UNTES®

HEATING VENTILATING AIR CONDITIONING



PRODUCT CATALOGUE 2014-2015

UNTES®

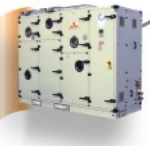
HEATING VENTILATING AIR CONDITIONING



PACKAGE AIR CONDITIONERS



ROOF TOP PACKAGE UNITS

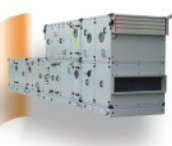


PACKAGE HYGIENIC AIR HANDLING UNITS



POLL DEHUMIDIFYING UNITS

CENTRAL AIR CONDITIONERS



AIR HANDLING UNITS



AIR HANDLING UNIT SELECTION SOFTWARE



HEAT RECOVERY MODULE

FAN COIL UNITS



FAN COIL UNITS WITH CABINET



CEILING CONCEALED FAN COIL UNITS



FAN COIL TESTING LABORATORY

CHILLER PERFORMANCE TESTING LABORATORY & RESEARCH CENTER



AIR / WATER COOLED CHILLERS

UP TO 1600 KW



AIR COOLED SCREW CHILLERS



AIR COOLED SCROOL CHILLERS



WATER COOLED WATER CHILLERS

HVAC EXPERT

46 years



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UNTES®
HEATING VENTILATING AIR CONDITIONING

Explore Untes!

The journey with nearly half century in the area of Air Conditioning Systems began by converting business ideas into entrepreneurship by UNTES founders in 1968.

Continuing its production activities in 115.000 m² open and 27.000 m² closed with more than 250 employees, Untes became a customer centric decision leader enterprise in the sector, presenting continuous service quality with its after sale service network, establishing strong bonds with its partners, providing effective solutions in air conditioning area to the sector.

Being aware of the key factors of success and continuity would be unconditional customer satisfaction and investment people; today UNTES keeps growing with its professional team consist of young, dynamic engineers, and experienced professionals, as well as management organization leading new ideas to this team.

Milestones

- 1968 - Establishment of UNTES / Production of Industrial Fan
- 1970 - The 1st Air Handling Unit / Produced under Turkish Standard Institute Approval
- 1973 - Comfort Air Conditioning System Manufacturing Premises Established
- 1980 - Ankara Sales Office Established
- 1993 - 2nd Generation Board Of Management
- 2001 - Istanbul Sales Office Established
- 2003 - Consignment of ISO 9001 Total Quality Management System
- 2003 - Adana Sales Office Established
- 2004 - Izmir Sales Office Established
- 2004 - Consignment of EUROVENT For Air Handling Units
- 2004 - Consignment of CE Marking For Air Handling Units
- 2005 - Consignment of GHOST Marking For Air Handling Units
- 2006 - Fan Coil Production Line Launched by Just in Time Methodology
- 2010 - Consignment of ISO 14001 Environmental Management Certificate
- 2012 - Air / Water Cooled Chillers Production Line Launched by Lean Production
- 2013 - Water Chillers Test Laboratory and Research Center Established
- 2013 - Fan Coil Test Laboratory and Research Center Established
- 2014 - Total Production line expanded to 27.000m²

Vision

To create and follow up technology, design, research and develop more efficient and effective products with minimum cost,

To excellence ability of our engineers and stuff, and increase their capabilities of applying quality management system,

To meet customers' requirement and provide outstanding service,

To use our sources with the best efficient way, and create best business communication and working atmosphere,

This is our vision "Since 1968"

Mission

To create permanent customer satisfaction and to be matched with the contracted terms and conditions,

To match the customers' expectation with the integrity understanding of engineering,

To grow customer network by a similar growth in the support of all phases from design to after-sales service,

This is our mission "Since 1968"

Your Buildings Deserve Our Innovative Air Conditioning Solutions!



As the time goes on, more investors are focusing on their basic activity area to increase their productivity.

Our business partners trust us in energy efficiency, low initial investment and operating cost.

Because Untes provides unique experience to find innovative and integrated solutions that make energy more reliable, more efficient and more productive.

What Do We Mean by Solution?

We provide permanent values for our customers' requirements by presenting innovative, creative, reliable and continuous product / service quality to our customers' requirements in the air conditioning business.



Key Competitive Advantages

High Quality and Technical Advantages

We effectively manage the total quality management system (ISO 9001) to make all products that we produce and represent to serve with the same performance as the one in first day up to their technical life. We aim to give minimum harm to our environment while we produce qualified product (ISO 14001). 3rd party institutions are testing and approving our products' performance. We follow the European production standards and we discipline ourselves with dynamic documentation systems. We compete with the most reliable hygiene standards. (DIN1946/4 by TUV)

High Performance, Wide Customer Portfolio



We provide the most efficient air conditioning system solutions to the widest customer portfolio. As we became first in the last successive 5 years among the partners of brands all over the world of which Untes is the representative, we bring the best project awards to our country.



Mass Standardization and Customization Ability

We always produce all products we have with the same quality and performance; also we integrate customized products required for hard project conditions with our current production system.

Proactive Approaches



We present our proactive talents that are always the most accurate, the most ethical and inspiring to our customers. We are always with you with the excitement on the first day that we felt when we sensed the opportunity or during the initial commencement of system or periodical maintenance we made.



Diplomat Hotel
Astana / KAZAKHSTAN



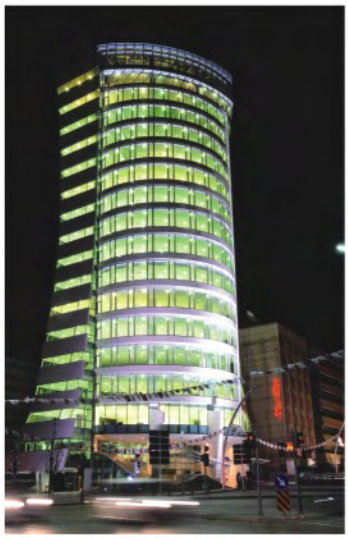
Mega Shopping Center
Almaty / KAZAKHSTAN



Uphill Court
İstanbul / TURKEY



Byotell 5 Star Healthiness Hotel
İstanbul / TURKEY



Chamber of Industry
Ankara / TURKEY



Policlinica Lindja
Prishtina / KOSOVA



Ak Parti Head Office Building
Ankara / TURKEY



12 Floor Residental Building of Senegat, Turkmen Bank and Vneshekonom Bank
Ashgabat / TURKMENISTAN



Secondary School
Ashgabat / TURKMENISTAN



Telecommunication Building
Astana / KAZAKHSTAN



Gazi University, Faculty of Medicine
Ankara / TURKEY



Prime Ministry
Ankara / TURKEY



Optimum Shopping Mall
Ankara / TURKEY



Goktepe Stadium, Hotel & Swimming Pool
Ashgabat / TURKMENISTAN



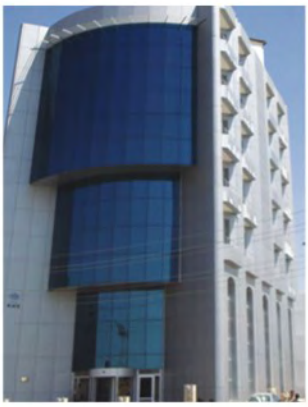
Lotos Business Center
Baku / AZERBAIJAN



Aktau Hotel
KAZAKHSTAN



Medical Center
Zugdidi / GEORGIA



Hewler Plaza Hotel
IRAQ



Al Manar Hospital
Damascus / SYRIA



High School & Swimming Pool
Mary / TURKMENISTAN



Medical Park
İstanbul / TURKEY



Diglas Business Center
Baku / AZERBAIJAN



Prishtina Universty Cardio Surgery Hospital
Prishtina / KOSOVA



Theatre Building
TURKMENISTAN

GENERAL SPECIFICATIONS



With its technical and ethical vision, UNTES has been the leading company in the industry since its foundation in 1968. With a 45 years of experience in climatization and with the support of TUBITAK (Turkish Scientific and Technical Researches Institution), Untes has proved that it produces world-class products by having its products tested in the TUV laboratories through EUROVENT Company. Untes maintains this high level of success through ISO 9001:2008 Quality Management Systems.

In the air flow ranging from 1,700 m3/h to 100,000 m3/h, units are being produced in 23 different sizes.

Three different panel thicknesses are being produced: **PK 25** with 25 mm of panel thickness, **PKH 50** with 50 mm of panel thickness and **PKC 60** with 60 mm of panel thickness.

In addition, the **PKH 50 Hygienic** model which is produced with a panel thickness of 50 mm provides solutions for the hospitals and similar clean room practices.

The profiles and reinforcements which together form up the external frame are manufactured from 6063 (AlMgSi0.5) quality aluminium extrusion.

Various panel filling materials such as rock wool, glass wool or polyurethane material are being provided.

The iron sheet thickness options range from 0.75 mm to 1.2 mm.

There are a number of alternative panel materials such as galvanized, stainless, aluminium and PVC-coated iron sheet.

The performance ranges of the equipment have been measured throughout tests performed at TUV laboratories by EUROVENT and confirmed the compliance with performance rates obtained from Untes's Air Handling Unit Selection Scheme.

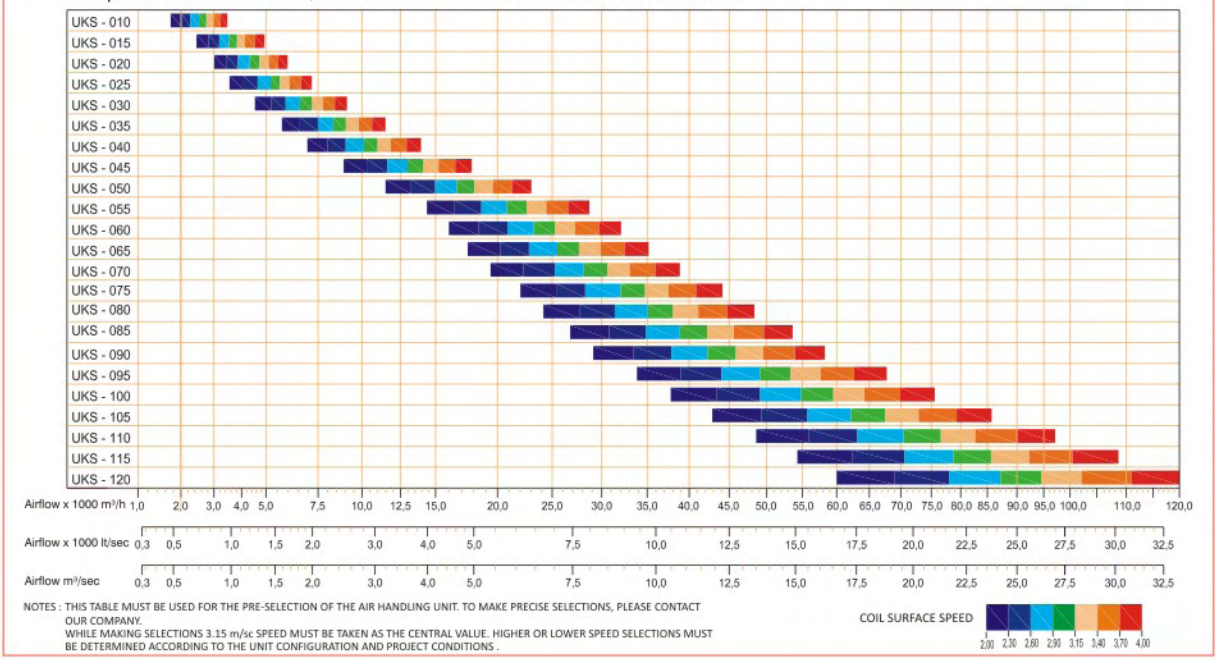
The mechanical test results, which were performed together with the other tests mentioned above, confirmed that UNTES Air Handling Units provides the following class values according to the EN 1886 standards

Class Description	PK-25		PKH-50		Unit
	Class	Value Range	Class	Value Range	
Casing Strength	D1 (M)	0 < Bending ≤ 4	D1 (M)	0 < Bending ≤ 4	mm / m
Casing Air Leakage (+ 700 Pa)	L1 (M)	Leakage ≤ 0,22	L1 (M)	Leakage ≤ 0,22	lt / sec*m²
Casing Air Leakage (- 400 Pa)	L1 (M)	Leakage ≤ 0,15	L1 (M)	Leakage ≤ 0,15	lt / sec*m²
Filter By-Pass Rate	F9	By-Pass ≤ 0,5	F9	By-Pass ≤ 0,5	%
Thermal Transmittance	T4	1,4 < U ≤ 2,0	T3	1,0 < U ≤ 1,4	W / m² °C
Thermal Bridging Factor	TB4	0,30 ≤ Kb < 0,45	TB3	0,45 ≤ Kb < 0,60	-

Technical data's according to EN 1886 standards.

Octave Band (Hz)		125	250	500	1000	2000	4000	8000
Acoustical Insulation D_s(dB)	PK-25	12,6	10,7	12	14,7	14,9	26	31,5
	PKH-50	17,6	23,4	30,4	31,2	29,4	32,3	36,2

Graph 1. UNTES AHU PK25, PKH-50 and PKC60 MODELS SELECTION GRAPH



The accoustical material of the silencer cabins, which are produced with an aerodynamic structure according to the unit specifications from galvanized or stainless sheet, is glass wool or rock wool.

The two sides of the cabins in contact with air are covered by Fiberglass material.

The dimensions of the silencers of which accoustical materials are covered with expanded galvanized or stainless iron sheet to protect against corrosion are 750 mm, 1100 mm and 1450 mm

The heater and cooler coils have been manufactured as aluminium wing-copper tube and steel wing-steel tube depending on fluid specifications.

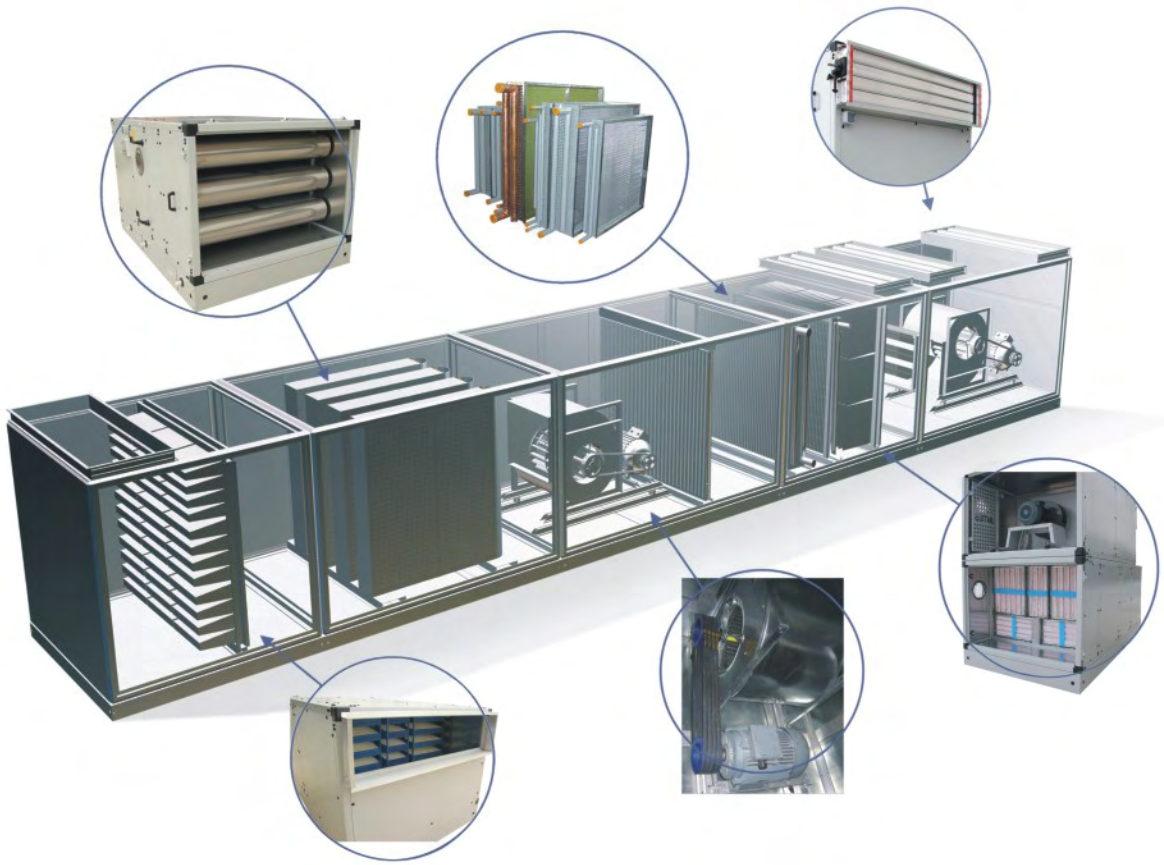
The coils being produced under 20 bar test pressure, offer a wide range of fluid alternatives to the users such as hot water, overheated water, steam, cold water, and coolant gases.

The coil cases are manufactured according to the unit specifications with the alternatives of galvanized or stainless iron sheet

Air dampers have the quality 6063 (AlMgSi0.5) aluminium extrusion case and the gear and bearing assembly and handle are manufactured of hardened PVC material which is heat and impact resistant.

The blade profiles used in the air dampers operate with the minimum pressure loss when they are open, and with the minimum leak tightness when closed.

In the units with mixed air, exhaust and mixture dampers are combined with a joint-mechanism.



Special mounting cases are designed for the filters to be used in the units. Using these cases, filters are easily mounted through spring systems in a leakproof way.

G3 or G4 quality panel filtres, from F5 to F9 quality bag filters, from F5 to F9 quality minipleated (rigid) filters are offered for the filtering of the chemical gases and off odours and cartridge active carbon filters or carbon-impregnated panel filters and metal filters are offered according to the unit or project needs.

The fans in the units are produced according to the customer or project needs with the plug alternatives of radial backward-angled multi-bladed or radial backward-angled rare-bladed or forward-angled rare-bladed.

In the fans which are positioned on the case through the frames on the rubber pads, the electric motors are installed on the same frame.

Double radial suctions are used with a V-belt pulley system and the plug fans are coupled directly to the motor.

Humidifer cells are produced in the same structure with the unit.

All cells are equipped with drain pan, water drop eliminators and steam distributing nozules.

In contrary to the standard structure, the adiabatic humidifier units are manufactured with their own special water container.

All cells are produced as equipped with water distribution pipes, nozzles for spraying, and water drop eliminators.



Having considered the effective energy use, which is one of the most important issues of the present-days world, UNTES also manufactures air handling units equipped with heat recovery units which suit different areas of usage.

Recovery of energy up to 75% is now possible in the way of heating or cooling fresh air to a certain extend by utilizing the exhaust air released from Air Handling Units under summer and winter conditions.

AIR HANDLING UNITS EQUIPPED WITH WATER-TO-AIR HEAT RECOVERY UNITS

Air Handling Units with water-to-air recovery units come with one copper tube / aluminum wing coil to recover energy contained in the air released from the exhaust system on the equipment.

A second coil is also installed at the fresh air section with the same characteristics. The aim of the second coil being installed is to transfer the energy obtained at the exhaust side into the fresh air.

AIR HANDLING UNITS WITH PLATED TYPE HEAT RECOVERY

The philosophy for systems with plated air to air recovery units is slightly different. In this system, the energy transfer is made directly to fresh air from the exhaust air without any transferring liquid fluid (in reverse order for cooling conditions).

In the heat recovery units which are named as plated, aluminium plates are used which are shaped in a way to create different ways for the exhaust air and the fresh air. Fresh air and exhaust air meet on the unit in a way that they can never mix up and there occurs a heat exchange through the plates. In the practices where the air mixture is undesired, they are preferred with their high efficiency and they are the most common heat recovery units in this area.

The fixed plated models are produced from aluminium material and they also facilitate inox and coating epoxy applications for different environments. Effective efficiency of those equipment can be up to 70% depending on the usage.





AIR HANDLING UNITS WITH ROTARY TYPE HEAT RECOVERY

Rotary type heat recovery units are the most efficient heat recovery units in this area. The effective efficiency of the units varies from 50% to 85% depending on usage.

Due to usage and installation, a slight unintentional mixture (2-5%) might occur. For the projects in which those mixtures are ignored, those units are preferred thanks to their high efficiency. In addition, with a proper design, this mixture is led away from the fresh air and directed to exhaust air.

Rotary type heat recovery units are made of aluminium plates encircled one on the top of another. The plates are shaped in a way to allow airflow when they are one over the other.

Units produced this way are installed into the air handling unit in a case.

Those units make the epoxyal application possible for hard conditions.

They can also be produced in different types as Condensation and Enthalpy rotary to be suitable for the intended use.

Differing from the standard Air Handling Units, in the hygienic Air Handling Units inner surfaces of side panels are manufactured from completely X5CrNi 18-10 grade stainless sheet. Before coating it with the stainless sheet, an antibacterial silicon sealant is applied to the unit to prevent water leakage to the bottom part of the equipment when the unit is washed.

The silencer cabins are placed horizontally into the equipment as different from the standard equipments and a space is formed at the bottom. By doing so, washing of the silencer assemblies is ensured. Silencer cabins are made of Cr-Ni stainless iron sheet.

The heights of basis under the equipment are generally chosen at 200 mm in order to ensure the siphon heights in Hygienic Air Handling Units.





All coil bases and sledges in hygienic air handling units are made of Cr-Ni stainless steel. Drain pans are also made of Cr-Ni stainless steel as in standart units.

In order to prevent water collection surfaces where unit cells are connected they are covered with Cr-Ni stainless sheet panels after unit cells connected to each other with special connection parts. As an additional measure, a siphoned drain is also placed inside to ensure regular discharge of accumulated water and to avoid air penetration into the equipment whenever it is washed. These siphones are placed in all sections that require washing. Holes are bored using special apparatuses for insertion of siphones and countersinks are made to avoid accumulation around the bore circumference.

The frames of ventilators and aspirators are held at the higher level than the standard equipment for better washing.

Lighting fixtures are placed and wiring are installed on all suitable sections of equipment to facilitate observation of the internal parts. In addition, inspection windows are put on these units. The lighting fixtures are waterproof. Thus, the humidity in the air does not leak into the fixture and does not cause a threat.





Mostly bent back and rare winged fans prefered in hygienic air handling units for the reason of easy disinfection and use of inverter on fans. Plug fan can also be applied on demand.

PACKAGE HYGIENIC AIR HANDLING UNITS



Package hygienic air handling units are designed especially for health sector and clean room applications and they are provided with extensive usage properties. Through the microprocessor control which is designed suitable for its purpose, it provides convenience for its users and minimizes the risk of fault with the application directions intended for preserving the hygienic environment.

Profile, corners and panels all of which constitute the case are manufactured from corrosion-resistant material and they do not form deepening and ledges causing dirt and bacteria accumulation.

Certified Hygiene
The units are certified from TUV and are provided with hygiene certificate according to DIN 1946 section 4.

Certified Leakproof
The units are certified from TUV and are provided with leakproof class B according to EN 1886.

Certified safety
The units have CE marking and are provided with Pressured Equipment Directive (PED) conformity certificate which is approved by third party institutions.

Structural alternatives
Unit working with 100% fresh air and a compact structure with aspirator and ventilator within the same case

Unit working with mixed air and a compact structure with aspirator and ventilator within the same case

Unit working with 100% fresh air, water-to-air heat recovery coil, a compact structure with aspirator and ventilator within the same case.

Filtering
Filters are manufactured as being mounted on cases which provides easy replace in F9 filtration by-pass class.

In the fresh air inlet replaceable a F5 quality rigid filter, in the supply air outlet a F7 or F9 (Optional) quality compact filter, and on the suction air a G4 quality panel filters (mixed air equipment) are used.

Heating
Heating is supplied through a 304 quality stainless sheet and produced from epoxy coated aluminum fin and copper pipe.
Coil is mounted upper from the bottom in order to clean the unit easily.
With three way valve, the capacity control is done inside the unit and it is supplied with the unit.

In addition, there is an electric heater system available in the unit. The heating rezistans are made of stainless sheet and they are produced as 304 quality stainless sheet cased.
The heaters are controlled with triac proportionately.

Cooling
Direct expansion refrigeration system. The coil case is supplied through a 304 quality stainless sheet and produced from epoxy coated aluminum fin and copper pipe in order to prevent drainage water over the surface.

Coil is mounted upper from the bottom in order to clean the unit easily. In one of the systems of unit which has the double refrigeration system, capacity control is performed through hot gas injection and thus a capacity control around 15%-100% is supplied in the whole unit.



Cold water coil cooling system (optional) is also produced as an alternative. Case structure and mounting characteristics are the same as DX coil. With three way valve, the capacity control is done inside the unit and it is supplied with the unit.



Humidifying
Built-in humidifiers which are capable of self-generating steam are being used. It is controlled proportionally according to the unit needs through its own microprocessor.

Dehumidifying
Dehumidifyig process is carried out through using an electrical heater to heat the air which is dehumidified through extra cooling method until it reaches the supply temperature.

Fans and motors
In ventilator and aspirator, which are easily cleanable, rare and backwards-angled bladed, balanced statically and dynamically, three-phase IP 55 protected electric motor directly coupled to the plug fans are used.

Air Flow and Pressure Control in the Fans

In the packaged hygienic air handling units, aspirator and ventilator fans can be controlled through frequency invertor in a way that they can adjust to different purposes.



In order to meet the constant airflow need in the operating theaters, a constant airflow control is carried out in the ventilator through frequency invertor. This alternative is especially suitable for the projects in which a unit supplies the whole of the operating theater.

The positive or negative pressure of the room can be controlled through the aspirator airflow frequency invertor. This alternative is again especially suitable for the projects in which a unit supplies the whole of the operating theater.

Ventilators and aspirators can be controlled using frequency invertor depending on the channel static pressure value. This option should especially be preferred when more than one site use one unit and the airflow control of those sites are performed by using the variable airflow or constant airflow equipment.

Microprocessor
The unit control processes are carried out through a microprocessor placed within the panel of the equipment.

The interface between the microprocessor and the user is supplied through a digital panel.

For this purpose there is also an optional touchscreen being used.

Programming
The operating hours and/or days can be programmed on the equipment.

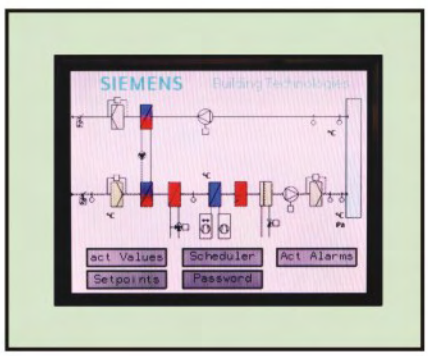
Different set value settings can be introduced to the system and by using only the program code a fast and easy mode change can be acquired.

When the operating theater is not used the unit can be set to Stand-by mode and this setting can be programmed as time-dependent.

Temperature and Humidity Control
Depending on the return air, supply air and external air temperature and humiditiy amounts, it performs temperature and humidity control automatically. With the proportional control of the control units and equipment, constant temperature and humidity values are obtained.

The coils with hot water are protected against freezing .

The dirt warning from the filters can be tracked from the processor.



Low and high pressure and sensor belonging to the Compressor (or to the DX cooling system)

faults, damper faults, electric heater faults, fan faults and equipment working hours are such information and alarms that can be obtained.



Room supply air values are controlled as minimum and maximum values.

In the condensers fan speed control depending on pressure is performed.

In the units with heat recovery, pump operation control is performed.



