9	21,5	24,7	26,7	31,8	36,3
❷ Total absorbed power (AUTOMATIC 1)	kW	9,9	11,4	13,1	14,9	19,1	25,5	28,8	31,7	36,8	41,9
❸ Total absorbed power (AUTOMATIC 2)	kW	12,0	13,7	15,7	17,4	23,4	31,1	34,9	38,9	45,3	51,4
❹ Total absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	12,2	14,0	16,0	17,7	23,8	31,4	35,2	39,3	45,7	52,1
❶ E.E.R. (AUTOMATIC 1)		5,51	5,69	5,55	5,51	5,48	5,75	5,57	5,76	5,44	5,32
❷ E.E.R. (AUTOMATIC 1)		4,49	4,57	4,52	4,54	4,61	4,50	4,45	4,50	4,40	4,32
❹ C.O.P. (SELECT 1-2 AUTOMATIC 3)		4,18	4,30	4,31	4,34	4,35	4,31	4,24	4,21	4,12	4,07
❸ T.E.R. (AUTOMATIC 2)		7,5	7,7	7,8	7,8	7,8	7,7	7,6	7,5	7,3	7,2
TXHEBY MODEL		**245**	**250**	**260**	**270**	**290**	**2115**	**2130**	**2145**	**2165**	**2185**
❺ Sound power	dB(A)	67	67	68	68	70	72	73	74	74	75
Scroll/step compressor	no.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Circuits	no.	1	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**245**	**250**	**260**	**270**	**290**	**2115**	**2130**	**2145**	**2165**	**2185**
L - Width	mm	1.020	1.020	1.020	1.020	1.020	1.270	1.270	1.270	1.270	1.270
H - Height	mm	1.470	1.470	1.470	1.470	1.470	1.620	1.620	1.620	1.620	1.620
P - Depth	mm	870	870	870	870	870	870	870	870	870	870
❻ Weight	kg	510	525	540	565	595	920	960	995	1.035	1.045

Data at the following conditions:

❶ "Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 14/30°C. (Gross value)

❷ Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 30/35°C

❸ Chilled water (user): 12/7°C - Condenser water (recovery unit): 40/45°C. (Gross value)

❹ Evaporator water (source): 12/7°C - . Hot water (user): 40/45°C.

❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❻ Empty weight

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

TXHEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE											
③ Pdesignh (EN 14825)	kW	59	69	80	89	119	156	173	191	218	245
③ SCOP (EN 14825)		5,89	6,09	6,21	6,10	6,00	6,42	6,31	6,30	6,08	5,87
④ η_s	%	228	236	240	236	232	249	244	244	235	227
Energy class		A++	A++	-	-	-	-	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)

	TXHEBY MODEL		4180	4205	4235	4260	4290	4330	4360	4410	4450
❶	Nominal cooling capacity (AUTOMATIC 1)	kW	188,5	214,7	241,2	270,2	302,7	341,1	379,9	420,9	462,6
❷	Nominal cooling capacity (AUTOMATIC 1)	kW	176,4	201,7	226,7	253,6	280,2	317,9	354,0	397,1	437,8
❸	Recovery heating capacity (AUTOMATIC 2)	kW	202,4	231,2	259,5	292,5	325,2	370,2	416,1	466,3	516,4
❹	Nominal heating capacity (SELECT 1-2 AUTOMATIC 3)	kW	202,9	231,8	260,2	293,3	326,4	371,6	417,9	468,2	518,9
❶	Total absorbed power (AUTOMATIC 1)	kW	32,2	37,2	41,9	46,6	50,4	59,1	67,2	78,9	90,4
❷	Total absorbed power (AUTOMATIC 1)	kW	37,4	42,9	48,2	54,1	60,2	69,3	79,1	90,5	102,8
❸	Total absorbed power (AUTOMATIC 2)	kW	43,4	50,5	57,7	64,8	71,8	83,1	94,2	107,5	120,9
❹	Total absorbed power (SELECT 1-2 AUTOMATIC 3)	kW	44,0	51,1	58,4	65,7	73,1	84,5	96,1	109,4	123,3
❶	E.E.R. (AUTOMATIC 1)		5,85	5,77	5,76	5,80	6,01	5,77	5,65	5,33	5,12
❷	E.E.R. (AUTOMATIC 1)		4,72	4,71	4,71	4,69	4,66	4,59	4,48	4,39	4,26
❹	C.O.P. (SELECT 1-2 AUTOMATIC 3)		4,62	4,54	4,46	4,47	4,47	4,40	4,35	4,28	4,21
❸	T.E.R. (AUTOMATIC 2)		8,4	8,2	8,0	8,1	8,1	7,9	7,9	7,7	7,6
	TXHEBY MODEL		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
❺	Sound power	dB(A)	77	77	78	79	80	81	82	83	84
	Scroll/step compressor	no.	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
	Circuits	no.	2	2	2	2	2	2	2	2	2
	Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
	DIMENSIONS AND WEIGHTS		**4180**	**4205**	**4235**	**4260**	**4290**	**4330**	**4360**	**4410**	**4450**
	L - Width	mm	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
	H - Height	mm	1.860	1.860	1.860	1.860	1.860	1.860	1.860	1.860	1.860
	P - Depth	mm	870	870	870	870	870	870	870	870	870
❻	Weight	kg	1.690	1.730	1.780	1.820	1.890	1.960	2.000	2.070	2.100

