G.I. INDUSTRIAL HOLDING

PRODUCT GUIDE

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

G.I. INDUSTRIAL HOLDING S.p.A. participates in the ECC programme for LCP-HP, FCU and AHU. Check on-going validity of certificate: www.eurovent-certification.com or www.certiflash.com

CLINT®
CLIMATIZZAZIONE INTEGRATA

CLINT
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COMPANY PROFILE

CLINT
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COMPANY PROFILE

ABOUT US

A multinational Group
with a solid background.

2020
New Climatic Chamber

2018
New sales office in Russia

2017
New G.I. HOLDING headquarters and manufacturing plant

2017
Strategic Collaboration with FUJITSU GENERAL LIMITED

2016
GIMEK new plant start-up

2015
G.I. MIDDLE EAST start-up

2013
G.I. INDUSTRIAL ASIA HOLDING start-up

2009
MONTAIR acquisition

2009
GIMEK acquisition

2004
CLINT brand launch

2003
NOVAIR acquisition

2002
KTK KLIMATECHNIK acquisition

2000
G.I. HOLDING Group start-up

1976
Oldest acquired Company start-up

The key hystorical milestones

45
YEARS OF EXPERIENCE
IN AIR CONDITIONING, PROCESS COOLING, CLOSE CONTROL AND AIR TREATMENT

COOLING FOR 45 YEARS

With a deep background of 45 years of experience, the Global Company **G.I. INDUSTRIAL HOLDING** manufactures and markets a complete range of solutions for comfort and industrial cooling: air conditioning and air handling systems in commercial or industrial buildings, cooling systems for server rooms and industrial process.

G.I. INDUSTRIAL HOLDING, a Company of the multinational **G.I. HOLDING Group**, has grown by the acquisition of historic Companies operating for decades in the different fields of air conditioning and industrial cooling and is continuously expanding internationally over the years with a wide manufacturing and distributive network.

In 2017 the G.I. HOLDING Group signed a Strategic Collaboration Agreement with the multinational **FUJITSU GENERAL LIMITED**, for joint development of dedicated product ranges of residential and commercial air conditioners.

G.I. INDUSTRIAL HOLDING
Climatic Chamber

G.I. HOLDING Showroom

G.I. INDUSTRIAL HOLDING
Large liquid Chillers Manufacturing Plant

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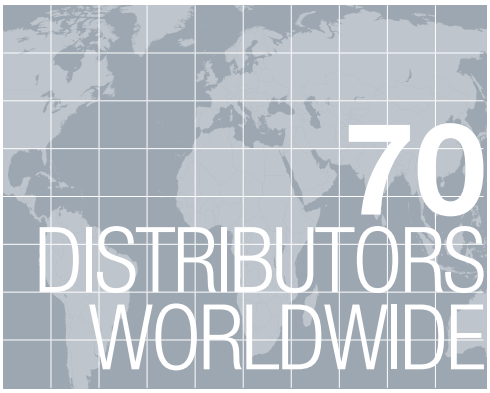
COMPANY PROFILE

THE GROUP

A wide sales network.



A WIDE GLOBAL GROUP ANSWERING TO ANY SPECIFIC MARKET NEED.

The international Company G.I. INDUSTRIAL HOLDING SpA is present all around the World with its wide manufacturing and distributive network.
G.I. INDUSTRIAL HOLDING's production is totally focused in four European plants: Latisana (Italy), Rivignano Teor (Italy), Piove di Sacco (Italy) and Biatorbágy (Gimek Zrt - Hungary).

The new **G.I. HOLDING Headquarters** are located on a new facility in Latisana (Italy) with a 1.500 m² **Showroom** for exhibition of units manufactured on all the Group's plants and the **Cooling Academy**: a training room equipped for technical coaching of consultants, business professionals, engineers, designers and contractors, with rooms for units' functioning simulation.
The Latisana facility also hosts a newly built manufacturing plant dedicated to small & medium liquid Chillers and the Sales & Marketing Depts.
The network of G.I. HOLDING Group also includes the Hungarian manufacturing Company **GIMEK Zrt**, **G.I. INDUSTRIAL ASIA HOLDING Sdn Bhd**, manufacturing and trading Company based in Malaysia and **G.I. MIDDLE EAST Fze**, the trading Company based in the United Arab Emirates.

Domestic and international sales are supported by a network of 30 Italian Sales Representatives and over 70 worldwide Distributors coordinated by 4 Sales Offices based in Italy, Russia, United Arab Emirates and Malaysia.

SALES OFFICES:
- Latisana – ITALY. Group Headquarters, Europe and North & South Africa Regional Office.
- Moscow – RUSSIA. Russia & other C.I.S. Countries Regional Office.
- Dubai – UNITED ARAB EMIRATES (G.I. MIDDLE EAST Fze). Middle-East & Central Africa Regional Office.
- Klang – MALAYSIA (G.I. INDUSTRIAL ASIA HOLDING Sdn Bhd). Asia Pacific Regional Office.

The Group Structure

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COMPANY PROFILE

MANUFACTURING

G.I. INDUSTRIAL HOLDING

Latisana – ITALY. G.I. HOLDING Headquarters, Europe and North & South Africa Regional Office and Production Plant.

Rivignano Teor – ITALY. Production Plant.

Piove di Sacco – ITALY. Close Control Business Unit and Production Plant.

Biatorbágy – HUNGARY (GIMEK Zrt). Production Plant.

4
MANUFACTURING FACILITIES
3 in ITALY
1in HUNGARY

PRODUCTION PLANTS

LATISANA
Small & medium liquid Chillers Manufacturing Plant.

RIVIGNANO TEOR
Large liquid Chillers Manufacturing Plant.

PIOVE DI SACCO
Close Control Business Unit and Manufacturing Plant.

BIATORBÁGY (GIMEK Zrt)
Manufacturing Plant of Packaged Roof Top units, Air Handling Units, Dry-Coolers as well as Fan Coil units.

CLIMATIC CHAMBER

In Rivignano Teor (Italy), in addition to the production plant for large Liquid Chillers, is located the newly born Climatic Chamber that allows the Company to perform witness tests in the presence of the Customer to prove the perfect functionality and performance of its Units under a huge variety of operating conditions.
This allows a wide array of tests that can be carried out from -20°C to +50°C outdoor air temperature.

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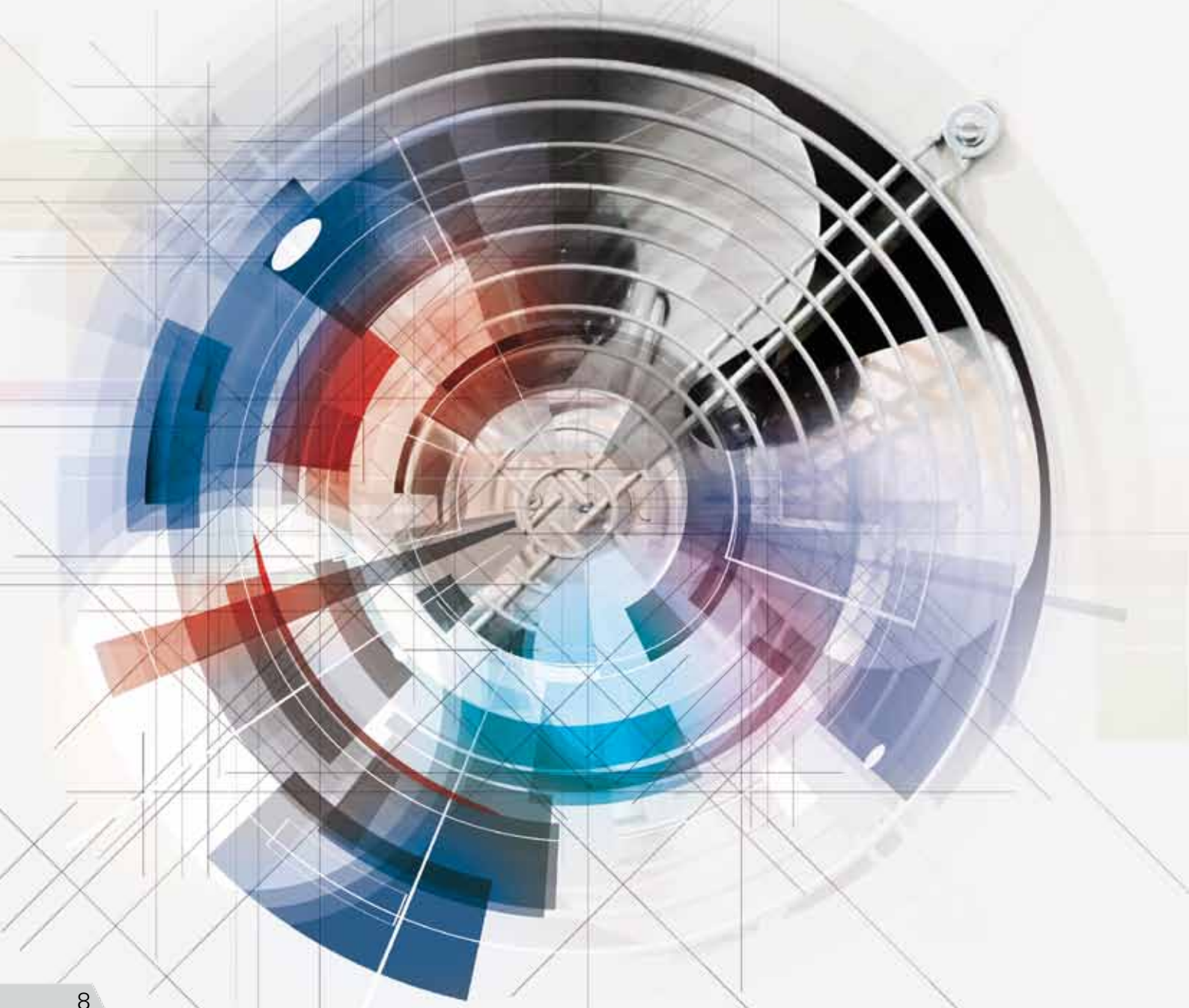
COMPANY PROFILE

OUR BRANDS

A multi-brand offer
for the HVAC business.



A MULTI-BRAND COMPANY FOR THE WIDEST PRODUCT RANGE.

Four hystorical brands form the portfolio of G.I. INDUSTRIAL HOLDING SpA, each dedicated to a specific branch of the HVAC business.

CLINT brand is focused on the segment of liquid Chillers, Packaged Roof Top units and Fan Coil units.
KTK trademark is focused on applications for Industrial Process Cooling and special Air Conditioning systems.
MONTAIR is the trademark dedicated to cooling systems for Data Centres and Telecom Applications.
NOVAIR is a leading brand in the Air Treatment and Ventilation sectors.

Product Overview:

Liquid Chillers

Packaged Roof Top units

Fan Coil units

Dry-Coolers

Close Control units

Air Handling Units

COMPANY PROFILE

OUR VALUES

Our success is driven by solid values.

TOTAL QUALITY.

TOTAL QUALITY is the philosophy of all our activities, monitoring all phases in product-life cycle from product development, supplying, assembly and service. The whole production process is subject to thorough checks and controls, both at the end than at intermediate steps. Each unit must go through strict testing, simulating operational conditions on the Customer's site even in the most demanding situations. Pressure, temperature, sound level, vibrations: everything is checked to make sure it complies with the set parameters.
The Service Network, relying on very skilled Professionals, is available to carry out unit's start-up on Customer's premises to ensure the perfect unit's functioning.
Our quality mission is to capture expectations, preferences and aversions from the "Voice of the Customer". Both qualitative and quantitative researches are conducted at the beginning of any new product, process, or service design initiative in order to better understand the Customer's wants and needs.

A FULLY CERTIFIED SYSTEM.

EUROVENT. Attesting the reliability of Company data on product performance, it is a guarantee of the actual quality of CLINT's products and their characteristics.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

G.I. INDUSTRIAL HOLDING S.p.A. participates in the ECC programme for LCP-HP, FCU and AHU. Check on-going validity of certificate: www.eurovent-certification.com or www.certiflash.com

CLINT product ranges are compliant to ErP European Regulations.

- **ErP 2018 SCOP.**
  The EU Regulation n. 813/2013 fixing precise efficiency standards for heat pump units.
- **ErP 2021 SEER.**
  A wide range of units for comfort cooling application reaches the seasonal energy efficiency standards required from 2021 (EU Regulation n°2016/2281).
- **ErP 2021 SEPR.**
  A wide range of units for process cooling application reaches the seasonal energy efficiency standards required from 2021 (EU Regulation n°2016/2281).

ErP SCOP | ErP SEER 2021 | ErP SEPR 2021

CE

- **CE.** It certifies that every unit leaving our production lines is built in accordance with the standards required by the European Union.
- **UNI EN ISO 9001.** G.I. INDUSTRIAL HOLDING (former KTK KLIMATECHNIK) was the first Italian Company in the sector to adhere to the programme in 1999, proving the special attention dedicated to the correct management of the industrial process.
- **P.E.D.** Certification for pressurised fluids which guarantees the correct implementation of cooling and hydraulic circuits in units with compressors.

CUSTOMER FOCUS.

CLINT offers targeted, customized answers to very specific needs, especially for large installations.

Specific product ranges tailor-made to every market.

CLINT is able to enter the different international markets with specific ranges, as dedicated products designed to efficiently operate at high ambient temperature up to 52°C for Africa and Middle East. To better satisfy any market requirement in terms of power supply, it is also available a dedicated range with 60Hz frequency.

Engineering & Service Support.

Offering an highly skilled Sales Engineering support, the Company is able to set jointly with the Customer the best solution for any specific need and to offer full tailor-made solutions to the Customer's request. A complete Service Network, geographically spread worldwide, is able to give support on startups and to ensure immediate reaction in case of any problems.

Fast reaction.

An highly flexible organization and a quick decision process & short manufacturing lead-time allow the Company to promptly react to Customer's needs.

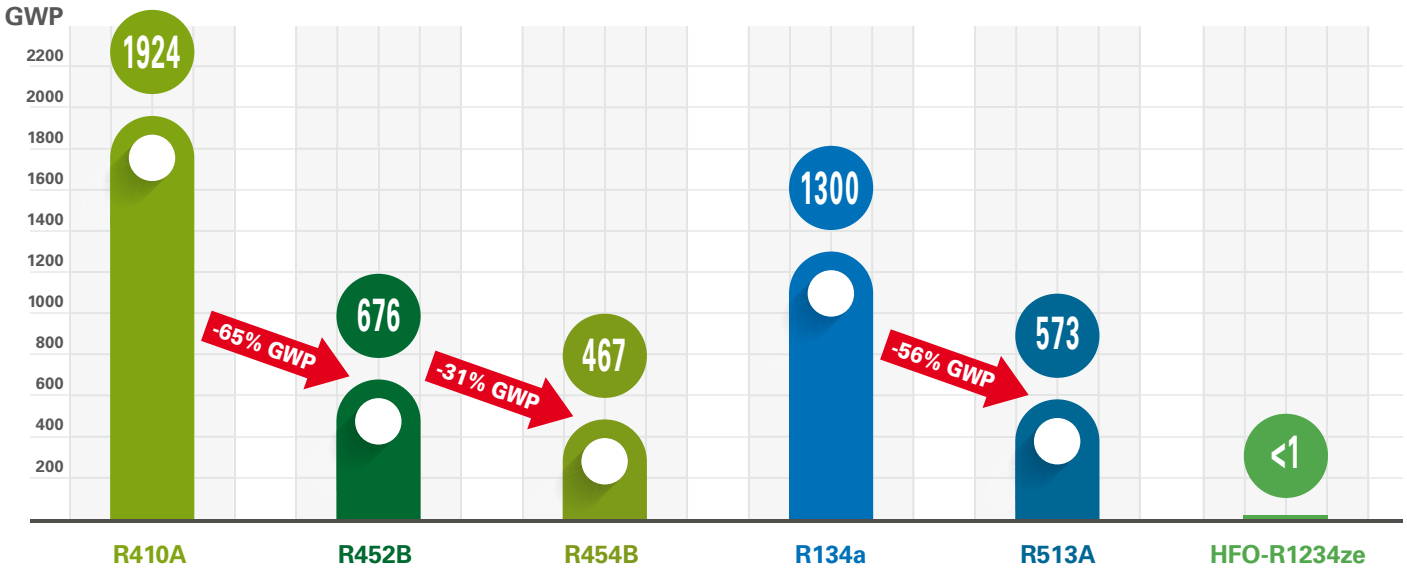
THE HIGHEST EFFICIENCY.

The highest today's challenge in HVAC business is ensuring maximum comfort with the lowest energy consumption. Thanks to its continuous research in new technical solutions, CLINT offers its newest and widest high efficiency range characterized by A CLASS energy efficiency with the highest SEER/SEPR/IPLV/SCOP, including models with Rotary, Scroll, Screw and Turbocor compressors.

LOW GWP REFRIGERANT: HFO-R1234ze, R452B, R454B AND R513A.

CLINT is also able to provide the widest offer of liquid Chillers operating with low GWP refrigerants. The latest generation refrigerant **HFO-R1234ze**, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant in the market. CLINT provides two ranges of Aircooled or Watercooled liquid Chillers both with Turbocor or Screw compressors specially designed for HFO-R1234ze refrigerant.

Moreover, the units in the catalogue with traditional R410A and R134a refrigerants can be supplied, on request, with low GWP alternatives, respectively **R452B, R454B** and **R513A**.



GWP_{100AR5} = Global Warming Potential calculated over a 100-years period according to 5th Assessment Report (2014) of IPCC Institute.

CLIMATIZZAZIONE INTEGRATA

COMPANY PROFILE

REFERENCES

Dedicated solutions for
different applications.

>> SHOPPING MALLS, CONFERENCE CENTRES & ENTERTAINMENT.

LE GRU Shopping Mall, Turin, Italy
Rivoli Castel, Rivoli, Italy

01 *REGGIA DI VENARIA REALE Museum, Turin, Italy*

02 *EXPO 2015 Russian Pavillion, Milan, Italy*

FIERA MILANO Exhibition Centre, Milan, Italy
DECATHLON Shopping Malls, several locations, Italy
ZARZUELA Theatre, Madrid, Spain
GUCCI Atelier, Paris, France
DIOR Atelier, Courchevel, France
Galeria INNO, Brussels, Belgium
TÄBY CENTRUM Shopping Mall, Täby, Sweden
ARKADIA Shopping Mall, Tallin, Estonia
SKARZYSKO KAMIENNA Shopping Mall, Skarzysko, Poland
BREDA OPAVA Shopping Mall, Opava, Czech Rep.
CYPRUS CONFERENCE CENTRE, Nicosia, Cyprus
LEOPOLIS KING CROSS Shopping Mall, Lviv, Ukraine

03 *VDNH - Russian Permanent Expo. COSMOS PAVILION, Moscow, Russia*

04 *YAMSKAYA CENTRE Shopping Mall, Moscow, Russia*

REAL Shopping Mall, Rostov on Don, Russia
GIPPO Shopping Mall, Minsk, Belarus

05 *RINGS ISTANBUL Shopping Mall, Istanbul, Turkey*

WOW HOTEL Congress Centre, Istanbul, Turkey
MEREY Shopping Mall, Karaganda, Kazakhstan
MARSA AL SEEF Cultural and Multifunctional Centre, Dubai, U.A.E.
OZONE ENTERTAINMENT CENTRE, Sitra, Bahrain
CULTURAL VILLAGE, Doha, Qatar
MARJANE Shopping Mall, Marrakech, Morocco

06 *IKEA Store, Zenata, Morocco*

BAGATELLE Shopping Mall, Port Louis, Mauritius
CIRCUS TRIANGLE Shopping Mall, Mthatha, South Africa
SAVANNAH Shopping Mall, Polokwane, South Africa
TAI KWUN CENTRE FOR HERITAGE & ART - former CENTRAL POLICE STATION, Sheung Wan, Hong Kong
HOI LAI Shopping Mall, Lai Chi Kok, Hong Kong

07 *CAIRNS Aquarium, Cairns, Australia*

WESTFIELD MIRANDA Shopping Mall, Miranda, Australia
CORSO NORTH LAKES Leisure Centre, North Lakes, Australia
WOOLWORTHS Shopping Malls, several locations, Australia

>> AIRPORTS, HARBOURS & STATIONS.

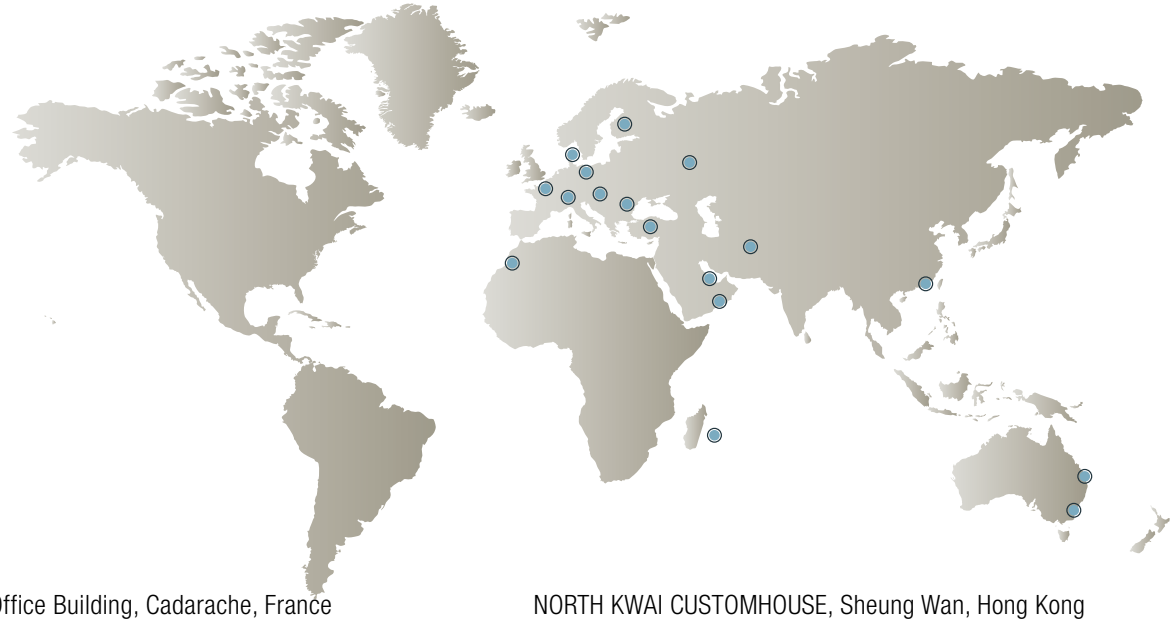
LINATE Airport - Cogeneration Energy Plant, Milan, Italy
TRIESTE Airport, Ronchi dei Legionari, Italy
CASELLE Airport, Turin, Italy
TRIESTE Harbour, Trieste, Italy
OSLO GARDERMOEN Airport Warehouse, Oslo, Norway
PLOCE Harbour, Ploce, Croatia
SKOPJE Airport, Skopje, Macedonia
LIMASSOL Harbour, Limassol, Cyprus
TARAZ Airport, Taraz, Kazakhstan

>> OFFICE BUILDINGS & PLANTS.

PIAGGIO Factory, Pontedera, Italy
DANIELI Headquarters, Buttrio, Italy

08 *GUCCI Headquarters, Scandicci, Italy*

ALENIA AERMACCHI - FINMECCANICA GROUP, Caselle, Italy
EXPEDITORS, Amsterdam, Netherlands
BAWELSE PARK Multifunctional Centre, Breda, Netherlands

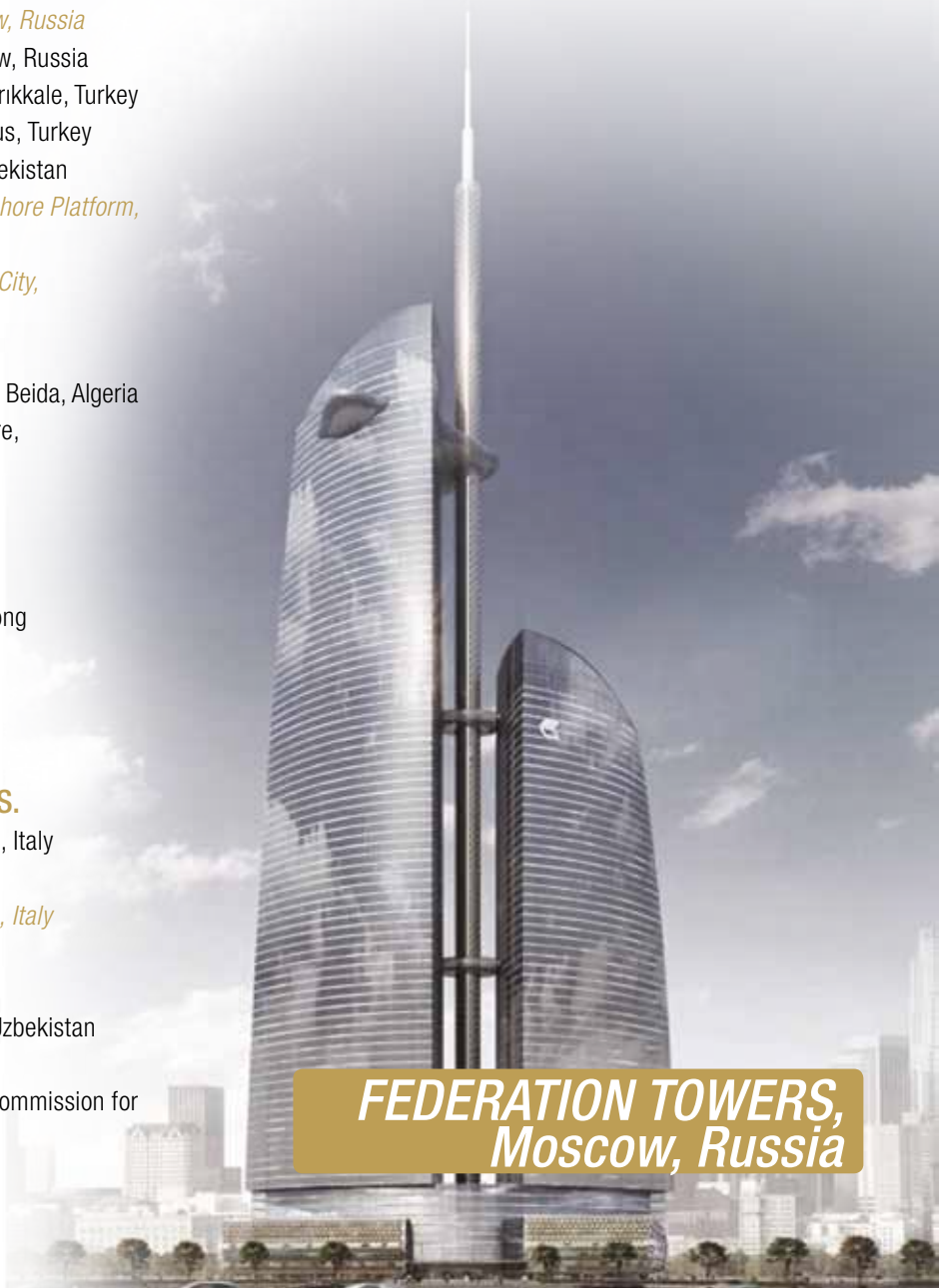


CEA CADARACHE Office Building, Cadarache, France
09 *BRYN EIENDOM - ØSTENSJØVEIEN 34 Business Centre, Oslo, Norway*
10 *VOLKSWAGEN Plant, Bratislava, Slovakia*
OPERA Business Centre, Bucarest, Romania
SEALYNX Car Components Factory, Darmanesti, Romania
BAT YVA Plant, Moscow, Russia
FEDERATION TOWERS Business Centre, Moscow, Russia
VEREYSKAYA PLAZA III Business Centre, Moscow, Russia
TUPRAS - TURKISH PETROLEUM REFINERIES, Kırıkkale, Turkey
KOLUMAN OTOMOTIV - MERCEDES BENZ, Tarsus, Turkey
UZBAT British American Tobacco, Tashkent, Uzbekistan
11 *QPD – QATAR PETROLEUM DEVELOPMENT Offshore Platform, Qatar*
ROWAD National Plastic Factory, Hail Industrial City, Saudi Arabia
NITROKIM Chemical, Tunis, Tunisia
SARL AMOUDA ENGINEERING Cement Factory, El Beida, Algeria
BARROW OXFORD & GLENHOVE Business Centre, Johannesburg, South Africa
AGGREKO Offshore Platform, Singapore
GREEN SMART SHIRTS Garment Company, Gazipur - Dhaka, Bangladesh
WANG CHEONG Building, Sheung Shui, Hong Kong
LSG SKY CHEF - Lufthansa Catering Services, Chep Lap Kok, Hong Kong
LINDT CHOCOLATE Plant, Sidney, Australia

>> INSTITUTIONS AND PUBLIC BUILDINGS.