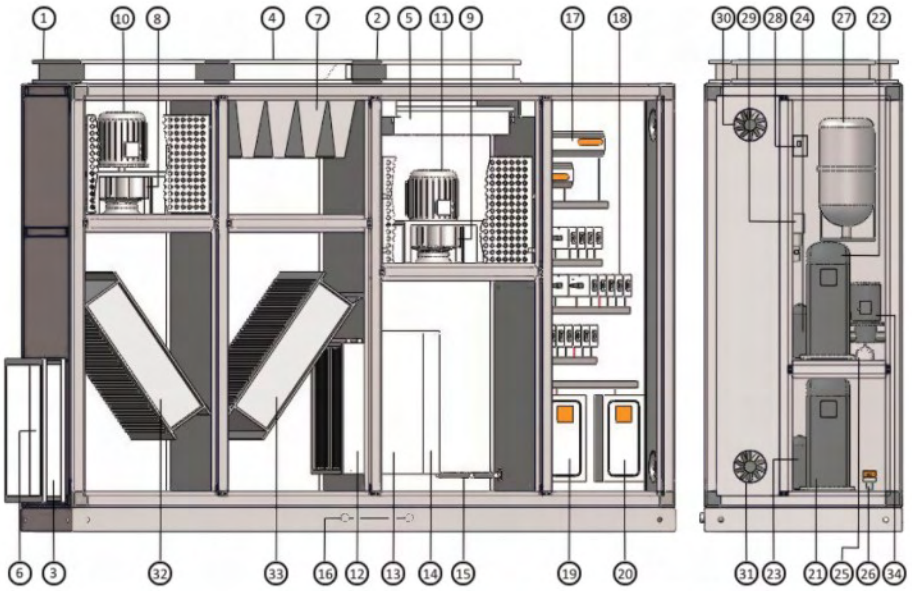
TECHNICAL INFORMATION

MODEL				PHK 022	PHK 033	PHK 045	PHK 058	PHK 070	PHK 085	PHK 101
Ventilator	Nominal Air Flow *		m^3/h	2200	3300	4500	5800	7000	8500	10100
	External Static Pressure		Pa	800	800	800	800	800	800	800
	Fan pcs.		pcs	1	1	1	1	1	2	2
	Total Motor Power		kW	1,5	3,0	4,0	5,5	5,5	2 x 4,0	2 x 5,5
Aspirator	Nominal Air Flow *		m^3/h	2200	3300	4500	5800	7000	8500	10100
	External Static Pressure		Pa	350	350	350	350	350	350	350
	Fan pcs.		pcs	1	1	1	1	1	2	2
	Motor Power		kW	0,75	1,1	1,5	2,2	3,0	2 x 1,5	2 x 2,2
Direct expansion refrigeration circuit **	Compressor pcs.		pcs	2	2	2	2	2	2	2
	Circuit pcs.		pcs	2	2	2	2	2	2	2
	19°C WB	Cooling Capacity	kW	19	23,6	32	39,7	44,5	54,1	66,4
		Compressor Power	kW	5,3	5,3	7,1	12,4	11,86	17,02	21,7
	21°C WB	Cooling Capacity	kW	19,9	31,3	36,5	44,7	52,0	64,9	77,6
		Compressor Power	kW	5,6	7,3	9,4	14,3	17,34	15,2	21,3
	23°C WB	Cooling Capacity	kW	22,9	35,5	46,0	61,3	70,0	85,0	106,0
		Compressor Power	kW	5,7	9,8	12,8	20,0	22,9	25,1	39,0
	25°C WB	Cooling Capacity	kW	29,2	41,6	53,7	70,1	84,7	103,0	116,2
		Compressor Power	kW	8,3	11,6	14,9	16,9	24,7	39,6	35,8
	27°C WB	Cooling Capacity	kW	33,4	49,7	65,0	83,7	102,4	113,2	140,3
		Compressor Power	kW	10,5	17,4	19,5	25,2	38,7	36,4	43,9
	29°C WB	Cooling Capacity	kW	38,5	59,1	75,4	100,4	110,2	134,8	167,6
		Compressor Power	kW	12,5	16,9	20,9	39,6	37,9	46,0	58,7
Heating circuit with hot water***	-27 °C	Heating Capacity	kW	47,7	72,10	90,10	118,10	132,60	170,90	196,00
	-18 °C	Heating Capacity	kW	43,0	65,10	81,50	106,50	119,70	154,40	177,20
	-12 °C	Heating Capacity	kW	40,0	60,50	75,80	98,90	112,20	143,60	164,90
	-9 °C	Heating Capacity	kW	38,5	58,20	73,00	95,20	107,00	138,30	158,80
	-6 °C	Heating Capacity	kW	37,0	55,90	70,20	91,50	102,80	133,00	152,70
	-3 °C	Heating Capacity	kW	35,5	53,70	67,40	87,80	98,70	127,80	146,70
	0 °C	Heating Capacity	kW	34,1	51,50	64,70	84,10	94,60	122,50	140,80
	+3 °C	Heating Capacity	kW	32,6	49,30	62,00	80,50	90,50	117,40	134,90
	+6 °C	Heating Capacity	kW	31,2	47,10	59,30	76,80	86,40	112,20	129,00
Steam Humidifier Capacity (****)			Kg/h	10	15	20	30	40	50	60
Steam Humidifier Current Power			kW	7,52	11,30	15,00	22,60	30,10	37,60	45,10
Dehumidifier Elc. Heater Capacity			kW	5,0	7,5	10,0	16,0	16,0	20,0	20,0
Electrical Supply			kW	400 V / 50 hz / 3 faz						

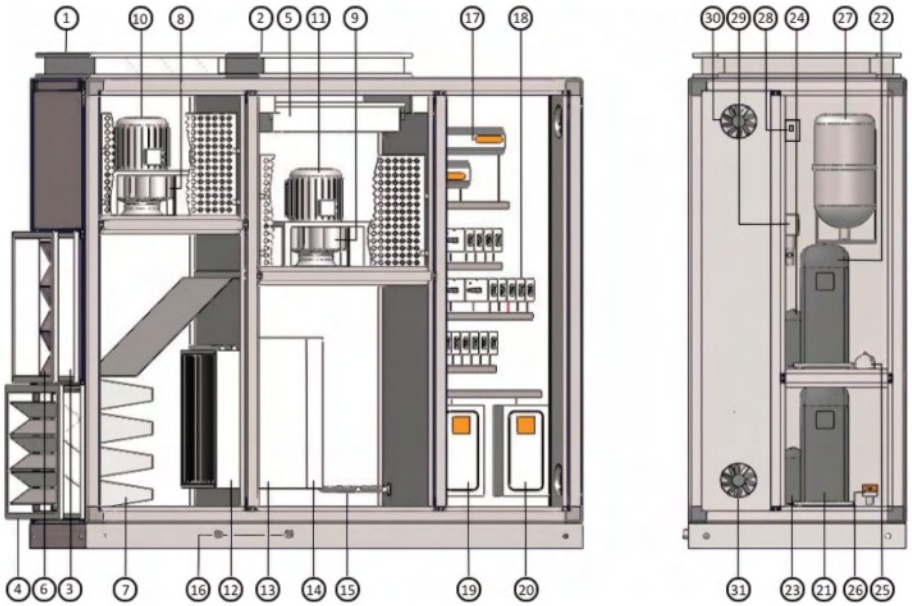
MODEL		PHK 022	PHK 033	PHK 045	PHK 058	PHK 070	PHK 085	PHK 101
100% FRESH AIR AND MIXED AIR UNIT DIMENSIONS								
LENGTH	mm	1865	2150	2150	2150	2150	2255	2255
DEPTH	mm	910	910	1060	1300	1300	1840	1840
WIDTH	mm	1770	1960	2040	2040	2160	2160	2160
HEAT RECOVERY UNIT DIMENSIONS								
LENGTH	mm	2570	2880	2880	2880	2880	2980	2980
DEPTH	mm	910	910	1060	1300	1300	1840	1840
WIDTH	mm	1770	1960	2040	2040	2160	2160	2160

(*) The Given Flow Rates Are Nominal Values. Ventilator and Aspirator flows can be choosen differently within the range +- 10%.
(**) Cooling values may differ within the range + - 2% according to coil inlet air DB temperatures.
(***) Heating values are valid under the conditions of 90/70 °C of hot water inlet/outlet temperature.
(****) The given steam humidifiying capacities are nominal values and for different values it is possible to make selection.

Note : All the values are valid under conditions of nominal flow and given temperatures. For capacity values under different conditions, please ask for information.



HEAT RECOVERY UNIT



100% FRESH AIR AND MIXED AIR UNIT

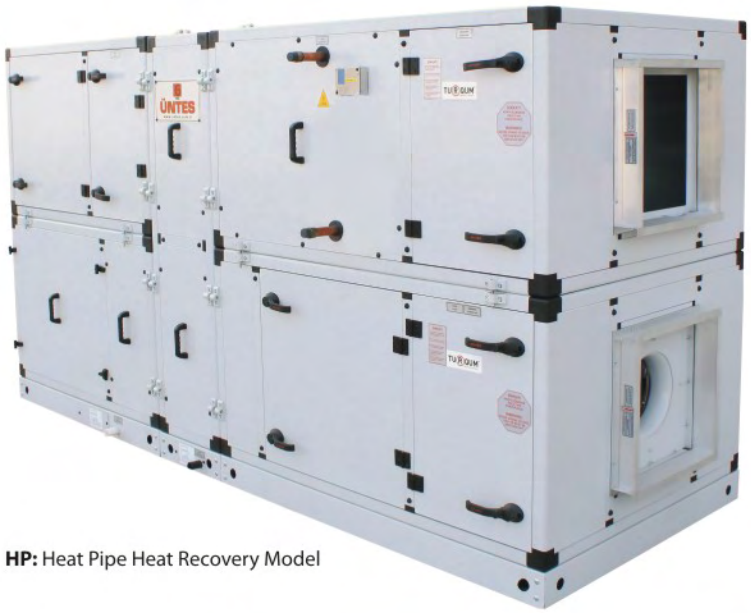
Note : In the mixed air units, the mixture damper is placed on the section which divides the fresh air and the return air.

1. Exhaust air damper
2. Supply air outlet
3. Return air inlet
4. Fresh air damper
5. End filter (F7 or F9 (Optional) compact filter)
6. Return air filter (G4 panel filter)
7. Fresh air (front) filter (F5 rigid filter)
8. Aspirator fan
9. Vantilator fan
10. Aspirator motor
11. Ventilator motor
12. Heating Coil (Hot water coil or electric heater)
13. Cooling Coil (Direct expansion or cold water coil)
14. Electric heater (For dehumidifying)
15. Steam distributing nozules
16. Condensate drain connections (For the whole siphon installations)
17. Microprocessor Cards
18. Sensors and wrap materials
19. Exhaust frequency invertor
20. Ventilator frequency invertor
21. Compressor number 1
22. Compressor number 2
23. Liquid tank of compressor number 1
24. Liquid tank of compressor number 2
25. Drying filters (Dryer)
26. Heating coil 3 way valve (for units with hot water heating)
27. Steam humidifier unit
28. Low and high pressure switch
29. Hot gas by-pass valve
30. Panel ventilating fan number 1
31. Panel ventilating fan number 1
32. Return air side heat recovery coil
33. Fresh air side heat recovery coil
34. Heat recovery circulation pump

POOL DEHUMIDIFIERS



UHNS type Pool Dehumidifiers are designed for dehumidifying the moist air that affects the comfort conditions in the swimming pool halls. It is possible that, undesired moisture in a room can be dehumidified a controlled manner with UHNS type Pool Dehumidification Unit by providing energy recovery. In the dehumidifying action providing heat recovery up to 70% is possible according to temperature differences with the thanks to heat recovery in the unit. Plate type and heat pipe heat recovery is available for the units.



HP: Heat Pipe Heat Recovery Model

- Opportunity of any demanded capacities selection with 9 models and 27 types
- Coil cases dyed with oven-drying powder paint
- Hydrophilic coated evaporator, epoxy coated condenser and heating coil
- 3 way valves is standard with heating coil
- Frequency inverter with fan motors
- High efficiency scroll type hermetic compressor
- Environmentally friendly R410 A refrigerant
- Ability of quick response to different capacities with electronic expansion valve
- Full automation with humidity, temperature, freeze, dirty filter sensors, damper servomotors and micro processor



Automation Panel



Compressor Cabinet

TECHNICAL SPECIFICATIONS

Model	Unit	Type	UHNS 051	UHNS 063	UHNS 080	UHNS 100	UHNS 125	UHNS 160	UHNS 200	UHNS 252	UHNS 315
Dehumidifier Capacity[1] VDI 2089	**[kg/h]**		**32,4**	**40,1**	**50,9**	**63,6**	**79,5**	**101,8**	**127,2**	**160,3**	**200,3**
Dehumidifier Capacity*	**[kg/h]**	**PL**	24,0	28,9	39,4	45,4	59,0	68,2	88,9	115,5	151,7
		HP	24,4	27,5	37,2	41,3	56,0	65,8	84,3	107,8	138,9
		OO	21,8	25,4	34,3	38,5	51,0	60,9	79,6	101,8	131,5
Air Flow	**[m³/h]**		5.100	6.300	8.000	10.000	12.500	16.000	20.000	25.200	31.500
Cooling Coil Capacity*	**[kW]**	**PL**	31,9	37,3	48,9	57,8	74,7	88,4	114,0	144,6	189,1
		HP	31,6	36,2	48,4	55,3	74,0	87,1	111,1	141,9	183,8
		OO	34,0	40,2	51,8	61,2	80,9	95,2	122,4	155,9	206,6
Water Heating Coil Cap.**	**[kW]**		63,6	68,9	103,9	111,2	138,2	157,7	224,6	280,3	318,8
Compressor-Circuit Number	**[no.]**		1 - 1	1 - 1	1 - 1	1 - 1	1 - 1	1 - 1	2 - 2	2 - 2	2 - 2
Ventilator External Static Pressure	**High [Pa]**	**PL**	500	550	600	625	800	850	625	750	700
		HP	550	650	675	750	575	600	750	800	850
		OO	500	550	625	700	825	550	675	825	800
	Low [Pa]	**PL**	125	200	250	250	400	400	200	375	450
		HP	200	300	350	400	250	275	300	450	550
		OO	175	250	325	350	450	250	250	450	550
Aspirator External Static Pressure	**High [Pa]**	**PL**	500	550	600	625	800	850	625	750	700
		HP	550	650	675	750	575	600	750	800	850
		OO	500	550	625	700	825	550	675	825	800
	Low [Pa]	**PL**	125	200	250	250	400	400	200	375	450
		HP	200	300	350	400	250	275	300	450	550
		OO	175	250	325	350	450	250	250	450	550
Ventilator Motor Power	**High [kW]**	**PL**	2,2	3,0	4,0	5,5	7,5	11,0	11,0	15,0	18,5
		HP	2,2	3,0	4,0	5,5	5,5	7,5	11,0	15,0	18,5
		OO	2,2	3,0	4,0	5,5	7,5	7,5	11,0	15,0	18,5
	Low [kW]	**PL**	1,5	2,2	3,0	4,0	5,5	7,5	7,5	11,0	15,0
		HP	1,5	2,2	3,0	4,0	4,0	5,5	7,5	11,0	15,0
		OO	1,5	2,2	3,0	4,0	5,5	5,5	7,5	11,0	15,0
Aspirator Motor Power	**High [kW]**	**PL**	2,2	3,0	4,0	5,5	7,5	11,0	11,0	15,0	18,5
		HP	2,2	3,0	4,0	5,5	5,5	7,5	11,0	15,0	18,5
		OO	1,5	2,2	3,0	4,0	5,5	5,5	7,5	11,0	15,0
	Low [kW]	**PL**	1,5	2,2	3,0	4,0	5,5	7,5	7,5	11,0	15,0
		HP	1,5	2,2	3,0	4,0	4,0	5,5	7,5	11,0	15,0
		OO	1,1	1,5	2,2	3,0	4,0	4,0	5,5	7,5	11,0
Sound Pressure Level	**High [dB(A)]**	**PL**	68	68	69	71	72	73	75	76	77
		HP	68	68	69	70	70	73	75	76	78
		OO	67	68	69	70	71	73	75	76	77
	Low [dB(A)]	**PL**	67	67	68	69	70	74	74	74	76
		HP	67	67	68	69	72	73	74	74	76
		OO	67	67	68	68	71	72	73	74	76
Total Absorbed Power	**Low [kW]**	**PL**	15,1	17,3	26,9	27,2	36,1	49,4	53,1	70,2	88,7
		HP	14,9	17,9	26,5	28,1	32,9	43,8	55,2	71,6	90,5
		OO	14,1	16,1	25,4	25,7	33,6	40,2	50,1	66,1	82,8
	Low [kW]	**PL**	13,5	15,4	24,5	23,8	31,7	42,7	46,2	61,9	81,8
		HP	13,4	16,0	24,2	25,0	29,5	39,5	47,6	63,9	82,2
		OO	12,9	14,6	23,4	22,7	29,5	36,3	43,1	58,0	76,0
Elect. Supply			400 V / 50 Hz / 3 Phase								

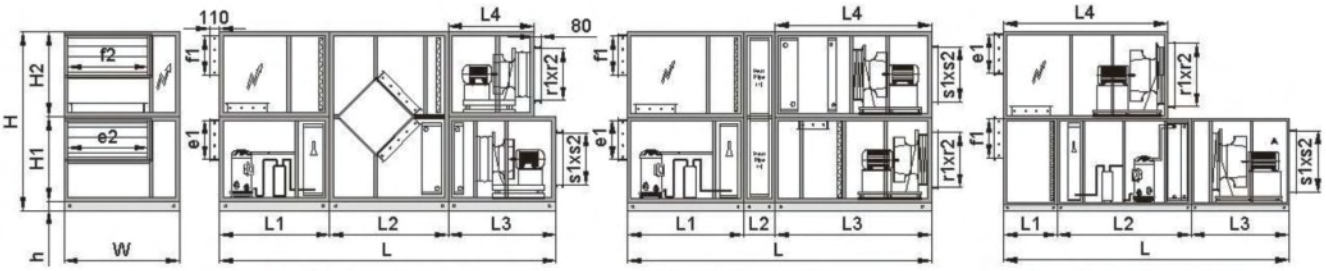
[1] According to VDI 2089 (supply air humidity =9g/kg, air humidity in the pool hall =14,3g/kg)

* Pool hall condition at 30°C DB and 55% RH.

** Outlet air temperature -12°C DB and 90% RH. Water temperature is 90-70°C.

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

DIMENSION AND WEIGHT



PL plate type heat recovery

HP heat pipe heat recovery

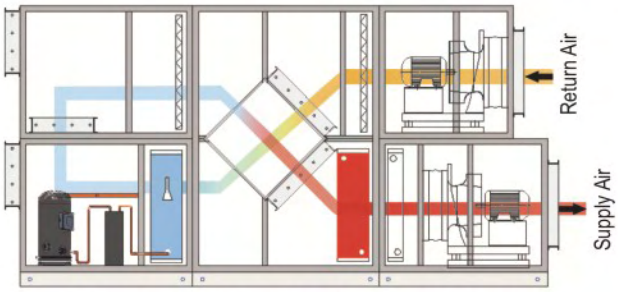
OO without heat recovery

Model	Unit	Type	UHNS 051	UHNS 063	UHNS 080	UHNS 100	UHNS 125	UHNS 160	UHNS 200	UHNS 252	UHNS 315
L	[mm]	PL	3.430	3.730	3.800	4.180	4.495	4.690	5.250	5.890	6.280
		HP	3.200	3.350	3.400	3.650	3.900	4.100	4.400	4.900	5.050
		OO	3.110	3.245	3.405	3.705	3.868	4.050	4.410	4.845	5.075
L1	[mm]	PL	1.200	1.260	1.260	1.390	1.490	1.490	1.690	1.890	1.890
		HP	1.200	1.260	1.260	1.390	1.490	1.490	1.690	1.890	1.890
		OO	-	-	-	-	-	-	-	860	945
L2	[mm]	PL	1.180	1.320	1.320	1.465	1.605	1.605	1.885	2.170	2.450
		HP	400	400	400	400	400	400	400	400	400
		OO	2.240	2.270	2.355	2.550	2.650	2.650	2.935	2.350	2.390
L3	[mm]	PL	1.050	1.150	1.220	1.325	1.400	1.595	1.675	1.830	1.940
		HP	1.600	1.690	1.740	1.860	2.010	2.210	2.310	1015+1595	1015+1745
		OO	870	975	1.050	1.155	1.218	1.400	1.475	1.635	1.740
L4	[mm]	PL	800	900	940	1.010	1.050	1.230	1.270	1.370	1.460
		HP	1.600	1.690	1.740	1.860	2.010	2.210	2.310	1015+1595	1015+1745
		OO	1.510	1.670	1.710	1.910	2.050	2.220	2.470	2.770	2.910
W	[mm]		1.125	1.250	1.320	1.445	1.670	1.850	2.120	2.320	2.610
H	[mm]		1.660	1.790	2.050	2.170	2.300	2.560	2.700	2.950	3.200
H1	[mm]		775	840	970	1.030	1.095	1.225	1.290	1.415	1.540
H2	[mm]		775	840	970	1.030	1.095	1.225	1.290	1.415	1.540
h	[mm]		110	110	110	110	110	110	120	120	120
e1 x e2	[mm]	PL	360 x 660	360 x 785	447 x 855	535 x 930	535 x 1105	535 x 1285	622 x 1555	622 x 1755	710 x 2000
		HP	360 x 660	360 x 785	447 x 855	535 x 930	535 x 1105	535 x 1285	622 x 1555	622 x 1755	710 x 2000
		OO	360 x 710	360 x 835	447 x 905	535 x 930	535 x 1155	535 x 1335	622 x 1605	622 x 1805	710 x 2045
f1 x f2	[mm]	PL	360 x 660	360 x 785	447 x 855	535 x 930	535 x 1105	535 x 1285	622 x 1555	622 x 1755	710 x 2000
		HP	360 x 660	360 x 785	447 x 855	535 x 930	535 x 1105	535 x 1285	622 x 1555	622 x 1755	710 x 2000
		OO	272 x 1025	360 x 1150	360 x 1220	447 x 1345	447 x 1570	447 x 1750	535 x 2020	535 x 2220	622 x 2510
r1 x r2	[mm]		450 x 450	500 x 500	560 x 560	630 x 630	710 x 710	800 x 800	900 x 900	1000 x 1000	1100 x 1100
s1 x s2	[mm]		450 x 450	500 x 500	560 x 560	630 x 630	710 x 710	800 x 800	900 x 900	1000 x 1000	1100 x 1100
Weight	[kg]	PL	1.060	1.220	1.400	1.750	2.050	2.600	2.860	3.580	4.490
		HP	1.045	1.215	1.370	1.690	2.000	2.450	2.880	3.630	4.605
		OO	860	980	1.130	1.440	1.670	2.050	2.310	2.895	3.540

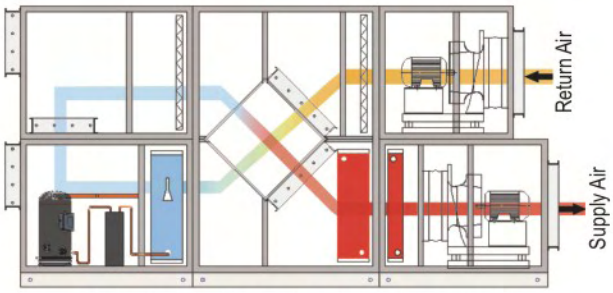
L Lenght **W** Width **H** Height **e** Exhaust air outlet damper **f** Fresh air inlet damper **r** Return air inlet **s** Supply air outlet

Working With 100% Return Air

Humid Room Air

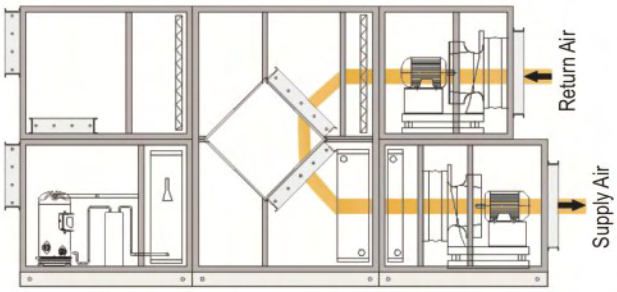


Picture - 1a (Humid and warm room air)

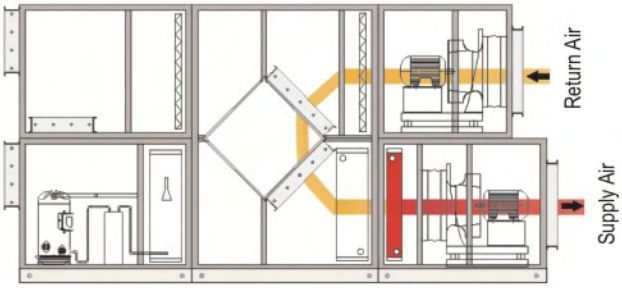


Picture - 1b (Humid and cool room air)

Dry Room Air

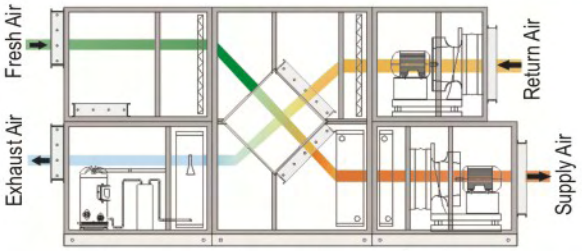


Picture - 1c (Dry and warm room air)

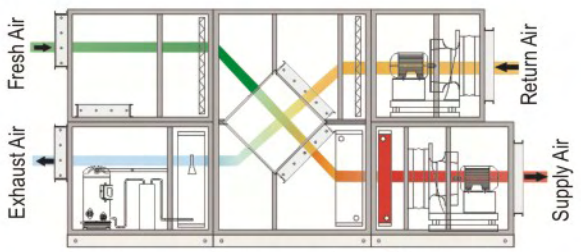


Picture - 1d (Dry and cool room air)

Working With 100% Fresh Air

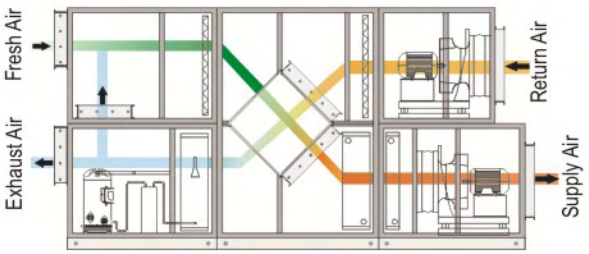


Picture - 2a (Dry and warm fresh air)

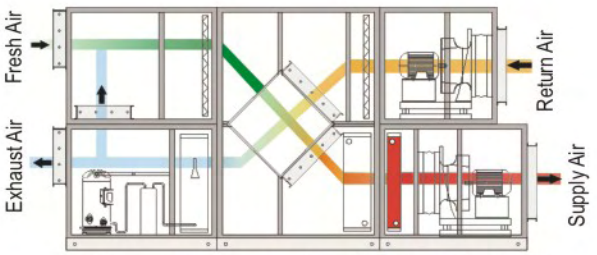


Picture - 2b (Dry and cool fresh air)

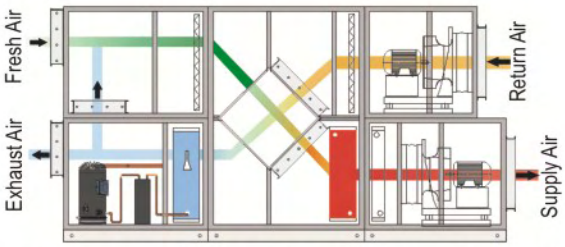
Working With Mixed Air



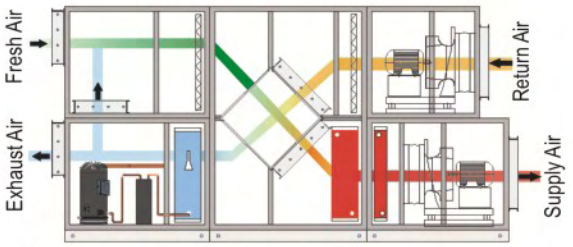
Picture - 3a (Dry and warm room & fresh air)



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



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



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

GENERAL SPECIFICATION



It is used to provide heating, cooling and ventilation for medium and small scale places. Especially in areas related to architectural problems, units create the appropriate project solutions with their compact structures.

Thanks to their low heights, it can be installed into suspended ceilings.

The profiles and reinforcements which are together form up the external frame are manufactured from 6063 (AlMgSi0.5) quality aluminium extrusion.

External wall of panel is made of 1 mm galvanized sheet, the inner wall is coated with rubber insulation material

There is air damper is made of aluminium material in the air inlet port.

Duct type air handling units can be preferred only for heating option and also preferred for cooling. Heating coils are producing with 1,2,3 rows, cooling coils are producing 2,4,6,8 rows depending on heating and cooling capacities. Under the cooling coil made of stainless steel condensate drain pan is mounted and siphon with ball drainage system can be supplied optional.