Data at the following conditions:

❶ "Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 14/30°C. (Gross value)

❷ Chilled water (user): 12/7°C - Condenser water (disposal unit-source): 30/35°C

❸ Chilled water (user): 12/7°C - Condenser water (recovery unit): 40/45°C. (Gross value)

❹ Evaporator water (source): 12/7°C - . Hot water (user): 40/45°C.

❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.

❻ Empty weight

Performance according to EN 14511:2013.

T.E.R.: Total efficiency ratio

	SEASONAL ENERGY PERFORMANCE		4180	4205	4235	4260	4290	4330	4360	4410	4450
	TXHEBY MODEL SEASONAL PERFORMANCE IN COOLING MODE										
①	Pdesignc (EN 14825)	kW	-	-	-	-	-	317,9	353,9	397,0	437,8
①	SEER (EN 14825)		-	-	-	-	-	5,96	5,83	5,66	5,95
②	$\eta_{s,c}$	%	-	-	-	-	-	230	225	218	230
	TXHEBY MODEL SEASONAL PERFORMANCE IN HEATING MODE										
③	Pdesignh (EN 14825)	kW	234	267	300	340	379	-	-	-	-
③	SCOP (EN 14825)		6,72	6,62	6,50	6,56	6,65	-	-	-	-
④	η_s	%	261	257	252	255	258	-	-	-	-

① Low temperature application (7°C)

② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

③ In Average climatic conditions, low temperature application (35°C)

④ Seasonal energy efficiency: low temperature heating in Average climate (EU Regulations No.811/213 and No.813/2013)



MCAEBY 115-130
MCAEBY 233-2160

Condensing Units

Condensing Units
MCAEBY 115-130

Cooling capacity: 16,4-31,5 kW



Air cooled condensing units with axial fans.
Range with hermetic compressors and R410A refrigerant gas.

Construction features
- Compressor: Scroll hermetic complete with thermal protection and casing heater.
- Air side heat exchanger: featuring finned coil with copper pipes and aluminium fins, complete with protective mesh.
- Fan: external rotor axial type electric fans with internal thermal protection and accident protection grilles and proportional electronic device for pressurised and continuous fan rotation speed regulation up to an outdoor air temperature of –10°C.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate

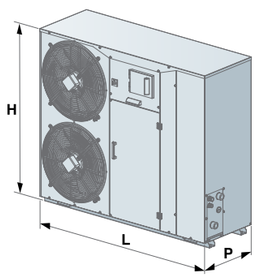
Models
- MCAEBY: unit designed for cooling only.

Factory fitted accessories
- Silenced set up.

Separately supplied accessories
- Rubber anti-vibration mounts.
- RS485 Interface for serial communication with other devices.
- Serial converter (RS485/USB).