FLORENCE CHAMBER OF COMMERCE, Florence, Italy
NATO Military Base, Capodichino, Italy
12 *WEDEKIND PALACE - INPS Headquarters, Rome, Italy*
MINISTRY OF TREASURY, Rome, Italy
PALACE OF JUSTICE, Pristina, Kosovo
UZBEKISTAN OLYMPIC COMMITTEE, Tashkent, Uzbekistan
MINISTRY OF FINANCE, Baku, Azerbaijian
ESCWA - United Nations Economic and Social Commission for Western Asia, Beirut, Lebanon

NORTH KWAI CUSTOMHOUSE, Sheung Wan, Hong Kong
HO MAN TIN Government Offices, Sheung Shui, Hong Kong
13 *NORTH POINT Government Offices, Kowloon, Hong Kong*
NETHERLANDS EMBASSY, Camberra, Australia
MAROOCHYDORE POLICE STATION, Maroochydore, Australia



FEDERATION TOWERS, Moscow, Russia


05

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12

CULTURAL VILLAGE, Doha, Qatar

MOSE

Venice, Italy

MOSE is one of the greatest engineering projects in the World. It is a system of mobile barriers for the defence of Venice and its lagoon from high tides.
The works have been managed by the Italian Ministry of Infrastructure and Transport – Consorzio Venezia Nuova.
MOSE is an integrated system consisting of 4 rows made of 78 mobile gates installed at lagoon inlets that are able to isolate the Venetian Lagoon temporarily from the Adriatic Sea during high tides. The mobile barriers are connected to concrete housing structures with hinges that constrain the gates to the housing structures and allow them to move. They are located below sea level, lying on the seabed.

The installation is completed with a net of submarine tunnels, service rooms and technological systems for the management of barriers opening and of the whole project overall, that need to be kept at controlled levels of temperature and humidity for their right functioning and protection from salt corrosion.

G.I. INDUSTRIAL HOLDING SpA is providing the units for air conditioning and dehumidification of underwater galleries and technological systems, in partnership with the multinational Company **SIRAM SpA – VEOLIA Group**, responsible for design and execution of the whole HVAC system.

The units provided under CLINT and NOVAIR brands are:

- **89 Heat Pumps and 60 Fan Coil units: 11.000 kW total cooling power**
- **128 Air Handling Units: 870.000 m³/h total air flow.**

All units feature special technical solutions and dedicated materials, specifically developed for long resistance in salty environment.

>> SCHOOLS AND UNIVERSITIES.

UNIVERSITA' DEGLI STUDI DI MILANO, Milan, Italy
JAUME I University, Valencia-Castellón, Spain
PARIS X University, Nanterre, France
MILLGATE School, Leicester, United Kingdom
KOC College, Istanbul, Turkey
14 *AUB - AMERICAN UNIVERSITY BEIRUT, Beirut, Lebanon*
WITS University - NEW SCIENCE Centre, Johannesburg, South Africa
UKZN University, Durban, South Africa
BRITISH COLUMBIA University, Vancouver, Canada
NANYANG POLYTECHNIC, Nanyang, Singapore
15 *THE HONG KONG POLYTECHNIC University, Kowloon, Hong Kong*
SUNSHINE COAST INSTITUTE OF TAFE, Maroochydore, Australia

>> SPORT & WELLNESS BUILDINGS.

FRANCHI Stadium, Florence, Italy
PURE GYM, Bristol, United Kingdom
CATEZ Thermal Centre, Brežice, Slovenja
16 *DAGÁLY Swimming Centre - 2017 FINA SWIMMING WORLD CHAMPIONSHIP, Budapest, Hungary*
17 *BIALYSTOK Stadium, Bialystok, Poland*
18 *FIFA WORLD CUP 2018 FOOTBALL Stadium, Ekaterinburg & Volgograd, Russia*
VIVA GYM FOURWAYS, Johannesburg, South Africa
HONG KONG COLISEUM Leisure & Cultural Services, Kowloon, Hong Kong
TONSLEY PARK, Adelaide, Australia
19 *SIDNEY UNIVERSITY SPORTS & AQUATIC CENTRE, Sidney, Australia*

Discover all our references on:

www.clint.it

MOSE, Venice, Italy

>> HOSPITALS, HOTELS & RESTAURANTS.

GEMELLI Hospital, Rome, Italy
UMBERTO I General Hospital, Rome, Italy
Baggiovara Hospital, Baggiovara, Italy
DOMUS SESSORIANA Hotel, Rome, Italy
BAZA Hospital, Baza, Spain
VASTRA VAGEN 48 Hospital, Gavle, Sweden

20 *ALSIK Hotel, Sønderborg, Denmark*
HILTON Hotel, Tallin, Estonia
NUCLEAR MEDICINE CENTRE, Riga, Latvia
RADISSON BLU BÉKE Hotel, Budapest, Hungary

21 *DOURO ELEGANCE, SERENITY, EMERALD RADIANCE Cruises - GK MARINE Shipyard, Piraeus, Greece*
IKOS ARIA Hotel, Kos, Greece
MARRIOT Hotel, Voronezh, Russia
TAKSIM ILK YARDIM HASTAHANESI Hospital, Istanbul, Turkey
DEDEMAN Hotel, Bostanci, Turkey

22 *OASIS Hospital, Dubai, U.A.E.*
HILTON SALWA BEACH Resort, Qatar

23 *CMH - COMBINED MILITARY HOSPITAL, Rawalpindi, Pakistan*
BIZERTE Hospital, Bizerte, Tunisia
ONE&ONLY LE SAINT GÉRAN Resort, Port Louis, Mauritius
BENIN ROYAL Hotel, Cotonou, Benin
RICHARDS BAY Oncology Hospital, Richards Bay, South Africa
JASMINE PALACE Hotel, Yangon, Myanmar
NGHE ANH Hospital, Ho Chi Minh, Vietnam
EASTERN Hospital, Kowloon, Hong Kong
SHATIN Hospital, Ma On Shan, Hong Kong
DISTINCTION Hotel, Cristchurch & Dunedin, New Zealand

>> LABORATORIES, LIBRARIES & MUSEUMS.

Roman National Museum, Rome, Italy
LABORATOIRE DE GLACIOLOGIE ET GÉOPHYSIQUE DE L'ENVIRONNEMENT, Saint-Martin d'Hères Cedex, France
CITY MUSEUM, Zenice, Bosnia and Herzegovina

24 *NATIONAL ART GALLERY, Sofia, Bulgaria*
UWC Metrology Laboratories, Johannesburg, South Africa
KAZNU University Scientific Library, Karaganda, Kazakhstan

>> INDUSTRIAL PROCESS COOLING.

25 *STIGE Printing Company, San Mauro Torinese, Italy*
CEDACRI Data Centre, Castellazzo Bormida, Italy
TELECOM Data Centres, various locations, Italy
MESOESTETIC Pharmaceutical, Barcelona, Spain
ASPLA-PLÁSTICOS ESPAÑOLES Plastic Factory, Torrelavega, Spain
SOLVAY Plant, Manchester, United Kingdom
EGGER HEXHAM Lamination Plant, Hexham, United Kingdom
AGROETANOL Plant, Lantmannen, Sweden
MAN DIESEL & TURBO Plant, Copenhagen, Denmark

26 *EUROPEAN BATTERIES Plant, Varkhaus, Finland*
MICHELIN Plant, Olsztyn, Poland
IMPERIAL TOBACCO POLSKA, Tarnowo Podgórne, Poland

27 *RGK VI - PHARMAFABRIK RICHTER GEDEON Pharmaceutical, Budapest, Hungary*
BRIDGESTONE Plant, Tatabanya-Kornye, Hungary
CONTINENTAL Plant, Kaluga, Russia
ISTANBUL STOCK EXCHANGE Data Centre, Istanbul, Turkey
TURKUVAZ MATBAACILIK Printing Company, Istanbul, Turkey
PETROFAC OIL & GAS PROVIDER Plant, Ashagabat, Turkmenistan
AL KHAMEES Plant, Doha, Qatar

28 *SOHAR STEEL, Sohar Industrial Port, Oman*
STERIPHARMA Pharmaceutical, Casablanca, Morocco
M&J GROUP-COLUMBIA WASHING PLANT, Glazipur, Bangladesh
NOVARTIS PHARMA Pharmaceutical, Sidney, Australia

>> FOOD & BEVERAGE PROCESS COOLING.

CANTINE LIZZANO Winery, Lizzano, Italy
ENOAGRIMM Winery, San Severo, Italy

29 *AGROLIO Winery, Andria, Italy*
VOESTALPINE AUTOMOTIVE COMPONENTS, Schmölln, Germany
GASCON VERMUYTEN Food Industry, Vitoria-Gasteiz, Spain
BODEGAS ALTOSA Distillery, Tomelloso, Spain
BODEGAS SANDEVID Winery, Daimiel, Spain
MORE HOLSTEIN Cow Breeding Farm, Bétera, Spain
CHEMOURS Chemical, Dordrecht, Netherlands
CORBION Biochemical, Gorinchem, Netherands
J. HOLT Brewery, Manchester, United Kingdom
VILLANYI BOROK HAZA Winery, Villány, Hungary

30 *HENKEL Chemical industry, Belgrade, Serbia*
PHILIP MORRIS IZHORA Cigarette Factory, St. Petersburg, Russian Federation
PERFETTI VAN MELLE Candies Manufacturing, Esenyurt, Turkey
SNACKWORKS Sweet Industry, Durban, South Africa
COCA COLA Plant, Salthani, Laos

HILTON SALWA BEACH Resort, Qatar

ROWAD National Plastic Factory, Hail Industrial City, Saudi Arabia

CLINT
CLIMATIZZAZIONE INTEGRATA

PRODUCT RANGE

Most of the product ranges are compliant to ErP European Regulations.

- **ErP 2018 SCOP.** The EU Regulation n. 813/2013 fixing precise efficiency standards for heat pump units.
- **ErP 2021 SEER.** The range of units for comfort cooling application reaches the seasonal energy efficiency standards required from 2021 (EU Regulation n°2016/2281).
- **ErP 2021 SEPR.** The range of units for process cooling application reaches the seasonal energy efficiency standards required from 2021 (EU Regulation n°2016/2281).

ErP SCOP | ErP SEER 2021 | ErP SEPR 2021

LIQUID CHILLERS.

COMPACT Line

COMPACT LINE: The CompactLine liquid Chillers and Heat Pumps range is the ideal solution for residential or small commercial areas. Compactness and low energy consumption are the key benefits of this range, available in DOUBLE A CLASS energy efficiency with Inverter Scroll compressor.

Thermica SYSTEM

THERMICA SYSTEM: Thermica System line includes monoblock dedicated heat pumps and indoor units for room heating, cooling and domestic hot water production up to 55 °C. A CLASS energy efficiency reversible Heat Pumps feature Inverter Rotary compressor and plate exchanger.

MIDYLINE

MIDY LINE: The Heat Pumps of MidyLine series are dedicated to environment heating and domestic hot water production, providing hot water up to 60°C, as well as air conditioning during summertime. The range features A CLASS energy efficiency and AquaLogik technology with built-in hydronic kit and variable speed circulating pumps, making the use of inertial tank unnecessary.

AQUA PLUS

AQUA PLUS: The AquaPlus aircooled, watercooled and condenserless liquid Chillers and Heat Pumps range is dedicated to small and medium areas in commercial or industrial buildings, up to 180 kW. Compactness and easy installation are the key benefits of this range. Dedicated models can also feature the additional AquaLogik technology with built-in hydronic kit and variable speed circulating pumps, making the use of inertial tank unnecessary. AquaPlus range is available in several variants, up to DOUBLE A CLASS energy efficiency, featuring Inverter technology on Scroll compressors and, as option, on fans and circulating pumps. Units with **R452B** and **R454B** refrigerants are also available.

multi power

MULTI POWER: The MultiPower liquid Chillers and Heat Pumps range is based on multi-Scroll design for high efficiency at part loads, with up to 12 compressors on double cooling circuit, also in DOUBLE A CLASS energy efficiency with Inverter technology. The family includes both aircooled and watercooled models with a capacity range up to 1250 kW. Units with **R452B** and **R454B** refrigerants are also available.

ENERGY POWER

ENERGY POWER: The aircooled Multifunctional units of EnergyPower line are able to provide cooling, heating and domestic hot water at the same time and with the same unit. Those Multifunctional units, with capacity up to 1130 kW, are dedicated to 4-Pipe systems and are ideal for buildings with simultaneous need of ambient heating, cooling and domestic hot water, such as hotels and multifunctional buildings with service and residential users. The range includes models with both Scroll or Screw compressors. Units with **R452B, R454B** or **R513A** refrigerant are also available.

MAXI POWER: The MaxiPower aircooled, watercooled and condenserless liquid Chillers with Screw compressors cover capacities up to 2350 kW. Dedicated models feature Inverter technology on compressors, pumps and fans for an higher efficiency even at part load. MaxiPower range is available in several variants up to DOUBLE A CLASS. The new environmentally friendly models feature the innovative **HFO-R1234ze** refrigerant, with GWP<1 (Global Warming Potential), in order to meet the strictest international environmental regulations. Units with **R513A** refrigerant are also available.

TURBOLINE: The TurboLine range, equipped with Turbocor Magnetic Levitation compressors, reaches an extremely high efficiency (A CLASS) with the highest EER and SEER / SEPR / IPLV in the market and a low starting current, in addition to maximum reliability and an extra silent operation.
The range includes aircooled and watercooled models with a wide capacity range up to 3900 kW, also with **R513A** or **HFO-R1234ze** refrigerant.

DRY-COOLERS, REMOTE CONDENSERS AND HYDRONIC MODULES.

A comprehensive range of Dry-Coolers and Remote Condensers with air flow up to 127 m³/s and different noise levels and a full range of remote Hydronic Modules up to 2500 lt. is available to complete the liquid Chillers range.

PACKAGED ROOF TOP UNITS.

AIR PLUS: The Packaged Roof Top units of AirPlus series feature Single Skin and EC Inverter Plug-Fans. The units may feature additional Mixing Box, Free-Cooling sections and Thermodynamic Coil-Boost Heat Recovery.

AIR MAXI: The Double Skin Packaged Roof Top units of AirMaxi series feature radial fans or EC Inverter Plug-Fans, also with Inverter Scroll compressor.
The units may feature additional Mixing Box, Free-Cooling and Heat Recovery Sections, with different technologies: Cross-Flow type, Wheel type or Thermodynamic Coil-Boost type.

CONDENSING UNITS.

A comprehensive range of condensing units from 4 to 190 kW with different technical solutions and noise levels is available to complete the CLINT product range.

FAN COIL UNITS.

FAN COIL UNITS WITH CABINET AND FOR BUILT-IN INSTALLATION: Fan Coil units for floor, ceiling or built-in installation, with several air flow configurations and capacity up to 7,3 kW, available both with 3-Speed or EC Inverter fans. A wide range with high static pressure is also available for built-in installation.

WALL MOUNTED, WATER CASSETTE AND DUCTABLE FAN COIL UNITS: Wall mounted units up to 5,4 kW, Water Cassette up to 11 kW and Modular Ductable Fan Coil units up to 43 kW, available with 3-Speed or EC Inverter fans.

CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHA/K/EP 604-P÷2406-P

Aircooled 4-Pipe multifunctional units with axial fans, Scroll compressors and plate exchangers

ENERGY POWER

CHA/Y/EP 1352÷4402

Aircooled 4-Pipe multifunctional units with axial fans, (Inverter) Screw compressors and shell and tube exchangers

ENERGY POWER
INVERTER SCREW

CHA/H/A 351-P÷1221-P

A CLASS energy efficiency aircooled liquid Chillers with axial fans, (Inverter) Screw compressor and plate exchanger

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

CHA/H/FC 351-P÷901-P

Aircooled liquid Chillers Free-Cooling with axial fans, Screw compressor and plate exchanger

MAXI POWER
FREE COOLING
HFO R1234ze

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHA/H/A 351÷1221

A CLASS energy efficiency aircooled liquid Chillers with axial fans, (Inverter) Screw compressor and shell and tube exchanger

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

CHA/H/A 1002÷6002

A CLASS energy efficiency aircooled liquid Chillers with axial fans, (Inverter) Screw compressors and shell and tube exchanger

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

CHA/H/FC 1002÷4802

Aircooled liquid Chillers Free-Cooling with axial fans, Screw compressors and shell and tube exchanger

MAXI POWER
FREE COOLING
HFO R1234ze

CHA/Y/A 1302÷6002

A CLASS energy efficiency aircooled liquid Chillers and Heat Pumps with axial fans, (Inverter) Screw compressors and shell and tube exchanger

MAXI POWER
INVERTER SCREW
MICROCHANNEL

CHA/Y 1202-B÷6802-B

Aircooled liquid Chillers and Heat Pumps with axial fans, Screw compressors and shell and tube exchanger

MAXI POWER

CHA/Y/FC 1202-B÷6002-B

Aircooled liquid Chillers Free-Cooling with axial fans, Screw compressors and shell and tube exchanger

MAXI POWER
FREE COOLING

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

Power (kW) Page

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

Power (kW) Page

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION. REMOTE CONDENSERS

CHAPTER 4

DRY-COOLERS AND HYDRONIC MODULES

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 5
PACKAGED ROOFTOP UNITS

Power (kW) Page

RTA/K/EC/WP 182-R÷453-R

Single Skin packaged Roof Top units with Scroll compressors and EC Inverter Plug-Fans

AIRPLUS
EC INVERTER PLUG FANS
THERMODYNAMIC COIL-BOOST HEAT RECOVERY

63-162 kW
65-171 kW

184 - 185

RTA/IK/EC 172÷724

Double Skin packaged Roof Top units with Inverter Scroll compressors and EC Inverter Plug-Fans

AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS

58-252 kW
60-262 kW

186 - 187

RTA/IK/EC/MS 172÷724

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans and Mixing Box

AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS

58-252 kW
60-262 kW

188 - 189

RTA/IK/EC/ECO 172÷724

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans and Economizer

AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS
THERMODYNAMIC COIL-BOOST HEAT RECOVERY

58-252 kW
60-262 kW

190 - 191

RTA/IK/EC/ECO/REC-FX 172÷724

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS

58-252 kW
60-262 kW

192 - 193

Power (kW) Page

RTA/IK/EC/ECO/REC-WH 172÷724

Double Skin packaged Roof Top units with Inverter Scroll compressors, EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS

194 - 195

RTA/K 182÷804

Double Skin packaged Roof Top units with Scroll compressors and radial fans or EC Inverter Plug-Fans

AIRMAXI
EC INVERTER PLUG FANS

196 - 197

RTA/K/MS 182÷804

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans and Mixing Box

AIRMAXI
EC INVERTER PLUG FANS

198 - 199

RTA/K/ECO 182÷804

Double Skin packaged Roof Top units with Scroll compressors, radial fans or EC Inverter Plug-Fans and Economizer

AIRMAXI
EC INVERTER PLUG FANS
THERMODYNAMIC COIL-BOOST HEAT RECOVERY

200 - 201

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

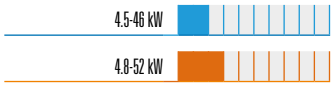
Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 5
PACKAGED ROOFTOP UNITS

Power (kW) Page

MHA/K 15÷151

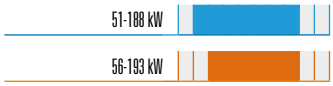
Aircooled condensing units and reversible condensing units with axial fans and Rotary/Scroll compressor



208 - 209

MHA/K 182÷604

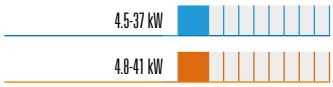
Aircooled condensing units and reversible condensing units with axial fans and Scroll compressors



210 - 211

MRA/K 15÷131

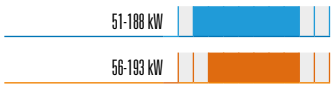
Aircooled condensing units and reversible condensing units with radial fans and Rotary/Scroll compressor for indoor ducted installation



212 - 213

MRA/K 182÷604

Aircooled condensing units and reversible condensing units with radial fans and Scroll compressors



214 - 215

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Inverter Rotary
- Rotary
- Inverter Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor

Fan
- EC Inverter Axial
- Axial
- EC Inverter Radial
- Radial
- High ESP Radial
- EC Inverter Tangential
- EC Inverter Plug-Fan

Exchanger
- Plate
- Shell and Tube
- Flooded Shell and Tube
- Microchannel

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- Hybrid System Management
- Integration
- A Class Cooling
- A Class Heating

Solution
- 4-Pipe system
- Web Monitoring
- Silenced
- Super silenced
- Single Skin
- Double Skin
- Mixing Box
- Economizer
- Economizer and Thermodynamic Coil-Boost Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R134a
- R513A
- R1234ze
- R407C
- H_2O

CHAPTER 7
FAN COIL UNITS

FVW 13÷74 floyd

Fan Coil units with cabinet and 3-Speed or EC Inverter radial fans

floyd®

EC INVERTER FAN

FIW 13÷74

Fan Coil units for built-in installation with 3-Speed or EC Inverter radial fans

EC INVERTER FAN

FIW/AP 23÷74

Fan Coil units for built-in installation with high available static pressure and 3-Speed or EC Inverter radial fans

EC INVERTER FAN

HIGH STATIC PRESSURE

HWW/EC 22÷62 eurìce

Wall mounted Fan Coil units with EC Inverter tangential fan

eurìce®

EC INVERTER FAN

TCW 22÷122

Water Cassette with 3-Speed or EC Inverter radial fan

EC INVERTER FAN

UTW 63÷544

Ductable Fan Coil units with 3-Speed or EC Inverter radial fans

EC INVERTER FAN

Focus on ErP Regulations

EUROPEAN UNION Regulations (ErP – ECODESIGN)

→ ErP: UE 2016/2281

→ ErP: UE 813/2013

aimed at setting precise **Minimum Energy Efficiency Standards** for **E**lectric **R**elated **P**roducts (**ErP**). Mandatory compliance to standards of key components (fans, pumps, motors) and entire unit (Chiller / Heat Pump / Packaged Roof Top units).

The new minimum energy efficiency standards required by ErP Directive EU N. 2016/2281 came into force on 1st January 2021. These new requirements have a significant impact on existing product range.

Products covered by the Regulation

Liquid Chillers

Comfort **Process**

Packaged Roof Top units

Cooling only **Heat Pumps**

Condensing units and condenserless units are excluded from ErP Regulation.

The intended use of liquid Chillers, that is **comfort (SEER)** or **process (SEPR)**, must be specified.

The compliance with ErP Directive is a key requirement to mark products with the CE logo.
Units without CE are saleable outside Europe only. These latter units, however, comply with all directives foreseen by CE Declaration: Machinery Directive 2006/42/EC, Pressure Equipment (PED) Directive 2014/68/EU, Low Voltage Directive (LVD) 2014/35/EU, Electromagnetic Compatibility (EMC) Directive 2014/30/EU, RoHS Directive 2011/65/EU and RAEE Directive 2012/19/EU.


CLINT
DC INVERTER
Thermica

CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

FROM 6,0 KW TO 22 KW.

CHA/IK/A 21÷81

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSOR, PLATE EXCHANGER AND HIGH EFFICIENCY EC INVERTER CIRCULATOR.

COMPACT Line

INVERTER SCROLL

The CHA/IK/A 21÷81 **COMPACT LINE** series is the winning choice for ideal comfort in residential and commercial environments. The range, in A CLASS energy efficiency, features Inverter technology on the compressor, for high efficiency at partial loads. The range excels for its compact sizes, quietness and optimised water circuit, on a peraluman structure. Particular design features enable immediate and effective use, easy installation and lasting reliability. These extremely compact and high-tech units offer you ideal comfort in all seasons.
The unit features high efficiency integrated circulator with EC Inverter brushless electronic motor.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

VERSION

CHA/IK/A	***CHA/IK/A/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- DC INVERTER Scroll compressor with internal overheat protection and crankcase heater.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded type, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Water circuit includes: water differential pressure switch, high efficiency EC Inverter circulator, safety valve and expansion vessel.
- High efficiency circulator with EC Inverter brushless electronic motor with 3 speeds selectable by the user.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards

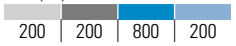
CHA/IK/A 21÷81

MODEL			21	31	41	51	61	71	81
Cooling	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.7	19.0	22.4
	Absorbed power (1)	kW	1.8	2.4	3.0	3.8	4.9	6.0	7.2
	EER (1)		3.33	3.17	3.10	3.26	3.20	3.17	3.11
Cooling (EN14511)	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.6	18.9	22.5
	Absorbed power (1)	kW	1.8	2.4	3.0	3.8	4.9	6.0	7.2
	EER (1)		3.33	3.17	3.10	3.26	3.18	3.15	3.13
	SEER (2)		4.12	4.11	4.10	4.68	4.74	4.71	4.72
	Energy Efficiency (2)	%	162	161	161	184	187	185	186
Heating	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8
	Absorbed power (3)	kW	1.9	2.5	3.2	4.0	4.9	5.9	7.0
	COP (3)		3.53	3.52	3.41	3.53	3.57	3.54	3.54
Heating (EN14511)	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8
	Absorbed power (3)	kW	1.9	2.5	3.2	4.0	4.9	5.9	7.0
	COP (3)		3.53	3.52	3.41	3.53	3.57	3.54	3.54
	SCOP (4)		3.49	3.34	3.45	3.42	3.56	3.60	3.85
	Energy Efficiency (4)	%	136	131	135	134	139	141	151
	Energy Class (5)		A+	A+	A+	A+	A+	A+	A++
Compressor	Quantity	n°	1	1	1	1	1	1	1
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50			
	Max. running current	A	16	16	16	13	13	15	18
	Max. starting current	A	10	10	10	8	8	9	10
Water circuit	Water flow	l/s	0.29	0.36	0.44	0.59	0.75	0.91	1.07
	Pump available static pressure	kPa	53	56	52	76	82	70	60
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure (6)		dB(A)	51	52	55	57	58	59	60
Weights	Transport weight	Kg	101	113	123	195	197	199	201
	Operating weight	Kg	126	138	148	245	247	249	251

DIMENSIONS			21	31	41	51	61	71	81
L	STD	mm	870	870	870	1160	1160	1160	1160
W	STD	mm	320	320	320	500	500	500	500
H	STD	mm	1100	1100	1100	1270	1270	1270	1270

CLEARANCE AREA

CHA/IK/A 21÷41



CHA/IK/A 51÷81

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 6,1 KW TO 9,8 KW.