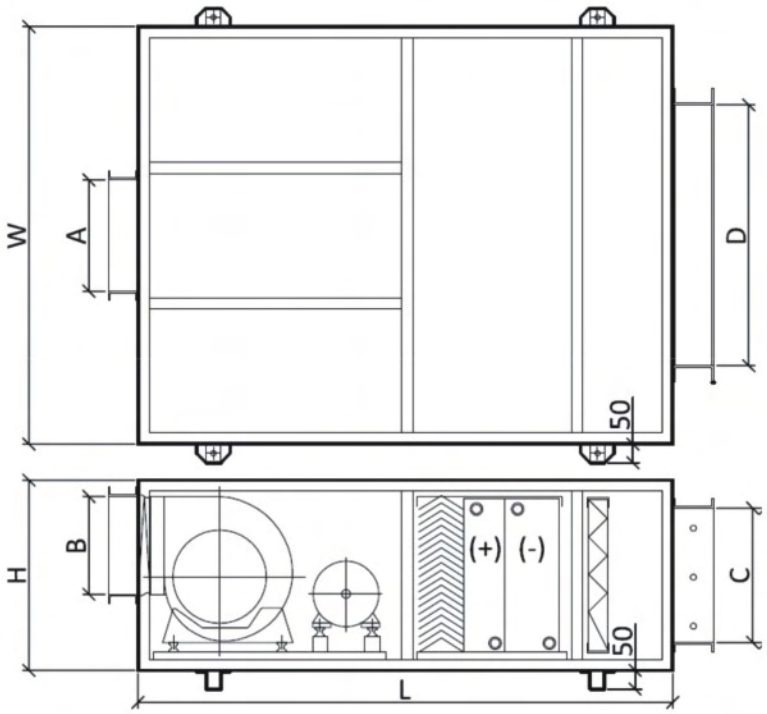
The fans in the unit are balanced statically and dynamically, forward curved blades, high efficiency and double inlet centrifugal. Fan and motor are mounted on rubber isolators. Fans are driven by a three-phase electric motor with belt and pulley system. Fans are one speed. But, according to pressure needs it is possible that select one of the fan speed (high-mid-low) which are adjusted by pulley diameters before producing. Fan pressure needs must be determined before producing.

Technical Information

MODELS		UKTS 10	UKTS 20	UKTS 32	UKTS 45	UKTS 60
AIR FLOW	[m^3/h]	1000	2000	3200	4500	6000
EXTERNAL STATIC PRESSURE (LOW)	[Pa]	185	36	6	6	0
MOTOR POWER (LOW)	[kW]	0,55	0,55	0,75	1,50	1,50
EXTERNAL STATIC PRESSURE (MID)	[Pa]	350	195	225	165	185
MOTOR POWER (MID)	[kW]	0,55	0,75	1,10	2,20	2,20
EXTERNAL STATIC PRESSURE (HIGH)	[Pa]	--	500	415	455	365
MOTOR POWER (HIGH)	[kW]		1,10	1,50	2,20	3,0
COOLING COIL OPTIONS		2 ROW (2S) , 4 ROW (4S), 6 ROW (6S), 8ROW (8S)				
HEATING COIL OPTIONS		1 ROW (1H) , 2 ROW (2H), 3 ROW (3H)				
FILTERS OPTIONS		G3 OR G4 QUALITY PANEL FILTER				

Note: External static pressures are given for the units which are with the 2 row heating and 4 row cooling coils (2H4S) .
You can request external static pressures of the units with the different heating and cooling coil rows from us.

DIMENSIONS



MODELS			UKTS 10	UKTS 20	UKTS 32	UKTS 45	UKTS 60
A		mm	205	208	262	262	262
B		mm	205	232	298	648	840
C		mm	185	360	360	360	360
D		mm	435	500	700	900	1000
W		mm	655	890	1.120	1.280	1.430
H		mm	410	460	510	560	620
UNIT LENGTHS ACCORDING TO SELECTION OF HEATING AND COOLING COILS [L]	0H2S	mm	1160	1190	1290	1290	1390
	0H4S	mm	1190	1220	1320	1320	1420
	0H6S	mm	1230	1260	1360	1360	1460
	0H8S	mm	1290	1320	1420	1420	1520
	1H0S	mm	1050	1080	1180	1180	1280
	1H2S	mm	1270	1300	1400	1400	1500
	1H4S	mm	1300	1330	1430	1430	1530
	1H6S	mm	1340	1370	1470	1470	1570
	1H8S	mm	1400	1430	1530	1530	1630
	2H0S	mm	1050	1080	1180	1180	1280
	2H2S	mm	1270	1300	1400	1400	1500
	2H4S	mm	1300	1330	1430	1430	1530
	2H6S	mm	1340	1370	1470	1470	1570
	2H8S	mm	1400	1430	1530	1530	1630
	3H0S	mm	1050	1080	1180	1180	1280
	3H2S	mm	1270	1300	1400	1400	1500
	3H4S	mm	1300	1330	1430	1430	1530
	3H6S	mm	1340	1370	1470	1470	1570
	3H8S	mm	1400	1430	1530	1530	1630

TECHNICAL INFORMATION

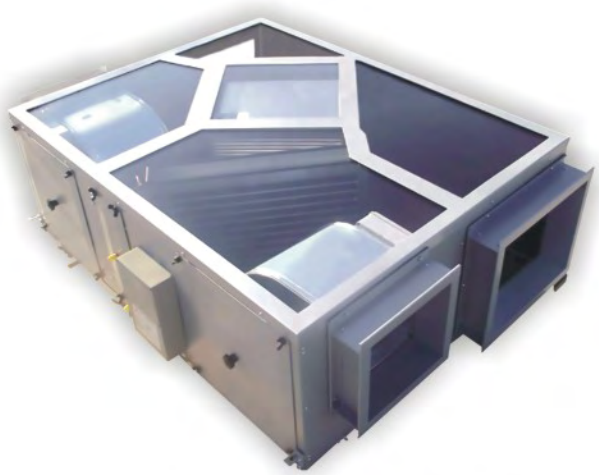
Heat Recovery / Fresh Air Units are devices that are used to especially meet the fresh air need in the volumes in which statical heating and/or cooling are applied and also to remove the stale air from the site and exhaust it.

While those actions are applied, the units supply a partial heating in winter and partial cooling in summer by exposing fresh air from the outside and exhaust air from the site to each other without letting them mix up.

As there is not any extra power consumption, a great amount of the energy to be used for heating or cooling the fresh air is supplied from the site air. (This situation also applies to the sites which are heated and/or cooled statically.)

Radial rotary fans - which are coupled directly to the motor, balanced under high pressure statically and dynamically, and works silent- are used in the devices.

Unit fans which work only in one-speed mode can be modified to three-speed mode with a fan panel addition.



The whole of the case is produced from galvanized sheet which is corrosion-resistant and galvanized iron sheet is dyed with a oven-drying powder paint. The case is insulated against noise and heat with rubber insulation material.

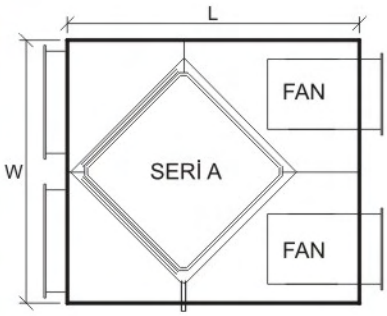
The potential air leakage is minimized with the precautions taken on the case.

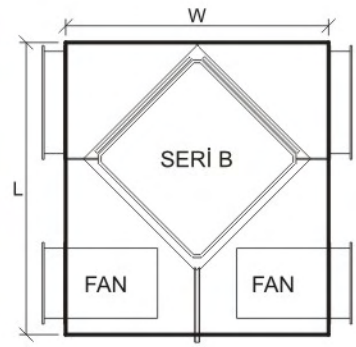
There is a drop tray which is powder painted and designed for the drainage of the potential condensation on the heat recovery exchanger.

Owing to custom design case structures and high pressure fans, channel connection can be practiced.

Optionally, electric heater which can be mounted on the unit outlet can be supplied with the unit.

Model		URTH 0500	URTH 0750	URTH 1000	URTH 1500	URTH 2000	URTH 3000	URTH 4000
Airflow (High Speed)*	[m ³/h]	565	880	1090	1500	2280	3125	4230
External Static Pressure (High Speed)*	[Pa]	100	100	100	100	100	100	100
Aspirator Motor Power	[W]	60	140	184	300	420	550	550
Vantilator Motor Power	[W]	60	140	184	300	420	550	550
Volume (High/Med./Low)**	[dBA]	49/47 41	50/45 38	49/48 45	52/51 48	55/53 49	56/55 50	57/54 49
Electrical Heater THEI Alt. 1 (Opt.)	[kW]	4,0	4,0	5.0	7,0	7,5	10,5	12,5
Electrical Heater THEI Alt. 2 (Opt.)	[kW]	8,0	8,0	10,0	13,5	12	16,5	25,0
Electrical Heater THEI Alt. 3 (Opt.)	[kW]	----	----	----	----	19,5	25,5	37,5
L Measure	[mm]	750	850	900	1000	1200	1200	1300
W Measure	[mm]	750	850	900	900	1050	1050	1300
Height	[mm]	260	290	380	380	430	510	610
Weight (three-speed standard unit)	[kg]	39	53	65	78	97	109	136
Main Supply (For Fans)	230 V / 50 Hz / 1 Faz							
Main Supply (Electric Heater)	400 V / 50 Hz / 3 Faz							





* Different airflows for different pressure amounts can be chosen from the Performance curve which can be found in the following pages.

** The given volume values are the sound levels coming from the case of the unit and it is valid for the units which have acoustic precautions and a channel connection.

Note :The electric heaters are not included in the given dimensions.

FRESH AIR AND EXHAUST DAMPER

The air dampers which are supplied optionally are used in the unit return air and/or fresh air inlet.

All dampers are equipped with damper servomotors. Damper servomotors take their commands from the fan panel. They open when the fans are working and close with a spring return when the fans are closed.

ELECTRIC HEATER

There are 2 or 3 alternative capacities for the electric heaters which are supplied optionally. The capacity depending on models is given in the technical information section.

All of the electric heaters are supplied with panels, security thermostats and control units. Alternatives for control can be seen in the panel accessories below.

FAN AND ELECTRIC HEATER SUPPLY PANELS

The panels, which are optionally supplied, are used for supplying fans and electric heaters, if available. The panels which are mounted on fans and electric heaters do not include control device.

Especially for three speed fan applications, using fan panel is compulsive. Otherwise, the fans work only at one speed. There is also panel manufacturing for the one-speed fans.

FAN AND ELECTRIC HEATER CONTROL UNITS

Control units with alternatives for different fresh air configurations are available. Along with the fan control aimed control units, there are also control units for electric heaters, water heating and water cooling. In addition, there are time programming options available in the units. For the options such as filter contamination, fan is on, damper control device, please contact with our company.

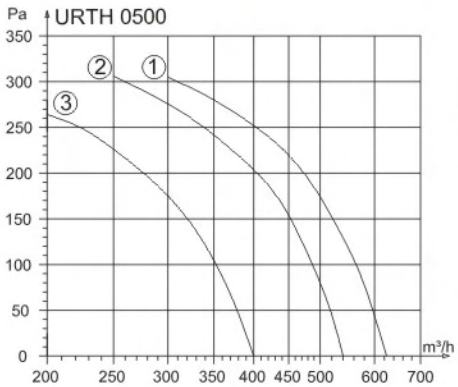


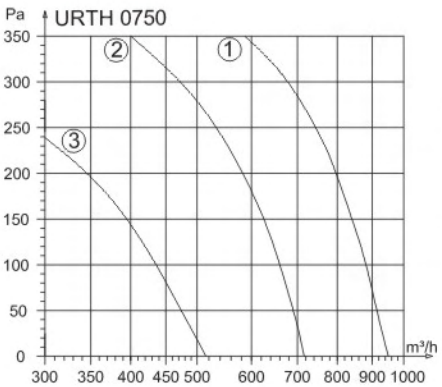


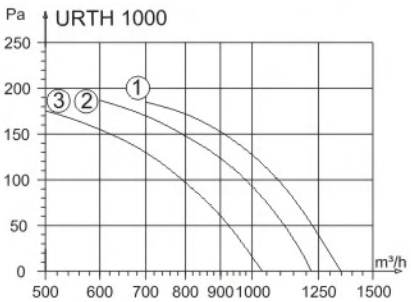


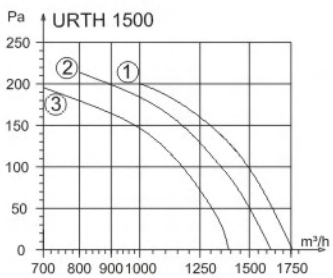


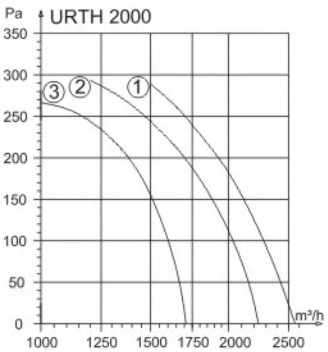
FLOW-PRESSURE CURVES

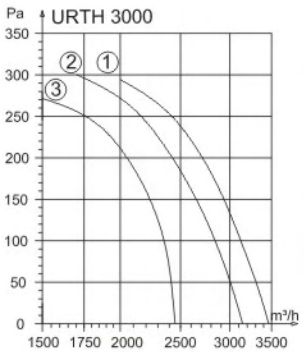


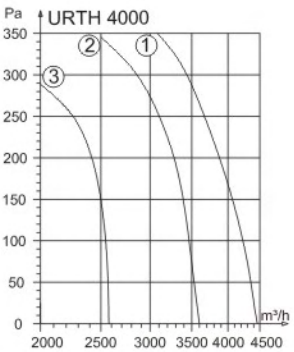












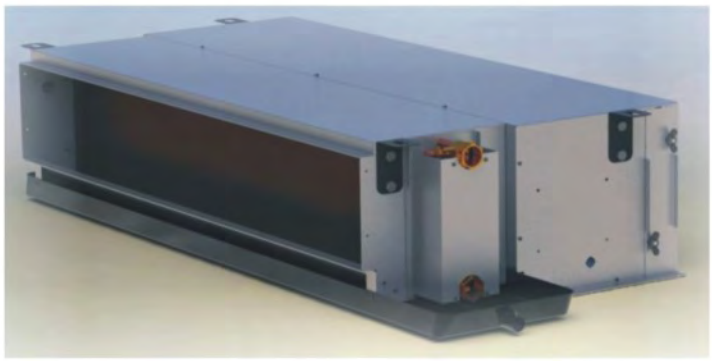
1 - High Speed **2 - Medium Speed** **3 - Low Speed**

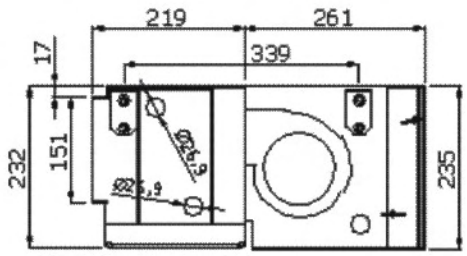
Ceiling concealed type UNFC series fancoils are made of high quality galvanized sheet which is corrosion-proof. To provide easy mounting on site, the mounting holes are drilled beforehand and the power connections are designed in an easily accessible way.

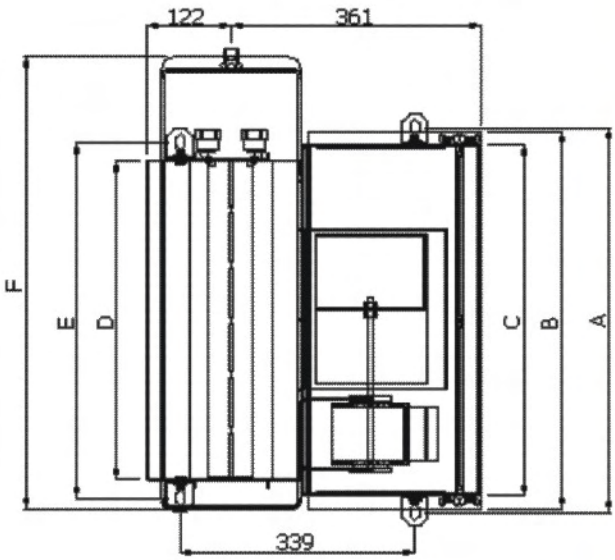
In fancoil units 3 speed 220V / 1 phase / 50 Hz. radial fans are used. The fans appeal to customer satisfaction with their low noise levels. Coils are produced by passing the seamless pipes tightly through the high efficiency aluminium plates.

Each battery is tested up to 24 Bar pressure under the factory conditions. Provided that it is specified in the order, the units can be produced with right or left connection. All fancoils have suction plenum and air filter. In UNFC series specially designed filters which have long-lasting and low pressure drop are used.









DIMENSIONS

UNFC D & Y SERİLERİ	A	B	C	D	E	F	d
015-020-025	554	544	506	462	510	650	3/4''
030-035-040	834	824	786	742	790	930	3/4''
050	969	959	921	877	925	1065	3/4''
060	1054	1044	1006	962	1010	1150	3/4''
070	1224	1214	1176	1132	1180	1320	3/4''
080	1274	1264	1226	1182	1230	1370	3/4''
100	1614	1604	1566	1522	1570	1710	3/4''
110	1734	1724	1686	1642	1690	1830	3/4''

* Dimensions are mm (out of d; drainage pipe diameter)

UNFC D SERIES, 2 PIPES[1]			015 2D	020 2D	025 2D	030 2D	035 2D	040 2D
Air Flow (High Speed)		m3/h	370	357	537	771	744	865
Total / Sensible Cooling Capacity*		kW	1,45 / 1,18	2,12 / 1,52	2,84 / 2,08	3,31 / 2,49	4,18 / 3,02	4,64 / 3,38
Heating Capacity**		kW	5,20	6,32	8,70	10,39	12,52	14,05
Noise Level (High/Mid/Low)		dB(A)	36/32/29	36/32/29	39/35/30	41/37/32	40/36/32	42/38/34
Fan Power (230 / 50 Hz / 1 phase)		W	35,5	35,5	67,0	66,1	66,1	81,4
Dimensions (W x H x D)		mm	685x235x483			965x235x483		
Packaged Dimensions (W x H x D)		mm	720x255x507			1010x255x507		
Net / Total Weight		kg	17,6/20,6	18,2/21,2	18,2/21,2	23,9/26,9	24,8/27,8	25,8/28,8
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

UNFC D SERIES, 2 PIPES[1]			050 2D	060 2D	070 2D	080 2D	100 2D	110 2D
Air Flow (High Speed)		m3/h	888	1058	1300	1475	1737	2145
Total / Sensible Cooling Capacity*		kW	5,14 / 3,66	6,06 / 4,31	7,20 / 5,18	8,02 / 5,77	9,44 / 6,85	11,3 / 8,23
Heating Capacity**		kW	15,03	17,63	21,33	23,76	28,41	34,05
Noise Level (High/Mid/Low)		dB(A)	42/38/34	44/40/35	46/42/37	46/42/37	47/43/38	48/44/39
Fan Power (230 / 50 Hz / 1 phase)		W	81,4	131,1	129,9	161,4	162,8	220,6
Dimensions (W x H x D)		mm	1100x235x483	1185x235x483	1355x235x483	1405x235x483	1745x235x483	1830x235x483
Packaged Dimensions (W x H x D)		mm	1145x255x507	1230x255x507	1400x255x507	1450x255x507	1790x255x507	1875x255x507
Net / Total Weight		kg	28,7/32,7	30,4/34,4	38,5/42,5	39,5/43,5	47,6/51,6	49,9/53,9
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

1) External static pressure is 0 Pa. 2D: Low pressure model with 2 pipes.

* With high fan speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature.

** With high fan speed, 20°C DB room condition and 90/70 °C hot water temperature.

UNFC Y SERIES, 2 PIPES[1]			015 2Y	020 2Y	025 2Y	030 2Y	035 2Y	040 2Y
Air Flow (High Speed)		m3/h	394	378	481	822	787	880
Total / Sensible Cooling Capacity*		kW	1,52 / 1,24	2,21 / 1,59	2,63 / 1,92	3,45 / 2,60	4,35 / 3,15	4,70 / 3,43
Heating Capacity**		kW	5,45	6,61	7,99	10,86	13,07	14,24
Noise Level (High/Mid/Low)		dB(A)	38/34/31	38/34/31	40/36/31	44/39/34	42/38/35	44/40/37
Fan Power (230 / 50 Hz / 1 phase)		W	50,5	50,5	69,6	94,4	94,4	110,3
Dimensions (W x H x D)		mm	685x235x483			965x235x483		
Packaged Dimensions (W x H x D)		mm	720x255x507			1010x255x507		
Net / Total Weight		kg	17,6/20,6	18,2/21,2	18,2/21,2	23,9/26,9	24,8/27,8	25,8/28,8
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

UNFC Y SERIES, 2 PIPES[1]			050 2Y	060 2Y	070 2Y	080 2Y	100 2Y	110 2Y
Air Flow (High Speed)		m3/h	918	1117	1236	1519	1767	2165
Total / Sensible Cooling Capacity*		kW	5,26 / 3,76	6,29 / 4,49	6,95 / 4,99	8,18 / 5,9	9,55 / 6,94	11,40 / 8,2
Heating Capacity**		kW	15,41	18,37	20,52	24,29	28,78	34,29
Noise Level (High/Mid/Low)		dB(A)	45/40/36	47/43/37	48/43/38	49/44/39	50/46/42	51/46/44
Fan Power (230 / 50 Hz / 1 phase)		W	110,3	149,5	160,8	219,1	220,6	299,0
Dimensions (W x H x D)		mm	1100x235x483	1185x235x483	1355x235x483	1405x235x483	1745x235x483	1830x235x483
Packaged Dimensions (W x H x D)		mm	1145x255x507	1230x255x507	1400x255x507	1450x255x507	1790x255x507	1875x255x507
Net / Total Weight		kg	28,7/32,7	30,4/34,4	38,5/42,5	39,5/43,5	47,6/51,6	49,9/53,9
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

1) External static pressure is 30 Pa. 2Y: High pressure model with 2 pipes.

* With high fan speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature.

** With high fan speed, 20°C DB room condition and 90/70 °C hot water temperature.

TECHNICAL INFORMATION

UNFC D SERIES, 4 PIPES[1]			015 4D	020 4D	025 4D	030 4D	035 4D	040 4D
Air Flow (High Speed)		m3/h	359	352	527	747	721	838
Total / Sensible Cooling Capacity*		kW	1,42 / 1,15	2,09 / 1,5	2,8 / 2,05	3,24 / 2,4	4,09 / 2,9	4,54 / 3,3
Additional Heating Coil Cap.**		kW	3,23	3,19	4,10	6,32	6,18	6,78
Noise Level (High/Mid/Low)		dB(A)	32/28/24	31/28/24	35/30/25	36/32/28	35/31/27	37/33/29
Fan Power (230 / 50 Hz / 1 phase)		W	35,5	35,5	67,0	66,1	66,1	81,4
Dimensions (W x H x D)		mm	685x235x483			965x235x483		
Packaged Dimensions (W x H x D)		mm	720x255x507			1010x255x507		
Net-Total Weight		kg	18,8/21,8	19,6/22,6	19,6/22,6	25,5/28,5	26,7/29,7	27,7/30,7
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

UNFC D SERIES, 4 PIPES[1]			050 4D	060 4D	070 4D	080 4D	100 4D	110 4D
Air Flow (High Speed)		m3/h	874	1038	1252	1425	1687	2091
Total / Sensible Cooling Capacity*		kW	5,08 / 3,6	5,98 / 4,2	7,02 / 5,1	7,83 / 6,6	9,25 / 6,7	11,1 / 8,1
Additional Heating Coil Cap.**		kW	7,48	8,66	10,03	11,07	13,77	16,23
Noise Level (High/Mid/Low)		dB(A)	37/33/29	39/35/30	40/36/31	41/36/31	42/38/33	43/39/34
Fan Power (230 / 50 Hz / 1 phase)		W	81,4	131,1	129,9	161,4	162,8	220,6
Dimensions (W x H x D)		mm	1100x235x483	1185x235x483	1355x235x483	1405x235x483	1745x235x483	1830x235x483
Packaged Dimensions (W x H x D)		mm	1145x255x507	1230x255x507	1400x255x507	1450x255x507	1790x255x507	1875x255x507
Net-Total Weight		kg	30,8/34,8	32,7/36,7	41,1/45,1	42,2/46,2	51,0/55,0	53,5/57,5
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

[1]) External static pressure is 0 Pa. 4D: Low pressure model with 4 pipes.
* With high fan speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature.
** With high fan speed, 20°C DB room condition and 90/70 °C hot water temperature.

UNFC Y SERIES, 4 PIPES[1]			015 4Y	020 4Y	025 4Y	030 4Y	035 4Y	040 4Y
Air Flow (High Speed)		m3/h	381	367	467	791	757	854
Total / Sensible Cooling Capacity*		kW	1,48 / 1,2	2,16 / 1,5	2,57 / 1,9	3,36 / 2,5	4,23 / 3,0	4,60 / 3,4
Additional Heating Coil Cap.**		kW	3,35	3,27	3,81	6,54	6,37	6,85
Noise Level (High/Mid/Low)		dB(A)	32/29/26	32/29/26	34/30/26	39/34/29	39/34/30	39/35/32
Fan Power (230 / 50 Hz / 1 phase)		W	50,5	50,5	69,6	94,4	94,4	110,3
Dimensions (W x H x D)		mm	685x235x483			965x235x483		
Packaged Dimensions (W x H x D)		mm	720x255x507			1010x255x507		
Net-Total Weight		kg	18,8/21,8	19,6/22,6	18,8/21,8	19,6/22,6	18,8/21,8	19,6/22,6
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

UNFC Y SERIES, 4 PIPES[1]			050 4Y	060 4Y	070 4Y	080 4Y	100 4Y	110 4Y
Air Flow (High Speed)		m3/h	891	1100	1198	1451	1718	2066
Total / Sensible Cooling Capacity*		kW	5,2 / 3,7	6,2 / 4,5	6,8 / 4,9	7,9 / 5,7	9,4 / 6,8	11,1 / 8,0
Additional Heating Coil Cap.**		kW	7,57	8,98	9,77	11,19	13,93	16,11
Noise Level (High/Mid/Low)		dB(A)	40/35/30	41/37/32	43/38/32	44/39/33	45/41/37	46/42/40
Fan Power (230 / 50 Hz / 1 phase)		W	110,3	149,5	160,8	219,1	220,6	299,0
Dimensions (W x H x D)		mm	1100x235x483	1185x235x483	1355x235x483	1405x235x483	1745x235x483	1830x235x483
Packaged Dimensions (W x H x D)		mm	1145x255x507	1230x255x507	1400x255x507	1450x255x507	1790x255x507	1875x255x507
Net-Total Weight		kg	30,8/34,8	32,7/36,7	41,1/45,1	42,2/46,2	51,0/55,0	53,5/57,5
Pipe	Water Inlet & Outlet & Drain pipe		3/4" threaded pipe					

[1]) External static pressure is 30 Pa. 4Y: High pressure model with 4 pipes.
* With high fan speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature.
** With high fan speed, 20°C DB room condition and 90/70 °C hot water temperature.