MCAEBY MODEL		115	117	122	124	127	130
❶ Nominal cooling capacity	kW	16,4	18,5	24,7	26,5	29,0	31,5
❶ Absorbed power	kW	5,5	6,3	7,9	9,0	9,8	11,0
MCAEBY MODEL		**115**	**117**	**122**	**124**	**127**	**130**
❸ Sound pressure	dB(A)	50	50	52	52	53	53
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**115**	**117**	**122**	**124**	**127**	**130**
L - Width	mm	1.230	1.230	1.230	1.230	1.535	1.535
H - Height	mm	1.090	1.090	1.280	1.280	1.510	1.510
P - Depth	mm	580	580	600	600	695	695
MCAEBY Weight	kg	140	150	200	225	270	300

Data at the following conditions:
❶ Air: 35°C - Saturated intake gas: 5°C.
❸ In open field (Q = 2) at 5 m from the unit.



Condensing Units
MCAEBY 233-2160

Cooling capacity: 34,5-162,6 kW



Air cooled condensing units with axial fans.
Range with scroll hermetic compressors and R410A refrigerant gas.

Construction features
- Compressor: hermetic, rotary scroll type, complete with thermal protection and casing heater.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans, equipped with internal thermal protection, proportional electronic device for continuous fan rotation speed regulation and accident protection grilles.
- Control: microprocessor electronic control.
- Structure: in hot galvanised and painted sheet steel, with polyurethane powder coating.
- The unit is also complete with:
  - compressor and fan circuit breaker switches,
  - pre-loaded with R410A gas.

Models
- MCAEBY: unit designed for cooling only.

Factory fitted accessories
- Silenced set up
- Coil protection metal filters.
- Cooling circuit high and low pressure gauges.
- Liquid receiver.
- Copper/pre-painted aluminium or copper/copper coils.
- Rubber anti-vibration mounts.

Separately supplied accessories
- Thermostatic valve kit.
- Interfaces for serial communication with other devices.
- Serial converter (RS485/USB).

MCAEBY MODEL		280	290	2100	2115	2130
❶ Nominal cooling capacity	kW	79,1	87,1	101,0	116,2	126,5
❶ Absorbed power	kW	28,4	32,9	36,2	41,2	46,2
MCAEBY MODEL		**280**	**290**	**2100**	**2115**	**2130**
❸ Sound pressure	dB(A)	50	52	52	58	58
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**280**	**290**	**2100**	**2115**	**2130**
L - Width	mm	2.650	3.150	3.150	3.150	3.150
H - Height	mm	1.700	1.700	1.700	1.730	1.730
P - Depth	mm	1.210	1.210	1.210	1.210	1.210
MCAEBY Weight	kg	880	935	950	998	998

MCAEBY MODEL		233	238	245	250	260	265
❶ Nominal cooling capacity	kW	34,5	41,2	46,7	54,3	62,5	67,7
❶ Absorbed power	kW	12,5	14,7	17,6	19,9	22,4	24,3
MCAEBY MODEL		**233**	**238**	**245**	**250**	**260**	**265**
❸ Sound pressure	dB(A)	46,5	47	48	48	49	49
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
DIMENSIONS AND WEIGHTS		**233**	**238**	**245**	**250**	**260**	**265**
L - Width	mm	1.710	2.315	2.315	2.315	2.315	2.315
H - Height	mm	1.570	1.570	1.570	1.570	1.570	1.570
P - Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000
MCAEBY Weight	kg	400	546	536	570	586	624

Data at the following conditions:
❶ Air: 35°C - Saturated intake gas: 5°C.
❸ In open field (Q = 2) at 10 m from the unit.

Wall Type Unit Heaters
UASC Series
URSC Series

Roof Type Aspirators
UCAD Series

Other Systems & Units

UASC Series

Heating capacity: 5,70 - 73,20 kW

- Comfort for Industry
- Low investment cost
- Ceiling mount is possible if needed
- Smaller size as compared to the capacity
- Hangers for easy mounting
- Axial fans with low energy consumption



Structural Features

- **Structure:** Galvanized Sheet (Electrostatic Powder Coated)
- **Fan:** Axial Fan
- **Protection Class:** IP55 Protection Class
- **Connection:** Left / Right Connection
- **Coils:** High Efficient Steel Pipe / Copper Pipe / Aluminum Fin
- **Power supply (Model 06-07):** 230 V / 1 Ph / 50 Hz
- **Power supply (Model 09-55):** 400 V / 3 Ph / 50 hz