CHA/IK/TR/A 18÷35

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

NEW

Thermica

INVERTER ROTARY

EC INVERTER FANS

The reversible Heat Pumps CHA/IK/TR/A 18÷35, in A CLASS energy efficiency, are designed for small domestic or service sector environments. Equipped with R410A refrigerant, Inverter Rotary compressor with DC BRUSHLESS motor and EC INVERTER axial fans, they are extremely functional and reliable units. The Inverter device controls and continuously modulates the compressor speed, keeping the temperature of the water delivered to the system stable and constant and adapting it perfectly to the thermal load of the places where terminal units it feeds are installed. This obtains high energy efficiencies and SCOP values higher than conventional units, and a reduction of compressor starting peak currents, thus considerably reducing the risk of malfunctioning or breakages. The EC Inverter axial fans vary their speed according to the required thermal load, with consequent benefits in terms of energy efficiency and silent operation.
The units are designed for **hot water production up to 55 °C**.

The units are compliant to the ErP Regulation.

VERSION

CHA/IK/TR/A

Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Rotary compressor, with DC BRUSHLESS motor, complete with overload protection.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20 °C.
- Functioning in heating mode with outside air temperature down to -20 °C.
- Water circuit includes: circulator with high efficiency DC BRUSHLESS motor, flow switch, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.
- Communication with Modbus RTU protocol through RS485 serial interface.

ACCESSORIES

LOOSE ACCESSORIES

CD	Remote control panel with ambient thermostat
CDT	Remote control panel with Touch Screen room thermostat
AG	Rubber shock absorbers

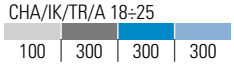
CHA/IK/TR/A 18÷35

MODEL			18	25	35
Heating	Heating capacity (1)	kW	5.18	6.05	8.16
	Absorbed power (1)	kW	1.56	1.95	2.56
	COP (1)		3.32	3.11	3.19
	Heating capacity (2)	kW	6.10	7.36	9.82
	Absorbed power (2)	kW	1.47	1.97	2.52
	COP (2)		4.15	3.74	3.90
Heating (EN14511)	Heating capacity (1)	kW	5.14	5.98	8.03
	Absorbed power (1)	kW	1.48	1.87	2.45
	COP (1)		3.48	3.20	3.28
	Heating capacity (2)	kW	6.05	7.23	9.71
	Absorbed power (2)	kW	1.39	1.85	2.42
	COP (2)		4.35	3.90	4.02
	SCOP (3)		4.50	4.34	3.96
	Energy Efficiency (3)	%	177	171	155
	Energy Class (4)		A+++	A++	A++
	SCOP (5)		3.23	3.13	2.93
	Energy Efficiency (5)	%	126	122	114
	Energy Class (6)		A++	A+	A+
Cooling	Cooling capacity (7)	kW	4.72	5.46	8.34
	Absorbed power (7)	kW	1.73	2.12	3.05
	EER (7)		2.73	2.58	2.73
	Cooling capacity (8)	kW	4.90	5.96	8.98
	Absorbed power (8)	kW	1.34	1.68	2.40
	EER (8)		3.66	3.55	3.74
Cooling (EN14511)	Cooling capacity (7)	kW	4.76	5.58	8.42
	Absorbed power (7)	kW	1.66	2.04	2.92
	EER (7)		2.86	2.74	2.88
	Cooling capacity (8)	kW	5.00	6.03	9.10
	Absorbed power (8)	kW	1.26	1.58	2.27
	EER (8)		3.96	3.81	4.01
	SEER (9)		5.59	4.82	5.61
	Energy Efficiency (9)	%	221	190	221
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		
	Max. running current	A	14	19	20
	Max. starting current	A	7	10	10
Compressor	Quantity	n°	1	1	1
Water circuit	Water flow	l/s	0.29	0.35	0.46
	Pump available static pressure	kPa	67	60	53
	Water connections	"G	1"	1"	1"
Sound pressure (10)		dB(A)	50	55	55
Weights	Transport weight	Kg	78	79	103
	Operating weight	Kg	70	71	94

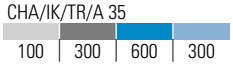
DIMENSIONS			18	25	35
L	STD	mm	1050	1050	1160
W	STD	mm	290	290	330
H	STD	mm	685	685	890

CLEARANCE AREA

CHA/IK/TR/A 18÷25



CHA/IK/TR/A 35



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6. Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
7. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
8. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
9. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
10. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 6,1 KW TO 9,8 KW.

CHA/IK/TR/A 18÷35 + DMS220

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY COMPRESSOR, PLATE EXCHANGER, HYDRONIC KIT AND DISTRIBUTION MODULE FOR DOMESTIC HOT WATER PRODUCTION.

NEW

Thermica SYSTEM

INVERTER ROTARY

EC INVERTER FANS

Thermica System is a fully hydronic system for room heating/cooling and domestic hot water production up to 55 °C.
The system consists of a monoblock air/water heat pump with built-in hydronic module and an indoor unit with 220 l tank, hydraulically connected to each other. It is ideal for floor heating, medium and low temperature radiators, fan coil units and domestic hot water production, in new housing or in buildings with low energy demand. The interior distribution module contains all hydraulic and electric components to facilitate installation and maintenance procedures, which thus become very simple.
The Stylish Version, finished in every detail, can be installed on sight and, thanks to its current design, it lends itself to any type of location.
Through the easy-to-use Touch Screen user interface, it is possible to control the operating parameters of the Heat Pump, as well as of the entire system.

The units are compliant to the ErP Regulation.

VERSION

CHA/IK/TR/A 18÷35 + DMS220

Reversible Heat Pump and Distribution Module Stylish Version

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Rotary compressor, with DC BRUSHLESS motor, complete with overload protection.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20 °C.
- Functioning in heating mode with outside air temperature down to -20 °C.
- Water circuit includes: circulator with high efficiency DC BRUSHLESS motor, flow switch, safety valve, gauge and expansion vessel.
- Distribution module for domestic hot water production complete with 220 l DHW tank, 3 kW supplementary electric heater predisposition, 3-way DHW/system diverter valve, non-return valve, hydraulic separator, medium temperature zone flow rate calibration valve, pressure gauge, expansion vessel, pump and mixing valve for low temperature zone, automatic air vent valve, safety valve and water drain, domestic hot water flow switch, thermostatic domestic hot water mixer.
- Microprocessor control and regulation system.

ACCESSORIES

LOOSE ACCESSORIES

EHM	Supplementary electrical heater for distribution module
AG	Rubber shock absorbers

CHA/IK/TR/A 18÷35 + DMS220

MODEL			18	25	35
Room heating	Heating capacity (1)	kW	5.18	6.05	8.16
	Absorbed power (1)	kW	1.56	1.94	2.56
	COP (1)		3.32	3.12	3.19
Room heating (EN14511)	Heating capacity (1)	kW	5.14	5.98	8.03
	Absorbed power (1)	kW	1.48	1.86	2.45
	COP (1)		3.48	3.21	3.28
	Heating capacity (2)	kW	6.05	7.23	9.71
	Absorbed power (2)	kW	1.39	1.85	2.42
	COP (2)		4.35	3.90	4.02
	SCOP (3)		4.5	4.34	3.96
	Energy Efficiency (3)	%	177	170.6	155.4
	Energy Class (4)		A+++	A++	A++
	SCOP (5)		3.23	3.13	2.93
	Energy Efficiency (5)	%	126	122	114
	Energy Class (6)		A++	A+	A+
Hot water heating (EN14511)	Declared load profile		L	L	L
	Energy Efficiency	%	54	52	52
	Energy Class		A	A	A
Room cooling	Cooling capacity (7)	kW	4.72	5.46	8.34
	Absorbed power (7)	kW	1.73	2.12	3.05
	EER (7)		2.73	2.58	2.73
Room cooling (EN14511)	Cooling capacity (7)	kW	4.76	5.58	8.42
	Absorbed power (7)	kW	1.66	2.04	2.92
	EER (7)		2.86	2.74	2.88
	Cooling capacity (8)	kW	5	6.03	9.10
	Absorbed power (8)	kW	1.26	1.58	2.27
	EER (8)		3.96	3.81	4.01
	SEER (9)		5.59	4.82	5.61
	Energy Efficiency (9)	%	221	190	221
Indoor unit	Power supply	V/Ph/Hz	230/1/50		
	Max. running current	A	14	19	20
	Max. starting current	A	7	10	10
	Water flow	l/s	0.29	0.35	0.46
	Pump nominal power	kW	0.075	0.075	0.075
	Pump available static pressure	kPa	67	60	53
	Water connection	"G	1"	1"	1"
	Sound pressure (10)	dB(A)	50	55	55
	Transport weight	Kg	78	79	103
	Operation weight	Kg	70	71	94
Outdoor unit (DMS220)	DHW tank volume	l	220	220	220
	Power input	kW	0.14	0.14	0.14
	Pump nominal power	kW	0.075	0.075	0.075
	Power supply	A	230/1/50	230/1/50	230/1/50
	Supplementary electrical heater	kW	3	3	3
	DHW tank water connections	"G	3/4"	3/4"	3/4"
	Heat Pump water connections	"G	1"	1"	1"
	Low temperature system water connection	"G	1"	1"	1"
	Medium temperature system water connection	"G	3/4"	3/4"	3/4"
	Inertial tank water connections	"G	1"	1"	1"
	Thermal solar water connection	"G	3/4"	3/4"	3/4"
	Sound pressure (10)	dB(A)	28	28	28
	Transport weight	Kg	148	148	148
	Operating weight	Kg	368	368	368

DIMENSIONS			18	25	35
L	STD	mm	1050	1050	1160
	DMS	mm	640	640	640
W	STD	mm	290	290	330
	DMS	mm	665	665	665
H	STD	mm	685	685	890
	DMS	mm	1980	1980	1980

CLEARANCE AREA

CHA/IK/TR/A 18÷25

100	300	300	300

CHA/IK/TR/A 35

100	300	600	300

DMS220

0	200	600	0

Electrical board side

NOTES

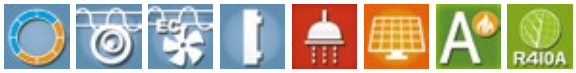
1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6. Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
7. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
8. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
9. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
10. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 6,1 KW TO 9,8 KW.

CHA/IK/TR/A 18÷35 + DMN220

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

NEW



Thermica System is a fully hydronic system for room heating/cooling and domestic hot water production up to 55 °C.
The system consists of a monoblock air/water heat pump with built-in hydronic module and an indoor unit with 220 l tank, hydraulically connected to each other. It is ideal for floor heating, medium and low temperature radiators, fan coil units and domestic hot water production, in new housing or in buildings with low energy demand. The interior distribution module contains all hydraulic and electric components to facilitate installation and maintenance procedures, which thus become very simple.
Through the easy-to-use Touch Screen user interface, it is possible to control the operating parameters of the Heat Pump, as well as of the entire system.

The units are compliant to the ErP Regulation.

Thermica SYSTEM

INVERTER ROTARY

EC INVERTER FANS

VERSION

CHA/IK/TR/A 18÷35 + DMN220
Reversible Heat Pump and Distribution Module All in One Version

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Rotary compressor, with DC BRUSHLESS motor, complete with overload protection.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20 °C.
- Functioning in heating mode with outside air temperature down to -20 °C.
- Water circuit includes: circulator with high efficiency DC BRUSHLESS motor, flow switch, safety valve, gauge and expansion vessel.
- Distribution module for domestic hot water production complete with 220 l DHW tank, 3 kW supplementary electric heater predisposition, 3-way DHW/system diverter valve, non-return valve, hydraulic separator, medium temperature zone flow rate calibration valve, pressure gauge, expansion vessel, pump and mixing valve for low temperature zone, automatic air vent valve, safety valve and water drain, domestic hot water flow switch, thermostatic domestic hot water mixer.
- Microprocessor control and regulation system.

ACCESSORIES

LOOSE ACCESSORIES

EHM	Supplementary electrical heater for distribution module
AG	Rubber shock absorbers

CHA/IK/TR/A 18÷35 + DMN220

MODEL			18	25	35
Room heating	Heating capacity (1)	kW	5.18	6.05	8.16
	Absorbed power (1)	kW	1.56	1.94	2.56
	COP (1)		3.32	3.12	3.19
Room heating (EN14511)	Heating capacity (1)	kW	5.14	5.98	8.03
	Absorbed power (1)	kW	1.48	1.86	2.45
	COP (1)		3.48	3.21	3.28
	Heating capacity (2)	kW	6.05	7.23	9.71
	Absorbed power (2)	kW	1.39	1.85	2.42
	COP (2)		4.35	3.9	4.02
	Pdesign (3)		3.90	5.39	6.40
	SCOP (3)		4.50	4.34	3.96
	Energy Efficiency (3)	%	177	170.6	155.4
	Energy Class (4)		A+++	A++	A++
	Pdesign (5)		3.80	4.50	5.49
	SCOP (5)		3.23	3.13	2.93
	Energy Efficiency (5)	%	126	122	114
	Energy Class (6)		A++	A+	A+
Hot water heating (EN14511)	Declared load profile		L	L	L
	Energy Efficiency	%	54	52	52
	Energy Class		A	A	A
Room cooling	Cooling capacity (7)	kW	4.72	5.46	8.34
	Absorbed power (7)	kW	1.73	2.12	3.05
	EER (7)		2.73	2.58	2.73
Room cooling (EN14511)	Cooling capacity (7)	kW	4.76	5.58	8.42
	Absorbed power (7)	kW	1.66	2.04	2.92
	EER (7)		2.86	2.74	2.88
	Cooling capacity (8)	kW	5.00	6.03	9.10
	Absorbed power (8)	kW	1.26	1.58	2.27
	EER (8)		3.96	3.81	4.01
	SEER (9)		5.59	4.82	5.61
	Energy Efficiency (9)	%	221	190	221
Indoor unit	Power supply	V/Ph/Hz	230/1/50		
	Max. running current	A	14	19	20
	Max. starting current	A	7	10	10
	Water flow	l/s	0.29	0.35	0.46
	Pump nominal power	kW	0.075	0.075	0.075
	Pump available static pressure	kPa	67	60	53
	Water connection	"G	1"	1"	1"
	Sound pressure (10)	dB(A)	50	55	55
	Transport weight	Kg	78	79	103
	Operation weight	Kg	70	71	94
Outdoor unit (DMN220)	DHW tank volume	l	220	220	220
	Power input	kW	0.14	0.14	0.14
	Pump nominal power	kW	0.075	0.075	0.075
	Power supply	A	230/1/50	230/1/50	230/1/50
	Supplementary electrical heater	kW	3	3	3
	DHW tank water connections	"G	3/4"	3/4"	3/4"
	Heat Pump water connections	"G	1"	1"	1"
	Low temperature system water connection	"G	1"	1"	1"
	Medium temperature system water connection	"G	3/4"	3/4"	3/4"
	Inertial tank water connections	"G	1"	1"	1"
	Thermal solar water connection	"G	3/4"	3/4"	3/4"
	Sound pressure (10)	dB(A)	28	28	28
	Transport weight	Kg	99	99	99
	Operating weight	Kg	321	321	321

DIMENSIONS			18	25	35
L	STD	mm	1050	1050	1160
	DMN	mm	620	620	620
W	STD	mm	290	290	330
	DMN	mm	640	640	640
H	STD	mm	685	685	890
	DMN	mm	1995	1995	1995

CLEARANCE AREA

CHA/IK/TR/A 18÷25

100	300	300	300

CHA/IK/TR/A 35

100	300	600	300

DMN220

0	200	600	0

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6. Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
7. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
8. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
9. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
10. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 6,1 KW TO 9,8 KW.

CHA/IK/TR/A 18÷35 + DMH

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY COMPRESSOR, PLATE EXCHANGER, HYDRONIC KIT AND DISTRIBUTION MODULE FOR HYBRID SYSTEMS.

NEW

Thermica SYSTEM

INVERTER ROTARY

EC INVERTER FANS

Thermica System is a fully hydronic system for room heating/cooling and hybrid systems. The system consists of a monoblock air/water heat pump with a built-in hydronic module and a wall-mounted indoor unit, hydraulically connected to each other. It is ideal for floor heating, high temperature (combined with a boiler) or medium and low temperature radiators, fan coil units and domestic hot water production, in new housing or in buildings with low energy demand. The interior distribution module contains all hydraulic and electric components to facilitate installation and maintenance procedures, which thus become very simple. In hybrid systems, it distributes the hot water produced by the heat pump, assisted by the boiler or solar panels, depending on the climatic conditions, through the external storage tanks.
The DMH distribution module has been designed with a deep attention to space requirements and it can be easily insertable in the most varied living contexts.
Through the easy-to-use Touch Screen user interface, it is possible to control the operating parameters of the Heat Pump, as well as of the entire system.

The units are compliant to the ErP Regulation.

VERSION

CHA/IK/TR/A 18÷35 + DMH

Reversible Heat Pump and Distribution Module Hybrid Version

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Rotary compressor, with DC BRUSHLESS motor, complete with overload protection.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20 °C.
- Functioning in heating mode with outside air temperature down to -20 °C.
- Water circuit includes: circulator with high efficiency DC BRUSHLESS motor, flow switch, safety valve, gauge and expansion vessel.
- Distribution module for hybrid systems complete with 3-way DHW/system diverter valve, diverter valve for integration boiler, pressure gauge, manual air vent valve.
- Microprocessor control and regulation system.

ACCESSORIES

LOOSE ACCESSORIES

CD	Remote control panel with ambient thermostat
AG	Rubber shock absorbers

CHA/IK/TR/A 18÷35 + DMH

MODEL			18	25	35
Room heating	Heating capacity (1)	kW	5.18	6.05	8.16
	Absorbed power (1)	kW	1.56	1.94	2.56
	COP (1)		3.32	3.12	3.19
Room heating (EN14511)	Heating capacity (1)	kW	5.14	5.98	8.03
	Absorbed power (1)	kW	1.48	1.86	2.45
	COP (1)		3.48	3.21	3.28
	Heating capacity (2)	kW	6.05	7.23	9.71
	Absorbed power (2)	kW	1.39	1.85	2.42
	COP (2)		4.35	3.90	4.02
	Pdesign (3)		3.90	5.39	6.4
	SCOP (3)		4.50	4.34	3.96
	Energy Efficiency (3)	%	177	170.6	155.4
	Energy Class (4)		A+++	A++	A++
	Pdesign (5)		3.80	4.50	5.49
	SCOP (5)		3.23	3.13	2.93
	Energy Efficiency (5)	%	126	122	114
	Energy Class (6)		A++	A+	A+
Room cooling	Cooling capacity (7)	kW	4.72	5.46	8.34
	Absorbed power (7)	kW	1.73	2.12	3.05
	EER (7)		2.73	2.58	2.73
Room cooling (EN14511)	Cooling capacity (7)	kW	4.76	5.58	8.42
	Absorbed power (7)	kW	1.66	2.04	2.92
	EER (7)		2.86	2.74	2.88
	Cooling capacity (8)	kW	5.00	6.03	9.10
	Absorbed power (8)	kW	1.26	1.58	2.27
	EER (8)		3.96	3.81	4.01
	SEER (9)		5.59	4.82	5.61
	Energy Efficiency (9)	%	221	190	221
Indoor unit	Power supply	V/Ph/Hz	230/1/50		
	Max. running current	A	14	19	20
	Max. starting current	A	7	10	10
	Water flow	l/s	0.29	0.35	0.46
	Pump nominal power	kW	0.075	0.075	0.075
	Pump available static pressure	kPa	67	60	53
	Water connection	"G	1"	1"	1"
	Sound pressure (10)	dB(A)	50	55	55
	Transport weight	Kg	78	79	103
	Operation weight	Kg	70	71	94
Outdoor unit (DMH)	Power input	kW	0.03	0.03	0.03
	Power supply	A	230/1/50	230/1/50	230/1/50
	DHW tank water connections	"G	1"	1"	1"
	Heat Pump water connections	"G	1"	1"	1"
	Inertial tank water connections	"G	1"	1"	1"
	Boiler water connections	"G	1"	1"	1"
	Transport weight	Kg	40	40	40
	Operation weight	Kg	42	42	42

DIMENSIONS			18	25	35
L	STD	mm	1050	1050	1160
	DMH	mm	450	450	450
W	STD	mm	290	290	330
	DMH	mm	250	250	250
H	STD	mm	685	685	890
	DMH	mm	1000	1000	1000

CLEARANCE AREA

CHA/IK/TR/A 18÷25

100	300	300	300

CHA/IK/TR/A 35

100	300	600	300

DMH

0	200	600	0

Electrical board side

NOTE

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6. Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
7. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
8. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
9. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
10. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 11 KW TO 23 KW.

CHA/ML/ST 41÷71

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

MIDYLINE

AQUALOGIK

MIDYLINE is the line of Heat Pumps dedicated to **hot water production up to 60 °C** and operations up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic kit. The unit, featuring A CLASS energy efficiency, is designed to singly handle winter heating, summer air conditioning and the production of high temperature hot water, making use of the electrical energy and heat accumulated in the clean air source, free and infinite, which can also transfer heat to homes. Flexibility is the main feature of the MIDYLINE series, which is also combined with heating units and managed by the innovative, intelligent AQUALOGIK control system, optimizing the water setpoint and regulating power supply voltage to the pump and fans, making use of an inertial tank unnecessary. This results in performance with elevated energy efficiency, silent functioning, optimized dimensions and costs. MIDYLINE is also able to operate in extreme conditions where the external air temperature is very low, as well as intelligently managing integrated elements such as furnaces and electrical heaters. Based on the external air sensor, the microprocessor activates the single integration elements in the system.

The units are compliant to the ErP Regulation.

VERSION

CHA/ML/ST	***CHA/ML/WP/ST***
Heat Pump with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- Scroll compressor with internal overheat protection and crankcase heater.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tube and aluminium finned coil, complete with drain pan.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical board includes: main switch with door lock device, fuses and compressor remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -20 °C.
- The production of hot water up to 60 °C is reachable with outside air temperature down to -15 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 45 °C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards

CHA/ML/ST 41÷71

MODEL			41*	51*	41**	51**	71
Heating	Heating capacity (1)	kW	11.5	16.0	11.5	16.0	22.5
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.59	3.48	3.59	3.48	3.46
	Heating capacity (2)	kW	11.3	15.8	11.3	15.8	22.4
	Absorbed power (2)	kW	2.7	3.8	2.7	3.8	5.4
	COP (2)		4.19	4.16	4.19	4.16	4.15
Heating (EN14511)	Heating capacity (1)	kW	11.9	16.4	11.9	16.4	23.0
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.72	3.57	3.72	3.57	3.54
	SCOP (3)		4.71	4.95	4.71	4.95	5.12
	Energy Efficiency (3)	%	185	195	185	195	202
	Energy Class (4)		A++	A++	A++	A++	A+
Cooling	Cooling capacity (5)	kW	7.3	10.5	7.3	10.5	16.0
	Absorbed power (5)	kW	2.5	3.6	2.5	3.6	5.2
	EER (5)		2.92	2.92	2.92	2.92	3.08
	Cooling capacity (6)	kW	10.8	15.5	10.8	15.5	21.2
	Absorbed power (6)	kW	2.7	4.0	2.7	4.0	6.1
	EER (6)		4.00	3.88	4.00	3.88	3.48
Cooling (EN14511)	Cooling capacity (5)	kW	7.0	10.2	7.0	10.2	15.6
	Absorbed power (5)	kW	2.8	3.9	2.8	3.9	5.6
	EER (5)		2.50	2.62	2.50	2.62	2.79
Compressor	Quantity	n°	1	1	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	230/1/50				
	Heating capacity	kW	4/6	4/6	4/6	4/6	4/6
	Absorbed current	A	18/26	18/26	18/26	18/26	18/26
	Steps	n°	2	2	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3+N/50		
	Max. running current	A	26	35	13	15	19
	Max. starting current	A	102	165	45	69	106
Water circuit	Water flow	l/s	0.54	0.75	0.54	0.75	1.07
	Pump available static pressure	kPa	231	185	231	185	156
	Water connections	"G	1"	1"	1"	1"	1"
Sound pressure (7)		dB(A)	52	52	52	52	52
Weights	Transport weight	Kg	205	208	205	208	210
	Operating weight	Kg	209	212	209	212	214

DIMENSIONS			41*	51*	41**	51**	71
L	STD	mm	1160	1160	1160	1160	1160
W	STD	mm	500	500	500	500	500
H	STD	mm	1270	1270	1270	1270	1270

CLEARANCE AREA

CHA/ML/ST 41*÷71

200	200	800	200

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
6. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.
N.B. * = Single phase
N.B. ** = Three phase

FROM 30 KW TO 53 KW.

CHA/ML/ST 91÷151

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.

MIDYLINE

AQUALOGIK

MIDYLINE, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to **hot water production up to 60 °C** and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The MIDYLINE series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the MIDYLINE series, which is indeed combined with Fan Coil units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which makes the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.

The units are compliant to the ErP Regulation.

VERSION

CHA/ML/ST	*CHA/ML/WP/ST*
Heat Pump with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical board includes: main switch with door lock device, fuses and compressor remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -20 °C.
- The production of hot water up to 60 °C is reachable with outside air temperature down to -15 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 45 °C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

CHA/ML/ST 91÷151

MODEL			91	101	151
Heating	Heating capacity (1)	kW	30.7	40.2	52.6
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.84	3.69	3.87
	Heating capacity (2)	kW	29.8	40.0	50.2
	Absorbed power (2)	kW	6.7	9.2	11.4
	COP (2)		4.45	4.35	4.40
Heating (EN14511)	Heating capacity (1)	kW	31.4	41.1	53.5
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.93	3.77	3.93
	SCOP (3)		4.42	4.32	4.27
	Energy Efficiency (3)	%	174	170	168
	Energy Class (4)		A++	A++	A++
Cooling	Cooling capacity (5)	kW	20.4	28.9	37.3
	Absorbed power (5)	kW	6.6	9.3	11.7
	EER (5)		3.09	3.11	3.19
	Cooling capacity (6)	kW	27.6	39.3	47.8
	Absorbed power (6)	kW	7.7	10.7	12.8
	EER (6)		3.58	3.67	3.73
Cooling (EN14511)	Cooling capacity (5)	kW	19.8	28.2	36.5
	Absorbed power (5)	kW	7.2	10.0	12.5
	EER (5)		2.75	2.82	2.92
Compressor	Quantity	n°	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	400/3/50		
	Heating capacity	kW	6/10	6/10	6/10
	Absorbed current	A	26/43	26/43	26/43
	Steps	n°	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50		
	Max. running current	A	28	36	42
	Max. starting current	A	109	139	179
Water circuit	Water flow	l/s	1.47	1.92	2.51
	Pump available static pressure	kPa	230	227	195
	Water connections	"G	2"	2"	2"
Sound pressure (7)		dB(A)	61	62	64
Weights	Transport weight	Kg	220	235	265
	Operating weight	Kg	224	239	269

DIMENSIONS			91	101	151
L	STD	mm	1850	1850	1850
W	STD	mm	1000	1000	1000
H	STD	mm	1300	1300	1300

CLEARANCE AREA

CHA/ML/ST 91÷151

500	800	800	800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
6. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 56 KW TO 114 KW.