UNFC | 015 | 2 | D | GTT | L

Side
L (left connection)
R (right connection)

Version
KDT (cabinet wall mounted type)
KYT (cabinet floor type)
KTP (cabinet ceiling type)
KTT (cabinet ceiling type)
GDT (concealed wall type)
GTT (ceiling concealed type)

Series (only for GTT models)
D (low external static pressure)
Y (middle external static pressure)

2 or 4 Pipe System
2 (two pipe)
4 (four pipe)

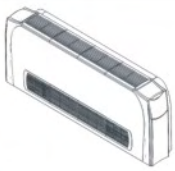
Model
015-020-025-030-035-040-050
060-070-080-100-110

Untes Fan Coil





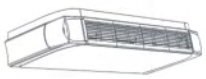
KDT
(Cabinet wall mounted type, bottom inlet, upper outlet, foot is optional)



KYT
(Cabinet floor type, front inlet, upper outlet)



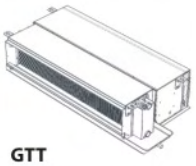
KTP
(Cabinet ceiling type, bottom inlet, front outlet)



KTT
(Cabinet ceiling type, rear inlet, front outlet)

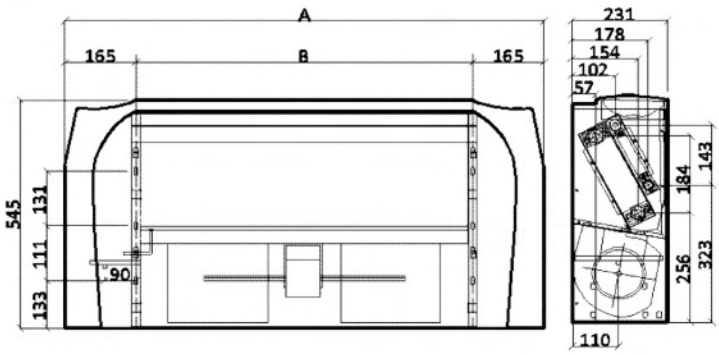


GDT
(Without cabinet concealed wall type, bottom inlet, upper outlet)



GTT
(Ceiling concealed type, rear inlet, front outlet)

DIMENSIONS AND CAPACITIES



MODEL	UNFC 15-20-25	UNFC 30-35-40	UNFC 50-60	UNFC 70-80	UNFC 100-110
A [mm]	850	1110	1370	1630	1890
B [mm]	520	780	1040	1300	1560
Pipe	Water inlet & outlet and drainage 3/4''				
	Additional coil water inlet & outlet 3/4''				

DIMENSIONS AND CAPACITIES OF CABINET VERSION FAN COILS

UNFC CABINET VERSION 2 PIPES		015	020	025	030	035	040
Air Flow (High Speed)	m3/h	346	342	482	681	666	821
Air Flow (Mid Speed)	m3/h	268	259	374	543	529	677
Air Flow (Low Speed)	m3/h	170	165	217	362	353	406
Total Cooling Capacity*	kW	1,47	2,12	2,73	3,22	4,04	4,70
Sensible Cooling Capacity*	kW	1,16	1,51	1,97	2,23	2,87	3,37
Heating Capacity**	kW	4,97	6,11	8,04	9,61	11,58	13,65
Water Flow (cooling)	m3/h	0,25	0,36	0,47	0,55	0,70	0,81
Water Side Pressure Drop	kPa	3,66	10,17	15,95	20,53	15,17	19,82
Sound Power Level (High/Mid/Low)	dB(A)	30/43/50	34/43/49	38/52/59	40/49/54	40/48/53	43/57/61
Sound Pressure Level (High/Mid/Low)***	dB(A)	19/32/39	23/32/38	27/41/48	29/38/43	29/37/42	32/46/50
Two Way Valve Code		2VM 2-15	2VM 2-15	2VM 2-15	2VM 2-20	2VM 2-20	2VM 2-20
Three Way Valve Code		3VM 4-15	3VM 4-15	3VM 4-15	3VM 4-20	3VM 4-20	3VM 4-20
MaxAbs.Power (230V/50Hz/1ph)	W	34,2	34,0	63,2	63,0	62,5	84,4
Dimensions (WxHxD)	mm	850x231x545			1110x231x545		
Packaged Dimensions (WxHxD)	mm	885x250x560			1145x250x560		
Net-Total Weight	kg	20,6/23,6	21,2/24,2	21,2/24,2	26,9/29,9	27,8/30,8	28,8/31,8
Control Type		Room thermostat (optional)					

UNFC CABINET VERSION 2 PIPES		050	060	070	080	100	110
Air Flow (High Speed)	m3/h	855	1135	1131	1408	1537	1811
Air Flow (Mid Speed)	m3/h	679	941	885	1143	1230	1502
Air Flow (Low Speed)	m3/h	450	548	581	735	838	1028
Total Cooling Capacity*	kW	5,58	6,27	7,05	8,27	9,60	10,79
Sensible Cooling Capacity*	kW	3,86	4,57	4,96	5,88	6,70	7,59
Heating Capacity**	kW	15,27	18,75	19,91	23,69	26,68	30,34
Water Flow (cooling)	m3/h	0,96	1,08	1,21	1,42	1,65	1,86
Water Side Pressure Drop	kPa	34,28	11,62	17,06	22,62	34,16	42,08
Sound Power Level (High/Mid/Low)	dB(A)	41/50/56	41/52/60	41/51/58	43/56/61	42/52/58	43/53/59
Sound Pressure Level (High/Mid/Low)***	dB(A)	30/39/45	30/41/49	30/40/47	32/45/50	32/45/50	32/42/48
Two Way Valve Code		2VM 2-20	2VM 2-20	2VM 2-25	2VM 2-25	2VM 2-25	2VM 2-25
Three Way Valve Code		3VM 4-20	3VM 4-20	3VM 4-21	3VM 4-21	3VM 4-21	3VM 4-21
MaxAbs.Power (230V/50Hz/1ph)	W	78,9	127,8	111,6	159,6	155,3	188,1
Dimensions (WxHxD)	mm	1370x231x545	1370x231x545	1630x231x545	1630x231x545	1890x231x545	1890x231x545
Packaged Dimensions (WxHxD)	mm	1405x250x560	1405x250x560	1695x250x560	1695x250x560	1955x250x560	1955x250x560
Net-Total Weight	kg	31,7/35,7	33,4/37,4	41,5/45,5	42,5/46,5	50,6/54,6	52,9/56,9
Control Type		Room thermostat (optional)					

UNFC CABINET VERSION 4 PIPES		015	020	025	030	035	040
Air Flow (High Speed)	m3/h	340	334	464	662	648	794
Air Flow (Mid Speed)	m3/h	257	250	362	525	513	659
Air Flow (Low Speed)	m3/h	164	159	210	349	341	395
Total Cooling Capacity*	kW	1,45	2,08	2,66	3,15	3,96	4,59
Sensible Cooling Capacity*	kW	1,15	1,48	1,91	2,32	2,81	3,28
Additional Heating Capacity**	kW	2,83	2,80	3,43	5,39	5,32	6,03
Water Flow (cooling)	m3/h	0,25	0,36	0,46	0,54	0,68	0,79
Water Flow (additional heating)	m3/h	0,12	0,12	0,15	0,23	0,23	0,26
Water Side Pressure Drop	kPa	3,57	9,85	15,19	19,85	14,64	19,00
Water Side Pressure Drop (additional coil)	kPa	1,81	1,78	2,57	8,27	8,07	10,14
Sound Power Level (High/Mid/Low)	dB(A)	30/43/50	34/43/49	38/52/59	40/49/54	40/48/53	43/57/61
Sound Pressure Level (High/Mid/Low)***	dB(A)	19/32/39	23/32/38	27/41/48	29/38/43	29/37/42	32/46/50
Two way valve (Cooling/Heat)		2VM 2-15 / 2-15	2VM 2-15 / 2- 15	2VM 2-15 / 2-15	2VM 2-20 / 2-15	2VM 2-20 / 2-15	2VM 2-20 / 2-15
Three way valve (Cooling/Heat)		4VM 4-15 / 4-15	4VM 4-15 / 4- 15	4VM 4-15 / 4-15	4VM 4-20 / 4-15	4VM 4-20 / 4-15	4VM 4-20 / 4-15
Max Absorbed Power (230V/50Hz/1ph)	W	33,9	33,7	62,8	62,4	61,9	82,8
Dimensions (WxHxD)	mm	850x231x545			1110x231x545		
Packaged Dimensions (WxHxD)	mm	885x250x560			1145x250x560		
Net-Total Weight	kg	20,6/23,6	21,2/24,2	21,2/24,2	26,9/29,9	27,8/30,8	28,8/31,8
Control Type		Wall type room thermostat (Optional)					

* *On high speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature*
** *On high speed, 20°C DB room condition and 90/70°C water temperature*
*** *At 1 m from air outlet with directionality factor of Q=1*

DIMENSIONS AND CAPACITIES OF CABINET VERSION FAN COILS

UNFC CABINET VERSION 4 PIPES		050	060	070	080	100	110
Air Flow (High Speed)	m3/h	836	1119	1097	1362	1489	1762
Air Flow (Mid Speed)	m3/h	661	932	860	1118	1201	1462
Air Flow (Low Speed)	m3/h	441	530	566	722	820	996
Total Cooling Capacity*	kW	5,49	6,21	6,89	8,07	9,38	10,58
Sensible Cooling Capacity*	kW	3,79	4,52	4,84	5,73	6,54	7,44
Additional Heating Capacity**	kW	7,19	8,62	9,13	10,43	12,05	13,36
Water Flow (cooling)	m3/h	0,94	1,07	1,19	1,39	1,61	1,82
Water Flow (additional heating)	m3/h	0,31	0,37	0,39	0,45	0,52	0,57
Water Side Pressure Drop	kPa	33,28	11,41	16,39	21,68	32,79	40,65
Water Side Pressure Drop (additional coil)	kPa	18,04	25,12	6,15	7,87	11,72	14,17
Sound Power Level (High/Mid/Low)	dB(A)	41/50/56	41/52/60	41/51/58	43/56/61	42/52/58	43/53/59
Sound Pressure Level (High/Mid/Low)***	dB(A)	30/39/45	30/41/49	30/40/47	32/45/50	32/45/50	32/42/48
Two way valve (Cooling/Heat)		2VM 2-20 / 2-15	2VM 2-20 / 2-15	2VM 2-25 / 2-20	2VM 2-25 / 2-20	2VM 2-25 / 2-20	2VM 2-25 / 2-20
Three way valve (Cooling/Heat)		4VM 4-20 / 4-15	4VM 4-20 / 4-15	4VM 4-21 / 4-20	4VM 4-21 / 4-20	4VM 4-21 / 4-20	4VM 4-21 / 4-20
Max Absorbed Power (230V/50Hz/1ph)	W	78,6	126,5	111,1	157,8	154,2	184,2
Dimensions (WxHxD)	mm	1390x231x545	1390x231x545	1630x231x545	1630x231x545	1890x231x545	1890x231x545
Packaged Dimensions (WxHxD)	mm	1405x250x560	1405x250x560	1695x250x560	1695x250x560	1955x250x560	1955x250x560
Net-Total Weight	kg	31,7/35,7	33,4/37,4	41,5/45,5	42,5/46,5	50,6/54,6	52,9/56,9
Control Type		Wall type room thermostat (Optional)					

* *On high speed, 27°C DB, 50% RH room condition and 7/12 °C water temperature*

** *On high speed, 20°C DB room condition and 90/70°C water temperature*

*** *At 1 m from air outlet with directionality factor of Q=1*

FAN COIL ACCESSORIES

For Installation On Fan Coil - CUT
(KDT, KYT, KTP and KTT versions)

- Panel with three fan speed selection
- Fan Coil ON/OFF
- Summer/winter selection
- Room thermostat



Wall Type Thermostat UOT

Positioning three-speed fans, summer/winter configuration and fan control depending on the room temperature or motorized valve control



Wall Type Digital Thermostat UDT

Positioning three-speed fans, summer/winter configuration and fan control depending on the room temperature or motorized valve control



Wall Type Digital Thermostat

Manual or automatic fan control, summer/winter configuration and fan control depending on the room temperature or motorized valve control, time programming



TWO AND THREE WAY VALVE OPTIONS (FOR ALL VERSIONS)

Two and three way valves are given as an optional part and supplied loose. They are used for controlling the flow in the coils with thermostatic control. Three way valves are offered with 4 ports to make easy connection.



REAR CLOSURE PANEL (APK-ALK)

If the fan coil positioned a place where the rear side of the unit can be seen easily, covering rear side of fan coil units is possible with APK and ALK accessories.

APK accessory is for cabinet floor type, KDT and KYT versions

ALK accessory is for cabinet ceiling type, KTP versions.



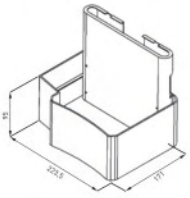
APK, rear closure panel for KDT and KYT versions



ALK, rear closure panel for KTP

SUPPORT FEET (AYK)

AYK, support feet only for KDT versions.



FOUR-WAY CASSETTE FAN-COIL UNITS

MKA & MKD SERIES



The four-way blow is designed with four-way blowing wings to provide the equal distribution of the air within the site and with its swing feature it provides a comfortable environment.

With its extra thin case height, it provides great ease when it is mounted on the attic. The drain pump which has a delivery head of up to 750 mm creates a smooth drainage of the condensation.

The protection grills at the fan inlet provides a safe maintenance.

With its custom designed fan, low volume level is obtained when the air flow is high. There is a fresh air inlet to make fresh air connection if required.

All units have remote control. There are cabled remote control options if desired.

Electric heater is used for heating (Optional). You can find electric heater capacities and the information on which models have electric heater in the following pages on technical features section.

There are two and three-way valve options available to be used for the units if required. The units can be manufactured with electric heater if desired. You can find the heater capacities for the following models. Units are also produced including 4 pipes. For 4 piped devices contact our company.

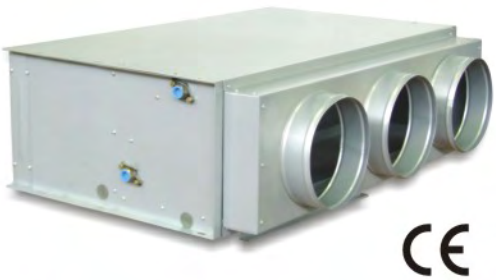
MODEL		MKD 300	MKD 400	MKD 500	MKA 600	MKA 750	MKA 850	MKA 950	MKA 1200	MKA 1500
Airflow (High)	m³/h	510	680	850	1020	1275	1445	1615	2040	2550
Total Cooling*	kW	3,00	3,70	4,50	5,73	7,01	7,28	8,25	10,38	12,89
Sensible Cooling*	kW	2,40	3,00	3,62	4,81	6,01	6,07	6,95	8,96	11,37
Heating**	kW	7,25	9,20	10,80	9,57	11,42	13,71	14,98	18,01	21,44
Water Flow	m³/h	0,52	0,64	0,77	0,99	1,20	1,25	1,42	1,78	2,21
Water Pressure Drop	kPa	14	15	16	23,8	25,2	27,0	31,20	44,0	46,0
Noise Level (High)	dB(A)	33	37	42	45	46	47	48	49	49
Electric Heater	kW	--	--	--	2,1	2,1	2,7	2,7	2,7	2,7
Network		230 V / 50 Hz / 1 Phase								
Power (230/50 Hz / 1 phase)	W	37,8	65	80	120	120	165	165	165	165
Unit Dimension (WxDxH)	mm	575x575x260			840x840x230		840x840x300			
Panel Dimension (WxDxH)	mm	705x705x340			955x955x247		955x955x317			
Net/Gross Weight	kg	17,5/22,5			29/36		35/42			

* Those capacity values are valid under conditions of high fan speed, 27 DB, 19 WB°C site temperature and 7/12°C water regime.

** Those capacity values are valid under conditions of high fan speed, 20 DB°C site temperature and 70/60°C hot water regime.
All unit pipe connections are 3/4" in diameter.

HIGH PRESSURE FAN-COIL UNITS

UYFC SERIES



High-pressure fancoil units are units that work in different external static pressure values when needed.

Radial rotary fans - which are coupled directly to the motor, balanced under high pressure statically and dynamically, and works silent- are used in the devices.

The whole of the case is produced from galvanized iron sheet which is corrosion-resistant. The case is insulated against noise and heat.

There is a drop tray located on the coil of which case is isolated and it is designed for the drainage of the condensation.

Owing to custom design case structures and high pressure fans, channel connection can be practiced on the suction and blowing sections. Owing to channel connection plenums, which is optional, different sites can be air-conditioned with the device The devices have optional alternatives with 4 pipes. There are different control options to be used if need arises. The units are offered with three or two-way thermostatic valve options.

MODEL		UYFC 10	UYFC 14	UYFC 17	UYFC 27	UYFC 36
Cooling Capacity (Total Temperature) (*)	[kW]	4,35	6,85	9,01	12,60	14,70
Cooling Capacity (Sensible Temperature) (*)	[kW]	3,39	5,21	6,76	9,74	11,63
Heating Capacity (**)	[kW]	13,9	20,70	28,80	39,30	49,30
Additional Heating Coil Capacity 1 Row (**)	[kW]	6,22	9,24	12,30	17,30	21,10
Additional Heating Coil Capacity 2 Row (**)	[kW]	10,70	15,70	20,60	29,50	36,40
Airflow (High Speed)(****)	[m³/h]	1.000	1.400	1.725	2.750	3.650
External Static Pressure (2 pipes)	[Pa]	100	100	100	100	100
External Static Pressure (4 pipes, 1 row additional coil)	[Pa]	85	92	80	93	85
External Static Pressure (4 pipes, 2 rows additional coil)	[Pa]	68	73	68	76	72
Volume (High/Med./Low)	[dBA]	48/46/43	50/48/46	52/50/50	54/50/48	55/53/50
Coil Connections	[inch]	1/2"	1/2"	1/2"	3/4"	3/4"
Additional Heater Coil Connections	[inch]	1/2"	1/2"	1/2"	1/2"	1/2"
Unite Dimensions (LxWxH)	[mm]	570x788x296	570x1008x305	600x1236x370	635x1436x370	635x1636x370
Weight	[kg]	28	34	42	54	66
Main Supply	[V-f-Hz]	220-1-50				
Fan pcs	[pcs]	1	2	2	2	2
Total Current Power	[W]	375	375	470	520	600

(*) When fan speed is high, internal air DB temperature 27°C, internal air WB temperature 19°C, cold water inlet temperature 7°C and ΔT 5°C,

(**) When fan speed is high, internal air temperature 20°C, hot water inlet temperature 90°C and (ΔT) 20°C,





Untes Radial fan wall type unit heaters are suitable for large volume buildings such as factories, workshops, storages, garages, hangars, sports centers, repair shops, gas stations, milking parlours, laundry rooms.

Devices with radial fans are preferred because they have a long air throw distance with low volume, and devices with axial fans are preferred because their investment costs are more economical compared to the counterparts and they enable attic mounting if required. As the devices are designed according to free throw and suction principle, they are not suitable for channel connection.

The devices can operate using hot water and overheated water as heating liquids under various temperature ranges and can operate using steam under various pressure ranges. As for coil materials in the devices, steel wing over the seamed steel pipe, steel wing over seamless steel pipe and aluminium wing over copper pipe are available to be opted.

The case of the devices are manufactured from sheet which has a suitable thickness. After the case is manufactured it is dyed with oven-drying powder paint to protect against corrosion.

There are shutters made of Sheet and dyed against corrosion in the air throw opening of the devices which have moving wings in order to distribute the air in the desired vertical angle. The shutter wings are connected to each other with a mechanism to cooperate.

In the radial fan wall type unit heaters radial, one suction and rare winged fans are used. They are statically and dynamically balanced and their runout controls are performed. The fans are made of sheet material and they are dyed against corrosion. In the axial fan unit heaters, axial fans are used. They are balanced statically and dynamically. The fans are made of sheet material and they are dyed against corrosion. In the UASC-48 model axial devices, fans work through 220 Volt, 50 Hz electric motor, and the rest of the axial and radial fan devices work through being directly coupled with 380 Volt, 50 Hz electric motor.

MODEL		Capacity [kcal/h]			Air flow [m³/h]	Motor		Dimensions			Weight Cu/Al [kg]	Weight Fe/Fe [kg]
		Hot Water [90/70°C]	Overheated Water [120/80°C]	Steam [0.1 bar]		Motor Power [kW]	Motor Speed [rpm]	H [mm]	W [mm]	D [mm]		
RADIAL-FAN UNIT HEATERS												
URSC 13	1	5.000	8.000	10.700	1.300	0,25	1.500	940	340	430	42	66
	2	6.000	8.300	11.200				940	340	430	42	66
	3	8.000	11.000	14.200				940	340	430	43	78
	4	10.000	13.850	16.200				940	340	430	43	78
URSC 22	1	12.000	16.550	18.600	2.200	0,25	1.500	1135	430	520	60	96
	2	16.000	23.500	26.500				1135	430	520	60	116
	3	20.000	25.600	27.300				1135	430	520	60	133
URSC 33	1	24.000	33.000	35.000	3.300	0,37	1.500	1400	445	590	76	149
	2	28.000	38.000	40.500				1400	445	590	76	149
	3	32.000	42.300	44.200				1400	445	590	77	172
URSC 53	1	40.000	58.300	61.500	5.300	0,75	1.500	1680	530	640	111	223
	2	50.000	65.900	65.100				1680	530	640	114	261
	3	60.000	78.100	76.300				1680	530	640	118	265
AXIAL-FAN UNIT HEATERS												
UASC 48	1	4.000	5.600	7.500	900	0,18	1.500	480	480	215	26	56
	2	6.000	9.500	9.500	900	0,18	1.500	480	480	265	27	58
	3	8.000	11.300	12.000	1.200	0,18	1.500	480	480	265	28	73
	4	10.000	14.100	15.000	1.200	0,18	1.500	480	480	315	29	75
UASC 53	1	12.000	16.900	17.000	2.000	0,17	1.500	530	530	315	34	87
	2	16.000	23.400	21.500	2.000	0,17	1.500	530	530	365	35	89
	3	20.000	28.100	27.500	3.000	0,21	1.500	530	530	365	36	107
UASC 63	1	24.000	34.300	34.000	3.000	0,21	1.500	630	630	365	43	125
	2	28.000	39.500	37.500	4.000	0,23	1.500	630	630	365	44	126
UASC 73	1	32.000	42.500	46.000	6.000	0,22	1.500	730	730	335	53	125
	2	40.000	56.700	56.000	6.000	0,22	1.500	730	730	385	56	164
UASC 80	1	50.000	68.600	67.500	8.000	0,20	1.500	800	800	385	63	186

The values given in these tables are valid for 18°C air temperature and for given liquid temperatures. For different air and liquid temperatures, please use correction factor

Capacity Correction Factor

Air Inlet Temperature [°C]	Hot Water [°C]		Overheated Water [°C]			Steam [bar]							
	90/70	70/50	120/80	130/90	140/100	0,1	0,5	1	2	3	4	5	6
20	0,97	0,68	0,98	1,10	1,22	0,98	1,08	1,19	1,35	1,47	1,56	1,65	1,72
18	1,00	0,72	1,00	1,12	1,25	1,00	1,11	1,21	1,37	1,49	1,59	1,67	1,74
15	1,05	0,77	1,04	1,16	1,28	1,04	1,14	1,25	1,41	1,53	1,62	1,71	1,78
10	1,13	0,86	1,10	1,22	1,34	1,10	1,20	1,31	1,47	1,59	1,68	1,77	1,84
5	1,21	0,94	1,16	1,28	1,40	1,16	1,26	1,37	1,53	1,65	1,74	1,83	1,90
0	1,29	1,03	1,22	1,34	1,46	1,21	1,32	1,43	1,59	1,71	1,80	1,89	1,96
-5	1,37	1,11	1,28	1,40	1,52	1,27	1,38	1,49	1,65	1,76	1,86	1,95	2,02
-10	1,45	1,20	1,34	1,46	1,59	1,33	1,44	1,55	1,71	1,82	1,92	2,01	2,08
-15	1,53	1,28	1,40	1,52	1,65	1,39	1,50	1,61	1,76	1,88	1,98	2,07	2,14

For the liquid values not available in the table, please contact our company

ROOF TYPE ASPIRATOR UNITS

UCAD SERIES



Roof-type exhaust aspirators are equipment preferred due to their easy mounting on the chimney and they are used for aspiration purpose.

In the roof type exhaust aspirators motor protection sections are manufactured from fiberglass polyester material to lower the weight of the aspirator, to make it more durable against external environmental conditions and to make its appearance more preferred in the applications.

The fan section is provided with a product protection frame, which is produced from a material suitable for external environment, to protect it from interventions during operation.

In the roof type aspirators different speed options are offered. Thus, a wide range is obtained in the speed and pressure values. And this provides ease while choosing device.

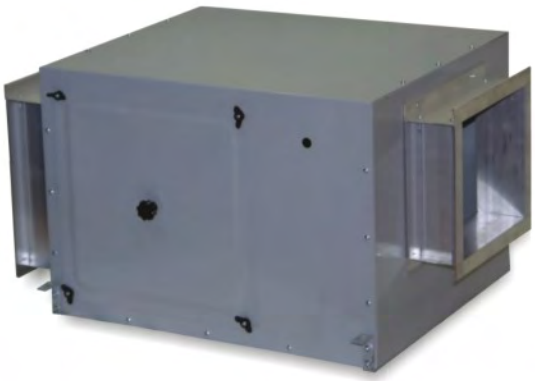
Three phased flanged motors are used in motors IP 55 protection class. Fans are one suction radial fans which are balanced statically and dynamically.

Model		UCAD 200	UCAD 250	UCAD 315	UCAD 355	UCAD 400	UCAD 450	UCAD 500	UCAD 560	UCAD 630
Airflow (1500 d/d)	m³/h	1000	2000	3000	5000	7000	10000	-	-	-
Fan Pressure (1500 d/d)	Pa	90	150	290	290	360	540	-	-	-
Motor Power (1500 d/d)	kW	0,18	0,25	0,55	1,10	2,20	3,00	-	-	-
Airflow (1000 d/d)	m³/h	600	1000	2000	3000	4500	6000	8000	12000	18000
Fan Pressure (1000 d/d)	Pa	40	75	110	125	180	250	270	360	400
Motor Power (1000 d/d)	kW	0,18	0,18	0,25	0,37	0,55	1,10	1,50	3,00	5,50
Width	mm	410	510	590	640	720	830	860	960	1060
Depth	mm	410	510	590	640	720	830	860	960	1060
Height	mm	550	625	670	750	875	905	935	1160	1205
Weight	kg	23	31	40	50	73	92	102	158	185
Main Supply		380 V / 50 Hz / 3 Faz								

Airflow and fan pressure are nominal values. For the airflows of our units under different pressure values, please contact our company

DUCT TYPE EXHAUST ASPIRATOR UNITS

UKTA SERIES



Ceiling type aspirators are units that are manufactured suitably for channel connection that can be placed in the suspended roof in the places where there is not enough room.

Radial fans - which are coupled directly to the motor, balanced under high pressure statically and dynamically, and works silent- are used in the devices.

The whole of the case structure of the units are manufactured from corrosion-resistan galvanized sheet and they can also be produced with accoustic insulation if required.

The units can be obtained with one or three different speed fan options. Three speed units can be obtained together with panels and three speed control switch.

Model		UKTA 06	UKTA 10	UKTA 16	UKTA 20	UKTA 27	UKTA 40	UKTA 48	UKTA 57
Airflow	m³/h	615	1.050	1.675	2.000	2.750	4.050	4.850	5.750
Fan Pressure	Pa	100	100	100	100	100	100	100	100
Motor Power	W	60	160	184	300	420	550	550	590
Sound Pressure Level (Insulated)	[dBA]	46	47	49	53	57	57	59	59
Sound Pressure Level (Not Insulated)	[dBA]	58	59	61	65	69	69	67	67
Height	mm	300	300	400	400	490	490	550	620
Width	mm	370	370	480	480	575	575	635	750
Length	mm	480	480	570	570	635	635	725	800
Weight	kg	14	15	22	22	30	31	39	52
Main Supply		230 V / 50 Hz / 1 Faz							

Airflow and fan pressure are nominal values. For the airflows of our units under different pressure values, please contact our company.
Damper and supply connection measures are included in the length measurement.

Untes laminar ceiling systems are equipment that can be used in every operating theaters and clean room systems which require laminar flow in the blow air. Laminar ceilings are produced for the volumes that require the microorganism and particle amounts to be low.

Along with lowering microorganism and particle amounts, laminar ceilings are effective in lowering anesthetic gas concentration (even around the anesthetist) to a level that do not bother the surgery crew.

Laminar ceiling is easy to disinfect thanks to its structure. As the deepening and ledges in the inner surfaces are minimized it does not have any room for bearing contamination. The laminator which creates laminar flow can be easily demounted and disinfected when the need arises.

In EU-13 (H 13) class, in the case structure of the laminar ceiling, in which hepa filter is used, aluminium and Cr-Ni stainless sheet is used against corrosion. During manufacturing, every part with a possibility of air leakage is covered with antibacterial silicon.