Versions

- Hot Water
- Superheated Water

UASC Series		06~55										
		06	07	09	12	15	20	24	30	37	46	55
Technical Specifications												
Airflow	m^3/h	570	505	940	830	1.590	1.410	2.600	2.250	3.550	3.125	3.830
❶ Capacity (Hot Water)	kW	5,7	7,1	9,3	11,9	15,2	19,7	24,2	30,4	37,4	46,2	55,3
❷ Capacity (Superheated Water)	kW	7,3	9,1	12,0	15,6	19,6	25,8	31,4	39,9	49,0	61,1	73,2
Motor Power	W	50	50	95	95	145	145	250	250	450	450	450
Motor Speed	rpm	1.380	1.380	1.400	1.400	1.390	1.390	1.400	1.400	1.320	1.320	1.320
❶ Water Flow Rate	l/h	255	315	412	528	677	873	1.076	1.350	1.663	2.053	2.455
Pressure Drop (90/70°C)	kPa	2,7	2,2	8,4	19,1	11,2	24,6	33,5	28,5	44,3	30,3	36,0
❷ Water Flow Rate	l/h	165	207	270	354	443	584	710	903	1.108	1.382	1.656
Pressure Drop (120/80°C)	kPa	1,1	1,0	3,6	8,5	4,8	10,9	14,4	12,6	19,5	13,6	16,3
Dimensions												
Height (H)	mm	400	400	450	450	525	525	600	610	760	780	880
Width (W)	mm	400	400	450	450	525	525	600	610	760	780	880
Depth (D)	mm	399	399	399	399	399	399	459	459	469	469	469
Weight	kg	11	12	14	15	17	18	23	25	32	37	42

❸ Capacity Correction Multiplier

Air Inlet Temperature [°C]	Hot Water [°C]		Superheated Water [°C]	
	90 / 70	70 / 50	120 / 80	130 / 90
20	0,96	0,60	0,97	1,11
18	1,00	0,64	1,00	1,14
15	1,06	0,70	1,04	1,19
10	1,15	0,80	1,12	1,26
5	1,25	0,88	1,20	1,35

❶ Coil inlet-outlet temperature is 90°C/70°C and indoor temperature is 18°C.
❷ Coil inlet-outlet temperature is 120°C/80°C and indoor temperature is 18°C.
❸ Please use capacity correction table for different air/water inlet temperatures and contact Untes for other conditions.

URSC Series

Heating capacity: 10,03 - 95,60 kW

- Comfort for Industry
- Smaller size as compared to the capacity
- Radial fans with single-suction and sparse blades
- Effective Heating for Production Plants and Warehouses
- Operation with Hot Water, Superheated Water



Structural Features

- **Structure:** Galvanized Sheet (Electrostatic Powder Coated)
- **Fan:** Radial Fan
- **Protection Class:** IP55 Protection Class
- **Coils:** High Efficient Steel Pipe / Copper Pipe / Aluminum Fin
- **Power supply (Model 09-52):** 230 V / 1 Ph / 50 Hz
- **Power supply (Model 62-75):** 400 V / 3 Ph / 50 hz

Versions

- Hot Water
- Superheated Water

URSC Series		09~75										
		09	11	15	18	24	30	36	44	52	62	75
Technical Specifications												
Airflow	m^3/h	1.343	1.323	1.685	1.665	2.295	3.730	3.630	4.985	4.920	7.660	7.450
❶ Capacity (Hot Water)	kW	10,03	11,84	15,09	17,7	24,95	30,02	36,1	48,9	57,4	61,9	74,9
❷ Capacity (Superheated Water)	kW	12,7	15,1	19,5	22,8	31,8	37,9	45,7	62	74,2	74,2	95,6
Motor Power	W	250	250	135	135	210	500	500	500	500	940	940
Motor Speed	rpm	2,500	2,500	1,400	1,400	1,400	1,380	1,380	1,300	1,300	1,420	1,420
❶ Water Flow Rate	l/h	418	494	629	739	1,078	1,252	1,507	2,040	2,397	2,585	3,126
Pressure Drop (90/70°C)	kPa	4,4	6,1	13,9	18,7	8,9	7,8	4,9	8,2	23	11,9	10,6
❷ Water Flow Rate	l/h	272	321	414	486	677	806	971	1,318	1,577	1.681	2.032
Pressure Drop (120/80°C)	kPa	3,5	4,7	11	14,8	6,9	6,0	8,5	6,3	18,2	9,2	9,2
Dimensions												
Height (H)	mm	910	910	1.120	1.120	1.260	1.400	1.400	1.560	1.560	1.780	1.780
Width (W)	mm	374	374	424	424	424	474	475	525	525	625	625
Depth (D)	mm	420	420	475	475	525	600	600	675	675	700	700
Weight	kg	26	26	34	36	41	50	50	79	81	98	102