CHA/ML/ST 182-P÷302-P

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER AND HYDRONIC KIT.

MIDYLINE

AQUALOGIK

MIDYLINE, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to **hot water production up to 60 °C** and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The MIDYLINE series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the MIDYLINE series, which is indeed combined with Fan Coil units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which makes the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency** for indoor ducted installation.

The units are compliant to the ErP Regulation.

VERSION

CHA/ML/ST	***CHA/ML/WP/ST***
Heat Pump with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology
CHA/ML/SSL/ST	***CHA/ML/WP/SSL/ST***
Super silenced Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with flow switch and antifreeze heater.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and pump and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -20 °C.
- The production of hot water up to 60 °C is reachable with outside air temperature down to -15 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 45 °C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
KC	Gas burner integration Kit
SS	Soft start
TX	Coil with pre-coated fins
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/ML/ST 182-P÷302-P

MODEL			182-P	202-P	262-P	302-P
Heating	Heating capacity (1)	kW	57.2	78.3	92.7	114
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.51	3.76	3.61	3.38
	Heating capacity (2)	kW	55.7	74.4	91.1	112
	Absorbed power (2)	kW	13.7	17.4	21.5	27.1
	COP (2)		4.07	4.28	4.24	4.13
Heating (EN14511)	Heating capacity (1)	kW	58.0	79.2	93.6	116
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.56	3.81	3.64	3.43
	SCOP (3)		4.92	5.52	5.11	4.80
	Energy Efficiency (3)	%	194	218	201	189
	Energy Class (4)		A++	A++	A++	A++
Cooling	Cooling capacity (5)	kW	44.3	60.4	78.6	101
	Absorbed power (5)	kW	16.4	23.6	34.8	39.1
	EER (5)		2.70	2.56	2.26	2.58
	Cooling capacity (6)	kW	60.3	81.8	101	130
	Absorbed power (6)	kW	18.7	27.5	37.6	42.2
	EER (6)		3.22	2.97	2.69	3.08
Cooling (EN14511)	Cooling capacity (5)	kW	43.6	59.6	77.7	99.7
	Absorbed power (5)	kW	17.1	24.4	35.7	40.4
	EER (5)		2.55	2.44	2.18	2.47
Compressor	Quantity	n°	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2
	Capacity steps	n°	2			
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	44	56	68	84
	Max. starting current	A	125	159	205	246
Water circuit	Water flow	l/s	2.73	3.74	4.43	5.46
	Pump available static pressure	kPa	165	145	130	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	ST versions	Pa	90	80	100	100
	SSL/ST versions	Pa	90	90	80	85
Sound pressure	STD version (7)	dB(A)	60	61	62	64
	With SL accessory (7)	dB(A)	58	59	60	62
	SSL version (7)	dB(A)	56	57	58	60
Weights	Transport weight	Kg	746	837	856	913
	Operating weight	Kg	755	855	875	935

DIMENSIONS			182-P	202-P	262-P	302-P
L	STD	mm	2350	2350	2350	2350
	SSL	mm	2350	2350	2350	3550
W	STD/SSL	mm	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220
	SSL	mm	2220	2220	2220	2220

CLEARANCE AREA

CHA/ML/ST 182-P÷302-P

300	800	800	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
6. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side


CLINT
multi
power
INVERTER SCROLL
MICROCHANNEL

CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

FROM 26 KW TO 42 KW.

CHA/IK/A 91÷151

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSOR AND PLATE EXCHANGER.

AQUA PLUS

INVERTER SCROLL

MICROCHANNEL

The liquid Chillers and Heat Pumps of the CHA/IK/A 91÷151 series, with R410A refrigerant, are designed to satisfy the needs of small and medium domestic and service sector environments. With a peraluman structure corrosion-resistant over time, these units can be combined with terminal units or with intermediate heat exchangers for process cooling applications. All Fan Coil feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coil, available on the dedicated version, ensures an even higher efficiency (high EER), having a better heat exchange than traditional coils.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/IG/A 91÷151)** or **R454B (CHA/IL/A 91÷151)** refrigerant.

VERSION

CHA/IK/A	***CHA/IK/A/MC***	***CHA/IK/A/WP***
Cooling only	Cooling only with MICROCHANNEL condensing coil	Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- DC INVERTER Scroll compressor with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door lock device, fuses and pump remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
PS	Single circulating pump
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards
AG	Rubber shock absorbers

CHA/IK/A 91÷151

MODEL			91	101	131	151
Cooling STD versions	Cooling capacity (1)	kW	25.8	30.5	35.9	42.3
	Absorbed power (1)	kW	8.0	9.5	11.3	13.4
	EER (1)		3.23	3.21	3.18	3.16
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	25.6	30.3	35.7	42.1
	Absorbed power (1)	kW	8.1	9.7	11.5	13.6
	EER (1)		3.16	3.12	3.10	3.10
	SEER (2)		4.42	4.16	4.21	4.22
	Energy Efficiency (2)	%	174	163	165	166
Cooling MC versions	Cooling capacity (1)	kW	25.8	30.5	35.9	42.3
	Absorbed power (1)	kW	7.9	9.4	11.2	13.3
	EER (1)		3.27	3.24	3.21	3.18
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	25.6	30.3	35.7	42.1
	Absorbed power (1)	kW	8.0	9.6	11.4	13.5
	EER (1)		3.20	3.16	3.13	3.12
	SEER (2)		4.48	4.21	4.26	4.27
	Energy Efficiency (2)	%	176	165	167	168
Heating STD versions	Heating capacity (3)	kW	28.7	34.3	40.4	48.0
	Absorbed power (3)	kW	8.1	9.9	11.8	14.0
	COP (3)		3.54	3.46	3.42	3.43
Heating STD versions (EN14511)	Heating capacity (3)	kW	28.9	34.5	40.7	48.3
	Absorbed power (3)	kW	8.3	10.1	12.0	14.3
	COP (3)		3.48	3.42	3.39	3.38
	SCOP (4)		3.34	3.23	3.33	3.41
	Energy Efficiency (4)	%	131	126	130	133
	Energy Class (5)		A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1
Evaporator	Water flow	l/s	1.23	1.46	1.72	2.02
	Pressure drops	kPa	20	29	31	31
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	21	24	27	34
	Max. starting current	A	11	14	15	18
Unit with pump	Pump available static pressure	kPa	140	115	150	105
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Sound pressure	STD versions (6)	dB(A)	60	61	62	62
	MC versions (6)	dB(A)	59	60	61	61
Weights	Transport weight	Kg	224	239	269	283
	Operating weight	Kg	229	244	275	289

DIMENSIONS			91	101	131	151
L	STD/MC	mm	1850	1850	1850	1850
W	STD/MC	mm	1000	1000	1000	1000
H	STD/MC	mm	1300	1300	1300	1300

CLEARANCE AREA

CHA/IK/A 91÷151

500	800	800	800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Data of MC version are specified on technical brochure.
N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 28 KW TO 43 KW.

CHA/K/FC 91÷151

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSOR AND PLATE EXCHANGER.

AQUA PLUS

FREE COOLING

The liquid Chillers of the CHA/K/FC 91÷151 series, with R410A refrigerant, offer innovative technology to meet the needs of systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

The units are compliant to the ErP 2021 Regulation for process cooling application.

VERSION

CHA/K/FC	*CHA/K/FC/SP*
Cooling only	Cooling only with tank and pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tubes and aluminium finned coil combined with FREE-COOLING coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
TX	Coil with pre-coated fins
PS	Single circulating pump

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards
AG	Rubber shock absorbers

CHA/K/FC 91÷151

ErP SEPR 2021

MODEL			91	101	131	151
Cooling	Cooling capacity (1)	kW	27.9	31.4	37.3	42.8
	Absorbed power (1)	kW	9.5	11.0	13.9	15.6
	EER (1)		2.94	2.85	2.68	2.74
Cooling (EN14511)	Cooling capacity (1)	kW	27.5	30.9	36.7	42.1
	Absorbed power (1)	kW	9.9	11.5	14.5	16.3
	EER (1)		2.78	2.69	2.53	2.58
	SEPR (2)		5.61	5.62	5.21	5.22
Free-Cooling cycle	Air temperature (3)	°C	-1.7	-2.7	0.5	-1.2
	Absorbed power (3)	kW	0.98	0.98	1.96	1.96
Compressor	Quantity	n°	1	1	1	1
Water circuit	Water flow	l/s	1.55	1.74	2.07	2.37
	Pressure drops	kPa	117	142	132	141
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	20	22	29	32
	Max. starting current	A	144	144	162	201
Unit SP version	Water flow	l/s	1.55	1.74	2.07	2.37
	Pump available static pressure	kPa	109	152	150	129
	Tank water volume	l	100	100	100	100
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	60	61	61	61
Weights	Transport weight (5)	Kg	415	430	470	485
	Operating weight (5)	Kg	437	452	499	515

DIMENSIONS			91	101	131	151
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	900	900	900	900
H	STD/SP	mm	1840	1840	1840	1840

CLEARANCE AREA

CHA/K/FC 91÷151

500	800	800	800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

Electrical board side

FROM 50 KW TO 179 KW.

CHA/IK/A 172-P÷574-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

INVERTER SCROLL

MICROCHANNEL

The A CLASS energy efficiency liquid Chillers and Heat Pumps of CHA/IK/A 172-P÷574-P series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
They are equipped with axial fans, Inverter Scroll compressors and plate exchanger, even in the super silent version. All units feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. Furthermore, Inverter control is also available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/IG/A 172-P÷574-P)** or **R454B (CHA/IL/A 172-P÷574-P)** refrigerant.

VERSION

CHA/IK/A	***CHA/IK/A/MC***	***CHA/IK/A/WP***
Cooling only	Cooling only with MICROCHANNEL condensing coil	Reversible Heat Pump
CHA/IK/A/SSL	***CHA/IK/A/MC/SSL***	***CHA/IK/A/WP/SSL***
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coil	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coil or aluminium MICROCHANNEL coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 172-P÷372-P models; with two independent circuits on the refrigerant side and one on the water side in 484-P÷574-P models, complete with water differential pressure switch. On the Heat Pump units is always installed an antifreeze heater.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/IK/A 172-P÷574-P

MODEL			172-P	192-P	212-P	232-P	272-P	302-P	352-P	372-P	484-P	574-P
Cooling STD versions	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152	179
	Absorbed power (1)	kW	15.6	18.1	20.4	23.6	27.0	30.3	35.0	40.5	47.2	55.6
	EER (1)		3.20	3.19	3.22	3.17	3.18	3.22	3.20	3.21	3.22	3.22
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	49.6	57.4	65.4	74.4	85.4	97.2	112	129	151	178
	Absorbed power (1)	kW	15.9	18.4	20.7	24.0	27.5	30.8	35.6	41.1	47.8	56.2
	EER (1)		3.12	3.12	3.16	3.10	3.11	3.16	3.15	3.14	3.16	3.17
	SEER (2)		4.41	4.55	4.41	4.39	4.42	4.43	4.49	4.39	4.40	4.34
	Energy Efficiency (2)	%	173	179	173	173	174	174	177	173	173	171
Cooling MC versions	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152	179
	Absorbed power (1)	kW	15.4	17.9	20.2	23.4	26.7	30.0	34.7	40.1	46.7	55.0
	EER (1)		3.24	3.22	3.25	3.20	3.22	3.26	3.23	3.24	3.25	3.25
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	49.6	57.4	65.4	74.4	85.4	97.2	112	129	151	178
	Absorbed power (1)	kW	15.7	18.2	20.5	23.8	27.2	30.5	35.2	40.7	47.3	55.6
	EER (1)		3.16	3.15	3.19	3.13	3.14	3.19	3.18	3.17	3.19	3.20
	SEER (2)		4.45	4.60	4.45	4.43	4.46	4.47	4.53	4.43	4.44	4.38
	Energy Efficiency (2)	%	175	181	175	174	175	176	178	174	175	172
Heating STD versions	Heating capacity (3)	kW	53.7	62.2	71.0	80.7	92.6	105	121	140	164	193
	Absorbed power (3)	kW	16.2	18.7	21.2	24.5	28.0	31.4	36.4	41.8	49.0	57.7
	COP (3)		3.31	3.33	3.35	3.29	3.31	3.34	3.32	3.35	3.35	3.34
Heating STD versions (EN14511)	Heating capacity (3)	kW	54.1	62.6	71.4	81.2	93.2	106	122	141	165	194
	Absorbed power (3)	kW	16.6	19.2	21.6	25.1	28.8	32.2	37.2	43.0	50.0	58.8
	COP (3)		3.26	3.26	3.31	3.24	3.24	3.30	3.28	3.27	3.30	3.30
	SCOP (4)		3.47	3.43	3.42	3.58	3.60	3.46	3.52	3.49	3.44	3.43
	Energy Efficiency (4)	%	136	134	134	140	141	135	138	137	135	134
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.38	2.76	3.14	3.57	4.10	4.67	5.35	6.21	7.26	8.55
	Pressure drops	kPa	41	40	32	39	47	40	35	44	33	30
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	45	45	54	54	63	69	89	89	112	129
	Max. starting current	A	128	128	176	176	187	237	230	230	245	297
Unit with pump	Pump available static pressure	kPa	140	135	140	125	130	180	175	160	160	145
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL versions	Pa	70	60	95	90	80	80	80	80	---	---
	MC versions	Pa	60	65	95	80	80	75	75	75	75	75
	MC/SSL versions	Pa	60	65	95	80	80	75	75	75	---	---
Sound pressure	STD versions (6)	dB(A)	63	65	66	66	67	68	68	69	68	68
	STD versions with SL accessory (6)	dB(A)	61	62	64	64	65	66	66	67	66	66
	SSL versions (6)	dB(A)	58	60	61	61	62	62	62	63	---	---
	MC versions (6)	dB(A)	62	64	65	65	66	67	67	68	67	67
	MC versions with SL accessory (6)	dB(A)	60	61	63	63	64	65	65	66	65	65
	MC/SSL versions (6)	dB(A)	57	59	60	60	61	61	61	62	---	---
Weights	Transport weight	Kg	614	688	747	756	765	857	1086	1095	1449	1494
	Operating weight	Kg	620	695	755	765	775	870	1100	1110	1470	1520

DIMENSIONS			172-P	192-P	212-P	232-P	272-P	302-P	352-P	372-P	484-P	574-P
L	STD-MC	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL-MC/SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-MC	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL-MC/SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

CHA/IK/A 172-P÷574-P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

N.B. Data of MC versions are specified on technical brochure.

Electrical board side

FROM 51 KW TO 183 KW.

CHA/K/AF 182-P÷604-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

AQUALOGIK

The liquid Chillers and Heat Pumps of the CHA/K/AF 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.
They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G/AF 182-P÷604-P)** or **R454B (CHA/L/AF 182-P÷604-P)** refrigerant.

VERSION

CHA/K/AF	***CHA/K/AF/WP***	***CHA/K/AF/SSL***
Cooling only	Reversible Heat Pump	Super silenced cooling only
CHA/K/AF/WP/SSL	***CHA/K/AF/ST***	***CHA/K/AF/WP/ST***
Super silenced reversible Heat Pump	Cooling only with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology
CHA/K/AF/SSL/ST	***CHA/K/AF/WP/SSL/ST***	
Super silenced cooling only with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology	

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/AF 182-P÷604-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	51.1	59.1	67.2	76.6	87.9	100	115	133	156	183
	Absorbed power (1)	kW	16.0	18.5	20.9	24.2	27.6	31.0	35.8	41.5	48.3	56.9
	EER (1)		3.19	3.19	3.22	3.17	3.18	3.23	3.21	3.20	3.23	3.22
Cooling (EN14511)	Cooling capacity (1)	kW	50.8	58.7	66.9	76.2	87.4	99.5	114	132	155	182
	Absorbed power (1)	kW	16.3	18.9	21.2	24.6	28.1	31.5	36.3	42.2	48.9	57.5
	EER (1)		3.12	3.11	3.16	3.10	3.11	3.16	3.14	3.13	3.17	3.17
	SEER (2)		4.17	4.21	4.20	4.19	4.19	4.22	4.25	4.16	4.16	4.18
	Energy Efficiency (2)	%	164	165	165	165	165	166	167	163	163	164
Heating	Heating capacity (3)	kW	55.4	64.1	72.9	83.1	95.3	109	124	144	169	198
	Absorbed power (3)	kW	16.8	19.4	22.0	25.4	28.8	32.5	37.7	43.4	51.0	59,7
	COP (3)		3.30	3.30	3.31	3.27	3.31	3.35	3.29	3.32	3.31	3.32
Heating (EN14511)	Heating capacity (3)	kW	55.8	64.5	73.3	83.6	95.9	110	125	145	170	199
	Absorbed power (3)	kW	17.3	19.9	22.5	26.1	29.7	33.4	38.6	44.7	52.1	61.2
	COP (3)		3.23	3.24	3.26	3.20	3.23	3.29	3.24	3.24	3.26	3.25
	SCOP (4)		3.36	3.32	3.31	3.43	3.45	3.35	3.37	3.34	3.33	3.32
	Energy Efficiency (4)	%	131	130	129	134	135	131	132	131	130	130
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
	Pressure drops	kPa	43	42	33	41	49	42	37	46	35	31
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	44	51	57	68	73	85	102	113	136
	Max. starting current	A	132	142	148	172	212	169	200	246	229	280
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	42	48	54	60	71	78	90	106	118	140
	Max. starting current	A	135	145	152	176	215	173	204	250	233	284
Unit with tank and pump	Pump available static pressure	kPa	140	135	135	120	125	175	175	155	155	140
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
	Pump available static pressure	kPa	135	130	135	115	100	140	140	125	125	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL versions	Pa	70	60	95	90	80	80	80	80	---	---
	ST versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL/ST versions	Pa	70	60	95	90	80	80	80	80	---	---
Sound pressure	STD and ST versions (6)	dB(A)	63	63	66	66	66	66	67	68	68	68
	With SL accessory (6)	dB(A)	61	61	64	64	64	64	65	66	66	66
	SSL and SSL/ST versions (6)	dB(A)	58	58	61	61	61	61	61	61	---	---
Weights	Transport weight (7)	Kg	574	606	625	679	728	836	973	1015	1305	1367
	Operating weight (7)	Kg	578	610	630	685	734	843	982	1024	1320	1387
Weights (ST versions)	Transport weight	Kg	589	621	640	694	743	856	993	1035	1325	1387
	Operating weight	Kg	593	625	645	700	749	863	1002	1044	1340	1407

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD-ST	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL-SSL/ST	mm	2350	2350	2350	3550	3550	3550	4700	4700	--	--
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL-SSL/ST	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

CHA/K/AF 182-P÷604-P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
7. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 56 KW TO 197 KW.

CHA/K/A/WP 182-P÷604-P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

AQUALOGIK

The reversible Heat Pumps of the CHA/K/A/WP 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.
They are used, combined with terminal units, for the heating or air conditioning of the rooms and are supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G/A/WP 182-P÷604-P)** or **R454B** (**CHA/L/A/WP 182-P÷604-P)** refrigerant.

VERSION

CHA/K/A/WP	***CHA/K/A/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump
CHA/K/A/WP/ST	***CHA/K/A/WP/SSL/ST***
Reversible Heat Pump with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/A/WP 182-P÷604-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Heating	Heating capacity (1)	kW	55.7	63.6	71.4	81.6	94.2	109	124	142	163	197
	Absorbed power (1)	kW	16.9	19.5	21.8	24.4	28.2	33.3	37.2	43.2	49.9	59.0
	COP (1)		3.30	3.26	3.28	3.34	3.34	3.27	3.33	3.29	3.27	3.34
Heating (EN14511)	Heating capacity (1)	kW	56.0	63.9	71.7	81.9	94.6	109	124	143	164	198
	Absorbed power (1)	kW	17.1	19.8	22.2	24.8	28.6	33.7	37.8	44.1	50.9	60.2
	COP (1)		3.27	3.23	3.23	3.30	3.31	3.23	3.28	3.24	3.22	3.29
	SCOP (2)		3.43	3.39	3.38	3.50	3.52	3.42	3.44	3.41	3.40	3.39
	Energy Efficiency (2)	%	134	133	132	137	138	134	135	133	133	133
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling	Cooling capacity (4)	kW	48.2	54.9	62.5	71.9	82.3	94.5	108	125	139	161
	Absorbed power (4)	kW	15.8	18.7	20.7	23.7	28.5	32.0	35.6	41.8	48.0	56.7
	EER (4)		3.05	2.94	3.02	3.03	2.89	2.95	3.03	2.99	2.90	2.84
Cooling (EN14511)	Cooling capacity (4)	kW	48.0	54.6	62.2	71.6	82.0	94.2	108	124	138	160
	Absorbed power (4)	kW	16.0	19.0	21.0	24.0	28.8	32.3	36.0	42.4	48.6	57.4
	EER (4)		3.00	2.87	2.96	2.98	2.85	2.92	3.00	2.92	2.84	2.79
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pressure drops	kPa	28	30	31	28	28	23	29	39	38	37
	Water connections	"G	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	72	81	102	109	132
	Max. starting current	A	130	140	144	169	209	169	197	246	225	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	77	86	106	114	136
	Max. starting current	A	133	143	148	173	212	173	201	250	229	280
Unit with tank and pump	Pump available static pressure	kPa	155	150	140	135	150	195	185	165	160	150
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pump available static pressure	kPa	155	145	140	135	125	165	150	135	130	120
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	100	100	95	60	65	60	65
	SSL versions	Pa	70	60	65	60	60	95	60	60	60	60
	ST versions	Pa	70	60	100	100	100	95	60	65	60	65
	SSL/ST versions	Pa	70	60	65	60	60	95	60	60	60	60
Sound pressure	STD and ST versions (5)	dB(A)	62	62	65	65	65	66	68	68	69	70
	With SL accessory (5)	dB(A)	60	60	63	63	63	64	66	66	67	68
	SSL and SSL/ST versions (5)	dB(A)	58	58	61	61	60	60	63	63	64	66
Weights	Transport weight (6)	Kg	635	644	693	760	807	926	1076	1126	1235	1414
	Operating weight (6)	Kg	640	650	700	770	820	940	1090	1140	1250	1430
Weights (ST versions)	Transport weight	Kg	650	659	708	775	822	946	1096	1146	1255	1434
	Operating weight	Kg	655	665	715	785	830	960	1110	1160	1270	1450

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/A/WP 182-P÷604-P

300	800	800	1800

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
3. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
6. Unit without tank and pump.

N.B. Weights of SSL versions are specified on technical brochure.

Electrical board side

FROM 48 KW TO 178 KW.

CHA/K 182-P÷604-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

AQUALOGIK

The liquid Chillers and Heat Pumps of the CHA/K 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G 182-P÷604-P)** or **R454B** (**CHA/L 182-P÷604-P)** refrigerant.

VERSION

CHA/K	***CHA/K/WP***	***CHA/K/SSL***
Cooling only	Reversible Heat Pump	Super silenced cooling only
CHA/K/WP/SSL	***CHA/K/ST***	***CHA/K/WP/ST***
Super silenced reversible Heat Pump	Cooling only with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology
CHA/K/SSL/ST	***CHA/K/WP/SSL/ST***	
Super silenced cooling only with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology	

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K 182-P÷604-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178
	Absorbed power (1)	kW	16.1	18.8	21.8	25.0	28.3	31.6	37.9	43.3	50.1	58.2
	EER (1)		2.96	2.92	2.91	2.92	2.95	3.03	2.90	2.93	2.93	3.06
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	95.3	110	126	147	177
	Absorbed power (1)	kW	16.4	19.2	22.2	25.4	28.7	32.3	38.5	43.9	50.9	59.2
	EER (1)		2.88	2.84	2.84	2.85	2.89	2.95	2.85	2.87	2.88	2.99
	SEER (2)		3.93	3.95	3.99	3.96	3.95	3.93	3.92	3.98	3.91	3.92
	Energy Efficiency (2)	%	154	155	157	155	155	154	154	156	153	154
	SEER with EC or ECH accessory (2)		4.11	4.11	4.14	4.11	4.16	4.13	4.12	4.18	4.21	4.27
	Energy Efficiency with EC or ECH accessory (2)		161	161	163	161	163	162	162	164	165	168
Heating	Heating capacity (3)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (3)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4
	COP (3)		3.13	3.15	3.09	3.16	3.14	3.16	3.12	3.08	3.06	3.10
Heating (EN14511)	Heating capacity (3)	kW	54.5	62.3	71.9	80.9	90.9	107	121	136	155	188
	Absorbed power (3)	kW	17.8	20.2	23.7	26.1	29.5	34.6	39.5	45.1	51.8	62.0
	COP (3)		3.06	3.08	3.03	3.10	3.08	3.09	3.06	3.02	2.99	3.03
	SCOP (4)		3.23	3.20	3.21	3.28	3.29	3.28	3.20	3.25	3.24	3.25
	Energy Efficiency (4)	%	126	125	125	128	129	128	125	127	127	127
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pressure drops	kPa	45	48	43	48	43	58	46	53	48	48
	Water connections	"G	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Unit with tank and pump	Pump available static pressure	kPa	140	130	130	115	135	160	165	150	145	130
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pump available static pressure	kPa	135	130	125	115	110	130	135	120	115	100
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL versions	Pa	85	85	75	75	70	50	70	60	60	---
	ST versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL/ST versions	Pa	90	90	80	80	85	50	70	55	50	---
Sound pressure	STD and ST versions (6)	dB(A)	61	61	64	64	65	66	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	64	65	65	65	65
	SSL and SSL/ST versions (6)	dB(A)	57	57	60	60	61	62	63	63	63	---
Weights	Transport weight (7)	Kg	595	624	663	682	791	878	927	1036	1135	1374
	Operating weight (7)	Kg	600	630	670	690	800	890	940	1050	1150	1390
Weights (ST versions)	Transport weight	Kg	610	639	678	697	806	898	947	1056	1155	1394
	Operating weight	Kg	615	645	685	705	815	910	960	1070	1170	1410

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K 182-P÷604-P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
7. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 53 KW TO 174 KW.