Model		HPL-1	HPL-2	HPL-3	HPL-4	HPL-5	HPL-6	HPL-7	HPL-8	HPL-9
Nominal Airflow	m^3/h	2400	2800	3200	3600	4000	4400	4800	6000	7000
Initial Resistance*	Pa	100	110	125	150	160	125	135	175	135
Hepa Filter Dimensions	mm	610x305	610x305	610x305	610x305	610x305	610x305	610x305	610x305	610x357
Hepa Filter Amount	pcs	4	4	4	4	4	4	4	4	4
Length	mm	2400	2400	2400	2400	2400	2400	2400	3000	3000
Width**	mm	1200	1400	1600	1800	2000	2200	2400	2400	2800
Height	mm	450	450	450	450	450	450	450	450	600

* Initial filter pressure loss values are valid for the nominal flow rate values. The filter replacement pressure is 600 Pa.
** 2x150 mm must be added to the width measures for channel connections.

HEPA FILTER BOX AND ACCESSORIES

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

Hepa filter boxes are manufactured from Sheet as welded and completely leakproof. Their internal and external surfaces are dyed with RAL 9010 electrostatic powder paint.

The air inlets of the hepa filter boxes are manufactured at the sides or top in circular shape.

Hepa filter boxes have manometer connection ends which can be used as filter contamination indicator.

To distribute the air going out from the hepa box; perforated sheet dispensers, anemostats which have connection properties suitable for hepa boxes or Swirl diffuser which have plastic dispenser and routing wings options can be used.



	mm	305x305			457x457			575x575			610x610		
Hepa Filter Height	mm	78	150	292	78	150	292	78	150	292	78	150	292
Nominal Air Flow	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		
Length	mm	323			475			593			628		
Width	mm	323			475			593			628		
Height	mm	345	418	559	380	452	594	435	508	649	435	508	649
Air Inlet (ϕ)	mm	150			193			244			244		
Swirl diffuser (AxB)	mm	370x370			520x520			640x640			670x670		
Perforated Sheet (AxB)	mm	370x370			520x520			640x640			670x670		

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

2331 ÷ 2701 MODELS

Air-Cooled, Screw Compressor, Axial Condenser Fan, Water Chillers

Main Characteristic; Screw compressor, electronic expansion valve, dry expansion shell and tube type heat exchanger (mod 2551÷2701), plated type heat exchanger (mod 2331÷2511), copper pipe / aluminium wing coil condenser, microprocessor electronic control.

Versions

Standard version. (TCAVBZ)
Sound insulated version. (TCAVIZ)
Slient version. (TCAVSZ)



R134a

TCAVBZ - TCAVIZ SERIES		2331	2351	2371	2391	2421	2461	2511	2551	2571	2611	2641	2681	2701
Nom. Cooling Capacity	kW	331,1	350,7	370,6	388,5	413,6	454,4	505,7	541,2	565,0	606,2	641,5	671,5	691,1
Sound Pressure Level	dB(A)	63	63	63	63	64	64	64	65	65	65	65	66	66
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Absorbed Power	kW	112,6	118,9	126,9	134	141,2	155,6	173,8	182,2	192,2	209,0	221,2	230,0	238,3
Main Supply	V-ph-Hz	400-3-50												
Length	mm	3.830	3.830	3.830	3.830	4.830	4.830	4.830	5.830	5.830	5.830	5.830	6.680	6.680
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVBZ	kg	3.420	3.490	3.500	3.580	3.920	4.100	4.280	4.760	4.780	4.800	4.820	5.160	5.210
TCAVSZ SERIES		**2331**	**2351**	**2371**	**2391**	**2421**	**2461**	**2511**	**2551**	**2571**	**2611**	**2641**	**2681**	**2701**
Nom. Cooling Capacity	kW	320,6	338,9	359,1	373,3	401,1	439,0	486,9	524,7	546,9	585,0	617,3	651,9	671,6
Sound Pressure Level	dB(A)	57	57	57	57	58	58	58	59	59	59	59	60	60
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Absorbed Power	kW	112,7	119,6	128,2	137,6	140,8	156,6	176,2	181,9	192,7	211,0	224,6	231,3	241,2
Main Supply	V-ph-Hz	400-3-50												
Length	mm	3.830	3.830	3.830	3.830	4.830	4.830	4.830	5.830	5.830	5.830	5.830	6.680	6.680
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVIZ-TCAVSZ	kg	3.720	3.790	3.800	3.880	4.220	4.400	4.580	5.060	5.080	5.100	5.120	5.460	5.510

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime.
Volume levels are valid under conditions of 10 meter distance and direction factor Q=2.

TCAVZ SERIES Z-Power

2710 ÷ 21600 MODELS

Air-Cooled, Screw Compressor, Axial Condenser Fan, Water Chillers

Main Characteristics; Screw compressor, electronic expansion valve, dry expansion shell and tube exchanger, copper pipe / aluminium fin coil condenser, microprocessor electronic control.

Versions

Standard version. (TCAVBZ)
Sound insulated version. (TCAVIZ)
Silenced version. (TCAVSZ)

R134a



TCAVBZ - TCAVIZ SERIES		2710	2750	2810	2870	2940	2990	21020	21060	21110	21180	21250	21330	21400	21500	21600
Nominal Cooling Capacity	kW	710,0	751,1	809,3	863,4	935,5	984,6	1.015,5	1.051,6	1.107,3	1.179,7	1.251,5	1.333,0	1.400,0	1.500,0	1.602,0
Sound Pressure Level	dB(A)	66	66	67	67	68	68	68	69	69	69	69	69	70	71	71
Compressor/Steps	n	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Absorbed Power	kW	240,0	252,0	273,2	296,2	310,6	329,9	333,4	335,7	370,5	384,3	397,7	423,0	448,8	480,8	515,0
Main Supply	V-ph-Hz	400-3-50														
Length	mm	6.680	6.680	7.680	7.680	7.680	7.680	7.680	7.680	8.980	8.980	8.980	9980	10.980	12.980	12.980
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVBZ	kg	5.310	5.310	6.400	6.620	6.790	6.820	6.940	6.970	8.530	8.740	8.930	-	-	9.840	10.080
Weight TCAVIZ	kg	5.610	5.610	6.750	6.970	7.140	7.170	7.290	7.390	8.880	9.090	9.280	-	-	10.190	10.430
TCAVSZ SERIES		**2710**	**2750**	**2810**	**2870**	**2940**	**2990**	**21020**	**21060**	**21110**	**21180**	**21250**	**21330**	**21400**	**21500**	**21600**
Nominal Cooling Capacity	kW	690,0	732,0	785,9	838,0	908,6	954,0	984,6	1.019,7	1.071,8	1.142,7	1.212,2	1.288,0	1.353,0	1.446,7	1.548,0
Sound Pressure Level	dB(A)	60	60	61	61	62	62	62	63	63	63	63	63	64	65	65
Compressor/Steps	n	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Absorbed Power	kW	245,0	257,0	278,4	303,0	318,2	339,6	343,3	346,0	385,0	401,2	417,3	442,6	464,0	501,9	553,0
Main Supply	V-ph-Hz	400-3-50														
Length	mm	6.680	6.680	7.680	7.680	7.680	7.680	7.680	7.680	8.980	8.980	8.980	9980	10.980	12.980	12.980
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVSZ	kg	5.610	5.610	6.750	6.970	7.140	7.170	7.290	7.390	8.880	9.090	9.280	-	-	10.190	10.430

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime.
Volume levels are valid under conditions of 10 meter distance and direction factor Q=2.

2330 ÷ 2700 HE MODELS

High Efficiency (HE Series), Air-Cooled, Screw Compressor, Axial Condenser Fan, Water Chillers



Main Characteristics; High efficiency Screw compressor, electronic expansion valve, dry expansion shell and tube type heat exchanger (For 2510÷2700 models), plated type heat exchanger (For 2330÷2460 models), copper pipe / aluminium wing coil condenser, microprocessor electronic control.

Versions

Standard version. (TCAVBZ)

Sound insulated version. (TCAVIZ)

Slient version. (TCAVSZ)

R134a

TCAVBZ - TCAVIZ HE SERIES		2330	2350	2370	2390	2420	2460	2510	2550	2570	2610	2640	2680	2700
Nominal Cooling Capacity	kW	333,1	353,2	373,6	390,5	416,5	458,1	510,3	545,0	570,1	611,1	644,7	674,5	693,2
Sound Pressure Level	dB(A)	64	64	64	64	65	65	65	66	66	66	66	67	67
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	107,0	113,7	120,4	126,1	134,0	148,0	164,3	172,1	182,4	194,7	207,7	214,9	222,5
Main Supply	V-ph-Hz	400-3-50												
Length	mm	4.830	4.830	4.830	4.830	5.830	5.830	5.830	6.680	6.680	6.680	6.680	7.680	7.680
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVBZ	kg	3.780	3.870	3.960	3.970	4.420	4.530	4.740	5.070	5.090	5.110	5.210	6.140	6.190
Weight TCAVIZ	kg	4.080	4.170	4.260	4.270	4.720	4.830	5.040	5.370	5.390	5.410	5.510	6.440	6.490
TCAVSZ HE SERIES		**2330**	**2350**	**2370**	**2390**	**2420**	**2460**	**2510**	**2550**	**2570**	**2610**	**2640**	**2680**	**2700**
Nominal Cooling Capacity	kW	324,8	344,1	361,8	379,4	406,9	443,9	495,4	531,0	554,9	593,1	624,6	657,0	676,2
Sound Pressure Level	dB(A)	74	74	74	74	75	75	75	76	76	76	76	76	76
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	105,1	112,5	118,9	128,1	132,2	145,9	164,4	171,0	180,2	193,5	207,5	213,5	222,3
Main Supply	V-ph-Hz	400-3-50												
Length	mm	4.830	4.830	4.830	4.830	5.830	5.830	5.830	6.680	6.680	6.680	6.680	7.680	7.680
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVSZ	kg	4.080	4.170	4.260	4.270	4.720	4.830	5.040	5.370	5.390	5.410	5.510	6.440	6.490

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime.
Sound pressure levels are valid under conditions of 10 meter distance and direction factor Q=2.

Z-Power TCAVZ SERIES

2770 ÷ 21290 HE MODELS

High Efficiency (HE Series), Air-Cooled, Screw Compressor, Axial Condenser Fan, Water Chillers



Main Characteristics; High efficiency screw compressor, electronic expansion valve, dry expansion Shell and tube type heat exchanger, Copper pipe / Aluminium wing coil condenser, microprocessor electronic control.

Versions

Standard version. (TCAVBZ)

Sound insulated version. (TCAVIZ)

Slient version. (TCAVSZ)

R134a

TCAVBZ - TCAVIZ HE SERIES		2770	2830	2890	2960	21010	21040	21080	21130	21150	21220	21290
Nominal Cooling Capacity	kW	764,5	831,5	887,8	956,8	1.009,7	1.037,3	1.079,9	1.125,9	1.152,3	1.217,9	1.283,4
Sound Pressure Level	dB(A)	67	67	67	69	69	69	70	70	70	70	70
Compressor/Steps	n	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	228,0	251,0	272,0	284,0	301,0	310,0	321,0	349,0	336,2	358,0	379,0
Main Supply	V-ph-Hz	400-3-50										
Length	mm	7.680	7.680	7.680	8.980	8.980	9.980	10.980	10.980	10.980	10.980	10.980
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVBZ	kg	5.950	6.360	6.760	7.900	7.920	7.990	7.960	8.720	9.160	9.200	9.240
Weight TCAVIZ	kg	6.290	6.700	7.100	8.250	8.260	8.340	8.300	9.070	9.510	9.560	9.590
TCAVSZ HE SERIES		**2770**	**2830**	**2890**	**2960**	**21010**	**21040**	**21080**	**21130**	**21150**	**21220**	**21290**
Nominal Cooling Capacity	kW	746,0	811,2	865,5	924,0	973,5	1.004,2	1.051,1	1.099,9	1.116,2	1.178,1	1.240,4
Sound Pressure Level	dB(A)	61	61	61	63	63	63	64	64	64	64	64
Compressor/Steps	n	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	230,6	256,1	279,8	292,6	311,5	317,9	326,0	357,0	348,0	375,8	402,2
Main Supply	V-ph-Hz	400-3-50										
Length	mm	7.680	7.680	7.680	8.980	8.980	9.980	10.980	10.980	10.980	10.980	10.980
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Weight TCAVSZ	kg	6.290	6.700	7.100	8.250	8.260	8.340	8.300	9.070	9.510	9.560	9.590

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime.
Sound pressure levels are valid under conditions of 10 meter distance and direction factor Q=2.

TCAEY - THAEY SERIES

Y-Power

4350 ÷ 6640 MODELS



Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers

Main Characteristics; Scroll hermetic compressor, electronic expansion valve, plated type heat exchanger Copper pipe / Aluminium fin coil condenser, Microprocessor electronic control.

Versions

Only cooling;
Standard version (TCAEBY)
Silenced version (TCAESY)

Heat-pump ;
Standard version (THAEBY)
Silenced version (THAESY)

R410A

TCAEBY - TCAESY SERİSİ		4350	4380	4410	5450	6500	6560	6600	6640
Nominal Cooling Capacity	kW	354,0	378,0	417,0	457,0	498,0	561,0	603,0	636,0
Nominal Cooling Capacity (Silent Version)	kW	340,0	364,0	402,0	440,0	480,0	541,0	580,0	613,0
Sound Pressure Level	dB(A)	63,0	63,0	64,0	64,0	64,0	64,0	64,5	65,5
Sound Pressure Level (Silent Version)	dB(A)	58,0	58,0	59,0	59,0	59,0	59,0	59,5	60,5
THAEBY - THAESY SERİSİ		**4350**	**4380**	**4410**	**5450**	**6500**	**6560**	**6600**	**6640**
Nominal Cooling Capacity	kW	342,0	366,0	405,0	443,0	483,0	545,0	586,0	617,0
Nominal Heating Capacity	kW	372,0	394,0	435,0	482,0	512,0	590,0	634,0	669,0
Nominal Cooling Capacity (Silent Version)	kW	335,0	357,0	391,0	430,0	470,0	528,0	568,0	599,0
Nominal Heating Capacity (Silent Version)	kW	357,0	381,0	420,0	460,0	495,0	567,0	609,0	643,0
Sound Pressure Level	dB(A)	63,0	63,0	64,0	64,0	64,0	64,0	64,5	65,5
Sound Pressure Level (Silent Version)	dB(A)	58,0	58,0	59,0	59,0	59,0	59,0	59,5	60,5
Compressor/Steps/Circuit (All series)	n	4/4/2	4/4/2	4/4/2	5/5/2	6/6/2	6/6/2	6/6/2	6/6/2
Length (All series)	mm	3.830	3.830	3.830	4.830	4.830	4.830	5.830	5.830
Height (All series)	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Width (All series)	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260

The cooling values are valid under conditions of 35°C external air temperature and 7/12°C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Total sound power levels are valid under conditions of 10 meter distance and direction factor Q=2.

TCAEY - THAEY SERIES

Y-Pack

4160 ÷ 4320 MODELS



Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers and Heat Pump units

Main Characteristics; Scroll hermetic compressor, plated type heat exchanger, Copper pipe / aluminium wing coil condenser, microprocessor electronic control.

Versions

Only cooling;
Standard version (TCAEBY)
High temperature/efficiency version (TCAETY)
Slient version (TCAESY)
Super silent version (TCAEQY)

Heat-pump;
High temperature/efficiency version (THAETY)

R410A

TCAEBY SERIES		4160	4180	4200	4230	4260	4290	4320
Nominal Cooling Capacity	kW	152,0	170,0	191,0	219,0	244,0	282,0	315,0
Sound Pressure Level	dB(A)	62	64	64	66	66	68	68
Power Usage	kW	59,1	67,7	76,1	86,6	97,2	111,9	123,9
TCAETY-TCAESY-TCAEQY SERIES		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
Nominal Cooling Capacity	kW	160,0	182,0	201,0	225,0	257,0	293,0	325,0
Nominal Cooling Capacity (Silent Version)	kW	152,7	177,0	192,0	215,0	246,0	281,0	309,0
Nominal Cooling Capacity (Super Silent Version)	kW	138,0	164,0	181,0	211,0	228,0	259,0	-
Sound Pressure Level	dB(A)	57	63	63	64	65	65	65
Sound Pressure Level (Silent Version)	dB(A)	53	56	56	57	59	59	59
Sound Pressure Level (Super Silent Version)	dB(A)	50	53	53	54	55	55	-
Power Usage	kW	55,7	65,0	73,1	81,7	92,1	105,8	120,4
Power Usage (Silent Version)	kW	55,9	65,6	73,8	82,7	89,5	107,7	121,2
Power Usage (Super Silent Version)	kW	61,6	66,9	80,4	86,1	97,0	115,1	-
THAETY-THAESY SERIES		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
Nominal Heating Capacity	kW	166,0	188,0	220,0	241,0	272,0	309,0	342,0
Nominal Heating Capacity (Silent Version)	kW	160,0	183,0	211,0	233,0	264,0	303,0	333,0
Nominal Cooling Capacity	kW	158,0	179,0	197,0	222,0	253,0	289,0	320,0
Nominal Cooling Capacity (Silent Version)	kW	151,0	174,0	189,0	212,0	242,0	277,0	304,0
Sound Pressure Level	dB(A)	57	63	63	64	65	65	65
Sound Pressure Level (Silent Version)	dB(A)	53	56	56	57	59	59	59
Power Usage	kW	54,8	66,0	73,8	81,4	92,8	105,8	117,5
Power Usage (Silent Version)	kW	53,3	63,3	70,3	78,2	88,9	100,7	112,5
ALL SERIES		**4160**	**4180**	**4200**	**4230**	**4260**	**4290**	**4320**
Compressor/Steps	n	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuit Number	n	2	2	2	2	2	2	2
Main Supply	V-ph-Hz	400-3+N-50						
Length (TCAEBY)	mm	3.130	3.130	3.130	4.090	4.090	5.050	5.050
Length (TCAETY - TCAESY - TCAEQY)	mm	3.700	3.700	3.700	4.800	4.800	4.800	4.800
Length (THAETY - THAESY)	mm	3.700	3.700	4.800	4.800	4.800	4.800	4.800
Height (TCAEBY)	mm	2.135	2.135	2.135	2.135	2.135	2.135	2.135
Height (TCAETY - TCAESY - THAETY - THAESY)	mm	2.000	2.030	2.030	2.030	2.030	2.030	2.030
Height (TCAEQY)	mm	2.000	2.000	2.000	2.000	2.000	2.000	-
Width (TCAEBY)	mm	1.190	1.190	1.190	1.190	1.190	1.190	1.190
Width (TCAETY - TCAESY - TCAEQY - THAETY - THAESY)	mm	2.090	2.090	2.090	2.090	2.090	2.090	2.090

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Total sound power levels are valid under conditions of 10 meter distance and direction factor Q=2.

Y-Pack

TCAEY - THAEY SERIES

270 ÷ 2160 MODELS

Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers, Heat Pump units

Main Characteristics

2-3 stage capacity controlled unit, scroll hermetic compressor, plated type heat exchanger
Copper pipe / Aluminium wing coil condenser, microprocessor electronic control, standard condensate control (except TCAEBY)

Versions

Only cooling;
Standard version (TCAEBY)
High temperature/efficiency version (TCAETY)
Slient version (TCAESY)
Super silent version (TCAEQY)
Heat-pump ;
High temperature/efficiency version (THAETY)
Slient version (THAESY)



TCAEBY SERIES		270	280	290	2100	2115	2130	2145	2160
Nominal Cooling Capacity	kW	67,5	75,3	83,0	96,0	110,5	120,5	138,5	155,0
Sound Pressure Level	dB(A)	53	53	53	55	61	61	61	62
Power Usage	kW	25,5	28,0	32,4	35,7	40,6	45,6	52,1	59,4
TCAETY-TCAESY-TCAEQY SERIES		**270**	**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
Nominal Cooling Capacity	kW	70,3	79,5	88,0	101,2	114,5	126,0	143,0	161,0
Nominal Cooling Capacity (Silent Version)	kW	70,3	79,5	88,0	101,2	108,0	119,0	136,0	151,0
Nominal Cooling Capacity (Super Silent Version)	kW	67,0	75,0	82,5	95,0	101,0	108,0	125,0	138,0
Sound Pressure Level	dB(A)	50	51	51	52	55	55	56	56
Sound Pressure Level (Silent Version)	dB(A)	48	49	49	50	52	52	53	53
Sound Pressure Level (Super Silent Version)	dB(A)	46	47	47	48	49	49	50	50
Power Usage	kW	23,6	26,6	30,3	34,9	39,1	43,3	49,3	55,5
Power Usage (Silent Version)	kW	23,6	26,6	30,3	34,9	40,4	44,6	51,7	58,1
Power Usage (Super Silent Version)	kW	24,8	26,3	31,5	34,8	43,2	47,0	53,9	62,7
THAETY-THAESY SERIES		**270**	**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
Nominal Heating Capacity	kW	79,0	86,0	96,0	111,0	122,0	139,0	157,0	175,0
Nominal Heating Capacity (Silent Version)	kW	79,0	86,0	96,0	111,0	120,0	135,0	154,0	170,0
Nominal Cooling Capacity	kW	69,4	77,7	85,2	99,3	111,0	123,8	141,3	159,3
Nominal Cooling Capacity (Silent Version)	kW	69,4	77,7	85,2	99,3	107,2	118,5	135,6	150,2
Sound Pressure Level	dB(A)	50	51	51	52	55	55	56	56
Sound Pressure Level (Silent Version)	dB(A)	48	49	49	50	52	52	53	53
Power Usage	kW	23,5	25,0	29,2	33,2	38,0	42,0	48,8	54,5
Power Usage (Silent Version)	kW	23,5	25,0	29,2	33,2	37,3	40,8	47,4	53,0
ALL SERIES		**270**	**280**	**290**	**2100**	**2115**	**2130**	**2145**	**2160**
Compressor/Steps	n	2/3	2/2	2/3	2/3	2/3	2/2	2/3	2/2
Circuit Number	n	1	1	1	1	1	1	1	1
Main Supply	V-ph-Hz	400-3+N-50							
Length (TCAEBY)	mm	2.650	2.650	2.650	3.150	3.150	3.150	3.150	3.450
Length (TCAETY-TCAESY-TCAEQY-THAETY-THAESY)	mm	3.150	3.150	3.150	3.150	3.250	3.250	3.250	3.250
Height (TCAEBY)	mm	1.700	1.700	1.700	1.700	1.730	1.730	1.730	1.730
Height (TCAETY-TCAESY-TCAEQY-THAETY-THAESY)	mm	1.520	1.520	1.520	1.520	2.000	2.000	2.000	2.000
Width (TCAEBY)	mm	1.210	1.210	1.210	1.210	1.210	1.210	1.210	1.210
Width (TCAETY-TCAESY-TCAEQY-THAETY-THAESY)	mm	1.210	1.210	1.210	1.210	1.520	1.520	1.520	1.520
Weight (TCAEBY)	kg	685	725	870	945	1.020	1.040	1.100	1.160
Weight (TCAETY - TCAESY - TCAEQY)	kg	745	765	910	980	1.130	1.195	1.225	1.290
Weight (THAETY - THAESY)	kg	810	830	975	1.045	1.215	1.285	1.315	1.390

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Total sound power levels are valid under conditions of 10 meter distance and direction factor Q=2.

Compact-Y

TCAEY - THAEY SERIES

245 ÷ 265 MODELS

Packaged Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers, Heat Pump units

Main Characteristic

3 stage capacity controlled unit, Scroll hermetic compressor, plated type heat exchanger, Copper pipe / aluminium wing coil condenser, standard condensate control, microprocessor electronic control.

Versions

Only cooling version (TCAEY), Heat-pump version (THAEY)



TCAEY - THAEY SERIES		245	250	260	265
Nominal Cooling Capacity	kW	44,2	51,3	59,2	64,0
Nominal Heating Capacity	kW	47,8	55,8	62,2	67,9
Sound Pressure Level	dB(A)	56	56	57	57
Compressor/Steps	n	2/3	2/3	2/3	2/3
Circuit Number	n	1	1	1	1
Power Usage (Cooling)	kW	17,4	19,7	22,1	24,0
Power Usage (Heating)	kW	16,6	18,6	20,5	23,3
Main Supply	V-ph-Hz	400-3+N-50			
Length	mm	2.260	2.260	2.260	2.260
Height	mm	1.570	1.570	1.570	1.570
Width	mm	1.000	1.000	1.000	1.000
Weight TCAEY	kg	725	750	775	820
Weight THAEY	kg	745	770	795	840

The cooling values are valid under conditions of 35°C external air temperature and 7/12°C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Volume levels are valid under conditions of 5 meter distance and direction factor Q=2

TXAEY SERIES

Y-Pack EXP Range

280 ÷ 4320 MODELS

EXPsystems - Polyvalent ecological air-cooled system with axial fans. Range with semi-hermetic scroll compressors and R410a refrigerant gas.
Main Characteristic
Hermetic, rotary scroll compressor, main and secondary heat exchanger is crossed flow stainless steel plate exchanger, air side heat exchanger copper pipe and aluminium fins, microprocessor control.
Versions
T - High efficiency / temperature version with EC motor fans (TXAETY)
S - Silenced version complete with soundproofed compressor, lower fan speed with EC motor (TXAESY).

R410A

TXAETY - TXAESY SERIES		280	2100	2130	4160	4200	4260	4320
Nominal Cooling Capacity TXAETY	kW	84	108	135	163	207	264	334
Nominal Cooling Capacity TXAESY	kW	81	104	130	157	200	255	317
Recovery Heating Capacity	kW	108	140	174	215	272	346	440
Nominal Heating Capacity TXAETY	kW	86	111	139	171	227	281	353
Nominal Heating Capacity TXAESY	kW	84	108	136	167	221	274	344
EER TXAETY		3,13	3,1	3,11	2,91	2,85	2,87	2,85
EER TXAESY		3,00	2,95	2,96	2,77	2,71	2,74	2,67
COP TXAETY		8,18	7,76	7,89	7,36	7,39	7,53	7,36
COP TXAESY		3,46	3,36	3,34	3,13	3,14	3,1	3,08
Sound Pressure Level TXAETY	dB(A)	52	52	53	54	59	61	61
Sound Pressure Level TXAESY	dB(A)	49	49	50	51	54	57	57
Compressor/Steps	n	2/2	2/2	2/2	4/4	4/4	4/4	4/4
Circuit Number	n	2	2	2	2	2	2	2
Main Supply	V-ph-Hz	400-3-50						
Length	mm	3.000	3.000	3.700	3.700	4.800	4.800	4.800
Height	mm	2.000	2.000	2.000	2.000	2.030	2.030	2.030
Depth	mm	2.090						

Cooling capacity is under conditions of 35 °C air, 12/7 °C water.

Heating capacity is under conditions of 12/7 °C evaporator water, recovery outlet water 45 °C.

Sound levels are taken in 10 m from the unit in free field (Q=2)

TXAVZ SERIES

Z-Power EXP Range

2420 ÷ 2700 MODELS

EXPsystems – Polyvalent ecological air-cooled system with axial fans. Range with semi-hermetic screw compressors and R134a refrigerant gas.
Main Characteristic
High energy efficiency semi-hermetic screw compressor, main and secondary shell and tube heat exchanger, air side heat exchanger copper pipe and aluminium fins, microprocessor control.
Versions
B - Standard version (TXAVBZ);
S - Silenced version with lower fan speed and soundproofed compressor cover (TXAVSZ).
I - Soundproofed version with soundproofed compressor cover (TXAVIZ).



TXAVBZ - TXAVSZ SERIES		2420	2480	2550	2610	2700
Nominal Cooling Capacity TXAVBZ	kW	425	482	555	617	698
Nominal Cooling Capacity TXAVSZ	kW	408	463	533	592	670
Recovery Heating Capacity TXAVBZ	kW	545	622	709	786	888
Recovery Heating Capacity TXAVSZ	kW	545	622	709	786	888
Nominal Heating Capacity TXAVBZ	kW	430	490	568	625	707
Nominal Heating Capacity TXAVSZ	kW	413	470	545	600	679
EER TXAVBZ		2,96	2,92	3,10	3,11	3,11
EER TXAVSZ		2,85	2,81	2,99	3,00	3,00
COP TXAVBZ		8,03	7,79	8,13	8,24	8,33
COP TXAVSZ		2,92	2,97	3,08	3,10	3,09
Sound Pressure Level TXAVBZ	dB(A)	65	65	65	66	67
Sound Pressure Level TXAVSZ	dB(A)	59	59	59	60	61
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2
Main Supply	V-ph-Hz	400-3-50				
Length	mm	6.130	6.130	6.130	6.980	7.980
Height	mm	2.430	2.430	2.430	2.430	2.430
Depth	mm	2.260	2.260	2.260	2.260	2.260

Cooling capacity is under conditions of 35°C air, 12/7°C water.