Capacity Correction Multiplier (3)

Air Inlet Temperature [°C]	Hot Water [°C]		Superheated Water [°C]	
	90 / 70	70 / 50	120 / 80	130 / 90
20	0,96	0,60	0,97	1,11
18	1,00	0,64	1,00	1,14
15	1,06	0,70	1,04	1,19
10	1,15	0,80	1,12	1,26
5	1,25	0,88	1,20	1,35

❶ Coil inlet-outlet temperature is 90°C/70°C and indoor temperature is 18°C.
❷ Coil inlet-outlet temperature is 120°C/80°C and indoor temperature is 18°C.
❸ Please use capacity correction table for different air/water inlet temperatures and contact Untes for other conditions.

UCAD Series

450-18.000 m³/h Airflow



- **Suitable for outdoor conditions**
- **Easy setup**
- **Wide capacity range with fan speed options**

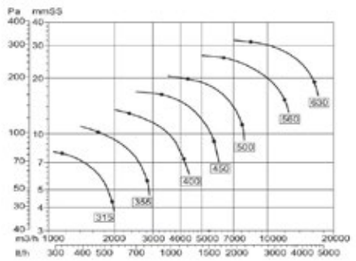
Structural Features

- **Structure:** Fiberglass Polyester
- **Sheet Material:** PVC Sheet
- **Fan:** Radyal
- **Motor Cycle:** 750/1.000/1.500 rpm
- **External Static Pressure:** Up to 1,000 Pa
- **Power:** 220-1-50/380-3-50
- **Protection Class:** IP55
- **Control:** Speed selector

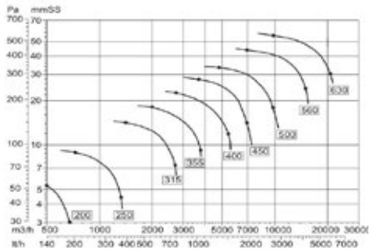
UCAD Series		200~630								
		200	250	315	355	400	450	500	560	630
Technical Specifications										
Airflow (1.500 d/d)	m³/h	1.000	2.000	3.000	5.000	7.000	10.000	-	-	-
Fan Pressure (1.500 d/d)	Pa	90	150	290	290	360	540	-	-	-
Moto Gücü (1.500 d/d)	kW	0,18	0,25	0,55	1,10	2,20	3,00	-	-	-
Airflow (1.000 d/d)	m3/h	600	1000	2000	3000	4500	6000	8000	1200	18000
Fan Pressure (1.000 d/d)	Pa	40	75	110	125	180	250	270	360	400
Moto Power (1.000 d/d)	kW	0,18	0,18	0,25	0,37	0,55	1,10	1,50	3,00	5,50
Airflow (750 d/d)	m3/h	-	-	450	2.500	3.500	4.500	6.000	10.000	13.000
Fan Pressure (750 d/d)	Pa	-	-	60	70	100	140	160	200	260
Moto Power (750 d/d)	kW	-	-	0,18	0,18	0,25	0,55	0,75	1,5	2,2
Power Supply		380 V/50Hz/3 Phase								
Dimensions										
Width	mm	410	510	590	640	720	830	860	960	1.060
Height	mm	550	625	670	750	875	905	935	1.160	1.205
ØD	mm	530	600	600	680	800	800	800	1.000	1.000
Weight	kg	23	31	40	50	73	92	102	158	185

"Air flow and fan pressure are nominal values. Please take with our company for different pressure production air flow rates."