CHA/K/FC 182-P÷604-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

FREE COOLING

The liquid Chillers of the CHA/K/FC 182-P÷604-P series, with R410A refrigerant, offer innovative technology for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application.

On request, units can be supplied with **R452B (CHA/G/FC 182-P÷604-P)** or **R454B** (**CHA/L/FC 182-P÷604-P)** refrigerant.

VERSION

CHA/K/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil combined with FREE-COOLING coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 182-P÷604-P

ErP SEPR 2021

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	52.7	59.5	68.1	76.7	85.7	99.1	114	130	151	174
	Absorbed power (1)	kW	18.1	20.3	23.3	26.1	29.3	36.8	42.2	48.4	54.4	64.9
	EER (1)		2.91	2.93	2.92	2.94	2.92	2.69	2.70	2.69	2.78	2.68
Cooling (EN14511)	Cooling capacity (1)	kW	52.0	58.8	67.3	75.9	84.9	98.2	113	129	150	172
	Absorbed power (1)	kW	18.8	21.0	24.1	26.9	30.1	37.7	43.5	49.9	55.7	66.4
	EER (1)		2.77	2.80	2.79	2.82	2.82	2.60	2.60	2.59	2.69	2.59
	SERP (2)		5.11	5.13	5.12	5.14	5.12	5.11	5.09	5.08	5.15	5.14
Free-Cooling cycle	Air temperature (3)	°C	2.1	1.3	0.0	-2.4	-3.5	1.0	0.0	-1.1	-3.0	-4.8
	Absorbed power (3)	kW	2	2	2	2	2	6	6	6	8	8
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Water circuit	Water flow	l/s	2.72	3.07	3.52	3.96	4.43	5.09	5.88	6.70	7.78	8.93
	Pressure drops	kPa	115	105	120	100	100	100	135	145	102	106
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	76	85	102	113	136
	Max. starting current	A	130	140	144	169	209	173	201	246	229	280
Unit with tank and pump	Pump available static pressure	kPa	120	125	100	115	100	190	145	125	150	125
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure		Pa	110	110	110	105	105	60	60	60	65	65
Sound pressure	STD version (4)	dB(A)	63	63	63	63	64	65	66	66	67	67
	With SL accessory (4)	dB(A)	61	61	60	60	62	63	64	64	65	65
Weights	Transport weight (5)	Kg	923	932	951	980	999	1308	1317	1350	1472	1510
	Operating weight (5)	Kg	970	980	1000	1030	1050	1390	1400	1435	1560	1600

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	3550	3550	3550	3550	3550	4700	4700	4700	4700	4700
W	STD	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	2220	2220	2220	2220	2220	2235	2235	2235	2235	2235

CLEARANCE AREA

CHA/K/FC 182-P÷604-P

300	800	800	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

Electrical board side

FROM 49 KW TO 179 KW.

CHA/K 182÷604

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.

AQUA PLUS

AQUALOGIK

The liquid Chillers and Heat Pumps of the CHA/K 182÷604 series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G 182÷604)** or **R454B** (**CHA/L 182÷604)** refrigerant.

VERSION

CHA/K	***CHA/K/WP***	***CHA/K/SSL***
Cooling only	Reversible Heat Pump	Super silenced cooling only
CHA/K/WP/SSL	***CHA/K/ST***	***CHA/K/WP/ST***
Super silenced reversible Heat Pump	Cooling only with AQUALOGIK technology	Reversible Heat Pump with AQUALOGIK technology
CHA/K/SSL/ST	***CHA/K/WP/SSL/ST***	
Super silenced cooling only with AQUALOGIK technology	Super silenced reversible Heat Pump with AQUALOGIK technology	

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182÷453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
EW	External water connections
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator/tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/K 182÷604

MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	16.6	18.8	21.5	25.3	28.6	31.6	37.5	43.7	50.7	58.8
	EER (1)		2.95	2.93	2.90	2.90	2.95	3.01	2.91	2.95	2.94	3.04
Cooling (EN14511)	Cooling capacity (1)	kW	48.8	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	16.8	19.1	21.9	25.8	29.0	32.1	38.1	44.3	51.4	59.5
	EER (1)		2.90	2.86	2.83	2.82	2.89	2.95	2.83	2.89	2.88	2.99
	SEER (2)		3.95	3.97	3.91	3.92	3.98	3.98	3.86	3.98	4.01	4.02
	Energy Efficiency (2)	%	155	156	153	154	156	156	151	156	157	158
	SEER with EC or ECH accessory (2)		4.14	4.14	4.13	4.10.	4.16	4.13	4.10	4.20	4.21	4.27
	Energy Efficiency with EC or ECH accessory (2)		163	163	162	161	163	162	161	165	165	168
Heating	Heating capacity (3)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (3)	kW	17.8	19.6	22.8	25.7	29.1	33.4	38.1	44.2	51.1	61.0
	COP (3)		3.13	3.16	3.08	3.14	3.14	3.14	3.12	3.10	3.05	3.08
Heating (EN14511)	Heating capacity (3)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (3)	kW	18.0	20.0	23.5	26.6	29.8	34.2	39.1	45.1	52.3	62.3
	COP (3)		3.11	3.11	3.01	3.06	3.08	3.10	3.07	3.06	3.00	3.03
	SCOP (4)		3.28	3.23	3.21	3.24	3.29	3.29	3.21	3.29	3.25	3.25
	Energy Efficiency (4)	%	128	126	125	127	129	129	125	129	127	127
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43	38
	Water connections	"G	1 ½"	1 ½"	2"	2"	2 ½"	2 ½"	2 ½"	3"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Unit with tank and pump	Pump available static pressure	kPa	160	150	125	110	140	180	170	170	150	140
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pump available static pressure	kPa	160	150	120	105	110	145	135	140	120	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL versions	Pa	85	85	75	75	70	50	70	60	60	---
	ST versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL/ST versions	Pa	90	90	80	80	85	50	70	55	50	---
Sound pressure	STD and ST versions (6)	dB(A)	61	61	64	64	65	66	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	64	65	65	65	65
	SSL and SSL/ST versions (6)	dB(A)	57	57	60	60	61	62	63	63	63	---
Weights	Transport weight (7)	Kg	641	661	701	719	844	931	971	1112	1192	1428
	Operating weight (7)	Kg	660	680	720	740	870	960	1000	1150	1230	1470
Weights (ST versions)	Transport weight	Kg	655	675	715	735	860	950	990	1130	1210	1450
	Operating weight	Kg	660	690	730	750	875	970	1010	1150	1230	1470

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K 182÷604

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
7. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 6,0 KW TO 36 KW.

CRA/IK/A 21÷131

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH EC INVERTER PLUG-FANS, INVERTER SCROLL COMPRESSOR AND PLATE EXCHANGER FOR INDOOR DUCTED INSTALLATION.

The A CLASS indoor liquid Chillers of the CRA/IK/A 21÷131 series, with R410A refrigerant and EC Inverter Plug-Fans, are designed for small and medium domestic or service sector systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units can be combined with Fan Coil units or with intermediate heat exchangers for process cooling applications.
These units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation and a significant useful head of the fan.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, the models 91÷131 can be supplied with **R452B (CRA/IG/A 91÷131)** or **R454B (CRA/IL/A 91÷131)** refrigerant.

AQUA PLUS

INVERTER SCROLL

EC INVERTER PLUG FANS

VERSION

CRA/IK/A	***CRA/IK/A/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame.
- DC INVERTER Scroll compressor with internal overheat protection and crankcase heater.
- High efficiency reverse blade EC INVERTER PLUG-FAN, with electronic speed control.
- Condenser in copper tubes and aluminium finned coil, complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor (21÷81) and pump remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
TX	Coil with pre-coated fins
PS	Single circulating pump
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards
AG	Rubber shock absorbers

CRA/IK/A 21÷131

MODEL			21	31	41	51	61	71	81	91	101	131
Cooling	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.7	19.0	22.4	25.8	30.5	35.9
	Absorbed power (1)	kW	1.9	2.5	3.1	4.3	5.4	6.5	7.7	9.3	10.3	12.1
	EER (1)		3.16	3.04	3.00	2.88	2.91	2.92	2.91	2.77	2.96	2.97
Cooling (EN14511)	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.6	18.9	22.5	25.6	30.3	35.7
	Absorbed power (1)	kW	1.9	2.5	3.1	4.3	5.4	6.5	7.7	9.4	10.5	12.3
	EER (1)		3.16	3.04	3.00	2.88	2.89	2.91	2.92	2.72	2.89	2.90
	SEER (2)		4.12	4.11	4.10	4.32	4.30	4.23	4.33	4.32	4.10	4.12
	Energy Efficiency (2)	%	162	161	161	170	169	166	170	170	161	162
Heating	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8	28.7	34.3	40.4
	Absorbed power (3)	kW	2.0	2.6	3.3	4.5	5.4	6.4	7.5	9.4	10.7	12.6
	COP (3)		3.35	3.38	3.30	3.13	3.24	3.27	3.31	3.05	3.21	3.21
Heating (EN14511)	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8	28.9	34.5	40.7
	Absorbed power (3)	kW	2.0	2.6	3.3	4.5	5.4	6.4	7.5	9.6	10.9	12.8
	COP (3)		3.35	3.38	3.30	3.13	3.24	3.27	3.31	3.01	3.17	3.18
	SCOP (4)		3.38	3.27	3.41	3.30	3.43	3.49	3.77	3.21	3.23	3.22
	Energy Efficiency (4)	%	132	128	133	129	134	137	148	125	126	126
	Energy Class (5)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.29	0.36	0.44	0.59	0.75	0.91	1.07	1.23	1.46	1.72
	Pressure drops	kPa	18	14	18	25	20	29	30	20	29	31
	Water connections	"G	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Fan available static pressure		Pa	80	80	80	115	115	115	115	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50						
	Max. running current	A	17	17	17	14	14	16	19	22	22	25
	Max. starting current	A	11	11	11	9	9	10	11	12	12	13
Unit with pump	Pump available static pressure	kPa	53	56	52	76	82	70	60	140	115	150
	Water connections	"G	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Sound pressure (6)		dB(A)	52	53	54	58	58	59	60	62	63	63
Weights	Transport weight	Kg	131	136	143	203	213	215	217	353	359	374
	Operating weight	Kg	132	137	144	205	215	217	219	356	362	377

DIMENSIONS			21	31	41	51	61	71	81	91	101	131
L	STD	mm	900	900	900	900	900	900	900	1500	1500	1500
W	STD	mm	550	550	550	690	690	690	690	800	800	800
H	STD	mm	1500	1500	1500	1750	1750	1750	1750	1600	1600	1600

CLEARANCE AREA

CRA/IK/A 21÷41

100 | 800 | 800 | 800

CRA/IK/A 51÷81

100 | 800 | 800 | 1000

CRA/IK/A 91÷131

1200 | 800 | 800 | 100

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 196 KW TO 668 KW.

CHA/IK/A 674-P÷2356-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER

multi power

INVERTER SCROLL

MICROCHANNEL

The A CLASS energy efficiency liquid Chillers and Heat Pumps of the CHA/IK/A 674-P÷2356-P series, with R410A refrigerant, are designed to satisfy the needs of medium and wide-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
All units feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. Furthermore, Inverter control is also available on circulating pumps and fans (EC Inverter) for a further efficiency improvement.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/IG/A 674-P÷2356-P)** or **R454B (CHA/IL/A 674-P÷2356-P)** refrigerant.

VERSION

CHA/IK/A	***CHA/IK/A/MC***	***CHA/IK/A/WP***
Cooling only	Cooling only with MICROCHANNEL condensing coils	Reversible Heat Pump
CHA/IK/A/SSL	***CHA/IK/A/MC/SSL***	***CHA/IK/A/WP/SSL***
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1004-P÷2356-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/IK/A 674-P÷2356-P

MODEL			674-P	784-P	1004-P	1054-P	1154-P	1256-P	1456-P	1606-P	1756-P	2356-P
Cooling STD versions	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515	668
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	163	211
	EER (1)		3.21	3.21	3.19	3.22	3.20	3.19	3.17	3.18	3.16	3.17
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514	666
	Absorbed power (1)	kW	62	74	91	99	110	121	134	145	164	213
	EER (1)		3.15	3.15	3.14	3.18	3.16	3.16	3.14	3.15	3.13	3.13
	SEER (2)		4.39	4.40	4.44	4.45	4.41	4.55	4.67	4.70	4.68	4.67
	Energy Efficiency (2)	%	173	173	175	175	173	179	184	185	184	184
Cooling MC versions	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515	668
	Absorbed power (1)	kW	60	72	89	97	108	119	132	143	161	209
	EER (1)		3.27	3.25	3.22	3.26	3.23	3.22	3.20	3.20	3.20	3.20
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514	666
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	162	211
	EER (1)		3.20	3.19	3.18	3.21	3.19	3.18	3.17	3.17	3.17	3.16
	SEER (2)		175	175	177	177	175	181	186	187	187	186
	Energy Efficiency (2)	%	212	253	311	343	379	417	458	497	559	724
Heating STD versions	Heating capacity (3)	kW	63	75	93	102	112	124	137	148	169	218
	Absorbed power (3)	kW	3.37	3.37	3.34	3.36	3.38	3.36	3.34	3.36	3.31	3.32
	COP (3)		213	254	312	344	380	418	459	499	561	726
Heating STD versions (EN14511)	Heating capacity (3)	kW	65	77	95	104	115	127	140	151	172	223
	Absorbed power (3)	kW	3.28	3.30	3.28	3.31	3.30	3.29	3.28	3.30	3.26	3.26
	COP (3)		3.67	3.57	3.60	3.52	3.61	3.52	3.53	3.48	3.54	3.53
	SCOP (4)		144	140	141	138	141	138	138	136	139	138
	Energy Efficiency (4)	%	2+2	2+2	2+2	2+2	2+2	3+3	3+3	3+3	3+3	3+3
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	9.36	11.18	13.71	15.10	16.67	18.30	20.16	21.88	24.61	31.92
	Pressure drops	kPa	38	36	35	37	40	32	33	36	32	37
	Water connections	DN	80	80	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	137	156	194	211	173	250	202	320	355	460
	Max. starting current	A	305	334	407	424	386	428	415	534	617	800
Unit with pump	Pump available static pressure	kPa	160	140	170	185	170	165	145	185	175	145
	Water connections	DN	100	100	100	100	100	150	150	150	150	150
Sound pressure	STD versions (5)	dB(A)	71	73	75	74	74	74	75	75	76	77
	STD versions with SL accessory (5)	dB(A)	68	69	71	71	71	71	72	72	73	74
	SSL versions (5)	dB(A)	65	66	68	67	68	68	69	70	71	---
	MC versions (5)	dB(A)	70	72	74	73	73	73	74	74	75	76
	MC versions with SL accessory (5)	dB(A)	67	68	70	70	70	70	71	71	72	73
	MC/SSL versions (5)	dB(A)	64	65	67	66	67	67	68	69	70	---
Weights	Transport weight	Kg	2251	2384	2511	2791	2851	3186	3248	3658	3836	4392
	Operating weight	Kg	2270	2410	2550	2830	2890	3230	3300	3710	3900	4470

DIMENSIONS			674-P	784-P	1004-P	1054-P	1154-P	1256-P	1456-P	1606-P	1756-P	2356-P
L	STD-MC	mm	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200
	SSL-MC/SSL	mm	5000	5000	5000	6200	6200	6200	6200	7200	7200	---
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD-SSL-MC-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/IK/A 674-P÷2356-P

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

Electrical board side

FROM 197 KW TO 692 KW.

CHA/K/AF 726-P÷24012-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

multi power

The CHA/K/AF 726-P÷24012-P liquid Chillers and Heat Pumps are characterized by A CLASS energy efficiency.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G/AF 726-P÷24012-P)** or **R454B (CHA/L/AF 726-P÷24012-P)** refrigerant.

VERSION

CHA/K/AF	***CHA/K/AF/WP***
Cooling only	Reversible Heat Pump
CHA/K/AF/SSL	***CHA/K/AF/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1048-P÷24012-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
EW	External water connections
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/AF 726-P÷24012-P

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P
Cooling	Cooling capacity (1)	kW	197	220	245	271	300	329	361
	Absorbed power (1)	kW	62	69	76	83	95	105	111
	EER (1)		3.18	3.19	3.22	3.27	3.16	3.13	3.25
Cooling (EN14511)	Cooling capacity (1)	kW	196	219	244	270	299	328	360
	Absorbed power (1)	kW	63	70	77	84	96	105	112
	EER (1)		3.11	3.13	3.17	3.21	3.11	3.12	3.21
	SEER (2)		4.18	4.19	4.23	4.24	4.20	4.20	4.21
	Energy Efficiency (2)	%	164	165	166	167	165	165	165
Heating	Heating capacity (3)	kW	214	239	266	295	325	359	391
	Absorbed power (3)	kW	65	73	81	88	99	109	119
	COP (3)		3.29	3.27	3.28	3.35	3.28	3.29	3.29
Heating (EN14511)	Heating capacity (3)	kW	215	240	267	296	327	360	393
	Absorbed power (3)	kW	67	75	83	90	102	112	122
	COP (3)		3.21	3.20	3.22	3.29	3.21	3.21	3.22
	SCOP (4)		3.35	3.42	3.35	3.34	3.37	3.34	3.35
	Energy Efficiency (4)	%	131	134	131	131	132	131	131
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	6				8		
Evaporator	Water flow	l/s	9.41	10.51	11.71	12.95	14.33	15.72	17.25
	Pressure drops	kPa	45	49	44	42	50	39	46
	Water connections	DN	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	152	166	187	199	224	241	258
	Max. starting current	A	276	299	354	367	357	409	426
Unit with pump	Pump available static pressure	kPa	155	135	205	185	180	185	170
	Water connections	DN	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	72	73	74	74	74	74	74
	With SL accessory (5)	dB(A)	69	70	71	71	71	71	72
	SSL version (5)	dB(A)	66	66	67	68	67	68	68
Weights	Transport weight	Kg	1854	2171	2289	2317	2437	2680	2690
	Operating weight	Kg	1870	2190	2310	2340	2460	2710	2720

MODEL			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
Cooling	Cooling capacity (1)	kW	396	435	485	538	609	692
	Absorbed power (1)	kW	124	137	154	169	192	220
	EER (1)		3.19	3.18	3.15	3.18	3.17	3.15
Cooling (EN14511)	Cooling capacity (1)	kW	394	433	484	536	607	690
	Absorbed power (1)	kW	126	139	155	171	194	222
	EER (1)		3.13	3.12	3.12	3.13	3.13	3.11
	SEER (2)		4.48	4.56	4.59	4.57	4.56	4.60
	Energy Efficiency (2)	%	176	179	181	180	179	181
Heating	Heating capacity (3)	kW	431	473	526	586	663	754
	Absorbed power (3)	kW	129	143	162	176	202	231
	COP (3)		3.34	3.31	3.25	3.33	3.28	3.26
Heating (EN14511)	Heating capacity (3)	kW	433	475	528	588	665	756
	Absorbed power (3)	kW	133	147	165	181	206	236
	COP (3)		3.26	3.23	3.20	3.25	3.23	3.20
	SCOP (4)		3.36	3.32	3.36	3.31	3.33	3.43
	Energy Efficiency (4)	%	131	130	131	129	130	134
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	8		10			
Evaporator	Water flow	l/s	18.92	20.78	23.17	25.70	29.10	33.06
	Pressure drops	kPa	49	49	33	41	34	32
	Water connections	DN	80	80	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	274	324	358	391	446	500
	Max. starting current	A	407	492	525	558	623	678
Unit with pump	Pump available static pressure	kPa	155	125	185	170	160	145
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (5)	dB(A)	76	76	75	76	77	77
	With SL accessory (5)	dB(A)	73	73	72	73	74	74
	SSL version (5)	dB(A)	69	69	69	70	---	---
Weights	Transport weight	Kg	2869	3004	3512	3642	4420	4458
	Operating weight	Kg	2900	3040	3560	3690	4480	4520

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	5000	5000	5000	5000	6200	6200	6200	6200	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K/AF 726-P÷24012-P

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 227 KW TO 762 KW.

CHA/K/A/WP 726-P÷24012-P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

multi power

The CHA/K/A/WP 726-P÷24012-P reversible Heat Pumps are characterized by A CLASS energy efficiency.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G/A/WP 726-P÷24012-P)** or **R454B (CHA/L/A/WP 726-P÷24012-P)** refrigerant.

VERSION

CHA/K/A/WP	***CHA/K/A/WP/SSL***
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1048-P÷24012-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
EW	External water connections
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/A/WP 726-P÷24012-P

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P
Heating	Heating capacity (1)	kW	227	256	272	294	342	369	389
	Absorbed power (1)	kW	66	75	81	85	102	106	112
	COP (1)		3.44	3.41	3.36	3.46	3.35	3.48	3.47
Heating (EN14511)	Heating capacity (1)	kW	228	257	273	295	343	370	390
	Absorbed power (1)	kW	68	77	83	87	105	108	115
	COP (1)		3.35	3.34	3.29	3.39	3.27	3.43	3.39
	SCOP (2)		3.40	3.47	3.40	3.39	3.42	3.39	3.40
	Energy Efficiency (2)	%	133	136	133	133	134	133	133
Cooling	Cooling capacity (3)	kW	194	217	239	259	294	322	339
	Absorbed power (3)	kW	68	75	78	85	100	107	113
	EER (3)		2.85	2.89	3.06	3.05	2.94	3.01	3.00
Cooling (EN14511)	Cooling capacity (3)	kW	193	216	238	258	293	321	338
	Absorbed power (3)	kW	69	76	79	86	101	108	114
	EER (3)		2.80	2.84	3.01	3.00	2.90	2.97	2.96
	SEER (4)		4.05	4.06	4.10	4.11	4.07	4.07	4.08
	Energy Efficiency (4)	%	159	159	161	161	160	160	160
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	6					8	
Evaporator	Water flow	l/s	9.27	10.37	11.42	12.37	14.05	15.38	16.20
	Pressure drops	kPa	44	55	42	38	49	37	41
	Water connections	DN	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	152	166	187	199	224	241	258
	Max. starting current	A	276	299	354	367	357	409	426
Unit with pump	Pump available static pressure	kPa	155	130	205	190	180	185	175
	Water connections	DN	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	72	71	71	72	72	73	74
	With SL accessory (5)	dB(A)	69	68	68	69	69	70	71
	SSL version (5)	dB(A)	65	65	65	66	66	67	67
Weights	Transport weight	Kg	1954	2291	2409	2437	2567	2820	2830
	Operating weight	Kg	1970	2310	2430	2460	2590	2850	2860

MODEL			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
Heating	Heating capacity (1)	kW	420	476	532	566	677	762
	Absorbed power (1)	kW	125	141	157	169	202	226
	COP (1)		3.36	3.38	3.39	3.35	3.35	3.37
Heating (EN14511)	Heating capacity (1)	kW	422	478	533	568	679	764
	Absorbed power (1)	kW	128	144	160	172	206	230
	COP (1)		3.30	3.32	3.33	3.30	3.30	3.32
	SCOP (2)		3.41	3.37	3.41	3.36	3.38	3.48
	Energy Efficiency (2)	%	133	132	133	131	132	136
Cooling	Cooling capacity (3)	kW	359	421	475	512	597	671
	Absorbed power (3)	kW	127	144	162	172	207	241
	EER (3)		2.83	2.92	2.93	2.98	2.88	2.78
Cooling (EN14511)	Cooling capacity (3)	kW	358	419	474	510	595	669
	Absorbed power (3)	kW	128	146	163	174	209	243
	EER (3)		2.80	2.87	2.91	2.93	2.85	2.75
	SEER (4)		4.35	4.42	4.45	4.55	4.55	4.55
	Energy Efficiency (4)	%	171	174	175	179	179	179
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	8		10			
Evaporator	Water flow	l/s	17.15	20.11	22.69	24.46	28.52	32.06
	Pressure drops	kPa	46	46	32	37	33	30
	Water connections	DN	80	80	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	274	324	358	391	446	500
	Max. starting current	A	407	492	525	558	623	678
Unit with pump	Pump available static pressure	kPa	160	130	185	175	160	145
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (5)	dB(A)	74	76	76	76	76	77
	With SL accessory (5)	dB(A)	71	73	73	73	73	74
	SSL version (5)	dB(A)	67	68	69	70	---	---
Weights	Transport weight	Kg	3019	3164	3702	3832	4660	4698
	Operating weight	Kg	3050	3200	3750	3880	4720	4770

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
L	STD	mm	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	4000	4000	5000	5000	5000	5000	5000	5000	6200	6200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K/A/WP 726-P÷24012-P

500	1800	1000	1800

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

FROM 199 KW TO 1051 KW.

CHA/K 726-P÷36012-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

multi power

The liquid Chillers and Heat Pumps of the CHA/K 726-P÷36012-P series, with R410A refrigerant, are designed for large-sized service sector or industrial ambients.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump models 726-P÷13010-P are compliant to the ErP Regulation; models 15010-P÷36012-P are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (CHA/G 726-P÷36012-P)** pr **R454B (CHA/L 726-P÷36012-P)** refrigerant.