Heating capacity is under conditions of 12/7°C evaporator water, recovery outlet water 45°C.

Sound levels are taken in 10 m from the unit in free field (Q=2)

TXHVZ SERIES

2410 ÷ 2740 MODELS

EXPsystems – Polyvalent ecological water-cooled heat pump system. Range with semi-hermetic screw compressors and R134a refrigerant gas.
Main Characteristic
High energy efficiency semi-hermetic screw compressor, primery (user) and secondary (recovery) shell and tube heat exchanger, microprocessor control.

Versions
B - Standard version (TXHVBZ); I – Soundproofed version with soundproofed compressor cover (TXHVIZ).

R134a



TXHVBZ - TXHVIZ SERIES		2410	2450	2500	2590	2660	2740
Nominal Cooling Capacity	kW	434	476	531	626	698	782
Recovery Heating Capacity	kW	458	513	559	662	735	833
Nominal Heating Capacity	kW	482	539	589	694	773	878
EER		5,51	5,43	5,72	5,84	5,73	5,66
COP		4,56	4,53	4,77	4,80	4,81	4,76
Sound Pressure Level	dB(A)	97	97	98	99	99	99
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2
Main Supply	V-ph-Hz	400-3-50					
Length	mm	4.420					
Height	mm	2.030					
Depth	mm	1.620					

Cooling capacity is under conditions of 12/7 °C chilled water, condenser water 14/30 °C.
Heating capacity is under conditions of 12/7 °C chilled water, condenser water 40/45 °C.
Sound levels are taken in accordance with UNI EN-ISO 9614.

THAETY SERIES

234 H.T. MODELS

Modular reversible heat pumps for production of hot water with air cooled evaporation/condensation and axial fans with EC brushless motor.
Range with hermetic scroll compressors and R410A refrigerant gas.

Main Characteristic
Allows you to couple up to 4 units with a design studied to reduce clearance space to a minimum and therefore the overall encumbrance of the units. Hermetic Scroll type rotary compressors, Air side finned coil heat exchanger, with copper pipes and aluminium fins, microprocessor electronic control.

R410A



THAETY 234 H.T.		Fancoil System	Radiant System
Heating Capacity	kW	34,3 [1]	34,4 [2]
COP	kW	3,43 [1]	4,18 [2]
Total Absorbed Power	kW	10,4 [1]	8,60 [2]
Cooling Caapcity	kW	28,3 [3]	38,8 [4]
EER		2,93	3,85
ESEER		4,02	
Available pump head pressure	kPa	113 [1]	114 [2]
Sound Pressure Level	dB(A)		42,8
Main Supply	V-ph-Hz	400 – 3 – 50	
Length	mm	1.297	
Height	mm	2.152	
Depth	mm	1.224	

[1] Air: 7°C D.B - 6°C W.B. - Water: 40/45°C.
[2] Air: 7°C D.B - 6°C W.B. Water: 30/35°C.
[3] Air: 35°C D.B - Water: 12/7°C.
Desuperheater Water 50/60°C.
[4] Air: 35°C - Water: 23/18°C.

THAETY 234 H.T.		Heating Capacity (Air: 7°C D.B - 6°C W.B. - Water: 40/45°C.)	Cooling Capacity (Air: 35°C Water: 12/7°C)
1 UNIT	kW	34,3	28,3
2 UNITS	kW	68,6	56,6
3 UNITS	kW	102,9	84,9
4 UNITS	kW	137,2	113,2

115 ÷ 238 MODELS

Packaged Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers, Heat Pump units

Main Characteristic
Scroll hermetic compressor, plated type heat exchanger, Copper pipe / aluminium wing coil condenser, microprocessor electronic control.
Versions
Only cooling version (TCAEY),
Heat-pump version (THAEY)

R410A



TCAEY - THAEY SERIES		115	117	122	124	127	130	133	233	238
Nominal Cooling Capacity	kW	15,4	17,4	22,7	24,3	26,9	29,1	34,0	32,5	38,8
Nominal Heating Capacity	kW	16,8	17,9	23,9	26,1	30,7	34,4	39,1	37,5	41,7
Sound Pressure Level	dB(A)	50	50	52	52	53	53	54	54	54
Compressor/Steps	n	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2
Circuit Number	n	1	1	1	1	1	1	1	1	1
Power Usage (Cooling)	kW	5,6	6,5	8,2	9,3	10,4	11,9	13,3	12,3	12,7
Power Usage (Heating)	kW	5,5	6,1	7,9	8,9	10,0	11,1	13,3	12,3	12,8
Main Supply	V-ph-Hz	400-3+N-50								
Water Tank Capacity	lt	35	35	45	45	45	45	80	80	150
Length (Standard Unit)	mm	-	-	-	-	-	-	1.660	1.660	2.260
Length (Pumped Unit)	mm	1.230	1.230	1.230	1.230	1.535	1.535	1.660	1.660	2.260
Length (Tank&Pumped Unit)	mm	1.522	1.522	1.522	1.522	1.822	1.822	1.660	1.660	2.260
Height	mm	1.090	1.090	1.280	1.280	1.510	1.510	1.570	1.570	1.570
Width	mm	580	580	600	600	695	695	1.000	1.000	1.000
Weight TCAEY	kg	210	220	270	280	310	370	450	465	625
Weight THAEY	kg	215	225	278	288	320	380	460	475	645

The cooling values are valid under conditions of 35°C external air temperature and 7/12°C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Volume levels are valid under conditions of 5 meter distance and direction factor Q=2.

TCAEY - THAEY SERIES Compact - Y

118 ÷ 136 HE MODELS

High Energy Efficiency, Packaged Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers, Heat Pump units

Main Characteristic
Scroll hermetic compressor, plated type heat exchanger, Copper pipe / aluminium wing coil condenser, Standard condensate control, microprocessor electronic control.
Versions
Only cooling version (TCAEY)
Heat-pump version (THAEY)

R410A



TCAEY - THAEY SERIES		118	120	125	129	132	136
Nominal Cooling Capacity	kW	13,4	15,5	18,7	22,6	24,3	27,8
Nominal Heating Capacity	kW	15,6	16,1	20,3	23,8	27,7	31,7
Sound Pressure Level	dB(A)	48	50	52	52	53	53
Compressor/Steps	n	1/1	1/1	1/1	1/1	1/1	1/1
Circuit Number	n	1	1	1	1	1	1
Power Usage (Cooling)	kW	4,95	5,33	6,30	7,61	8,20	10,12
Power Usage (Heating)	kW	4,97	5,23	6,10	7,48	8,63	10,12
Main Supply	V-ph-Hz	400-3+N-50					
Water Tank Capacity	lt	35	35	45	45	45	45
Length (Pumped Unit)	mm	1.230	1.230	1.230	1.230	1.535	1.535
Length (Tank&Pumped Unit)	mm	1.522	1.522	1.522	1.522	1.822	1.822
Height	mm	1.090	1.090	1.280	1.280	1.510	1.510
Width	mm	580	580	600	600	695	695
Weight TCAEY	kg	210	220	270	280	310	370
Weight THAEY	kg	215	225	278	288	320	380

The cooling values are valid under conditions of 35°C external air temperature and 7/12°C water regime, heating values are valid under conditions of 7°C DB, 6°C WB external air temperature and 40/45°C water regime.
Volume levels are valid under conditions of 5 meter distance and direction factor Q=2.

1201 ÷ 31631 H.E. MODELS

Packaged Water Cooled Water Chillers, Semi-Hermetic Screw Compressor



Main Characteristic

High energy efficiency semi-hermetic screw compressor, evaporator dry expansion shell and tube exchanger, shell and tube condenser, electronic expansion valve, microprocessor electronic control.

Versions

Standard version. (TCHVBZ), Sound insulation version. (TCHVIZ)

R134a

TCHVBZ - TCHVIZ SERIES		1201	1231	1281	1311	1351	1421	1481	1531	1611	2411	2431
Nominal Cooling Capacity	kW	204	231	283	309	354	418	480	535	608	407	435
Sound Pressure Level TCHVBZ	dB(A)	94	94	97	97	97	97	97	98	98	97	97
Sound Pressure Level TCHVIZ	dB(A)	92	92	95	95	95	95	95	96	96	95	95
Compressor/Steps	n	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	2/6	2/6
Circuit Number	n	1	1	1	1	1	1	1	1	1	2	2
Power Usage	kW	40,4	45,7	55,9	61,1	70,1	82,8	95,0	105,9	120,3	80,5	86,0
Main Supply	V-ph-Hz	400-3-50										
Length	mm	3.460	3.460	3.440	3.440	3.450	3.450	3.450	3.450	3.450	3.880	3.880
Height	mm	1.460	1.460	1.460	1.460	1.640	1.640	1.640	1.740	1.740	1.840	1.840
Width	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.300	1.300
Weight TCHVBZ	kg	1.343	1.369	1.715	1.733	1.885	2.374	2.413	2.662	2.697	2.386	2.413
Weight TCHVIZ	kg	1.598	1.624	1.970	1.988	2.140	2.629	2.668	2.917	2.952	2.816	2.823
TCHVBZ - TCHVIZ SERIES		2461	2511	2561	2601	2631	2681	2711	2781	2841	2901	2961
Nominal Cooling Capacity	kW	462	514	565	599	629	677	715	778	839	901	958
Sound Pressure Level TCHVBZ	dB(A)	97	99	99	99	99	99	99	99	99	99	99
Sound Pressure Level TCHVIZ	dB(A)	95	97	97	97	97	97	97	97	97	97	97
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	1/3	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	1	2	2
Power Usage	kW	91,4	101,9	111,7	118,1	124,3	133,4	141,6	153,8	166,1	178,4	189,8
Main Supply	V-ph-Hz	400-3-50										
Length	mm	4.000	4.070	4.070	4.070	4.070	4.070	4.070	4.120	4.000	4.000	4.000
Height	mm	1.840	1.960	1.960	1.960	1.960	1.960	1.960	1.840	1.840	1.910	1.910
Width	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
Weight TCHVBZ	kg	2.458	2.953	3.297	3.320	3.337	3.404	3.447	3.920	4.406	4.636	4.669
Weight TCHVIZ	kg	2.888	3.383	3.727	3.750	3.767	3.834	3.877	4.350	4.836	5.066	5.099
TCHVBZ - TCHVIZ SERIES		21031	21111	21181	21261	31301	31351	31401	31461	31521	31591	31631
Nominal Cooling Capacity	kW	1.029	1.109	1.181	1.258	1.308	1.356	1.406	1.463	1.524	1.583	1.635
Sound Pressure Level TCHVBZ	dB(A)	99	99	99	99	101	101	101	102	102	102	102
Sound Pressure Level TCHVIZ	dB(A)	97	97	97	97	99	99	99	100	100	100	100
Compressor/Steps	n	2/6	2/6	2/6	2/6	3/9	3/9	3/9	3/9	3/9	3/9	3/9
Circuit Number	n	2	2	2	2	3	3	3	3	3	3	3
Power Usage	kW	203,0	215,0	227,5	242,0	251,6	263,4	275,1	286,8	298,3	309,2	320,1
Main Supply	V-ph-Hz	400-3-50										
Length	mm	4.000	4.000	4.000	4.000	4.940	4.940	4.940	4.940	4.940	4.940	4.940
Height	mm	1.950	1.950	1.950	1.950	2.220	2.220	2.220	2.220	2.220	2.220	2.220
Width	mm	1.300	1.300	1.300	1.300	1.700	1.700	1.700	1.700	1.700	1.700	1.700
Weight TCHVBZ	kg	4.779	4.870	5.008	4.934	6.795	6.827	6.852	6.891	6.980	7.068	7.157
Weight TCHVIZ	kg	5.209	5.300	5.438	5.364	7.395	7.427	7.452	7.491	7.580	7.668	7.757

The cooling values are valid under conditions of 30/35°C Condenser and 7/12 °C Evaporator water regime.
Volume levels are acoustic power values that are measured according to ISO 3744 standards and are distance-independent.

Z-Flow TCHVZ SERIES

1200 ÷ 31630 MODELS

Water Cooling Condensate, Screw Compressor, Water Chillers



Main Characteristic

High efficiency screw compressor, electronic expansion valve, dry expansion shell and tube type evaporator, shell and tube type condenser, microprocessor electronic control.

Versions

Standard version. (TCHVBZ),
Sound insulated version. (TCHVIZ)

R134a

TCHVBZ - TCHVIZ SERIES		1200	1230	1280	1310	1350	1410	1460	1530	1590	2400	2420
Nominal Cooling Capacity	kW	199,7	226,3	277,3	306,3	347,6	404,6	462,4	524,9	589,3	391,7	413,0
Sound Pressure Level TCHVBZ	dB(A)	94	94	97	97	97	97	97	98	98	97	97
Sound Pressure Level TCHVIZ	dB(A)	92	92	95	95	95	95	95	96	96	95	95
Compressor/Steps	n	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	2/6	2/6
Circuit Number	n	1	1	1	1	1	1	1	1	1	2	2
Power Usage	kW	40,5	46,0	56,5	62,7	70,5	82,1	94,3	107,2	119,8	80,0	85,8
Main Supply	V-ph-Hz	400-3-50										
Length	mm	3.460	3.460	3.440	3.440	3.450	3.450	3.450	3.450	3.450	3.880	3.880
Height	mm	1.460	1.460	1.460	1.460	1.640	1.640	1.640	1.740	1.740	1.840	1.840
Width	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.300	1.300
Weight TCHVBZ	kg	1.333	1.359	1.695	1.713	1.865	2.354	2.393	2.642	2.687	2.366	2.393
Weight TCHVIZ	kg	1.588	1.614	1.950	1.968	2.120	2.609	2.648	2.897	2.942	2.796	2.823

TCHVZ SERIES

1200 ÷ 31630 MODELS

TCHVBZ - TCHVIZ SERIES		2440	2510	2560	2600	2630	2680	2710	2750	2790	2880	2930
Nominal Cooling Capacity	kW	432,0	506,8	550,8	592,0	621,6	676,8	709,8	742,0	787,0	879,1	927,2
Sound Pressure Level TCHVBZ	dB(A)	97	99	99	99	99	99	99	99	99	99	99
Sound Pressure Level TCHVIZ	dB(A)	95	97	97	97	97	97	97	97	97	97	97
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	91,0	105,6	111,5	120,3	126,1	137,3	144,1	152,0	162,8	178,7	192,8
Main Supply	V-ph-Hz	400-3-50										
Length	mm	4.000	4.070	4.070	4.070	4.070	4.070	4.070	4.120	4.000	4.000	4.000
Height	mm	1.840	1.960	1.960	1.960	1.960	1.960	1.960	1.840	1.840	1.910	1.910
Width	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
Weight TCHVBZ	kg	2.438	2.923	3.257	3.280	3.297	3.364	3.407	3.880	4.366	4.596	4.629
Weight TCHVIZ	kg	2.868	3.353	3.687	3.710	3.227	3.794	3.837	4.310	4.796	5.026	5.059
TCHVBZ - TCHVIZ SERIES		**21030**	**21110**	**21180**	**21260**	**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
Nominal Cooling Capacity	kW	1.016,6	1.087,3	1.155,8	1.208,4	1.282,9	1.330,0	1.377,2	1.437,5	1.518,5	1.580,8	1.629,2
Sound Pressure Level TCHVBZ	dB(A)	99	99	99	99	101	101	101	102	102	102	102
Sound Pressure Level TCHVIZ	dB(A)	97	97	97	97	99	99	99	100	100	100	100
Compressor/Steps	n	2/6	2/6	2/6	2/6	3/9	3/9	3/9	3/9	3/9	3/9	3/9
Circuit Number	n	2	2	2	2	3	3	3	3	3	3	3
Power Usage	kW	210,0	222,8	234,9	248,0	257,7	270,0	282,9	295,4	309,0	321,7	334,2
Main Supply	V-ph-Hz	400-3-50										
Length	mm	4.000	4.000	4.000	4.000	4.940	4.940	4.940	4.940	4.940	4.940	4.940
Height	mm	1.950	1.950	1.950	1.950	2.220	2.220	2.220	2.220	2.220	2.220	2.220
Width	mm	1.300	1.300	1.300	1.300	1.700	1.700	1.700	1.700	1.700	1.700	1.700
Weight TCHVBZ	kg	4.739	4.830	4.878	4.914	6.735	6.767	6.792	6.831	6.920	7.008	7.097
Weight TCHVIZ	kg	5.169	5.260	5.308	5.344	7.335	7.367	7.392	7.431	7.520	7.608	7.697

The cooling values are valid under conditions of 7/12 °C chilled water and 30/35 °C condenser water regime. Total sound power level on the basis of measurements taken in accordance with ISO 3744.

TCEVZ SERIES

1200 ÷ 31630 MODELS

Only Cooling, Discrete Condenser, Screw Compressor, Water Chillers

Main Characteristic

High efficiency screw compressor, electronic expansion valve, dry expansion shell and tube type evaporator, microprocessor electronic control.

Versions

Standard version. (TCEVBZ)

Sound insulated version. (TCEVIZ)

R134a



TCEVBZ - TCEVIZ SERIES		1200	1230	1280	1310	1350	1410	1460	1530	1590	2400	2420
Nominal Cooling Capacity	kW	171,9	190,8	238,1	260,4	300,6	346,2	399,7	446,4	508,9	335,8	356,6
Sound Pressure Level TCEVBZ	dB(A)	94	94	97	97	97	97	97	98	98	97	97
Sound Pressure Level TCEVIZ	dB(A)	92	92	95	95	95	95	95	96	96	95	95
Compressor/Steps	n	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	2/6	2/6
Circuit Number	n	1	1	1	1	1	1	1	1	1	2	2
Power Usage	kW	50,5	58,1	72,2	79,0	88,1	104,0	122,2	135,3	149,7	100,7	108,3
Main Supply	V-ph-Hz	400-3-50										
Length	mm	3.440	3.440	3.420	3.440	3.450	3.450	3.450	3.460	3.460	3.870	3.870
Height	mm	1.460	1.460	1.460	1.460	1.640	1.640	1.640	1.740	1.740	1.490	1.490
Width	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.300	1.300
Weight TCEVBZ	kg	1.078	1.093	1.410	1.414	1.557	2.032	2.038	2.252	2.281	1.797	1.811
Weight TCEVIZ	kg	1.333	1.348	1.665	1.669	1.812	2.287	2.293	2.507	2.536	2.227	2.241
TCEVBZ - TCEVIZ SERIES		**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**	**2750**	**2790**	**2880**	**2930**
Nominal Cooling Capacity	kW	372,1	431,9	473,4	506,4	529,3	581,4	614,1	647,8	681,6	753,9	801,4
Sound Pressure Level TCEVBZ	dB(A)	97	99	99	99	99	99	99	99	99	99	99
Sound Pressure Level TCEVIZ	dB(A)	95	97	97	97	97	97	97	97	97	97	97
Compressor/Steps	n	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	2
Power Usage	kW	115,7	130,6	144,4	151,5	158,4	168,0	176,6	192,1	207,6	226,5	244,4
Main Supply	V-ph-Hz	400-3-50										
Length	mm	3.870	4.070	4.070	4.070	4.070	4.070	4.070	4.120	4.000	4.000	4.000
Height	mm	1.490	1.610	1.610	1.610	1.610	1.610	1.610	1.490	1.490	1.560	1.560
Width	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
Weight TCEVBZ	kg	1.819	2.311	2.629	2.637	2.638	2.698	2.733	3.176	3.631	3.844	3.859
Weight TCEVIZ	kg	2.249	2.741	3.059	3.067	3.068	3.128	3.163	3.606	4.061	4.272	4.289
TCEVBZ - TCEVIZ SERIES		**21030**	**21110**	**21180**	**21260**	**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
Nominal Cooling Capacity	kW	896,1	959,4	1.027,8	1.101,5	1.129,6	1.178,3	1.227,0	1.287,5	1.340,1	1.388,5	1.424,8
Sound Pressure Level TCEVBZ	dB(A)	99	99	99	99	101	101	101	102	102	102	102
Sound Pressure Level TCEVIZ	dB(A)	97	97	97	97	99	99	99	100	100	100	100
Compressor/Steps	n	2/6	2/6	2/6	2/6	3/9	3/9	3/9	3/9	3/9	3/9	3/9
Circuit Number	n	2	2	2	2	3	3	3	3	3	3	3
Power Usage	kW	257,9	271,0	285,5	299,4	314,1	331,8	349,5	367,1	380,4	393,4	406,4
Main Supply	V-ph-Hz	400-3-50										
Length	mm	4.000	4.000	4.000	4.000	4.940	4.940	4.940	4.940	4.940	4.940	4.940
Height	mm	1.600	1.600	1.600	1.600	1.620	1.620	1.620	1.620	1.620	1.620	1.620
Width	mm	1.300	1.300	1.300	1.300	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Weight TCEVBZ	kg	3.936	3.993	4.024	4.044	5.555	5.570	5.585	5.600	5.678	5.710	5.790
Weight TCEVIZ	kg	4.366	4.423	4.454	4.474	6.155	6.170	6.185	6.200	6.278	6.310	6.390

The cooling values are valid under conditions of 50 °C condensation temperature and 7/12 °C chilled water regime. Total sound power level on the basis of measurements taken in accordance with ISO 3744.

TCHEY - THHEY SERIES

245 ÷ 4450 MODELS

Packaged Water Cooled, Scroll Hermetic Compressor, Insulated Stainless Steel Plate Exchanger, Water Chillers

Main Characteristic
Rotary Scroll hermetic compressor, electronic expansion valve, plated type exchanger
Stainless steel plate exchanger condenser, Microprocessor electronic control.
Versions
Only Cooling Standard version (TCHEY)
Heat-Pump Standard version (THHEY)



R410A

TCHEY-THHEY SERİSİ		245	250	260	270	275	290	2100	2115	2130	2145	2165
Nominal Cooling Cap. TCHEY	kW	45,2	53,3	60,6	69,2	75,9	90,1	103,1	117,3	131,0	145,7	165,5
Nominal Cooling Cap. THHEY	kW	41,4	48,7	55,4	63,2	69,4	82,3	96,2	109,5	121,1	134,8	152,7
Nominal Heating Cap. THHEY	kW	50,00	58,84	67,59	75,41	83,66	101,76	116,26	133,25	147,33	162,82	186,13
Sound Pressure Level	dB(A)	67	67	68	68	69	70	71	72	73	74	74
Compressor/Steps	n	2/2	2/2	2/2	2/2	2/3	2/2	2/3	2/3	2/3	2/2	2/3
Circuit Number	n	1	1	1	1	1	1	1	1	1	1	1
Absorbed power TCHEY	kW	9,65	11,16	12,89	14,73	16,16	18,78	21,98	25,18	28,47	31,31	36,42
Absorbed power THHEY	kW	12,03	13,72	15,66	17,42	19,55	23,41	27,13	31,04	34,89	38,90	45,21
Main Supply	V-ph-Hz	400-3+N-50										
Length (standard)	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.250	1.250	1.250	1.250	1.250
Length (with pump)	mm	1.250	1.250	1.250	1.250	1.250	1.250	1.500	1.500	1.500	1.500	1.500
Height	mm	1.400	1.400	1.400	1.400	1.400	1.400	1.550	1.550	1.550	1.550	1.550
Width	mm	870	870	870	870	870	870	870	870	870	870	870

TCHEY-THHEY SERİSİ		2185	4180	4205	4235	4260	4290	4330	4360	4410	4450	
Nominal Cooling Cap. TCHEY	kW	184,8	181,4	207,4	233,2	260,9	288,4	327,1	364,4	408,7	450,8	
Nominal Cooling Cap. THHEY	kW	170,6	161,0	184,2	207,3	232,2	256,1	293,9	331,4	375,1	414,5	
Nominal Heating Cap. THHEY	kW	208,84	201,28	229,88	258,02	290,86	322,44	367,46	411,96	462,16	512,72	
Sound Pressure Level	dB(A)	75	77	77	78	79	80	81	82	83	84	
Compressor/Steps	n	2/2	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	
Circuit Number	n	2	2	2	2	2	2	2	2	2	2	
Absorbed power TCHEY	kW	41,27	37,00	42,30	47,58	53,42	59,20	68,32	77,68	89,24	101,20	
Absorbed power THHEY	kW	51,33	43,36	50,54	57,62	64,74	71,72	82,96	94,14	107,40	120,82	
Main Supply	V-ph-Hz	400-3+N-50										
Length (standard)	mm	1.250	2.509	2.509	2.509	2.509	2.509	2.509	2.509	2.509	2.509	
Length (with pump)	mm	1.500	3.734	3.734	3.734	3.734	3.734	3.734	3.734	3.734	3.734	
Height	mm	1.550	1.855	1.855	1.855	1.855	1.855	1.855	1.855	1.855	1.855	
Width	mm	870	870	870	870	870	870	870	870	870	870	

The cooling values are valid under conditions of 7/12 °C chilled water and 30/35 °C condenser water regime, heating values are valid under conditions of 10 °C evaporator water and 40/45 °C hot water regime.
Total sound power level on the basis of measurements taken in accordance with ISO 3744.

Mini Q-Flow (105-115) - Compact Flow (120-1[illegible] - Q Flow (280-4260) TCEE SERIES

105 ÷ 4260 MODELS

Cooling only condenserless unit, Scrool Hermetic Compressor, Stainless Steel Plate Exchanger, Water Chillers

Main Characteristic
Rotary Scroll hermetic compressor, plated type exchanger, Microprocessor electronic control,
High and low pressure gauges complete with capillaries.
Versions
Only cooling Standard version (TCEEB)
Soundproofed unit designed for cooling only (TCCEI)



R407C

TCEEB SERİSİ		105	115	120	125	135	140	155	165
Nominal Cooling Capacity	kW	5,5	11,6	17,2	24,3	31,8	37,1	50,2	62,2
Sound Pressure Level	dB(A)	51	57	60	64	67	68	71	72
Compressor/Steps	n	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Circuit Number	n	1	1	1	1	1	1	1	1
Absorbed power	kW	2,0	4,1	6,0	8,4	10,8	12,7	17,1	20,8
Main Supply	V-ph-Hz	230-1-50	400-3+N-50						
Length	mm	750	750	750	750	750	750	987	987
Height	mm	869	869	869	869	869	869	869	869
Width	mm	615	615	615	615	615	615	636	636
Weight	kg	154	172	211	224	247	270	490	505

TCEEB-TCEEI SERİSİ		280	2110	2130	4160	4190	4220	4240	4260
Nominal Cooling Capacity	kW	74,2	100,4	124,5	148,4	174,6	200,8	224,9	249,0
Sound Pressure Level	dB(A)	71	74	75	76	78	79	80	80
Sound Pressure Level (TCEEI)	dB(A)	69	72	73	74	76	77	78	78
Compressor/Steps	n	2	2	2	4	4	4	4	4
Circuit Number	n	1	1	1	2	2	2	2	2
Absorbed power	kW	25,4	34,2	41,7	50,8	59,6	68,4	75,9	83,4
Main Supply	V-ph-Hz	400-3+N-50							
Length	mm	1.214	1.214	1.214	2.407	2.407	2.407	2.407	2.407
Height	mm	1.703	1.703	1.703	1.709	1.709	1.709	1.709	1.709
Width	mm	873	873	873	873	873	873	873	873
Weight	kg	645	790	808	906	1.015	1.121	1.140	1.157

The cooling values are valid under conditions of 50°C dew point and 7/12 °C water regime.
Total sound power level on the basis of measurements taken in accordance with ISO 3744.