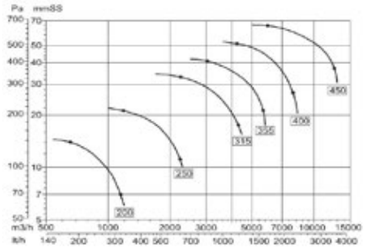
(750 d/d)

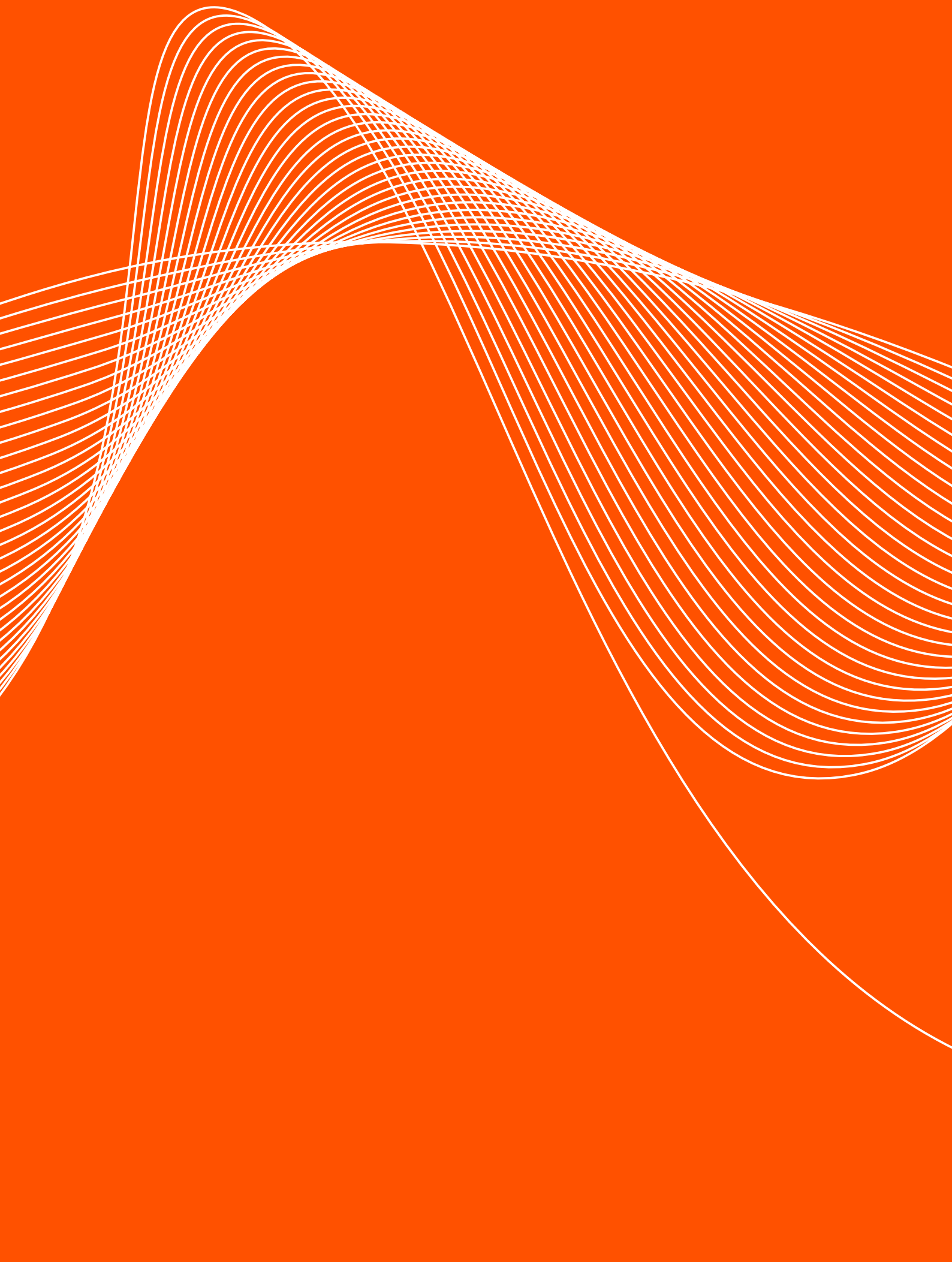


(1000 d/d)



(1500 d/d)





ÜNTES®

52 years

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