VERSION

CHA/K	***CHA/K/WP***
Cooling only	Reversible Heat Pump
CHA/K/SSL	***CHA/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1048-P÷36012-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches,thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
EW	External water connections
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K 726-P÷36012-P

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
Cooling	Cooling capacity (1)	kW	199	226	251	276	304	335	367	403	444
	Absorbed power (1)	kW	69	80	85	94	104	113	122	132	155
	EER (1)		2.88	2.83	2.95	2.94	2.92	2.96	3.01	3.05	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	198	225	250	275	303	334	365	402	442
	Absorbed power (1)	kW	70	81	86	95	105	115	124	134	157
	EER (1)		2.84	2.78	2.89	2.89	2.87	2.91	2.95	3.00	2.81
	SEER (2)		3.82	3.86	3.99	4.00	3.87	3.96	4.09	4.28	4.33
	Energy Efficiency (2)	%	150	151	157	157	152	155	161	168	170
	SEER with EC or ECH accessory (2)		4.13	4.11	4.17	4.22	4.15	4.23	4.34	4.55	4.56
	Energy Efficiency with EC or ECH accessory (2)	%	162	161	164	166	163	166	171	179	179
Heating	Heating capacity (3)	kW	228	255	283	310	338	369	401	441	510
	Absorbed power (3)	kW	73	83	90	103	108	121	132	141	164
	COP (3)		3.12	3.07	3.14	3.01	3.13	3.05	3.04	3.13	3.11
Heating (EN14511)	Heating capacity (3)	kW	228	255	283	311	338	370	402	442	511
	Absorbed power (3)	kW	73	83	90	103	108	122	133	142	165
	COP (3)		3.12	3.07	3.14	3.01	3.12	3.04	3.03	3.12	3.10
	SCOP (4)		3.20	3.21	3.22	3.21	3.22	3.21	3.22	3.21	3.22
	Energy Efficiency (4)	%	125	125	126	125	126	125	126	125	126
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.51	10.80	11.99	13.19	14.52	16.01	17.53	19.25	21.21
	Pressure drops	kPa	40	51	62	54	50	49	59	47	59
	Water connections	DN	80	80	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	155	130	175	160	180	170	145	140	110
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	70	70	70	72	72	72	73	73	72
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	69	70	69
	SSL version (5)	dB(A)	64	64	64	66	65	65	67	66	66
Weights	Transport weight	Kg	1654	1674	1763	1961	2199	2457	2566	2610	3179
	Operating weight	Kg	1670	1690	1780	1980	2220	2480	2590	2640	3210

MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
Cooling	Cooling capacity (1)	kW	495	546	602	671	751	845	942	1051
	Absorbed power (1)	kW	170	184	211	243	275	303	336	365
	EER (1)		2.91	2.97	2.85	2.76	2.73	2.79	2.80	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	493	544	599	669	749	842	939	1047
	Absorbed power (1)	kW	172	186	214	246	277	306	339	369
	EER (1)		2.87	2.92	2.81	2.72	2.70	2.75	2.77	2.84
	SEER (2)		4.30	4.32	4.39	4.32	4.34	4.33	4.34	4.33
	Energy Efficiency (2)	%	169	170	173	170	171	170	171	170
	SEER with EC or ECH accessory (2)		4.55	4.55	4.55	4.56	4.55	4.56	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	179	179	179	179	179	179	179	179
Heating	Heating capacity (3)	kW	564	620	684	776	861	962	1078	1210
	Absorbed power (3)	kW	182	202	223	249	282	312	349	383
	COP (3)		3.10	3.07	3.07	3.12	3.05	3.08	3.09	3.16
Heating (EN14511)	Heating capacity (3)	kW	565	621	685	777	862	963	1079	1211
	Absorbed power (3)	kW	183	203	224	250	283	313	350	384
	COP (3)		3.09	3.07	3.06	3.11	3.05	3.08	3.08	3.15
	SCOP (4)		3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
	Energy Efficiency (4)	%	125	125	125	125	125	125	125	125
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	23.65	26.09	28.76	32.06	35.88	40.37	45.01	50.21
	Pressure drops	kPa	49	60	58	49	41	51	42	52
	Water connections	DN	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	165	145	135	125	165	140	130	100
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (5)	dB(A)	73	75	76	76	76	76	76	77
	With SL accessory (5)	dB(A)	70	72	73	73	73	73	73	74
	SSL version (5)	dB(A)	67	69	70	70	69	70	---	---
Weights	Transport weight	Kg	3294	3463	3517	3682	4200	4518	4918	5044
	Operating weight	Kg	3330	3500	3560	3730	4260	4580	4990	5120

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K 726-P÷36012-P

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 208 KW TO 1102 KW.

CHA/K/FC 726-P÷36012-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

multi power

FREE COOLING IV

The liquid Chillers of the CHA/K/FC 726-P÷36012-P series, with R410A refrigerant, provide advanced technology, flexible and reliable, through an intelligent control module which optimizes the operating times and the powers delivered by the Scroll compressors, according to the needs of the systems, both civil and industrial, where the production of chilled water is required in continuous service throughout the year. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly, by way of the forced convection of outside air through the condensing coil, thus reducing the energy required for the Scroll compressors operation that the units are equipped with. A system of 3-way valves, controlled by the electronic microprocessor controller that manages the entire unit, can, depending on outside air temperature, operate in CHILLER, FREE-COOLING or MIXED (CHILLER and FREE-COOLING at the same time) mode. CHA/K/FC 726-P÷36012-P allows the reduction of inrush currents generated, the elimination of inertial accumulation tanks and an excellent silent functioning, as the fans adjust their speed to the actual load of the system, providing great benefits especially at night. Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation for process cooling application.

On request, units can be supplied with **R452B (CHA/G/FC 726-P÷36012-P)** or **R454B (CHA/L/FC 726-P÷36012-P)** refrigerant.

VERSION

CHA/K/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048-P÷36012-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 726-P÷36012-P

ErP SEPR 2021

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
Cooling	Cooling capacity (1)	kW	208	236	263	290	328	365	401	441	483
	Absorbed power (1)	kW	76	87	88	98	108	123	132	147	163
	EER (1)		2.74	2.71	2.99	2.96	3.04	2.97	3.04	3.00	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	206	234	260	287	325	362	398	438	479
	Absorbed power (1)	kW	78	89	91	101	111	126	135	150	167
	EER (1)		2.64	2.63	2.86	2.84	2.93	2.87	2.95	2.92	2.87
	SEPR (2)		5.04	5.03	5.02	5.05	5.01	5.06	5.02	5.51	5.53
Free-Cooling cycle	Air temperature (3)	°C	-2.0	-2.8	-2.5	-0.2	-2.7	-3.5	-1.0	-2.0	-1.0
	Absorbed power (3)	kW	7.0	7.0	10.5	10.5	14.0	14.0	14.0	14.0	17.5
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4							6	
Water circuit	Water flow	l/s	11.02	12.38	13.87	15.31	17.32	19.34	21.21	23.33	25.52
	Pressure drops	kPa	102	126	165	124	112	106	115	100	120
	Water connections	DN	100	100	100	100	100	100	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	187	199	232	249	266	282	332
	Max. starting current	A	276	299	354	367	365	417	433	415	500
Unit with pump	Pump available static pressure	kPa	150	115	70	100	95	80	105	115	85
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	70	70	71	73	73	73	74	75	74
	With SL accessory (4)	dB(A)	68	67	68	70	70	70	71	72	71
Weights	Transport weight	Kg	2175	2185	2360	2435	2990	3020	3220	3510	3920
	Operating weight	Kg	2310	2320	2500	2630	3190	3220	3470	3770	4250

MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
Cooling	Cooling capacity (1)	kW	536	590	665	738	827	920	1014	1102
	Absorbed power (1)	kW	179	199	230	266	305	340	368	412
	EER (1)		2.99	2.96	2.89	2.77	2.71	2.71	2.76	2.67
Cooling (EN14511)	Cooling capacity (1)	kW	532	585	659	731	818	911	1004	1102
	Absorbed power (1)	kW	183	204	236	273	314	349	378	412
	EER (1)		2.91	2.87	2.79	2.68	2.61	2.61	2.66	2.67
	SEPR (2)		5.52	5.54	5.56	5.58	5.55	5.53	5.52	5.51
Free-Cooling cycle	Air temperature (3)	°C	-2.2	-2.7	-3.0	-3.5	-2.5	-0.1	0.1	-0.4
	Absorbed power (3)	kW	17.5	17.5	17.5	21.0	24.5	28.0	31.5	31.5
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	8							
Water circuit	Water flow	l/s	28.28	31.09	35.11	38.89	43.64	48.52	53.51	58.13
	Pressure drops	kPa	121	132	148	152	172	151	162	173
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	365	391	438	500	561	622	699	769
	Max. starting current	A	533	558	615	678	774	835	961	1031
Unit with pump	Pump available static pressure	kPa	110	90	60	160	125	125	90	110
	Water connections	DN	125	125	125	150	150	150	150	150
Sound pressure	STD version (4)	dB(A)	74	76	78	78	79	78	78	79
	With SL accessory (4)	dB(A)	71	74	75	75	75	75	75	76
Weights	Transport weight	Kg	4180	4220	5060	5240	5830	6880	7410	7530
	Operating weight	Kg	4520	4560	5460	5650	6320	7600	8220	8340

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	6200
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360

DIMENSIONS			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD	mm	6200	6200	7200	7200	8400	9600	10600	10600
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360

CLEARANCE AREA

CHA/K/FC 726-P÷36012-P

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 200 KW TO 1062 KW.

CHA/K 726÷36012

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.

multi power

The liquid Chillers and Heat Pumps of the CHA/K 726÷36012 series, with R410A refrigerant, are designed for large-sized service sector or industrial ambients.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump models 726÷13010 are compliant to the ErP Regulation; models 15010÷36012 are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (CHA/G 726÷36012)** or **R454B (CHA/L 726÷36012)** refrigerant.

VERSION

CHA/K	***CHA/K/WP***
Cooling only	Reversible Heat Pump
CHA/K/SSL	***CHA/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048÷36012 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
EW	External water connections
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/K 726÷36012

MODEL			726	786	826	906	1048	1128	1208	13010	15010
Cooling	Cooling capacity (1)	kW	200	224	248	270	302	328	367	404	445
	Absorbed power (1)	kW	70	80	86	97	105	115	121	136	158
	EER (1)		2.86	2.80	2.88	2.78	2.88	2.85	3.03	2.97	2.82
Cooling (EN14511)	Cooling capacity (1)	kW	199	223	247	269	301	326	365	403	444
	Absorbed power (1)	kW	71	81	87	98	106	117	123	137	159
	EER (1)		2.80	2.75	2.84	2.74	2.84	2.79	2.97	2.94	2.79
	SEER (2)		3.80	3.83	3.96	3.99	3.85	3.96	4.07	4.27	4.31
	Energy Efficiency (2)	%	149	150	155	157	151	155	160	168	169
	SEER with EC or ECH accessory (2)		4.13	4.11	4.17	4.22	4.15	4.23	4.34	4.56	4.56
	Energy Efficiency with EC or ECH accessory (2)	%	162	161	164	166	163	166	171	179	179
Heating	Heating capacity (3)	kW	229	252	280	304	336	362	401	442	512
	Absorbed power (3)	kW	74	83	91	106	109	123	130	145	167
	COP (3)		3.09	3.04	3.08	2.87	3.08	2.94	3.08	3.05	3.07
Heating (EN14511)	Heating capacity (3)	kW	229	252	280	305	336	363	402	443	513
	Absorbed power (3)	kW	74	83	91	107	109	124	131	146	168
	COP (3)		3.09	3.04	3.08	2.86	3.07	2.93	3.07	3.04	3.06
	SCOP (4)		3.22	3.20	3.21	3.22	3.21	3.22	3.23	3.21	3.20
	Energy Efficiency (4)	%	126	125	125	126	125	126	126	125	125
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.44	10.58	11.71	12.75	14.26	15.49	17.33	19.08	21.01
	Pressure drops	kPa	45	42	45	50	48	56	55	45	33
	Water connections	DN	100	100	100	100	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	150	140	195	170	180	165	150	140	135
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	70	70	70	72	72	72	73	73	72
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	69	70	69
	SSL version (5)	dB(A)	64	64	64	66	65	65	67	66	66
Weights	Transport weight	Kg	1703	1723	1813	2003	2253	2532	2642	2691	3283
	Operating weight	Kg	1750	1770	1860	2050	2310	2600	2710	2780	3380

MODEL			16812	18012	21012	24012	27012	30012	33012	36012
Cooling	Cooling capacity (1)	kW	510	551	614	684	766	862	961	1062
	Absorbed power (1)	kW	174	186	214	250	281	307	340	369
	EER (1)		2.93	2.96	2.87	2.74	2.73	2.81	2.83	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	508	549	611	682	763	858	958	1058
	Absorbed power (1)	kW	176	188	217	252	284	311	343	373
	EER (1)		2.89	2.92	2.82	2.71	2.69	2.76	2.79	2.84
	SEER (2)		4.29	4.31	4.39	4.32	4.33	4.31	4.34	4.32
	Energy Efficiency (2)	%	169	169	173	170	170	169	171	170
	SEER with EC or ECH accessory (2)		4.55	4.55	4.55	4.56	4.55	4.56	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	179	179	179	179	179	179	179	179
Heating	Heating capacity (3)	kW	581	626	698	791	878	981	1100	1222
	Absorbed power (3)	kW	186	204	226	257	288	316	353	388
	COP (3)		3.12	3.07	3.09	3.08	3.05	3.10	3.12	3.15
Heating (EN14511)	Heating capacity (3)	kW	582	627	699	792	879	982	1101	1223
	Absorbed power (3)	kW	187	205	227	258	289	317	354	389
	COP (3)		3.12	3.06	3.08	3.07	3.04	3.10	3.11	3.14
	SCOP (4)		3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
	Energy Efficiency (4)	%	125	125	125	125	125	125	125	125
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	24.08	26.02	28.99	32.30	36.17	40.71	45.38	50.15
	Pressure drops	kPa	43	54	59	46	55	62	47	52
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	165	150	130	130	150	125	125	95
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (5)	dB(A)	73	75	76	76	76	76	76	77
	With SL accessory (5)	dB(A)	70	72	73	73	73	73	73	74
	SSL version (5)	dB(A)	67	69	70	70	69	70	---	---
Weights	Transport weight	Kg	3383	3565	3605	3840	4385	4705	5210	5330
	Operating weight	Kg	3480	3670	3720	3970	4540	4860	5470	5590

DIMENSIONS			726	786	826	906	1048	1128	1208	13010	15010	16812	18012	21012	24012	27012	30012	33012	36012
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K 726÷36012

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 49 KW TO 190 KW.

CHA/K/EP 182-P÷693-P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

ENERGY POWER

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/K/EP 182-P÷693-P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER/COP/TER and SEER/SCOP energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CHA/G/EP 182-P÷693-P)** or **R454B (CHA/L/EP 182-P÷693-P)** refrigerant.

VERSION

CHA/K/EP	*CHA/K/EP/SSL*
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Copper tube and aluminum finned coil.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side. On the units it is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PSC	Single circulating pump cooling side
PSIC	Inverter single circulating pump cooling side
PDC	Double circulating pump cooling side
PDIC	Inverter double circulating pump cooling side
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side
PDIH	Inverter double circulating pump heating side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
FGH	Antifreeze heater for single pump and pipes heating side
FMH	Antifreeze heater for double pump and pipes heating side
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/EP 182-P÷693-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	502-P	603-P	693-P
Cooling only	Cooling capacity (1)	kW	48.6	55.9	63.2	72.2	81.8	92.7	105	118	134	159	190
	Absorbed power (1)	kW	16.8	19.3	21.9	24.4	27.9	32.5	38.0	42.3	46.5	57.4	68.5
	EER (1)		2.89	2.90	2.89	2.96	2.93	2.85	2.76	2.79	2.88	2.77	2.77
Cooling only (EN14511)	Cooling capacity (1)	kW	48.3	55.5	62.8	71.7	81.3	92.2	105	117	133	158	189
	Absorbed power (1)	kW	17.1	19.6	22.3	24.9	28.4	33.1	38.5	42.9	47.2	58.3	69.5
	EER (1)		2.82	2.83	2.82	2.88	2.86	2.79	2.73	2.73	2.82	2.71	2.72
	SEER (2)		4.17	4.18	4.17	4.2	4.19	4.16	4.14	4.14	4.17	4.13	4.13
	Energy Efficiency (2)	%	164	164	164	165	165	163	163	163	164	162	162
Heating only	Heating capacity (3)	kW	52.2	59.7	67.0	75.5	86.0	98.4	111	127	142	171	203
	Absorbed power (3)	kW	16.0	18.7	21.2	23.4	26.5	30.0	35.1	39.5	42.8	52.5	61.2
	COP (3)		3.26	3.19	3.16	3.23	3.25	3.28	3.16	3.22	3.32	3.26	3.32
Heating only (EN14511)	Heating capacity (3)	kW	52.5	60.0	67.4	75.9	86.4	98.8	112	128	143	172	204
	Absorbed power (3)	kW	16.3	19.0	21.6	23.9	27.0	30.5	35.7	40.3	43.9	53.7	62.7
	COP (3)		3.22	3.16	3.12	3.18	3.20	3.24	3.14	3.18	3.26	3.20	3.25
	SCOP (4)		3.49	3.46	3.36	3.36	3.38	3.93	3.58	3.53	3.73	3.73	3.75
	Energy Efficiency (4)	%	137	135	131	131	132	154	140	138	146	146	147
	Energy Class (5)		A+	A+	A+	A+	--	--	--	--	--	--	--
Cooling + Heating	Cooling capacity (6)	kW	49.6	56.5	62.9	71.8	83.3	94.0	110	126	140	168	203
	Heating capacity (6)	kW	64.9	73.9	82.5	94.1	109	123	143	163	181	217	261
	Absorbed power (6)	kW	15.3	17.4	19.6	22.3	25.2	29.4	32.6	37.2	40.7	49.0	58.4
	TER (6)		7.48	7.49	7.42	7.44	7.63	7.38	7.76	7.77	7.89	7.86	7.95
Cooling + Heating (EN14511)	Cooling capacity (6)	kW	49.3	56.2	62.5	71.3	82.8	93.4	109	125	139	167	202
	Heating capacity (6)	kW	65.2	74.3	82.9	94.6	110	124	144	164	182	218	262
	Absorbed power (6)	kW	15.6	17.7	20.0	22.8	25.7	30.0	33.1	37.8	41.4	49.8	59.3
	TER (6)		7.34	7.37	7.27	7.28	7.50	7.25	7.64	7.65	7.75	7.73	7.82
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3		2	3	
Evaporator - cooling side	Water flow	l/s	2.32	2.67	3.02	3.45	3.91	4.43	5.02	5.64	6.40	7.60	9.08
	Pressure drops	kPa	35	41	53	50	49	51	38	46	50	52	52
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Condenser - heating side	Water flow	l/s	2.49	2.85	3.20	3.61	4.11	4.70	5.30	6.07	6.78	8.17	9.70
	Pressure drops	kPa	31	35	38	42	40	35	34	42	48	43	45
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	40	46	54	59	66	77	84	95	100	128	151
	Max. starting current	A	164	166	178	191	234	201	217	263	314	304	359
Unit with pump - cooling side	Pump available static pressure	kPa	150	140	120	115	130	115	115	95	150	135	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Unit with pump - heating side	Pump available static pressure	kPa	150	140	130	120	135	125	115	160	150	135	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
ECH fan available static pressure	STD version	Pa	95	100	95	95	95	100	60	50	60	50	50
	SSL version	Pa	70	85	70	70	70	90	50	50	60	50	50
Sound pressure	STD version (7)	dB(A)	63	64	64	65	65	66	68	68	69	70	70
	With SL accessory (7)	dB(A)	61	62	62	63	63	64	66	66	67	68	68
	SSL version (7)	dB(A)	58	59	59	60	60	61	63	63	64	65	65
Weights	Transport weight	Kg	750	760	815	905	925	1030	1055	1085	1295	1500	1545
	Operating weight	Kg	765	775	830	925	950	1060	1085	1115	1335	1545	1595

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	502-P	603-P	693-P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	3550	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/EP 182-P÷693-P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
6. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 167 KW TO 643 KW.

CHA/K/EP 604-P÷2406-P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

ENERGY POWER

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/K/EP 604-P÷2406-P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER/COP/TER and SEER/SCOP energy values. The units are characterized by double cooling circuit. Thanks to the advanced control system, ENERGYPOWER units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
Units are designed for **hot water production up to 55 °C**.

The models 604-P÷1506-P are compliant to the ErP Regulation. The models 1806-P÷2406-P are compliant to the ErP 2021 Regulation for comfort cooling application if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (CHA/G/EP 604-P÷2406-P)** or **R454B (CHA/L/EP 604-P÷2406-P)** refrigerant.

VERSION

CHA/K/EP	*CHA/K/EP/SSL*
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Copper tube and aluminum finned coils.
- Condenser AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side. On the units it is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PSC	Single circulating pump cooling side
PSIC	Inverter single circulating pump cooling side
PDC	Double circulating pump cooling side
PDIC	Inverter double circulating pump cooling side
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side
PDIH	Inverter double circulating pump heating side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
FGH	Antifreeze heater for single pump and pipes heating side
FMH	Antifreeze heater for double pump and pipes heating side
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/EP 604-P÷2406-P

MODEL			604-P	724-P	804-P	904-P	1004-P	1104-P	1206-P	1506-P	1806-P	2006-P	2206-P	2406-P
Cooling only	Cooling capacity (1)	kW	167	190	216	241	264	301	339	395	459	522	583	643
	Absorbed power (1)	kW	57	69	75	85	93	104	114	140	169	193	210	225
	EER (1)		2.93	2.75	2.88	2.84	2.84	2.89	2.97	2.82	2.72	2.70	2.78	2.86
Cooling only (EN14511)	Cooling capacity (1)	kW	166	189	215	240	263	300	338	394	457	520	581	641
	Absorbed power (1)	kW	58	70	76	85	94	105	115	141	171	195	212	227
	EER (1)		2.86	2.70	2.83	2.82	2.80	2.86	2.94	2.79	2.67	2.67	2.74	2.82
	SEER (2)		4.14	4.22	4.18	4.17	4.22	4.19	4.20	4.26	4.31	4.34	4.39	4.30
	Energy Efficiency (2)	%	163	166	164	164	166	165	165	167	169	171	173	169
	SEER with EC or ECH accessory (2)		4.44	4.38	4.43	4.42	4.42	4.44	4.47	4.49	4.56	4.56	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	175	172	174	174	174	175	176	177	179	179	179	179
Heating only	Heating capacity (3)	kW	180	204	231	257	281	318	361	427	515	570	632	693
	Absorbed power (3)	kW	55	64	72	79	86	97	109	128	159	168	195	208
	COP (3)		3.25	3.20	3.22	3.25	3.28	3.28	3.31	3.34	3.24	3.39	3.24	3.33
Heating only (EN14511)	Heating capacity (3)	kW	181	205	232	258	282	319	362	429	517	572	634	696
	Absorbed power (3)	kW	56	65	73	80	87	98	111	131	162	172	200	214
	COP (3)		3.23	3.15	3.18	3.23	3.24	3.26	3.26	3.27	3.19	3.33	3.17	3.25
	SCOP (4)		3.52	3.36	3.65	3.58	3.43	3.63	3.68	3.51	3.51	3.80	3.56	3.53
	Energy Efficiency (4)	%	138	131	143	140	134	142	144	137	137	149	139	138
Cooling + Heating	Cooling capacity (5)	kW	170	195	214	243	270	303	334	405	465	543	594	652
	Heating capacity (5)	kW	220	255	281	318	351	396	436	527	613	712	777	849
	Absorbed power (5)	kW	50	60	67	75	81	93	102	122	148	169	183	197
	TER (5)		7.80	7.50	7.39	7.48	7.67	7.52	7.55	7.64	7.28	7.43	7.49	7.62
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	169	194	213	242	269	302	333	404	463	541	592	650
	Heating capacity (5)	kW	221	256	282	319	352	397	438	529	615	715	780	852
	Absorbed power (5)	kW	51	61	68	76	82	94	103	123	150	171	185	199
	TER (5)		7.65	7.38	7.28	7.38	7.57	7.44	7.49	7.59	7.19	7.35	7.42	7.55
Compressor	Quantity	n°	4	4	4	4	4	4	6	6	6	6	6	6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4						6					
Evaporator - cooling side	Water flow	l/s	7.98	9.08	10.32	11.51	12.61	14.38	16.20	18.87	21.93	24.94	27.85	30.72
	Pressure drops	kPa	34	33	36	35	42	36	45	44	53	43	34	40
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Condenser - heating side	Water flow (5)	l/s	8.60	9.75	11.04	12.28	13.43	15.19	17.25	20.40	24.61	27.23	30.20	33.11
	Pressure drops (5)	kPa	35	36	39	30	37	33	43	43	42	49	48	54
	Water connections (5)	DN	100	100	100	100	100	100	100	100	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	133	151	171	186	201	227	255	301	386	416	453	483
	Max. starting current	A	301	328	347	400	415	488	432	515	647	755	792	822
Unit with pump - cooling side	Pump available static pressure	kPa	175	170	160	150	130	145	125	160	125	165	165	145
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Unit with pump - heating side	Pump available static pressure	kPa	170	165	150	145	125	140	120	150	110	150	140	120
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Sound pressure	STD version (6)	dB(A)	70	70	71	71	71	72	74	74	76	77	78	79
	With SL accessory (6)	dB(A)	67	67	68	68	68	69	71	71	73	74	75	76
	SSL version (6)	dB(A)	64	64	65	65	65	66	67	67	70	70	71	72
Weights	Transport weight	Kg	2200	2230	2350	2390	2420	3180	3420	3530	4530	4600	5320	5350
	Operating weight	Kg	2300	2330	2450	2500	2530	3310	3560	3680	4730	4840	5630	5670

DIMENSIONS			604-P	724-P	804-P	904-P	1004-P	1104-P	1206-P	1506-P	1806-P	2006-P	2206-P	2406-P
L	STD	mm	3350	3350	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K/EP 604-P÷2406-P

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 278 KW TO 1133 KW.

CHA/Y/EP 1352÷4402

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

ENERGY POWER
INVERTER SCREW

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/Y/EP 1352÷4402 ENERGYPOWER, with R134a refrigerant, are provided with latest generation Screw compressors, to reach high EER/COP/TER and SEER energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. Furthermore, accessories as the Inverter control on one or both Screw compressors, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The models 1352÷1802 are compliant to the ErP Regulation.The models 1952÷4402 are compliant to the ErP 2021 Regulation for comfort cooling application if provided with EC or ECH accessory (EC Inverter fans) and ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant **(CHA/J/EP 1352÷4402).**

VERSION

CHA/Y/EP	***CHA/Y/EP/SSL***
Multifunctional unit	Super silenced multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Copper tube and aluminum finned coils.
- Shell and tube type condenser, with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PUC	Single circulating pump cooling side
PUIC	Inverter single circulating pump cooling side
PDC	Double circulating pump cooling side
PDIC	Inverter double circulating pump cooling side
FI	Antifreeze heater for evaporator and condenser
FNC	Antifreeze heater for pipes cooling side
FNH	Antifreeze heater for pipes heating side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
TS	Touch screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y/EP 1352÷4402

MODEL			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
Cooling only	Cooling capacity (1)	kW	278	312	366	423	484	564	676	822	978	1133
	Absorbed power (1)	kW	89	100	116	133	153	177	210	258	315	365
	EER (1)		3.12	3.12	3.16	3.18	3.16	3.19	3.22	3.19	3.10	3.10
Cooling only (EN14511)	Cooling capacity (1)	kW	277	311	364	421	482	562	674	819	974	1128
	Absorbed power (1)	kW	90	101	118	135	155	179	212	261	319	370
	EER (1)		3.08	3.08	3.08	3.12	3.11	3.14	3.18	3.14	3.05	3.05
	SEER (2)		3.93	3.93	3.89	3.92	3.91	3.92	3.92	3.90	3.88	3.88
	Energy Efficiency (2)	%	154	154	153	154	153	154	154	153	152	152
	SEER with EC or ECH and ID accessory (2)		4.73	4.73	4.73	4.75	4.74	4.75	4.78	4.75	4.72	4.72
	Energy Efficiency with EC or ECH and ID accessory (2)	%	186	186	186	187	187	187	188	187	186	186
Heating only	Heating capacity (3)	kW	283	320	375	431	490	572	672	838	990	1156
	Absorbed power (3)	kW	86	91	107	122	139	159	190	231	271	313
	COP (3)		3.29	3.52	3.50	3.53	3.53	3.60	3.54	3.63	3.65	3.69
Heating only (EN14511)	Heating capacity (3)	kW	284	321	376	432	491	574	674	840	992	1159
	Absorbed power (3)	kW	88	93	109	124	141	162	193	235	276	319
	COP (3)		3.23	3.45	3.45	3.48	3.48	3.54	3.49	3.57	3.59	3.63
	SCOP (4)		3.20	3.42	3.41	3.40	3.39	3.69	3.63	3.71	3.90	4.00
	Energy Efficiency (4)	%	125	134	133	133	133	145	142	145	153	157
Cooling + Heating	Cooling capacity (5)	kW	276	318	370	429	492	575	686	834	996	1181
	Heating capacity (5)	kW	359	404	469	544	621	726	865	1054	1261	1495
	Absorbed power (5)	kW	83	87	99	115	130	152	179	220	265	314
	TER (5)		7.65	8.30	8.47	8.46	8.56	8.56	8.66	8.58	8.52	8.52
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	275	317	368	427	490	573	684	831	992	1176
	Heating capacity (5)	kW	360	405	470	545	622	728	867	1057	1264	1499
	Absorbed power (5)	kW	84	88	101	117	132	154	181	223	269	319
	TER (5)		7.56	8.20	8.30	8.31	8.42	8.45	8.57	8.47	8.39	8.39
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator - cooling side	Water flow	l/s	13.28	14.91	17.49	20.21	23.12	26.95	32.30	39.27	46.73	54.13
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Condenser - heating side	Water flow (5)	l/s	13.52	15.29	17.92	20.59	23.41	27.33	32.11	40.04	47.30	55.23
	Pressure drops (5)	kPa	21	23	20	18	17	20	18	20	20	20
	Water connections (5)	DN	100	100	125	125	125	150	150	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	185	155	155	140	155	140	115	135	100	145
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (6)	dB(A)	77	77	77	78	78	78	79	80	80	81
	With SL accessory (6)	dB(A)	73	73	74	75	74	75	76	76	76	77
	SSL version (6)	dB(A)	67	67	68	69	69	70	70	72	72	72
Weights	Transport weight	Kg	4090	4110	4820	5460	5970	6950	8100	9340	9760	10430
	Operating weight	Kg	4330	4460	5280	5980	6480	7570	8880	10200	10740	11800

DIMENSIONS			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

CHA/Y/EP 1352÷4402

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

FROM 79 KW TO 208 KW.