MCAE SERIES

131 ÷ 2181 MODELS



Air Cooling Condenser, Scroll Hermetic Compressor, Condensing Units

Main Characteristic
Scroll hermetic compressor, Copper pipe / Aluminium wing coil condenser, Axial condenser fans, Standard fan speed control, Microprocessor electronic control.
Versions
Only Cooling (MCAE)

R407C

MCAE SERIES		131	139	145	243	252	261	268
Nominal Cooling Capacity	kW	30,5	37,0	45,2	43,0	52,2	61,1	67,6
Sound Pressure Level	dB(A)	52,5	52,5	52,5	52,5	52,5	52,5	52,5
Compressor/Steps	n	1/1	1/1	1/1	2/2	2/2	2/2	2/2
Circuit Number	n	1	1	1	1	1	1	1
Power Usage	kW	8,6	10,8	12,9	12,5	15,1	17,1	19,3
Main Supply	V-ph-Hz	400-3+N-50						
Length	mm	1.870	1.870	1.870	1.870	1.870	2.608	2.608
Height	mm	1.406	1.406	1.406	1.406	1.406	1.759	1.759
Width	mm	850	850	850	850	850	1.105	1.105
Weight	kg	320	331	342	545	560	690	705

MCAE SERIES		276	291	2103	2121	2136	2146	2163	2181
Nominal Cooling Capacity	kW	75,5	90,1	103,0	120,5	135,5	140,4	163,2	181,1
Sound Pressure Level	dB(A)	53,5	53,5	55,5	56,0	56,4	56,6	57,0	57,5
Compressor/Steps	n	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Circuit Number	n	1	1	1	1	1	1	1	1
Power Usage	kW	21,5	25,8	30,0	34,1	38,2	40,3	46,4	50,5
Main Supply	V-ph-Hz	400-3+N-50							
Length	mm	2.608	2.608	3.608	3.608	3.608	3.608	3.608	3.608
Height	mm	1.759	1.759	1.759	1.759	1.759	1.759	2.179	2.179
Width	mm	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
Weight	kg	740	790	1.040	1.120	1.170	1.200	1.300	1.480

The cooling values are valid under conditions of 35°C external air temperature and 5°C evaporation. Total sound power levels are valid under conditions of 10 meter distance and direction factor Q=2.

MCAE - MHAE SERIES

105 ÷ 127 MODELS



Air Cooling Condenser, Scroll Hermetic Compressor, Condensing Units and heat pump units.

Main Characteristic
Scroll hermetic compressor, Copper pipe / Aluminium wing coil condenser, Axial condenser fans, Microprocessor electronic control.
Versions
Only Cooling (MCAE), Heat-Pump (MHAE)

R407C

MCAE SERIES		105	106	108	110	115	118	122	127
Nominal Cooling Capacity	kW	5,1	6,3	7,6	8,5	14,7	17,6	21,8	26,3
Sound Pressure Level	dB(A)	54	53	55	54	49	50	51	52
Power Usage	kW	1,87	2,45	3,00	3,40	4,91	5,65	7,41	8,92
Main Supply	V-ph-Hz	230-1-50	230-1-50	230-1-50 400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
Length	mm	790	790	830	830	1.326	1.326	1.716	1.716
Height	mm	600	600	900	900	1.230	1.230	1.230	1.230
Width	mm	300	300	300	300	527	527	615	615
Weight	kg	59	65	84	85	180	200	260	290

MHAE SERIES		105	106	108	110	115	118	122	127
Nominal Cooling Capacity	kW	5,1	6,3	7,6	8,5	14,7	17,6	21,8	26,3
Nominal Heating Capacity	kW	6,0	7,2	9,0	10,4	15,8	19,9	24,5	29,9
Sound Pressure Level	dB(A)	54	53	55	54	49	50	51	52
Power Usage (Cooling)	kW	1,87	2,45	3,00	3,40	4,91	5,65	7,41	8,92
Power Usage (Heating)	kW	1,75	2,10	2,81	3,20	5,12	5,63	7,23	8,40
Main Supply	V-ph-Hz	230-1-50	230-1-50	230-1-50 400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50
Length	mm	790	790	830	830	1.326	1.326	1.716	1.716
Height	mm	600	600	900	900	1.230	1.230	1.230	1.230
Width	mm	300	300	300	300	527	527	615	615
Weight	kg	60	66	88	90	200	210	280	300

The cooling values are valid under conditions of 35°C external air temperature and 7°C evaporation, heating values are valid under conditions of 6°C W.B. external air temperature and 45°C (mod. 105-110); 50°C (mod. 115-127) condensation. Total sound power levels are valid under conditions of 5 meter distance and direction factor Q=2.

118 ÷ 2189 MODELS

Air-Cooled, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers

Main Characteristic

In the big models 2-3 stage capacity controlled unit, Scroll hermetic compressor, plated type heat exchanger (Evaporator), Copper pipe / Aluminium wing coil condenser, microprocessor electronic control, standard fan speed control

Versions

Only cooling version (TCAEY), Standard Tank&pumped (118-270), without pump (279-2189)

R410A



TCAEY SERIES		118	121	128	131	135	140	253	261	270
Nominal Cooling Capacity	kW	15,4	17,4	22,7	24,3	29,1	34,0	44,2	51,3	59,2
Sound Pressure Level	dB(A)	50,0	50,0	50,5	50,5	55,0	52,1	54,0	54,0	54,5
Compressor/Steps	n	1/1	1/1	1/1	1/1	1/1	1/1	2/3	2/3	2/3
Circuit Number	n	1	1	1	1	1	1	1	1	1
Pump External Static Pressure	kPa	420	390	336	335	271	520	480	450	425
Water Tank Capacity	lt	42	42	51	51	55	80	150	150	150
Power Usage	kW	5,6	6,5	8,2	9,3	11,8	13,3	17,4	19,7	22,1
Main Supply	V-ph-Hz	400-3+N-50								
Length	mm	510	510	510	510	610	1.710	2.315	2.315	2.315
Height	mm	1.305	1.305	1.505	1.505	1.740	1.570	1.570	1.570	1.570
Width	mm	1.525	1.525	1.525	1.525	1.825	1.070	1.070	1.070	1.070
Weight	kg	230	240	290	300	390	470	645	660	680

TCAEY SERIES		279	299	2109	2119	2139	2149	2169	2189
Nominal Cooling Capacity	kW	64,5	79,7	88,5	101,0	115,3	126,9	145,0	161,9
Sound Pressure Level	dB(A)	50,0	51,0	52,0	52,0	55,0	55,0	56,0	56,0
Compressor/Steps	n	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Circuit Number	n	2	2	2	2	2	2	2	2
Pump External St. Pressure P1	kPa	317	273	295	294	278	266	316	284
Pump External St. Pressure P2	kPa	415	375	379	390	371	355	443	412
Water Tank Capacity	lt	250	250	250	250	450	450	450	450
Power Usage	kW	22,2	36,7	30,4	34,6	39,5	43,7	50,0	55,9
Main Supply	V-ph-Hz	400-3+N-50							
Length	mm	3.150	3.150	3.150	3.150	3.250	3.250	3.250	3.250
Height	mm	1.520	1.520	1.520	1.520	2.000	2.000	2.000	2.000
Width	mm	1.210	1.210	1.210	1.210	1.520	1.520	1.520	1.520
Weight	kg	1.070	1.080	1.200	1.320	1.550	1.620	1.655	1.685

The cooling values are valid under conditions of 35°C external air temperature and 7/12 °C water regime. Volume levels are valid under conditions of 10 meter distance and direction factor Q=2.

4160 ÷ 4320 MODELS

Air-Cooled, Freecooling Feature, Scroll Hermetic Compressor, Axial Condenser Fan, Water Chillers

Main Characteristic

4 stage capacity controlled unit, Scroll hermetic compressor, plated type heat exchanger (Evaporator), Copper pipe / Aluminium wing coil condenser, Plated type heat exchanger in Freecooling NO-GLYCOL models, Microprocessor electronic control.

Versions

Only cooling Freecooling; High efficiency version (TFAETY) Silent version (TFAESY)

Only cooling. Freecooling NO-GLYCOL; High efficiency version (TGAETY) Silent version (TGAESY)

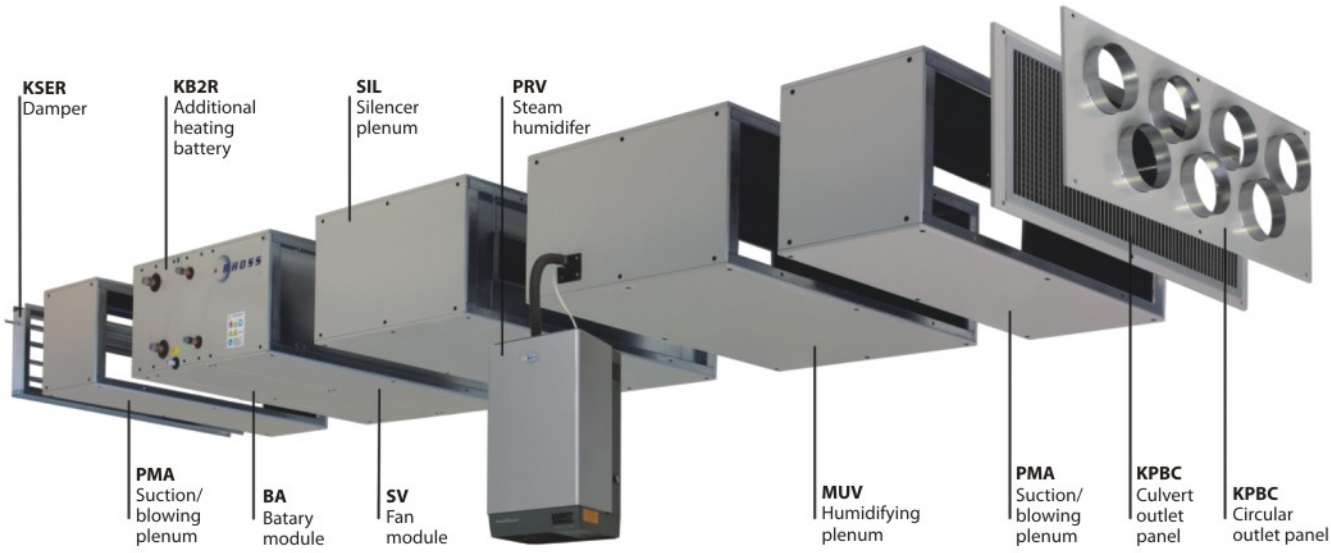
R410A



TFAETY- TFAESY SERIES		4160	4180	4200	4230	4260	4290	4320
Freecooling OFF								
Nominal Cooling Capacity (TFAETY)	kW	178	202	224	251	286	326	361
Nominal Cooling Capacity (TFAESY)	kW	170	197	215	240	274	312	344
Sound Pressure Level (TFAETY)	dB(A)	60	63	63	65	65	66	66
Sound Pressure Level (TFAESY)	dB(A)	55	56	56	58	59	60	60
Compressor/Steps	n	4/4	4/4	4/4	4/4	4/4	4/4	4/4
Circuit Number	n	2	2	2	2	2	2	2
Power Usage (TFAETY)	kW	53,8	59,3	68,4	78,5	85,6	102,0	117,0
Power Usage (TFAESY)	kW	53,0	59,3	69,2	77,2	85,2	100,9	117,9
Freecooling ON 100%		4160	4180	4200	4230	4260	4290	4320
Nominal Cooling Capacity(TFAETY)	kW	178	202	224	251	286	326	361
Nominal Cooling Capacity(TFAESY)	kW	170	197	215	240	274	312	344
Total Natural Cooling Temp. (TFAETY)	°C	0,3	1,0	0,4	0,7	0,9	0,4	-0,8
Total Natural Cooling Temp. (TFAESY)	°C	-1,3	-0,8	-1,5	-1,3	-1,1	-1,6	-3,0
Power Usage (TFAETY)	kW	8	8	8	12	12	16	16
Power Usage (TFAESY)	kW	5	5	5	7,5	7,5	10	10
Main Supply	V-ph-Hz	400-3+N-50						
Length	mm	4.800	4.800	4.800	4.800	5.300	5.300	5.300
Height	mm	2.030	2.030	2.030	2.030	2.030	2.030	2.030
Width	mm	2.090	2.090	2.090	2.090	2.090	2.090	2.090

Freecooling OFF Cooling values are valid under conditions of 30°C external air temperature, 10/15°C water regime and 30% glycol, Freecooling ON %100 Cooling values are valid under conditions of 10/15°C water regime and 30% glycol. Volume levels are valid under conditions of 10 meter distance and direction factor Q=2.

015 ÷ 150 MODELS



Main Characteristic

Internal case manufactured from galvanized sheet and external panels manufactured from pre-painted sheet, G3 quality filter consisting of two parts and can be demounted in every direction, 2-4 or 6 row Copper pipe/Aluminium wing heating and cooling coils, radial fans which are operated with 3 speed mode motor in 015-038 models, 2 speed mode motor in 051 model and one speed mode motor in 078-150 models, panel which is standard in 058-150 models and optional in 015-038 models

UTNA SERIES			015	020	029	038	051	078	107	130	300
Nominal Cooling Capacity*	BA-4R	kW	7,2	8,8	13,9	17,3	21,4	41,8	60,6	67,8	77,1
Nominal Heating Capacity**	BA-4R	kW	18,5	24,0	33,7	42,8	57,6	92,9	133,0	152,0	174,0
Nominal Cooling Capacity*	BA-6R	kW	9,9	12,5	17,9	22,4	30,9	55,6	82,7	94,4	108
Nominal Isıtma Kapasitesi**	BA-6R	kW	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Additional Heating Coil Capacity**	PBAB	kW	11,3	14,2	20,7	25,8	35,2	57,5	82,6	92,7	106,0
Air Flow	High	m^3/h	1.800	2.640	3.220	4.260	6.120	8.580	11.770	14.300	16.500
External Static Pressure****	High	Pa	90	90	90	90	130	170	160	145	140
Sound Pressure Level***	High	dB(A)	50,9	55,6	54,9	59,8	61,5	59,7	61,7	65,4	61,9
	Medium	dB(A)	44,3	50,2	48,3	55,7	--	--	--	--	--
	Low	dB(A)	37,1	42,1	38,7	51,4	54,4	--	--	--	--
Electric Heater (230 V-1 Phase-50 Hz)		kW	1,5-3-4,5	3-4,5-6	4,5-6-9	6-9-12	--	--	--	--	--
Electric Heater (400 V-3 Phase-50 Hz)		kW	1,5-3-4,5	3-4,5-6	4,5-6-9	6-9-12	9-12-18	12-18-24	18-24-36	18-24-36	24-36
Power Usage		W	370	700	700	1.250	1.850	1.500	1.500	2.200	3.000
Main Supply		V-ph-Hz	230-1-50				400-3-50				
Width		mm	928	928	1.228	1.228	1.328	1.658	2.058	2.058	2.058
Height		mm	398	398	463	518	568	768	918	918	1.018
Pma - Length		mm	370	370	435	490	540	740	890	890	990
Ba – Length		mm	645	645	645	645	645	910	910	910	910
Sv – Length		mm	370	370	435	490	490	1.040	1.040	1.040	1.040
Sil – Length		mm	960	960	960	960	960	1.040	1.040	1.040	1.040
Weight *****		kg	51	51	68	71	79	140	200	200	220

* Air: 27°C DB, 19°C WB, Water: 7/12 °C. High speed. ** Air: 20°C DB, Water: 70/60 °C. High speed. *** Measured without including channel connection and 3m away from outlet.
**** Valid for unfiltered and 3 row coil unit (BA-3R) under high speed.
(1) Not suitable for using with 70 °C hot water. For capacities under different temperatures, please see detail catalogue.(2) Belt-pulley driver with different dimensions.

ElectroVap® ELMC series DEVATEC steam humidifiers use the most hygienic method of humidifying as they use steam and their units can produce its own steam. The steam produced in the units is sterile and purified from minerals.

In the steam humidifers the steam is generated by forming an electric current in between electrodes and using the heat energy released from this reaction in steam generation. Being the basic features of the equipment, the steam thereby produced is conveyed into the channel or air handling plant via steam pipes and difusers or transferred to directly to the working location by means of a specially designed distribution cap.



Technical Features

The steam humidifiers which have capacity range from 2.5 to 99,1 kg/h can be grouped up to 990 kg/h capacity by means of using them as master/slave.

The units possess effaceable cylinders which are produced from durable materials and can be used under water conditions and also possess long-lasting stainless steel electrodes. The unit cases are manufactured being epoxy coated.

The units are compatible with soft water or mains water from 30 to 1000 µS/cm water conductivity.

In order to facilitate maintenance of the units, an opening in the front panel is made to access the equipment.

Units are produced with proportional steam production control to produce the steam as much as needed and to prevent unnecessary power consumption. When the unit is not operated for a long time, it possesses the features that prolong the unit life and increase the steam quality such as automatic self-discharge, automatic prevention of foam formation.

The unit is delivered to the customer with steam dispenser nozzles, steam hose which is heat resistant (2m) and condensate hose (2m).



Microprocessor control features

It is possible to track the steam humidifier position and operation mode on the digital display which is on the unit and connected to the processor card and this function provides convenience for the user.

In addition, the three separate menu selections allow for visualization of the instantaneous performance figures and configurations of the humidifer as well as monitoring and altering the parameter presets.

By its very nature, the microprocessor is especially designed for high level interoperability with any controlling element supplied from any manufacturer and can be adapted to the building automation systems by means of J bus and ModBus protocols.

Apart from all, alarm systems are incorporated into the system to trigger alarms to warn user in case of different fault conditions. The alarm which notifies the replacement or cleaning time for the cylinder is one of them. Microprocessor proportional control is performed through humidity sensors (optional) which can be used internally or externally.

CAPACITIES AND DIMENSIONS

Model	Steam Capacity [Kg/h]	Total Power [kW]	Total Current [A]	Voltage 50 Hz [V - phase]	Cylinder Amount [pcs]	Steam Outlet diameter [mm]	Dimensions L x H x W [mm]	Empty Weight [kg]	Gross Weight [kg]
ELMC 5	5	3,75	16,3	230 - 1	1	25	470 x 540 x 215	15	23
ELMC 8	8	6,02	8,8	400 - 3	1	25	470 x 540 x 215	15	23
ELMC 10	10	7,52	11,0	400 - 3	1	25	470 x 540 x 215	15	23
ELMC 15	15	11,29	16,5	400 - 3	1	25	545 x 675 x 270	22	37
ELMC 20	20	15,05	22,0	400 - 3	1	40	545 x 675 x 270	22	37
ELMC 30	30	22,57	33,0	400 - 3	1	40	545 x 675 x 270	22	37
ELMC 30 HC*	33	24,83	36,3	400 - 3	1	40	545 x 675 x 270	22	37
ELMC 40	40	30,10	44,0	400 - 3	2	40	840 x 675 x 270	30	60
ELMC 50	50	37,62	55,0	400 - 3	2	40	840 x 675 x 270	30	60
ELMC 60	60	45,14	66,0	400 - 3	2	40	840 x 675 x 270	30	60
ELMC 60 HC*	66	49,66	72,6	400 - 3	2	40	840 x 675 x 270	30	60
ELMC 90	90	67,65	98,6	400 - 3	3	40	1070 x 675 x 270	45	90
ELMC 90 HC*	99,1	74,49	108,9	400 - 3	3	40	1070 x 675 x 270	45	90

*HC is high capacity

CLOSE CONTROL UNITS



Close Control Air Conditioners are used in the environments in which the temperature and humidity rates should be kept in a very low tolerance and for providing comfort and precision control, for example; computer rooms, UPS rooms, data processing centers, telecommunication areas, high automation offices, system halls, archives, base stations, calibration chambers, laboratories and so on.

Main Characteristics

Close Control Air Conditioners are capable of controlling the site temperature in the range of ± 1 °C and site humidity in the range of ±7-8%. They are designed to work 24 hours in 365 days.

As the air flow is designed to be high, it prevents high temperature fluctuations in the room differently from the other cooling process performed through low air temperature and it provides high SHR.

This feature comes into prominence in technologic cooling projects in which highly sensible heating recovery values are included differently from standard comfort applications.

The whole of the unit is produced as close packed structure and all of the components are inside the case. Its mounting process includes the following easy steps: making electric connection to the mains board, humidifier, drain and reheat hot water connection (optional), chiller connections (in CW models), condenser connections (in air-cooled DX and TC models), Dry cooler connections (in water cooled DX and TC models) These steps are sufficient for operation of the system.

The whole of the external case and inner components are manufactured from cold plunged galvanized plates.
Forward-angled multi-bladed or backwards-angled rare-bladed fan options,
Direct coupled EC motor options which include fan speed control unit,
Aluminium wing heat exchangers treated with hydrophilic process,
Standard EU-4 quality or optional EU-5 quality filter options,
Scroll hermetic compressors with high COP amounts, operating with energy efficiency,
R410A is used as coolants,
Aluminium wing and Copper pipe coil in air cooled condenser units and axial fan condensers,
Electric heater alternatives to heat up to set point if required and to reheat the air, which is cooled excessively during dehumidifying process, up to blow point,
Electric steam humidifer with proportional control which are used in sterile steam generation,
Electric supply and control panels which are manufactured in compliance with 73/23/EEC directives, these features mentioned above can be counted as the general features of the unit.

Microprocessor general features

The unit is controlled independently through microprocessor. Microprocessor consist of a main board in which the control softwares are placed and a user interface panel which is connected to main board, the model of the microprocessor is UG40. On the panel, there are a 11x15 pixel illuminated LCD display and illuminated function switches to be used in parameter changes.



To connect local network, there is a standard LAN adapter included on the processor. The algorithm which enables power economy through electronic expansion valve is standard on the board. The algorithm which enables operating with constant airflow during dehumidifying is standard on the board.



It controls the parameters according to the humidity and temperature values set by the user interface. Microprocessor is supplied with a number of functions, some of them are; fault alarm, set point disagree alarm, back-up operation, time-dependent recent alarm notification, automatic reactivation after power cuts, connection to LAN and similar building automation systems and sequential operation settings in multiple units.

Optional accessories:

Clock card (time programming card), RS485 serial adapter, TCP/IP interface card, LON serial card, RS232 serial card, two way pressure balancing valve and three way floating control motor valve for DX and TC units with water cooling condenser, condensate drain pump, humidifier drain pump;
external sensors for high site temperatures and humidities, supply air limiting sensor, fire and smoke dedectors, water leakage dedectors, base options for units.

PRECISION AIR HANDLING UNITS MODELS

Air Cooling Condenser Units (SDA and SUA Models): They perform expansion cooling process directly through 1 or 2 air cooled condenser depending on their capacity and they use mechanical expansion valve as a standard.

AMICO		SDAC-SUAC (R 410A)						SDAV-SUAV (R 410A)					
		0151B	0251B	0331A	0351A	0501A	0601A	0151B	0251B	0331A	0351A	0501A	0601A
Total Cooling	kW	6,2	7,9	10,1	12,7	16,8	18,1	6,2	7,9	10,3	12,8	16,8	18,7
Air Flow	m³/h	1626	1732	2977	3303	4479	4479	1644	1722	3204	3439	4499	5202
External pressure	Pa	116	78	132	78	20	20	193	155	178	123	153	40
Compressor Pcs	pcs	1	1	1	1	1	1	1	1	1	1	1	1
Electric Heater	kW	2	2	3	3	6	6	2	2	3	3	6	6
Steam Humidifier	kg/h	2	2	2	2	3	3	2	2	2	2	3	3
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740
Width	mm	550	550	850	850	1200	1200	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450	450	450	450	450
Weight	kg	125	125	160	160	200	200	120	120	165	165	205	205

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 45°C condensation temperature.

Water Cooling Condenser Units (SDW and SUW Models) : Condenser is placed in the inner unit with water cooling feature. They use mechanical expansion valve as a standard. Cooled water connection is created from units established in the outdoor air such as water cooling tower, evaporative tower and dry cooler to water cooling condensers.

AMICO		SDWC-SUWC (R 410A)						SDWV-SUWV (R 410A)					
		0151B	0251B	0331A	0351A	0501A	0601A	0151B	0251B	0331A	0351A	0501A	0601A
Total Cooling	kW	6,4	8,2	10,4	13,0	17,4	18,4	6,5	8,1	10,6	13,1	17,4	19,0
Air Flow	m³/h	1626	1731	2977	3301	4482	4482	1645	1731	3205	3440	4500	5202
External pressure	Pa	116	78	132	78	20	20	193	155	178	123	153	40
Compressor Pcs	pcs	1	1	1	1	1	1	1	1	1	1	1	1
Electric Heater	kW	2	2	3	3	6	6	2	2	3	3	6	6
Steam Humidifier	kg/h	2	2	2	2	3	3	2	2	2	2	3	3
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740
Width	mm	550	550	850	850	1200	1200	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450	450	450	450	450
Weight	kg	130	130	165	165	205	205	120	120	165	165	205	205

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 45°C condensation temperature.

Cold water coil units (SDC and SUC Models):

They perform cooling process by having cold water from a water chiller which is installed in a different place and their three way valves and controls are on the unit as a standard.

AMICO		SDCC-SUCC (R 410A)					SDCV-SUCV (R 410A)				
		0200B	0250B	0300B	0400B	0600B	0200B	0250B	0300B	0400B	0600B
Total Cooling	kW	7,2	9,9	10,9	13,7	20,7	7,2	9,9	10,9	13,7	22,3
Air Flow	m³/h	1610	2280	2305	3265	4490	1610	2280	2305	3265	5035
External pressure	Pa	10	10	10	10	10	10	10	10	10	10
Electric Heater	kW	2	2	3	3	6	2	2	3	3	6
Steam Humidifier	kg/h	2	2	2	2	3	2	2	2	2	3
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740
Width	mm	550	850	850	850	1200	550	850	850	850	1200
Depth	mm	450	450	450	450	450	450	450	450	450	450
Weight	kg	100	125	125	150	200	95	135	135	145	220

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 7/12°C water temperature.

CLOSE CONTROL AIR HANDLING UNIT MODELS

Air Cooling Condenser Units (TDAR, TUAR, TDAV, TUAV Models):

They perform expansion cooling process directly through 1 or 2 air cooled condenser depending on their capacity and they use mechanical expansion valve as a standard. The fans of the units can be preferred as standard (TDAR-TUAR) or EC motor (TDAV-TUAV).

LEONARDO Evolution (R 410A)		511A	611A	721A	722A	921A	922A	1021A	1022A	1121A	1122A	1321A	1322A	1422A	1622A	1822A
		TDAR (Downflow) - TDAV (Downflow, EC motor) - TUAR (Upflow) - TUAV (Upflow, EC motor)														
Total Cooling	kW	20,9	23,3	25,8	25,8	34,6	34,6	37,8	37,8	40,6	40,6	45,9	45,9	50,0	62,3	66,9
Air Flow	m³/h	5750	5750	8530	8530	8530	8530	8530	8530	12895	12895	12895	12895	16590	16590	16590
External pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Circuit Pcs	pcs	1	1	1	2	1	2	1	2	1	2	1	2	2	2	2
Elc. Heater Standard	kW	6	6	9	9	9	9	9	9	15	15	15	15	15	15	15
Elc. Heater High	kW	9	9	15	15	15	15	15	15	18	18	18	18	18	18	18
Steam Humidifier	kg/h	5	5	8	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
Width	mm	1010	1010	1310	1310	1310	1310	1310	1310	1721	1721	1721	1721	2172	2172	2172
Depth	mm	750	750	865	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	280	310	430	447	430	447	430	447	548	559	575	585	698	714	714

LEONARDO Max (R 410A)		2222A	2242A	2522A	2542A	2842A	3342A	2222A	2242A	2522A	2542A	2842A	3342A
		TDAR (Downflow) - TDAV (Downflow, EC motor)						TUAR (Upflow) - TUAV (Upflow, EC motor)					
Total Cooling	kW	80,7 88,1	81,7 82,0	92,6 92,7	91,2 91,4	95,9 99,1	104,6 104,9	80,8 81,1	81,8 82,0	92,7 92,7	91,4 91,4	96,0 96,1	104,9 104,9
Air Flow	m³/h	21635 22000	21635 22000	22835 23000	22835 23000	23210 23500	23210 23500	21720 22000	21720 22000	22980 23000	22980 23000	23590 23500	23590 23500
External pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	2	4	2	4	4	4	2	4	2	4	4	4
Circuit Pcs	pcs	2	2	2	2	2	2	2	2	2	2	2	2
Elc. Heater Standard	kW	18	18	18	18	24	24	18	18	18	18	24	24
Elc. Heater High	kW	24	24	24	24	27	27	24	24	24	24	27	27
Steam Humidifier	kg/h	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	2175	2175	2175	2175	2175	2175	1960 2175	1960 2175	1960 2175	1960 2175	1960 2175	1960 2175
Width	mm	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582
Depth	mm	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	910	910	918	930	1040	1098	910	910	918	930	1040	1098

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 45°C condensation temperature.