CHA/H/A 351-P÷1221-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGER.

NEW

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

The CHA/H/A 351-P÷1221-P units, in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).

VERSION

CHA/H/A	CHA/H/A/MC
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	**CHA/H/A/MC/SSL**
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/H/A 351-P÷1221-P

MODEL			351-P	601-P	801-P	901-P	1221-P
Cooling STD version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.9	32.3	39.7	49.6	66.6
	EER (1)		3.29	3.13	3.27	3.29	3.12
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.9	32.4	39.8	49.8	66.9
	EER (1)		3.28	3.12	3.27	3.27	3.11
	SEER (2)		4.09	3.95	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	155	154	159	158
	SEER with EC or ECH accessory (2)		4.68	4.42	4.47	4.52	4.47
	Energy Efficiency with EC or ECH accessory (2)	%	184	174	176	178	176
Cooling MC version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.5	31.8	39.1	48.9	65.9
	EER (1)		3.34	3.18	3.32	3.33	3.16
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.5	31.9	39.2	49.1	66.2
	EER (1)		3.34	3.17	3.32	3.32	3.14
	SEER (2)		4.10	3.97	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	156	154	159	158
	SEER with EC or ECH accessory (2)		4.69	4.43	4.48	4.53	4.48
	Energy Efficiency with EC or ECH accessory (2)	%	185	174	176	178	176
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.83	6.21	7.79	9.94
	Pressure drops	kPa	9	11	11	12	12
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	145	205	190	180	150
	Tank water volume	l	600	600	600	600	600
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1281	1441	1888	1998	2189
	Operating weight (4)	Kg	1300	1480	1930	2050	2260

DIMENSIONS			351-P	601-P	801-P	901-P	1221-P
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

SPAZI DI RISPETTO

CHA/H/A 351-P÷1221-P

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of SSL versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

Electrical board side

FROM 82 KW TO 170 KW.

CHA/H/FC 351-P÷901-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGER.

NEW

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

The liquid Chillers of the CHA/H/FC 351-P÷901-P series, with **HFO-R1234ze** refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressor. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application.

VERSION

CHA/H/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/H/FC 351-P÷901-P

ErP SEPR 2021

MODEL			351-P	601-P	801-P	901-P
Cooling	Cooling capacity (1)	kW	81.7	110	140	170
	Absorbed power (1)	kW	26.8	36.3	44.1	53.5
	EER (1)		3.05	3.03	3.17	3.18
Cooling (EN14511)	Cooling capacity (1)	kW	81.5	110	140	171
	Absorbed power (1)	kW	27.1	36.5	44.8	53.8
	EER (1)		3.01	3.01	3.13	3.18
	SERP (2)		6.86	7.33	6.89	6.58
Free-Cooling cycle	Air temperature (3)	°C	1	-2	0	-3
	Absorbed power (3)	kW	6	6	8	8
Compressor	Quantity	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Water circuit	Water flow	l/s	4.44	6.20	7.60	8.53
	Pressure drops	kPa	36	108	80	113
	Water connections	DN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	105	109	137	156
	Max. starting current	A	184	200	285	334
Unit with tank and pump	Pump available static pressure	kPa	180	110	125	80
	Tank water volume	l	400	400	400	400
	Water connections	DN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure		Pa	110	110	110	105
Sound pressure	STD version (4)	dB(A)	74	74	75	75
	With SL accessory (4)	dB(A)	71	71	72	72
Weights	Transport weight (5)	Kg	1503	1677	2093	2222
	Operating weight (5)	Kg	1550	1760	2180	2320

DIMENSIONS			351-P	601-P	801-P	901-P
L	STD	mm	3550	4700	4700	4700
W	STD	mm	1100	1100	1100	1100
H	STD	mm	2200	2200	2200	2200

CLEARANCE AREA

CHA/H/FC 351-P÷901-P

300	800	800	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

Electrical board side

FROM 79 KW TO 211 KW.

CHA/H/A 351÷1221

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND SHELL AND TUBE EXCHANGER.

NEW

MAXI POWER

INVERTER SCREW
MICROCHANNEL
HFO R1234ze

The CHA/H/A 351÷1221 units in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).

VERSION

CHA/H/A	***CHA/H/A/MC***
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	***CHA/H/A/MC/SSL***
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Shell and tube evaporator with one independent circuit on the refrigerant side and one onthe water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator/tank
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/H/A 351÷1221

MODEL			351	1202	801	901	1802
Cooling STD version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.6	30.8	39.0	48.9	66.7
	EER (1)		3.33	3.21	3.31	3.37	3.16
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.4	31.0	39.3	49.6	67.3
	EER (1)		3.37	3.19	3.28	3.31	3.14
	SEER (2)		4.15	4.02	3.97	4.15	4.07
	Energy Efficiency (2)	%	163	158	156	163	160
	SEER with EC or ECH accessory (2)		4.73	4.53	4.53	4.63	4.53
	Energy Efficiency with EC or ECH accessory (2)	%	186	178	178	182	178
Cooling MC version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.2	30.3	38.4	48.2	66.0
	EER (1)		3.39	3.27	3.36	3.42	3.20
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.0	30.5	38.7	48.9	66.6
	EER (1)		3.43	3.24	3.33	3.35	3.17
	SEER (2)		4.16	4.03	3.97	4.15	4.07
	Energy Efficiency (2)	%	163	158	156	163	160
	SEER with EC or ECH accessory (2)		4.74	4.54	4.54	4.64	4.54
	Energy Efficiency with EC or ECH accessory (2)	%	187	179	179	183	179
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.73	6.16	7.88	10.08
	Pressure drops	kPa	21	20	23	44	31
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	140	200	180	150	130
	Tank water volume	l	660	660	660	660	660
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1361	1465	2005	2073	2367
	Operating weight (4)	Kg	1380	1490	2040	2120	2420

DIMENSIONS			351	1202	801	901	1802
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

CLEARANCE AREA

CHA/H/A 351÷1221

300	800	800	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of SSL versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

Electrical board side

FROM 197 KW TO 1353 KW.

CHA/H/A 1002÷6002

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

MAXI POWER

INVERTER SCREW

MICROCHANNEL

HFO R1234ze

The CHA/H/A 1002÷6002 units, in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
The innovative heat exchangers, traditional or Microchannel, the Screw compressors and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on one or both Screw compressors, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressors and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The models 1002÷1602 are compliant to the ErP 2021 Regulation for process cooling application; the models 1802÷6002 are compliant with EC or ECH accessory (EC Inverter fans).
The units are compliant to the ErP 2021 Regulation for comfort cooling application with EC or ECH accessory (EC Inverter fans).

VERSION

CHA/H/A	CHA/H/A/MC
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	**CHA/H/A/MC/SSL**
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FX	Antifreeze heater for evaporator and pipes
FB	Antifreeze heater for evaporator/tank
FQ	Antifreeze heater on evaporator/tank and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator/tank, single pump and pipes
FD	Antifreeze heater for evaporator/tank, double pump and pipes
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/H/A 1002÷6002

MODEL			1002	1202	1402	1602	1802	2202	2502
Cooling STD version	Cooling capacity (1)	kW	197	261	309	366	406	464	548
	Absorbed power (1)	kW	63	83	98	116	129	147	168
	EER (1)		3.13	3.14	3.15	3.16	3.15	3.16	3.26
Cooling STD version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547
	Absorbed power (1)	kW	63	84	99	117	130	149	169
	EER (1)		3.13	3.10	3.11	3.12	3.12	3.11	3.24
	SEER (2)		3.81	3.84	3.94	3.89	4.09	4.03	4.11
	Energy Efficiency (2)	%	149	151	155	153	161	158	161
	SEER with EC or ECH accessory (2)		4.17	4.20	4.39	4.26	4.55	4.55	4.57
	Energy Efficiency with EC or ECH accessory (2)	%	164	165	173	167	179	179	180
Cooling MC version	Cooling capacity (1)	kW	197	261	309	366	406	464	548
	Absorbed power (1)	kW	62	81	96	114	126	144	165
	EER (1)		3.18	3.22	3.22	3.21	3.22	3.22	3.32
Cooling MC version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547
	Absorbed power (1)	kW	62	82	97	115	127	146	166
	EER (1)		3.18	3.17	3.18	3.17	3.19	3.17	3.30
	SEER (2)		3.85	3.88	3.95	3.93	4.10	4.04	4.12
	Energy Efficiency (2)	%	151	152	155	154	161	159	162
	SEER with EC or ECH accessory (2)		4.22	4.25	4.43	4.30	4.55	4.55	4.61
	Energy Efficiency with EC or ECH accessory (2)	%	166	167	174	169	179	179	181
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	9.41	12.47	14.76	17.49	19.40	22.17	26.18
	Pressure drops	kPa	39	37	32	34	31	28	37
	Water connections	DN	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	203	275	319	355	413	467	512
	Max. starting current	A	291	417	488	586	642	723	783
Unit with tank and pump	Pump available static pressure	kPa	155	185	180	155	140	180	160
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000
	Water connections	DN	100	100	100	100	125	125	150
Sound pressure	STD version (3)	dB(A)	75	76	76	77	77	78	78
	With SL accessory (3)	dB(A)	72	73	73	74	74	75	75
	SSL version (3)	dB(A)	67	68	68	69	69	70	70
Weights	Transport weight (4)	Kg	2700	3215	3540	4015	4120	4625	5165
	Operating weight (4)	Kg	2790	3300	3670	4180	4280	4820	5430

MODEL			2802	3302	3602	4602	4802	5402	6002
Cooling STD version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	189	223	249	300	333	379	422
	EER (1)		3.22	3.22	3.25	3.27	3.20	3.24	3.21
Cooling STD version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348
	Absorbed power (1)	kW	191	225	251	302	336	383	427
	EER (1)		3.17	3.17	3.21	3.24	3.16	3.20	3.16
	SEER (2)		4.15	4.16	4.13	4.15	4.13	4.16	4.18
	Energy Efficiency (2)	%	163	163	162	163	162	163	164
	SEER with EC or ECH accessory (2)		4.56	4.57	4.57	4.58	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	179	180	180	180	179	179	179
Cooling MC version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	185	219	244	294	326	371	414
	EER (1)		3.29	3.27	3.32	3.33	3.26	3.31	3.27
Cooling MC version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348
	Absorbed power (1)	kW	187	221	246	296	329	375	418
	EER (1)		3.24	3.23	3.28	3.30	3.22	3.26	3.22
	SEER (2)		4.16	4.17	4.14	4.16	4.13	4.18	4.19
	Energy Efficiency (2)	%	163	164	163	163	162	164	165
	SEER with EC or ECH accessory (2)		4.60	4.61	4.61	4.62	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	181	181	181	182	179	179	179
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	29.05	34.26	38.65	46.82	50.84	58.67	64.64
	Pressure drops	kPa	33	40	42	30	38	47	54
	Water connections	DN	150	200	200	200	200	250	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	597	670	731	764	831	951	1039
	Max. starting current	A	896	947	1091	1206	1244	1450	1494
Unit with tank and pump	Pump available static pressure	kPa	145	160	140	120	170	180	155
	Tank water volume	l	3000	3000	3000	-	-	-	-
	Water connections	DN	150	150	150	-	-	-	-
Sound pressure	STD version (3)	dB(A)	78	80	81	82	82	84	84
	With SL accessory (3)	dB(A)	75	77	78	79	79	81	81
	SSL version (3)	dB(A)	70	72	73	74	74	76	76
Weights	Transport weight (4)	Kg	5260	6240	7460	8995	9435	11230	11560
	Operating weight (4)	Kg	5520	6570	7880	9500	9910	11800	12190

DIMENSIONS			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802	5402	6002
L	STD-MC	mm	4400	5000	5000	5550	5550	6700	6700	6700	8900	10050	11100	12250	13400	13400
	SSL-MC/SSL	mm	5000	5550	5550	6700	6700	8900	8900	8900	10050	11100	12250	13400	-	-
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	2550
	SSL-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	-	-

CLEARANCE AREA

CHA/H/A 1002÷6002

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of SSL versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

FROM 232 KW TO 1144 KW.

CHA/H/FC 1002÷4802

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

NEW

MAXI POWER

FREE COOLING

HFO R1234ze

The liquid Chillers of the CHA/H/FC 1002÷4802 series, with **HFO-R1234ze** refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation for process cooling application if provided with EC or ECH accessory (EC Inverter fans).

VERSION

CHA/H/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/H/FC 1002÷4802

ErP SEPR 2021

MODEL			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802
Cooling	Cooling capacity (1)	kW	232	297	350	404	444	519	604	684	801	891	1044	1144
	Absorbed power (1)	kW	67	87	107	125	142	158	187	205	239	271	338	362
	EER (1)		3.46	3.41	3.27	3.23	3.13	3.28	3.23	3.34	3.35	3.29	3.09	3.16
Cooling (EN14511)	Cooling capacity (1)	kW	231	295	346	401	440	516	600	678	796	885	1035	1132
	Absorbed power (1)	kW	68	89	111	128	146	161	191	211	244	277	347	374
	EER (1)		3.40	3.31	3.12	3.13	3.01	3.20	3.14	3.21	3.26	3.19	2.98	3.03
	SEPR with EC or ECH accessory (2)		5.59	5.57	5.52	5.63	5.5	5.67	5.63	5.66	5.71	5.74	5.50	5.50
Free-Cooling cycle	Air temperature (3)	°C	2.0	0.0	1.3	1.0	-0.5	-0.5	0.5	-1.0	-0.5	-0.5	-1.0	0.0
	Absorbed power (3)	kW	10.8	10.8	14.4	14.4	14.4	18.0	21.6	21.6	21.6	25.2	28.8	32.4
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless											
Water circuit	Water flow	l/s	11.6	14.9	17.5	20.2	22.2	25.9	30.2	34.2	40.1	44.6	52.2	57.2
	Pressure drops	kPa	77	96	143	118	132	77	104	124	98	108	138	169
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	211	275	327	355	413	467	520	605	670	731	764	831
	Max. starting current	A	299	417	496	586	642	723	791	904	947	1091	1206	1244
Unit with tank and pump	Pump available static pressure	kPa	148	114	117	137	158	193	146	106	162	132	112	111
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	2000	3000	-	-	-
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Sound pressure	STD version (4)	dB(A)	75	76	76	77	77	78	78	78	80	81	82	82
	With SL accessory (4)	dB(A)	72	73	73	74	74	75	75	75	77	78	79	79
Weights	Transport weight (5)	Kg	3150	3420	4020	4410	4560	5440	6800	7280	8420	8900	10690	11570
	Operating weight (5)	Kg	3390	3720	4400	4850	5040	6010	7420	7980	9420	10000	11890	12940

DIMENSIONS			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802
L	STD	mm	4400	4400	5550	5550	5550	6700	10050	10050	10050	10050	12250	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/H/FC 1002÷4802

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

Electrical board side

FROM 263 KW TO 1533 KW.

CHA/Y/A 1302÷6002

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

NEW

MAXI POWER

INVERTER SCREW

MICROCHANNEL

The CHA/Y/A 1302÷6002 units, in A CLASS energy efficiency, have extremely high efficiency levels due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination.
The latest generation Screw compressors and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressors, on circulating pumps and EC Inverter on fans are also available for getting the highest efficiency at part load. The super silenced version, obtained through acoustic insulation on compressors and wider exchangers, is particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.
The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency.**
The Heat Pump versions are designed for **hot water production up to 55 °C.**

Cooling only models 1302÷1702 are compliant to the ErP 2021 Regulation. Cooling only models 1902÷6002 are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant with EC or ECH accessory (EC Inverter fans).
Heat pump models 1302÷2002 are compliant to the ErP Regulation; models 2602÷6002 are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R513A** refrigerant **(CHA/J/A 1302÷6002).**

VERSION

CHA/Y/A	***CHA/Y/A/MC***	***CHA/Y/A/WP***
Cooling only	Cooling only with MICROCHANNEL condensing coils	Reversible Heat Pump
CHA/Y/A/SSL	***CHA/Y/A/MC/SSL***	***CHA/Y/A/WP/SSL***
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -10 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FX	Antifreeze heater for evaporator and pipes
FB	Antifreeze heater for evaporator/tank
FQ	Antifreeze heater on evaporator/tank and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator/tank, single pump and pipes
FD	Antifreeze heater for evaporator/tank, double pump and pipes
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y/A 1302÷6002

MODEL			1302	1502	1702	1902	2002	2602	3002	3602	4202	4802	5002	5402	6002
Cooling STD versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	82	96	114	131	146	179	219	256	305	352	380	440	480
	EER (1)		3.21	3.26	3.15	3.15	3.18	3.21	3.18	3.28	3.14	3.23	3.33	3.18	3.19
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	83	97	115	132	147	180	221	258	308	356	383	444	485
	EER (1)		3.16	3.22	3.11	3.12	3.15	3.18	3.14	3.24	3.10	3.18	3.3	3.15	3.16
	SEER (2)		4.13	4.25	4.22	4.14	4.18	4.19	4.11	4.25	4.30	4.23	4.24	4.17	4.22
	Energy Efficiency (2)	%	162	167	166	163	164	165	161	167	169	166	167	164	166
	SEER with EC or ECH accessory (2)		4.63	4.76	4.73	4.73	4.74	4.77	4.65	4.86	4.85	4.69	4.74	4.71	4.73
	Energy Efficienc with EC or ECH accessory (2)	%	182	187	186	186	187	188	183	191	191	185	187	185	186
Cooling MC versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	80	94	112	128	143	175	215	251	299	345	372	431	470
	EER (1)		3.29	3.33	3.21	3.23	3.24	3.28	3.24	3.34	3.21	3.29	3.4	3.24	3.26
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	81	95	113	129	144	176	217	253	302	349	375	435	475
	EER (1)		3.23	3.28	3.17	3.19	3.22	3.26	3.20	3.31	3.17	3.24	3.37	3.21	3.23
	SEER (2)		4.14	4.26	4.23	4.15	4.19	4.19	4.12	4.25	4.31	4.25	4.24	4.17	4.23
	Energy Efficiency (2)	%	163	167	166	163	165	165	162	167	169	167	167	164	166
	SEER with EC or ECH accessory (2)		4.64	4.77	4.74	4.74	4.75	4.78	4.66	4.87	4.86	4.7	4.75	4.72	4.74
	Energy Efficienc with EC or ECH accessory (2)	%	183	188	187	187	187	188	183	192	191	185	187	186	187
Heating STD versions	Heating capacity (3)	kW	272	324	372	428	480	594	721	869	993	1176	---	---	---
	Absorbed power (3)	kW	81	95	113	130	144	177	217	253	302	348	---	---	---
	COP (3)		3.36	3.41	3.29	3.29	3.33	3.36	3.32	3.43	3.29	3.38	---	---	---
Heating STD versions (EN14511)	Heating capacity (3)	kW	273	325	373	430	482	596	723	872	996	1180	---	---	---
	Absorbed power (3)	kW	83	97	116	133	147	181	222	259	309	356	---	---	---
	COP (3)		3.29	3.34	3.23	3.23	3.27	3.29	3.26	3.36	3.22	3.31	---	---	---
	SCOP (4)		3.20	3.32	3.34	3.33	3.32	3.34	3.32	3.36	3.32	3.36	---	---	---
	Energy Efficiency (4)	%	125	130	131	130	130	131	130	131	130	131	---	---	---
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless												
Evaporator	Water flow	l/s	12.57	14.95	17.15	19.73	22.17	27.42	33.25	40.09	45.82	54.28	60.39	66.79	73.24
	Pressure drops	kPa	30	26	49	44	34	28	42	34	39	48	38	46	59
	Water connections	DN	125	125	150	150	150	150	150	200	200	200	250	250	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Max. running current	A	201	237	261	301	337	393	485	580	664	720	922	876	1002
	Max. starting current	A	263	281	337	361	405	504	596	785	827	855	1267	1261	1379
Unit with tank and pump	Pump available static pressure	kPa	130	150	155	140	175	160	165	145	120	160	140	95	180
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	---	---	---	---	---
	Water connections	DN	100	100	100	125	125	150	150	150	200	200	200	200	200
Sound pressure	STD versions (5)	dB(A)	76	76	76	76	77	76	77	77	77	78	79	79	80
	STD versions with SL accessory (5)	dB(A)	73	73	73	73	74	73	74	74	74	75	76	76	77
	SSL versions (5)	dB(A)	66	66	66	65	66	66	67	68	68	69	---	---	---
	MC versions (5)	dB(A)	75	75	75	75	76	75	76	76	76	77	78	78	79
	MC versions with SL accessory (5)	dB(A)	72	72	72	72	73	72	73	73	73	74	75	75	76
	MC/SSL versions (5)	dB(A)	65	65	65	64	65	65	66	67	67	68	---	---	---
Weights	Transport weight (6)	Kg	3562	3609	3708	4207	4782	5202	6496	7430	7484	8773	9640	10380	10800
	Operating weight (6)	Kg	3690	3740	3850	4390	5070	5540	6790	8070	8170	9230	10160	10890	11270

DIMENSIONS			1302	1502	1702	1902	2002	2602	3002	3602	4202	4802	5002	5402	6002
L	STD-MC	mm	4400	4400	5000	5550	6200	6700	8900	11100	11100	11100	13400	13400	13400
	SSL-MC/SSL	mm	5550	5550	5550	6700	8900	8900	11100	11100	11100	13400	---	---	---
	WP	mm	5550	5550	5550	7750	7750	8900	10050	13400	13400	13400	---	---	---
	WP/SSL	mm	7750	7750	7750	8900	10050	10050	13400	13400	13400	---	---	---	---
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	WP-WP/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	---	---	---
H	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	---	---	---
	WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	---	---	---
	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	---	---	---	---

CLEARANCE AREA

CHA/Y/A 1302÷6002

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
6. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

N.B. Data of MC versions are specified on technical brochure.

FROM 221 KW TO 1597 KW.

CHA/Y 1202-B÷6802-B

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

MAXI POWER

CHA/Y 1202-B÷6802-B series liquid Chillers and Heat Pumps, with R134a refrigerant, are designed for large service sector or industrial-type ambients.
They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes. Equipped with axial fans, Screw compressors and shell and tube exchanger, even in the super silent version, they can be completed with a hydraulic circuit with tank, pump, or tank and pump. The use of large condensing coils and high efficiency fans, as well as optimisation of the hydraulic and cooling circuit and the use of latest generation Screw compressors, combined with a adequate sizing of the user system, ensure high operating efficiency with a considerably reduction in energy consumption.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are not compliant to ErP Regulations.