CLOSE CONTROL AIR HANDLING UNIT MODELS

Cold water coil units (TDCR, TUCR, TDCV, TUCV Models):

They perform cooling process by having cold water from a water chiller which is installed in a different place and their three way valves and controls are on the unit as a standard. The fans of the units can be preferred as standard (TDCR-TUCR) or EC motor (TDCV-TUCV).

LEONARDO Evolution		600A	700A	1000A	1200A	1700A	2000A	2500A	600A	700A	1000A	1200A	1700A	2000A	2500A
		TDCR (Downflow) - TUCR (Upflow)							TDCV (Downflow, EC mot.) - TUCV (Upflow, EC mot.)						
Total Cooling	kW	23,7	27,0	33,9	43,6	57,2	69,3	87,6	23,7	27,0	33,9	43,6	57,2	69,3	87,6
Air Flow	m³/h	5990	6060	10200	10420	14920	18680	18680	5990	6060	10200	10420	14920	18680	18680
External pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Cold water flow	lt/h	4080	4646	5850	7510	9660	11950	15090	4080	4646	5850	7510	9660	11950	15090
Elc. Heater Standard	kW	6	6	9	9	15	15	15	6	6	9	9	15	15	15
Elc. Heater High	kW	9	9	15	15	18	18	18	9	9	15	15	18	18	18
Steam Humidifier	kg/h	5	5	8	8	8	8	8	5	5	8	8	8	8	8
Height	mm	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
Width	mm	1010	1010	1310	1310	1721	2172	2172	1010	1010	1310	1310	1721	2172	2172
Depth	mm	750	750	865	865	865	865	865	750	750	865	865	865	865	865
Weight	kg	210	220	306	314	395	443	458	210	220	306	314	395	443	458

LEONARDO Max		2700A	3400A	4000A	4300A	2700A	3400A	4000A	2700A	3400A	4000A	4300A	2700A	3400A	4000A
		TDCR (Downflow)				TUCR (Upflow)			TDCV (Downflow, EC mot.)				TUCV (Upflow, EC mot.)		
Total Cooling	kW	97,9	110,5	125,5	163,6	97,9	110,5	125,5	98,0	110,8	125,6	168,7	98,0	110,8	125,6
Air Flow	m³/h	18725	24777	25193	28444	18725	24777	25193	18761	24875	25217	29597	18725	24777	25193
External pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Cold water flow	lt/h	16854	19279	21658	28146	16854	19279	21658	16877	19004	21680	29061	16877	19004	21680
Elc. Heater Standard	kW	15	24	24	24	15	24	24	15	24	24	24	15	24	24
Elc. Heater High	kW	18	27	27	27	18	27	27	18	27	27	27	18	27	27
Steam Humidifier	kg/h	8	15	15	15	8	15	15	-	-	-	-	-	-	-
Height	mm	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
Width	mm	2170	2580	2580	2580	2170	2580	2580	2170	2580	2580	2580	2170	2580	2580
Depth	mm	865	865	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	502	702	740	820	502	702	740	502	702	740	820	502	702	740

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 7/12 °C water temperature

Water Cooled condenser units (TDWR, TUWR, TDWV, TUWV Models):

Condenser is placed in the inner unit with water cooling feature. They use mechanical expansion valve as a standard. Cooled water connection is created from units established in the outdoor air such as water cooling tower, evaporative tower and dry cooler to water cooling condensers. The fans of the units can be preferred as standard (TDWR-TUWR) or EC motor (TDWV-TUWV).

MODELS		LEONARDO Evolution (R 410A)					LEONARDO Max (R 410A)							
		611A	921A	1321A	1622A	1822A	2242A	2542A	2842A	3342A	2242A	2542A	2842A	3342A
		TDWR (Down) - TDWV (Down, EC mot.) TUWR (Up) - TUWV (Up, EC mot.)					TDWR (Downflow) TDWV (Downflow, EC mot.)				TUWR (Upflow) TUWV (Upflow, EC mot.)			
Total Cooling	kW	23,2	34,1	46,0	60,0	66,1	90	99,3	102,6	110,0	89,9	99,5	102,4	110,3
Air Flow	m³/h	5750	8530	12895	16590	16590	22000	22500	23000	23500	22000	22500	23000	23500
External Pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	1	2	2	2	2	4	4	4	4	4	4	4	4
Circuit Pcs	pcs	1	1	1	2	2	2	2	2	2	2	2	2	2
Elc. Heater Standard	kW	6	9	15	15	15	18	18	24	24	18	18	24	24
Elc. Heater High	kW	9	15	18	18	18	24	24	27	27	24	24	27	27
Steam Humidifier	kg/h	5	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	1960	1960	1960	1960	1960	2175	2175	2175	2175	1960	1960	1960	1960
Width	mm	1010	1310	1720	2171	2171	2582	2582	2582	2582	2582	2582	2582	2582
Depth	mm	750	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	310	430	575	714	714	996	1020	1120	1140	996	1020	1120	1140

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 30/35 °C condenser water inlet and outlet temperature

Power efficiency units (TDER, TUER, TDEV, TUEV Models) :

Condensers are placed in the inner unit with water cooling feature. Cooled water connection is created from units established in the outdoor air such as water cooling tower, evaporative tower and dry cooler to water cooling condensers in these units. This units close water cooling circuit and use the water coming from evaporative tower, dry cooler etc units directly to cool the air when its temperature is low enough and thus provide power efficient cooling especially during mid seasons. The fans of the units can be preferred as standard (TDER-TUER) or EC motor (TDEV-TUEV).

LEONARDO Evolution (R 410A)		511A	611A	721A	722A	921A	922A	1021A	1022A	1121A	1122A	1321A	1322A	1422A	1622A	1822A
		TDER (Downflow) - TDEV (Downflow, EC motor) - TUER (Upflow) - TUEV (Upflow, EC motor)														
Total Cooling	kW	20,0	21,8	27,8	27,9	31,5	31,8	34,6	35,1	39,4	41,0	42,6	44,6	49,3	59,7	63,8
Air Flow	m³/h	5820	5820	8515	8515	8515	8515	8515	8515	12870	12870	12870	12870	16695	16695	16695
External Pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Circuit Pcs	pcs	1	1	1	2	1	2	1	2	1	2	1	2	2	2	2
Elc. Heater Standard	kW	6	6	9	9	9	9	9	9	15	15	15	15	15	15	15
Elc. Heater High	kW	9	9	15	15	15	15	15	15	18	18	18	18	18	18	18
Steam Humidifier	kg/h	5	5	8	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
Width	mm	1010	1010	1310	1310	1310	1310	1310	1310	1720	1720	1720	1720	2171	2171	2171
Depth	mm	750	750	865	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	280	310	430	447	430	447	430	447	548	559	575	585	698	714	714

LEONARDO Max (R 410A)		2242A	2542A	2842A	2242A	2542A	2842A	2242A	2542A	2842A	2242A	2542A	2842A
		TDER (Downflow)			TUER (Upflow)			TDEV (Downflow,EC mot.)			TUEV (Upflow,EC mot.)		
Total Cooling	kW	76,8	85,2	93,7	77,7	86,0	94,2	76,8	85,2	93,7	77,7	86,0	94,2
Air Flow	m³/h	20750	21930	22870	21640	22635	23450	20750	21930	22870	21640	22635	23450
External Pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	4	4	4	4	4	4	4	4	4	4	4	4
Circuit Pcs	pcs	2	2	2	2	2	2	2	2	2	2	2	2
Elc. Heater Standard	kW	18	18	24	18	18	24	18	18	24	18	18	24
Elc. Heater High	kW	24	24	27	24	24	27	24	24	27	24	24	27
Steam Humidifier	kg/h	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	2175	2175	2175	1960	1960	1960	2175	2175	2175	1960	1960	1960
Width	mm	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582
Depth	mm	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	996	1020	1120	996	1020	1120	996	1020	1120	996	1020	1120

Their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 30/35 °C condenser water inlet and outlet temperature

CLOSE CONTROL AIR HANDLING UNIT MODELS

Double cooled air or water cooled units (TDER, TUER, TDEV, TUEV Models) :

There are two different cooling functions that operate as back-ups to one another within the unit. Air cooled units perform cooling function through direct expansion via their 1 or 2 air cooled condensers in the first function depending on their capacities and they use electronic expansion valve as a standard. As for water cooling units, they perform cooling function through direct expansion via their water cooling condenser depending on their capacities and they use electronic expansion valve as a standard. As for their second cooling function, they perform cooling process by having cold water from a water chiller which is installed in a different place and their three way valves and controls are on the unit as a standard. The fans of the units can be preferred as standard (TDER-TUER) or EC motor (TDEV-TUEV).

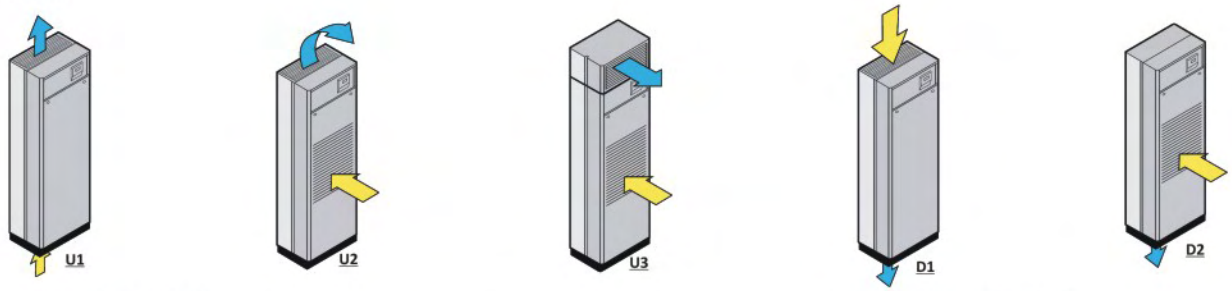
LEONARDO Max (R 410A)		2242A	2542A	2842A	2242A	2542A	2842A	2242A	2542A	2842A	2242A	2542A	2842A
		Air Cooled units						Water Cooling units					
		TDTR (Downflow) TDTV (Downflow, EC Motor)			TUTR (Upflow) TUTV (Upflow, EC Motor)			TDDR (Downflow) TDDV (Downflow, EC Motor			TUDR (Upflow) TUDV (Upflow, EC Motor)		
Total Cooling	kW	73,1	81,5	89,9	73,8	82,2	90,2	76,8	85,2	93,7	77,7	86,0	94,2
Air Flow	m³/h	20750	21930	22780	22000	22635	23450	20750	21930	22780	21640	22635	23450
External Pressure	Pa	20	20	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	4	4	4	4	4	4	4	4	4	4	4	4
Circuit Pcs	pcs	2	2	2	2	2	2	2	2	2	2	2	2
Elc. Heater Standard	kW	18	18	24	18	18	24	18	18	24	18	18	24
Elc. Heater High	kW	24	24	27	24	24	27	24	24	27	24	24	27
Steam Humidifier	kg/h	8	8	8	8	8	8	8	8	8	8	8	8
Height	mm	2175	2175	2175	1960	1960	1960	2175	2175	2175	1960	1960	1960
Width	mm	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582	2582
Depth	mm	865	865	865	865	865	865	865	865	865	865	865	865
Weight	kg	910	930	1040	910	930	1040	910	930	1040	910	930	1040

LEONARDO Evolution (R 410A)		611A	921A	1321A	1622A	1822A	611A	921A	1321A	1622A	1822A
		Air Cooled units					Water Cooling units				
		TDTR (Downflow) - TDTV (Downflow, EC motor) TUTR (Upflow) - TUTV (Upflow, EC motor)					TDDR (Downflow) - TDDV (Downflow, EC motor) TUDR (Upflow) -TUDV (Upflow, EC motor)				
Total Cooling	kW	21,1	30,9	43,9	59,0	63,3	21,8	31,5	42,6	59,7	63,8
Air Flow	m³/h	5820	8520	12870	16695	16695	5820	8520	12870	16695	16695
External Pressure	Pa	20	20	20	20	20	20	20	20	20	20
Compressor Pcs	pcs	1	2	2	2	2	1	2	2	2	2
Circuit Pcs	pcs	1	1	1	2	2	1	1	1	2	2
Elc. Heater Standard	kW	6	9	15	15	15	6	9	15	15	15
Elc. Heater High	kW	9	15	18	18	18	9	15	18	18	18
Steam Humidifier	kg/h	5	8	8	8	8	5	8	8	8	8
Height	mm	1960	1960	1960	1960	1960	1960	1960	1960	1960	1960
Width	mm	1010	1310	1720	2171	2171	1010	1310	1720	2171	2171
Depth	mm	750	865	865	865	865	750	865	865	865	865
Weight	kg	310	430	575	714	714	310	430	575	714	714

In the water cooling units, cooling values are valid under conditions of 24 °C / 50% RH room conditions and 30/35 °C condenser water inlet and outlet temperature.
In the air cooled units, their cooling values are valid under conditions of 24 °C / 50% RH room conditions and 45°C condensation temperature.

Air connection way alternatives:

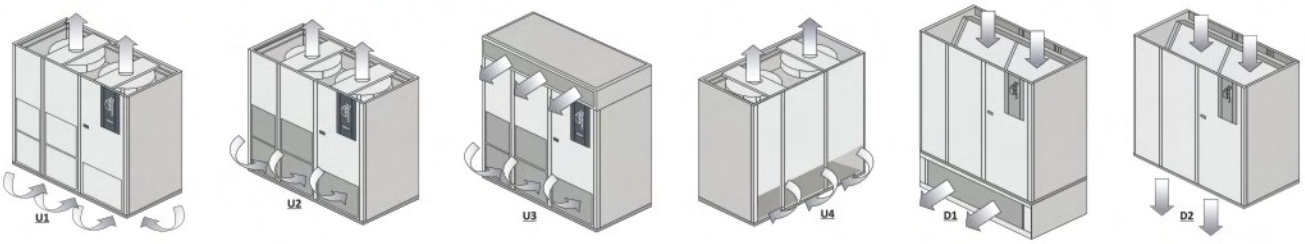
AMICO Series



U1 - Upflow unit, Downdraft
U2 - Upflow unit, Front-draft
U3 - Upflow unit, front-draft, optional throw plenum

D1 – Downflow unit, updraft
D2 – Downflow unit, Front-draft

LEONARDO Evolution & LEONARDO Max Series



U1 - Upflow unit, Downdraft
U2 - Upflow unit, Front-draft
U3 - Upflow unit, front-draft, optional throw plenum
U4 - Upflow unit, back-draft (Only in Evolution series)

D1 - Downflow unit, Front-draft, optional throw plenum
D2 – Downflow unit, Front-draft

Roof-top units are especially preferred due to their close packed structure in the projects with area problem. This devices are utilized especially in flat roof or terraces as well as on the ground level placed near to the area to be conditioned.



In the roof-top air handling units which have from below and top options, the connections of blow and suction, dependent on the utilization area, are created with damper control. Roof-top units which are sent to the customer mounted completely in a case and charged with environmentally-friendly 407 C gas, meet customer satisfaction in terms of mounting.

The units which have a rigid case manufactured completely from metal plates are waterproof as they are designed to operate outdoors. The roof-top units are manufactured in four standard model to offer the customer as much options as possible and also with their optional other features they gain a multi-alternative structure.

The control unit consists of two main parts. The first part with digital display is placed in the area to be controlled and the other part (power card) is mounted on the control panel of the unit. The connection between panel and power card is made using only two cables. The control parameters shall be supplied in factory setting. If the unit includes "Free-cooling", PCO unit, which is not available in this panel, is also added.

OPERATING TEMPERATURE LIMITS

Cooling Cycle					Heating Cycle				
Temperature Level	External Air		Internal Air		Temperature Level	External Air		Internal Air	
	DB [°C]	WB [°C]	DB [°C]	WB [°C]		DB [°C]	WB [°C]	DB [°C]	WB [°C]
Standard	35	--	27	19	Standard	7	6	20	--
Minimum	21	--	21	15	Minimum	-6	-7	20	--
Maximum	46	--	32	21	Maximum	24	18	26	--

When the external air DB temperature is below 21 °C during cooling cycle, condensation control must be used.

AXIAL CONDENSER FAN



They are units that are manufactured with axial fans which supply airflow over the condensers and together with direct coupled motors.

Axial fan units are the products that have to operate with direct contact to external air due to the structure of their fans.

Those products which are not suitable for indoors use are designed to in an unaffected manner from the outdoor weather conditions.

As their fan motor power is low, their condenser electric consume is low.

Only Cooling (R407C)	Cooling Capacity [KW]	Heating Capacity * [kW	Air Flow [m3/h]	External Static Pressure [Pa]	Total Power [kW]	Total Current [A]	Voltage 50 Hz [V]	Dimensions W x H x L [mm]	Net weight [kg]	Sound ** Level [dB(A)]
RXCZ 1001	29,0	71,0	7000	220	12,2	21	230 - 400	2686x1707x1460	730	63
RXCZ 1201	35,0	81,0	8000	250	15,2	26	230 - 400	2686x1707x1580	780	65
RXCZ 1501	43,0	83,0	9000	225	17,2	29	400 (1)	2686x1707x1580	820	65
RXCZ 2002	58,0	109,0	11200	250	26,5	45	230 - 400	2935x2257x1447	1130	69
RXCZ 2402	71,0	119,0	12800	175	31,6	54	230 - 400	2935x2257x1567	1160	72
RXCZ 3002	85,3	128,0	14000	250	34,3	58	230 - 400	2935x2257x1868	1320	73
RXCZ 3502	100,0	160,0	18000	260	40,9	70	400 (1)	3977x2257x1782	1650	75
RXCZ 4002	115,7	180,0	20000	220	48,5	82	400 (1)	3977x2257x1787	1700	77
RXCZ 4502	137,0	191,0	22000	225	57,6	98	400 (1)	3977x2257x1882	1760	78

Heat Pump (R407C)	Cooling Capacity [KW]	Heating Capacity * [kW	Air Flow [m3/h]	External Static Pressure [Pa]	Total Power [kW]	Total Current [A]	Voltage 50 Hz [V]	Dimensions W x H x L [mm]	Net weight [kg]	Sound ** Level [dB(A)]
RXCZ 1001	28,0	30,0	7000	220	13,0	22	230 - 400	2686x1707x1460	730	63
RXCZ 1201	35,0	36,0	8000	250	15,2	26	230 - 400	2686x1707x1580	780	65
RXCZ 1501	42,0	44,0	9000	225	19,0	33	400 (1)	2686x1707x1580	820	65
RXCZ 2002	57,0	60,0	11200	250	26,0	45	230 - 400	2935x2257x1447	1130	69
RXCZ 2402	70,0	73,0	12800	175	31,2	52	230 - 400	2935x2257x1567	1160	72
RXCZ 3002	84,5	87,5	14000	250	34,3	58	230 - 400	2935x2257x1868	1320	73
RXCZ 3502	99,5	104,0	18000	260	40,9	70	400 (1)	3977x2257x1782	1650	75
RXCZ 4002	115,0	120,0	20000	220	48,8	82	400 (1)	3977x2257x1787	1700	77
RXCZ 4502	139,0	142,0	22000	225	57,6	98	400 (1)	3977x2257x1882	1760	78

* In these models, hot water heater coil capacity is given as heating capacity. Coil is not included in standard units, it is optional.
** volume levels are valid for a distance of 5 m from the unit. (1) Contact our company for 230 volt options in these models

RADIAL CONDENSER FAN



These units are produced with radial fans which supply airflow over the condensers.

As the radial fans operate under higher air pressures, the units are suitable for air connection.

Owing to those features, radial fan units can be used indoors through connecting external air via fan throw side air connection.

It is not recommended to make connection to the condenser suction part. It is suitable to place an external air inlet shutter, which is connected to external air, to the indoors area in which the unit is mounted. For the size of the shutter, contact our company.

Only Cooling (R407C)	Cooling Capacity [KW]	Heating Capacity * [kW	Air Flow [m3/h]	External Static Pressure [Pa]	Total Power [kW]	Total Current [A]	Voltage 50 Hz [V]	Dimensions W x H x L [mm]	Net weight [kg]	Sound ** Level [dB(A)]
RCAZ 1001	30,0	55	7000	85	13,60	40,2-23,1	230 - 400	1733x1995x1350	700	74
RCAZ 1201	35,0	58	8000	85	16,30	48,2-27,7	230 - 400	1733x1995x1350	730	74
RCAZ 1002	29,8	55	7300	90	13,20	39,0-22,4	230 - 400	1733x1995x1350	740	74
RCAZ 1402	37,2	59	8000	85	16,50	48,8-28,1	230 - 400	1733x1995x1350	750	74
RCAZ 1502	44,4	63	9000	110	19,30	57,4-33,0	230 - 400	1733x1995x1350	780	74
RCAZ 2002	60,0	85	11000	190	25,50	75,4-43,4	230 - 400	2184x2175x1462	930	75
RCAZ 2302	67,0	90	12000	190	27,90	86,5-47,4	230 - 400	2184x2175x1462	939	75
RCAZ 2402	72,0	92	12000	190	31,30	92,5-53,2	230 - 400	2184x2175x1462	955	75
Heat Pump (R407C)	**Cooling Capacity [KW]**	**Heating Capacity * [kW**	**Air Flow [m3/h]**	**External Static Pressure [Pa]**	**Total Power [kW]**	**Total Current [A]**	**Voltage 50 Hz [V]**	**Dimensions W x H x L [mm]**	**Net weight [kg]**	**Sound ** Level [dB(A)]**
RCABZ 1001	29,7	31,7	7000	85	14,10	41,7-24,0	230 - 400	1733x1995x1350	710	74
RCABZ 1201	35,0	37,0	8000	85	16,60	49,1-28,2	230 - 400	1733x1995x1350	740	74
RCABZ 1402	36,4	38,6	8000	85	16,50	48,8-28,1	230 - 400	2075x2125x1350	765	74
RCABZ 1502	44,2	46,6	10000	125	20,00	59,1-34,0	230 - 400	2075x2125x1350	795	75
RCABZ 1602	45,4	48,8	10000	125	20,20	59,7-34,3	230 - 400	2075x2125x1350	815	75
RCABZ 2002	59,4	63,4	11000	190	26,40	78,4-44,9	230 - 400	2646x2175x1600	1150	76
RCABZ 2302	66,0	70,0	12000	190	28,70	88,7-48,8	230 - 400	2646x2175x1600	1200	76
RCABZ 2402	70,0	74,0	12000	190	31,10	91,9-52,9	230 - 400	2646x2175x1600	1250	76

* In these models, hot water heater coil capacity is given as heating capacity. Coil is not included in standard units, it is optional.
** volume levels are valid for a distance of 2 m from the unit.

ACCESSORIES

Condensation control unit; When the external air is below 21 °C, condensation is used to help the system continue cooling process without having any problem. In those temperatures, the rotation speed of the fans is controlled and uncontrolled change of liquid pressure is prevented.

Electric heater; Electric heater can be supplied to used if need arises by mounting it on the suction side of the unit. Protective thermostat, operation control and cable inlet connectors are supplied with the heater. The heaters are manufactured optionally with single or two stages.

Note : For single stage heater options in only cooling models of radial fan condenser units and for two stage heater options in heat-pump units, contact our company.

Axial Fan Condenser 2 Stage Electric Heater	Capacity Kw	Voltage(50 Hz) V	Axial Fan Condenser Single Stage Electric Heater	Capacity Kw	Voltage(50 Hz) V
RXC(B)Z 1001, 1201, 1501	13,5+13,5	220 - 380	RXC(B)Z 1001, 1201, 1501	18,0	220 - 380
RXC(B)Z 1001, 1201, 1501	18,0+13,5	220 - 380	RXC(B)Z 1001, 1201, 1501	22,5	220 - 380
RXC(B)Z 1501, 2002,2402	18,0+18,0	220 - 380	RXC(B)Z 1501, 2002,2402	27,0	220 - 380
RXC(B)Z 2402, 3002, 3502	22,5+22,5	220 - 380	RXC(B)Z 2402, 3002, 3502	31,5	220 - 380
RXC(B)Z 3502, 4002, 4502	31,5+31,5	220 - 380	RXC(B)Z 3502, 4002, 4502	36,0	220 - 380
			RXC(B)Z 4002, 4502	40,5	220 - 380

Radial Fan Condenser 2 Stage Electric Heater	Capacity Kw	Voltage(50 Hz) V	Radial Fan Condenser Single Stage Electric Heater	Capacity Kw	Voltage(50 Hz) V
RCAZ 1001, 1002, 1201	13,5+13,5	220 - 380	RCABZ 1001, 1201	18,0	220 - 380
RCAZ 1001, 1002, 1201	18,0+13,5	220 - 380	RCABZ 1001, 1201, 1402, 1502	22,5	220 - 380
RCAZ 1402, 1502	18,0+18,0	220 - 380	RCABZ 1502, 1602	27,0	220 - 380
RCAZ 1402, 1502	22,5+22,5	220 - 380	RCABZ 1602, 2002	31,5	220 - 380
RCAZ 2002, 2302, 2402	31,5+31,5	220 - 380	RCABZ 2002, 2302, 2402	36,0	220 - 380
			RCABZ 2302, 2402	40,5	220 - 380

Hot water heater coil; In only cooling models, hot water heater coil can be used to meet heating demand if need arises. Heating coils have copper pipe, aluminium wing. Capacity values can be found in the features table.

Free cooling control; Free cooling control system is supplied optionally to operate when the external air conditons is close to the internal conditions while roof-top unit is operating. There are two types of control available in this system. The first one is enthalpy control and the second is temperature control. In both of the types the device controls the internal and external air conditions. Depending on the conditions, it opens the external air damper to let the fresh air in and sometimes it stops the compressors completely to let the external air in. With this system, a great amount of energy conservation can be achieved during especially summer and winter mid-seasons.

Hot gas By-pass valve; This accessory is also available in the units which is used to control the operation of the cooling systems of the units under variable air conditions and especially when there is high amount of fresh air flow (or 100% fresh air units).

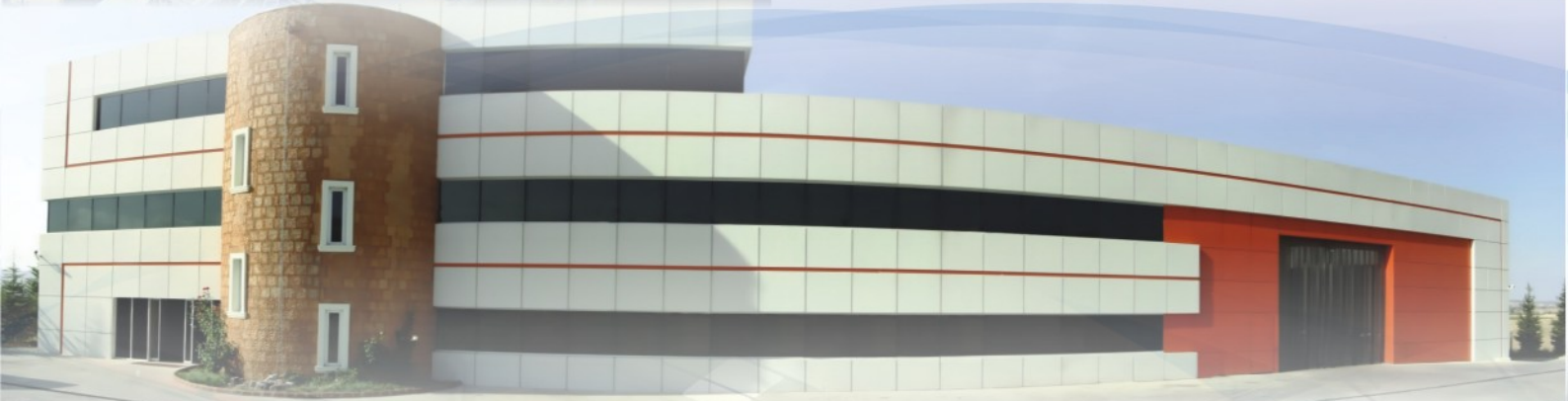
Other accessories; Apart from the accessories mentioned above the following additional accessories can also be supplied with the models return air fan, link kits for building automation systems, hydrophobic blue coating in condenser coils, copper/copper condenser, filter contamination alarm, smoke dedector, Air Quality sensor, custom filters, manuel valves in suction, discharge and liquid channels, compressor noise insulation cover, and soft starters for compressors, exhaust fan, clock card, assembly bed.

NOTES









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