On request, units can be supplied with **R513A** refrigerant **(CHA/J 1202-B÷6802-B).**

VERSION

CHA/Y	***CHA/Y/WP***
Cooling only	Reversible Heat Pump
CHA/Y/SSL	***CHA/Y/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
EW	External water connections
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FX	Antifreeze heater for evaporator and pipes
FB	Antifreeze heater for evaporator/tank
FQ	Antifreeze heater on evaporator/tank and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator/tank, single pump and pipes
FD	Antifreeze heater for evaporator/tank, double pump and pipes
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y 1202-B÷6802-B

MODEL			1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B
Cooling	Cooling capacity (1)	kW	221	262	302	348	393	453	549	684
	Absorbed power (1)	kW	80	88	112	137	156	167	197	231
	EER (1)		2.76	2.98	2.70	2.54	2.52	2.71	2.79	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	220	261	301	347	391	451	547	681
	Absorbed power (1)	kW	81	89	113	139	158	168	199	234
	EER (1)		2.71	2.93	2.67	2.50	2.48	2.68	2.75	2.91
	SEER (2)		3.80	3.88	4.00	4.02	4.04	4.15	4.10	4.10
	Energy Efficiency (2)	%	149	152	157	158	159	163	161	161
Heating	Heating capacity (3)	kW	225	255	289	338	390	457	536	662
	Absorbed power (3)	kW	75	78	91	105	120	138	160	191
	COP (3)		3.00	3.27	3.18	3.22	3.25	3.31	3.35	3.47
Heating (EN14511)	Heating capacity (3)	kW	225	255	289	338	390	457	536	665
	Absorbed power (3)	kW	75	78	91	106	121	143	161	197
	COP (3)		3.00	3.27	3.18	3.19	3.22	3.20	3.33	3.38
	SCOP (4)		3.20	3.21	3.30	3.30	3.49	3.20	3.23	3.49
	Energy Efficiency (4)	%	125	125	129	129	137	125	126	137
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	10.56	12.52	14.43	16.63	18.78	21.64	26.23	32.68
	Pressure drops	kPa	50	49	38	50	53	43	54	57
	Water connections	DN	100	100	125	125	125	125	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	194	194	230	254	286	321	377	421
	Max. starting current	A	256	256	274	330	346	389	488	510
Unit with tank and pump	Pump available static pressure	kPa	135	180	185	160	140	165	135	100
	Tank water volume	l	1100	1100	1100	1100	1100	2000	2000	2000
	Water connections	DN	100	100	100	100	125	125	150	150
Sound pressure	STD version (5)	dB(A)	77	77	77	77	76	76	77	77
	With SL accessory (5)	dB(A)	74	74	74	74	73	73	74	74
	SSL version (5)	dB(A)	67	67	67	66	67	67	67	68
Weights	Transport weight	Kg	2640	2730	2780	2920	3120	3800	4070	5270
	Operating weight	Kg	2740	2820	2920	3060	3250	3930	4330	5500

MODEL			3602-B	4202-B	4802-B	5402-B	6002-B	6302-B	6802-B
Cooling	Cooling capacity (1)	kW	806	954	1089	1218	1347	1475	1597
	Absorbed power (1)	kW	284	334	402	443	494	531	554
	EER (1)		2.84	2.86	2.71	2.75	2.73	2.78	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	803	950	1084	1213	1342	1469	1589
	Absorbed power (1)	kW	287	338	407	448	499	537	562
	EER (1)		2.80	2.82	2.67	2.71	2.69	2.74	2.83
	SEER (2)		4.12	4.13	4.14	4.14	4.15	4.36	4.36
	Energy Efficiency (2)	%	162	162	163	163	163	171	171
Heating	Heating capacity (3)	kW	767	850	1044	1172	1306	1438	---
	Absorbed power (3)	kW	225	260	318	350	395	418	---
	COP (3)		3.41	3.27	3.28	3.35	3.31	3.44	---
Heating (EN14511)	Heating capacity (3)	kW	770	853	1048	1176	1311	1443	---
	Absorbed power (3)	kW	231	266	328	360	406	431	---
	COP (3)		3.33	3.21	3.20	3.27	3.23	3.35	---
	SCOP (4)		-	-	-	-	-	-	---
	Energy Efficiency (4)	%	-	-	-	-	-	-	---
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	38.51	45.58	52.03	58.19	64.36	70.47	76.30
	Pressure drops	kPa	55	53	62	55	55	60	82
	Water connections	DN	200	200	200	200	200	200	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	549	641	705	705	873	896	912
	Max. starting current	A	754	804	840	840	1665	1541	1557
Unit with tank and pump	Pump available static pressure	kPa	130	105	155	135	210	190	150
	Tank water volume	l	2000	2000	---	---	---	---	---
	Water connections	DN	150	200	200	200	200	200	200
Sound pressure	STD version (5)	dB(A)	77	78	78	79	79	80	80
	With SL accessory (5)	dB(A)	74	75	75	76	76	77	77
	SSL version (5)	dB(A)	69	69	70	70	70	70	---
Weights	Transport weight	Kg	5480	6250	7255	7715	8160	8840	10100
	Operating weight	Kg	5770	6600	7710	8150	8700	9380	10620

DIMENSIONS			1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B	3602-B	4202-B	4802-B	5402-B	6002-B	6302-B	6802-B
L	STD	mm	3350	3350	3350	3350	4400	5550	5550	6700	6700	7750	10050	10050	10050	11100	13400
	SSL	mm	3350	3350	3350	4400	4400	5550	6700	7750	7750	10050	10050	11100	13400	13400	---
	WP	mm	4400	4400	4400	4400	5550	6700	6700	7750	7750	8900	12250	12250	13400	13400	---
	WP/SSL	mm	4400	4400	4400	5550	5550	6700	6700	7750	8900	11100	13400	13400	---	---	---
W	STD-SSL-WP-WP/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL-WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	---

CLEARANCE AREA

CHA/Y 1202-B÷6802-B

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 217 KW TO 1460 KW.

CHA/Y/FC 1202-B÷6002-B

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

MAXI POWER

FREE COOLING

The liquid Chillers of the CHA/Y/FC 1202-B÷6002-B series, with R134a refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The models 1202-B÷1702-B are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans). The models 1902-B÷6002-B are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans) and ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant **(CHA/J/FC 1202-B÷6002-B).**

VERSION

CHA/Y/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y/FC 1202-B÷6002-B

ErP SEPR 2021

MODEL			1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B
Cooling	Cooling capacity (1)	kW	217	258	315	375	418	473	569
	Absorbed power (1)	kW	83	97	114	148	157	184	210
	EER (1)		2.61	2.66	2.76	2.53	2.66	2.57	2.71
Cooling (EN14511)	Cooling capacity (1)	kW	215	255	311	371	413	469	565
	Absorbed power (1)	kW	85	100	118	152	162	188	215
	EER (1)		2.53	2.55	2.64	2.44	2.55	2.49	2.63
	SEPR with EC or ECH accessory (2)		5.00	5.04	5.03	5.03	5.30	5.20	5.4
	SEPR with EC or ECH and ID accessory (2)		5.35	5.39	5.38	5.38	5.64	5.57	5.76
Free-Cooling cycle	Air temperature (3)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0	-3.5
	Absorbed power (3)	kW	8	12	12	12	12	16	20
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Water circuit	Water flow	l/s	11.22	13.34	16.29	19.38	21.61	24.45	29.42
	Pressure drops	kPa	125	170	180	168	191	130	115
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	194	201	237	261	293	337	393
	Max. starting current	A	256	263	281	337	353	405	504
Unit with tank and pump	Pump available static pressure	kPa	125	105	130	105	100	140	105
	Tank water volume	l	1100	1100	1100	1100	1100	1100	2000
	Water connections	DN	100	100	100	125	125	125	150
Sound pressure	STD version (4)	dB(A)	75	75	76	76	76	77	77
	With SL accessory (4)	dB(A)	72	72	73	73	73	74	74
Weights	Transport weight (5)	Kg	3250	3320	3620	3805	4180	4510	5310
	Operating weight (5)	Kg	3450	3520	3870	4060	4530	4850	5700

MODEL			3002-B	3602-B	4202-B	4802-B	5402-B	6002-B
Cooling	Cooling capacity (1)	kW	709	847	994	1139	1288	1460
	Absorbed power (1)	kW	263	316	370	434	490	541
	EER (1)		2.70	2.68	2.69	2.62	2.63	2.70
Cooling (EN14511)	Cooling capacity (1)	kW	702	838	984	1126	1272	1436
	Absorbed power (1)	kW	270	325	380	447	507	565
	EER (1)		2.60	2.58	2.59	2.52	2.51	2.54
	SEPR with EC or ECH accessory (2)		5.40	5.20	5.20	5.20	5.30	5.30
	SEPR with EC or ECH and ID accessory (2)		5.74	5.5	5.57	5.5	5.62	5.64
Free-Cooling cycle	Air temperature (3)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9
	Absorbed power (3)	kW	20	22	22	25	29	36
Compressor	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	Stepless					
Water circuit	Water flow	l/s	36.65	43.79	51.38	58.88	66.58	75.47
	Pressure drops	kPa	160	164	160	200	225	300
	Water connections	DN	150	150	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	437	565	649	713	720	896
	Max. starting current	A	526	770	812	848	855	1688
Unit with tank and pump	Pump available static pressure	kPa	115	130	140	170	120	115
	Tank water volume	l	2000	2000	2000	---	---	---
	Water connections	DN	150	150	200	200	200	200
Sound pressure	STD version (4)	dB(A)	77	79	79	79	79	80
	With SL accessory (4)	dB(A)	74	76	76	76	76	77
Weights	Transport weight (5)	Kg	6820	7710	8605	9590	10070	11750
	Operating weight (5)	Kg	7420	8350	9410	10550	10900	12970

DIMENSIONS			1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B	3602-B	4202-B	4802-B	5402-B	6002-B
L	STD	mm	4400	4400	4400	4400	5550	5550	6700	10050	10050	10050	10050	11100	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/Y/FC 1202-B÷6002-B

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
5. Unit without tank and pump.

FROM 262 KW TO 1340 KW.

CHA/TTH 1301-1÷4904-2

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

TURBOLINE

MICROCHANNEL

HFO R1234ze

The innovative CHA/TTH 1301-1÷4904-2 **TURBOLINE** units, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of flooded shell and tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by a dedicated Web page, have access to the Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation.

VERSION

CHA/TTH	***CHA/TTH/MC***
Cooling only	Cooling only with MICROCHANNEL coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermocontacts for fans, interface relay and terminals for external connections.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PU	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FX	Antifreeze heater for evaporator and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTH 1301-1÷4904-2

MODEL			1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2
Cooling STD version	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	76	94	154	191	228	280	377	154	193	381
	EER (1)		3.45	3.56	3.40	3.51	3.41	3.57	3.55	3.40	3.51	3.55
Cooling STD version (EN14511)	Cooling capacity (1)	kW	261	334	522	668	774	997	1336	523	668	1335
	Absorbed power (1)	kW	77	95	156	193	231	283	381	155	195	386
	EER (1)		3.39	3.52	3.35	3.46	3.35	3.52	3.51	3.37	3.46	3.51
	SEER (2)		5.50	5.73	5.52	5.70	5.60	5.88	5.86	5.52	5.70	5.59
	Energy Efficiency (2)	%	217	226	218	225	221	232	232	218	225	221
Cooling MC version	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	72	89	145	181	216	264	356	145	183	360
	EER		3.64	3.76	3.59	3.70	3.60	3.79	3.76	3.59	3.70	3.76
Cooling MC version (EN14511)	Cooling capacity (1)	kW	259	334	518	668	774	997	1336	519	668	1335
	Absorbed power (1)	kW	73	90	147	183	219	267	360	146	185	365
	EER (1)		3.55	3.71	3.52	3.65	3.53	3.73	3.71	3.55	3.65	3.71
	SEER (2)		5.55	5.79	5.58	5.76	5.65	5.94	5.93	5.58	5.76	5.65
	Energy Efficiency (2)	%	219	229	220	227	223	235	234	220	227	223
Compressor	Quantity	n°	1	1	2	2	3	3	4	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	12.52	16.01	25.04	32.01	37.12	47.78	64.02	25.04	32.01	64.02
	Pressure drops	kPa	40	47	47	50	40	43	32	47	50	32
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	173	173	339	347	505	520	678	339	347	678
	Max. starting current	A	25	25	191	199	357	372	530	191	199	530
Unit with pump	Pump available static pressure	kPa	140	120	110	125	105	120	145	110	125	145
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Sound pressure	STD version (3)	dB(A)	70	70	71	71	71	71	72	71	71	72
	MC version (3)	dB(A)	69	69	70	70	70	70	71	70	70	71
Weights	Transport weight	Kg	2610	3000	4050	4460	6050	6820	8100	4290	4700	8400
	Operating weight	Kg	2670	3070	4150	4580	6210	7010	8400	4390	4820	8700

DIMENSIONS			1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2
L	STD/MC	mm	4000	5000	6200	7200	8400	10050	11700	6200	7200	11700
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2500	2500	2500	2100	2100	2500

CLEARANCE AREA

CHA/TTH 1301-1÷4904-2

500	1800	1000	1800

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Data of MC version are specified on technical brochure.

Electrical board side

FROM 279 KW TO 1386 KW.

CHA/TTH/FC 1301-1÷4904-2

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

TURBOLINE

FREE COOLING

HFO R1234ze

The innovative CHA/TTH/FC 1301-1÷4904-2 **TURBOLINE** units, with **HFO-R1234ze** refrigerant and **FREE-COOLING** technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell and tube evaporator, achieves a high rate of energy efficiency, with unequalled SEPR values, with minimum water content, and an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by using a specific Web page, have access to the Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation for process cooling application.

VERSION

CHA/TTH/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermocontacts for fans, interface relay and terminals for external connections.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTH/FC 1301-1÷4904-2

ErP SEPR 2021

MODEL			1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2
Cooling	Cooling capacity (1)	kW	279	348	554	698	837	1040	1386	554	698	1386
	Absorbed power (1)	kW	75	95	160	193	242	283	387	160	193	387
	EER (1)		3.72	3.66	3.46	3.62	3.46	3.67	3.58	3.46	3.62	3.58
Cooling (EN14511)	Cooling capacity (1)	kW	277	345	551	694	831	1031	1366	551	694	1366
	Absorbed power (1)	kW	77	98	163	198	248	292	407	163	198	407
	EER (1)		3.60	3.52	3.38	3.51	3.35	3.53	3.36	3.38	3.51	3.36
	SEPR (2)		7.35	7.30	7.13	7.25	7.42	7.43	7.43	7.13	7.25	7.45
Free-Cooling cycle	Air temperature (3)	°C	3.0	2.5	1.5	-1.0	0.0	0.5	-1.0	1.5	-1.0	-1.0
	Absorbed power (3)	kW	10.8	14.4	21.6	21.6	25.2	32.4	36.0	21.6	21.6	36.0
Compressor	Quantity	n°	1	1	2	2	3	3	4	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless									
Water circuit	Water flow	l/s	14.42	17.98	28.63	36.07	43.26	53.75	71.63	28.63	36.07	71.63
	Pressure drops	kPa	88	103	78	94	101	142	253	78	94	253
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	173	181	347	347	505	520	678	347	347	678
	Max. starting current	A	25	33	199	199	357	372	530	199	199	530
Unit with pump	Pump available static pressure	kPa	140	125	110	180	150	150	160	110	180	160
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Sound pressure (4)		dB(A)	69	70	71	71	71	71	72	71	71	72
Weights	Transport weight	Kg	3620	3730	5560	5640	7890	8910	10800	5740	5820	11000
	Operating weight	Kg	3900	4030	6040	6160	8610	9810	11840	6220	6340	12040

DIMENSIONS			1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2
L	STD	mm	5000	5000	7200	7200	8400	10050	11700	7200	7200	11700
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2750	2750	2750	2360	2360	2750

CLEARANCE AREA

CHA/TTH/FC 1301-1÷4904-2

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at wich the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 248 KW TO 1456 KW.

CHA/TTY 1301-1÷5004-2

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

TURBOLINE

MICROCHANNEL

The innovative CHA/TTY 1301-1÷5004-2 **TURBOLINE** units, with R134a refrigerant, are designed to provide an effective solution to highly selective system needs. Efficiency at partial loads, low inrush currents, an excellent silent functioning, reduced weight and the specific design and handling of every manufacturing aspect make the TURBOLINE series the top unit of the range.
The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of flooded shell and tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by a dedicated Web page, have access to Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(CHA/TTJ 1301-1÷5004-2).**

VERSION

CHA/TTY	***CHA/TTY/MC***
Cooling only	Cooling only with MICROCHANNEL coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermocontacts for fans, interface relay and terminals for external connections.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PU	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FX	Antifreeze heater for evaporator and pipes
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTY 1301-1÷5004-2

MODEL			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1	4002-1	4302-1	4603-1
Cooling STD version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	73	81	97	116	145	185	221	274	311
	EER (1)		3.40	3.48	3.45	3.47	3.51	3.39	3.48	3.39	3.46
Cooling STD version (EN14511)	Cooling capacity (1)	kW	247	281	334	402	507	624	767	925	1072
	Absorbed power (1)	kW	74	82	98	117	147	188	224	278	315
	EER (1)		3.32	3.43	3.40	3.42	3.46	3.33	3.43	3.32	3.41
	SEER (2)		4.88	5.06	5.07	5.18	5.14	5.16	5.34	5.29	5.36
	Energy Efficiency (2)	%	192	199	200	204	203	203	211	209	211
Cooling MC version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	132	163	198	243	281
	EER		3.88	3.86	3.90	3.80	3.86	3.85	3.89	3.82	3.83
Cooling MC version (EN14511)	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	132	163	198	243	281
	EER (1)		3.88	3.86	3.90	3.80	3.86	3.85	3.89	3.82	3.83
	SEER (2)		4.93	5.11	5.12	5.23	5.19	5.22	5.40	5.34	5.41
	Energy Efficiency (2)	%	194	201	202	206	205	206	213	211	213
Compressor	Quantity	n°	1	1	1	1	2	2	2	2	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	11.85	13.47	16.01	19.25	24.32	29.96	36.79	44.39	51.36
	Pressure drops	kPa	64	40	40	35	44	56	46	68	46
	Water connections	DN	100	100	100	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	168	168	168	262	329	337	509	517	763
	Max. starting current	A	25	25	25	33	186	194	280	288	534
Unit with pump	Pump available static pressure	kPa	150	200	195	165	175	145	155	120	170
	Water connections	DN	100	100	100	125	125	150	150	150	150
Sound pressure	STD version (3)	dB(A)	69	69	69	69	70	70	70	69	70
	MC version (3)	dB(A)	68	68	68	68	69	69	69	68	69
Weights	Transport weight	Kg	2440	2440	2770	2790	3685	4020	4055	5710	6460
	Operating weight	Kg	2510	2510	2900	2920	3825	4170	4225	5910	6680

MODEL			4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
Cooling STD version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	362	433	145	185	221	274	309	362	433
	EER (1)		3.48	3.36	3.51	3.39	3.48	3.39	3.48	3.48	3.36
Cooling STD version (EN14511)	Cooling capacity (1)	kW	1256	1450	507	624	767	925	1072	1256	1450
	Absorbed power (1)	kW	366	439	147	188	224	278	312	366	439
	EER (1)		3.43	3.31	3.46	3.33	3.43	3.32	3.43	3.43	3.31
	SEER (2)		5.40	5.25	5.14	5.16	5.34	5.29	5.36	5.4o	5.25
	Energy Efficiency (2)	%	213	207	203	203	211	209	211	213	207
Cooling MC version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
Cooling MC version (EN14511)	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER (1)		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
	SEER (2)		5.46	5.31	5.19	5.22	5.4	5.34	5.41	5.46	5.31
	Energy Efficiency (2)	%	215	209	205	206	213	211	213	215	209
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	60.20	69.56	24.32	29.96	36.79	44.39	51.36	60.20	69.56
	Pressure drops	kPa	50	59	44	56	46	68	41	50	59
	Water connections	DN	200	200	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	658	1002	329	337	509	517	650	658	1002
	Max. starting current	A	515	773	186	194	280	288	507	515	773
Unit with pump	Pump available static pressure	kPa	220	185	175	145	155	120	170	220	185
	Water connections	DN	200	200	125	150	150	150	150	200	200
Sound pressure	STD version (3)	dB(A)	71	71	70	70	70	69	70	71	71
	MC version (3)	dB(A)	70	70	69	69	69	68	69	70	70
Weights	Transport weight	Kg	7430	7640	3700	4250	4270	5820	6690	7570	7850
	Operating weight	Kg	7660	7880	3845	4405	4445	6030	6915	7805	8095

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1	4002-1	4302-1	4603-1	4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
L	STD/MC	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2100	2100	2100	2500	2500	2500	2500

CLEARANCE AREA

CHA/TTY 1301-1÷5004-2

500	1800	1000	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Data of MC version are specified on technical brochure.

FROM 246 KW TO 1443 KW.

CHA/TTY/FC 1301-1÷5004-2

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

TURBOLINE

FREE COOLING

The innovative CHA/TTY/FC 1301-1÷5004-2 **TURBOLINE** units, with R134a refrigerant and FREE-COOLING technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell and tube evaporator, achieves a high rate of energy efficiency, with unequalled SEPR values, with minimum water content, and an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by using a specific Web page, have access to the Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation for process cooling application.

On request, units can be supplied with **R513A** refrigerant **(CHA/TTJ/FC 1301-1÷5004-2).**

VERSION

CHA/TTY/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermocontacts for fans, interface relay and terminals for external connections.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTY/FC 1301-1÷5004-2

ErP SEPR 2021

MODEL			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1	4002-1	4302-1	4603-1
Cooling	Cooling capacity (1)	kW	246	281	333	400	495	588	696	869	1046
	Absorbed power (1)	kW	71	80	94	116	143	171	204	257	307
	EER (1)		3.46	3.51	3.54	3.45	3.46	3.44	3.41	3.38	3.41
Cooling (EN14511)	Cooling capacity (1)	kW	244	279	331	397	491	582	690	861	1033
	Absorbed power (1)	kW	73	82	96	119	147	177	210	265	321
	EER (1)		3.34	3.40	3.45	3.34	3.34	3.29	3.29	3.25	3.22
	SEPR (2)		7.29	7.38	7.07	7.02	7.40	7.19	7.04	7.23	7.04
Free-Cooling cycle	Air temperature (3)	°C	-2.5	0.5	-2.9	0.0	-2.8	-2.3	-0.5	-0.2	1.0
	Absorbed power (3)	kW	10.8	10.8	10.8	14.4	18.0	21.6	21.6	25.2	32.4
Compressor	Quantity	n°	1	1	1	1	2	2	2	2	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Water circuit	Water flow	l/s	12.69	14.50	17.18	20.64	25.54	30.34	35.91	44.84	53.97
	Pressure drops	kPa	92	97	88	105	115	155	125	144	220
	Water connections	DN	100	100	100	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	168	168	168	262	329	337	509	517	763
	Max. starting current	A	25	25	25	33	186	194	280	288	534
Unit with pump	Pump available static pressure	kPa	135	125	115	110	150	140	155	105	160
	Water connections	DN	100	100	100	125	125	150	150	150	150
Sound pressure (4)		dB(A)	68	68	69	69	69	70	70	69	70
Weights	Transport weight	Kg	3040	3200	3600	3700	4620	5150	5500	7700	8800
	Operating weight	Kg	3180	3360	3810	3930	4850	5400	5810	8080	9250

MODEL			4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
Cooling	Cooling capacity (1)	kW	1229	1443	495	588	696	869	981	1229	1443
	Absorbed power (1)	kW	357	425	143	171	204	257	280	357	425
	EER (1)		3.44	3.40	3.46	3.44	3.41	3.38	3.50	3.44	3.40
Cooling (EN14511)	Cooling capacity (1)	kW	1211	1421	491	582	690	861	970	1211	1421
	Absorbed power (1)	kW	375	447	147	177	210	265	291	375	447
	EER (1)		3.23	3.18	3.34	3.29	3.29	3.25	3.33	3.23	3.18
	SEPR (2)		7.23	7.22	7.40	7.19	7.04	7.23	7.04	7.23	7.22
Free-Cooling cycle	Air temperature (3)	°C	1.0	1.0	-2.8	-2.3	-0.5	-0.2	1.5	1.0	1.0
	Absorbed power (3)	kW	36.0	36.0	18.0	21.6	21.6	25.2	32.4	36.0	36.0
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Water circuit	Water flow	l/s	63.42	74.46	25.54	30.34	35.91	44.84	50.62	63.42	74.46
	Pressure drops	kPa	256	275	115	155	125	144	188	256	275
	Water connections	DN	200	200	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	658	1002	329	337	509	517	650	658	1002
	Max. starting current	A	515	773	186	194	280	288	507	515	773
Unit with pump	Pump available static pressure	kPa	205	145	150	140	155	105	200	205	145
	Water connections	DN	200	200	125	150	150	150	150	200	200
Sound pressure (4)		dB(A)	70	70	69	70	70	69	70	70	70
Weights	Transport weight	Kg	10000	10300	4700	5400	5700	7800	9100	10200	10500
	Operating weight	Kg	10480	10790	4930	5650	6010	8180	9550	10680	10990

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1	4002-1	4302-1	4603-1
L	STD	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2750	2750

DIMENSIONS			4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
L	STD	mm	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2750	2750	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/TTY/FC 1301-1÷5004-2

500	1800	1000	1800

NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at wich the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side


CLINT
TURBOLINE

CHAPTER 3

WATERCOOLED & CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION.
REMOTE CONDENSERS

FROM 4,6 KW TO 49 KW.

CWW/K 15÷151

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH ROTARY/ SCROLL COMPRESSOR AND PLATE EXCHANGERS.

AQUA PLUS

The CWW/K 15÷151 liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for small and medium domestic or industrial systems which require medium-low power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while making installation and maintenance operations easier.
These units can be combined with Fan Coil units or with intermediate heat exchangers for process cooling applications.
Equipped with prepainted plate structure, Rotary/Scroll compressor and plate exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in tank and pump version.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

The cooling only units are not compliant to the ErP Regulation. Heat Pump units are compliant to the ErP Regulation.

VERSION

CWW/K	***CWW/K/WP***
Cooling only	Reversible Heat Pump
CWW/K/SP	***CWW/K/WP/SP***
Cooling only with tank and pump	Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Condenser AISI 316 stainless steel braze welded plates type, with pressostatic valve.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
VV	Pressure valve and solenoid valve (for WP versions)

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
AG	Rubber shock absorbers

CWW/K 15÷151

MODEL			15	18	21	25	31	41	51
Cooling	Cooling capacity (1)	kW	4.6	5.8	7.1	8.3	9.6	11.6	14.3
	Absorbed power (1)	kW	1.1	1.4	1.8	2.0	2.3	2.9	3.4
	EER (1)		4.18	4.14	3.94	4.15	4.17	4.00	4.21
Cooling (EN14511)	Cooling capacity (1)	kW	4.6	5.7	7.0	8.2	9.5	11.5	14.2
	Absorbed power (1)	kW	1.2	1.5	2.0	2.2	2.5	3.2	3.7
	EER (1)		3.83	3.70	3.47	3.80	3.78	3.58	3.80
Heating	Heating capacity (2)	kW	5.9	7.2	8.8	10.4	12.5	14.9	17.5
	Absorbed power (2)	kW	1.4	1.7	2.2	2.5	3.0	3.5	4.3
	COP (2)		4.21	4.24	4.00	4.16	4.17	4.26	4.07
Heating (EN14511)	Heating capacity (2)	kW	5.1	6.7	8.4	9.8	11.9	13.7	17.1
	Absorbed power (2)	kW	1.5	1.8	2.5	2.8	3.7	3.9	4.5
	COP (2)		3.38	3.64	3.31	3.51	3.25	3.56	3.81
	SCOP (3)		4.20	4.15	3.85	4.18	4.31	4.38	4.34
	Energy Efficiency (3)	%	160	158	146	159	164	167	166
	Energy Class (4)		A++	A++	A+	A++	A++	A++	A++
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.22	0.28	0.34	0.40	0.46	0.55	0.68
	Pressure drops	kPa	21	30	44	26	30	45	42
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.07	0.09	0.11	0.12	0.14	0.17	0.21
	Pressure drops	kPa	3	4	5	6	8	10	5
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit SP version	Water flow	l/s	0.22	0.28	0.34	0.40	0.46	0.55	0.68
	Pump available static pressure	kPa	40	33	38	55	50	35	128
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (5)	dB(A)	39	39	39	39	41	43	43
Weights	Transport weight (6)	Kg	77	78	80	84	87	90	93
	Operating weight (6)	Kg	78	79	81	85	88	91	95

MODEL			61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	17.1	20.0	23.0	27.7	33.6	39.7	49.2
	Absorbed power (1)	kW	4.1	4.8	5.5	6.8	7.9	9.3	11.5
	EER (1)		4.17	4.17	4.18	4.07	4.25	4.27	4.28
Cooling (EN14511)	Cooling capacity (1)	kW	17.0	19.8	22.8	27.5	33.3	39.4	48.8
	Absorbed power (1)	kW	4.4	5.2	6.0	7.4	8.7	10.1	12.1
	EER (1)		3.86	3.79	3.79	3.72	3.83	3.92	4.03
Heating	Heating capacity (2)	kW	20.8	24.3	28.4	33.8	39.8	47.0	59.5
	Absorbed power (2)	kW	5.4	6.1	7.0	8.2	10.1	11.7	14.4
	COP (2)		3.85	3.98	4.06	4.12	3.94	4.02	4.13
Heating (EN14511)	Heating capacity (2)	kW	19.7	22.5	26.3	31.8	37.9	44.5	56.4
	Absorbed power (2)	kW	5.6	6.3	7.2	8.9	10.8	12.4	15.2
	COP (2)		3.50	3.59	3.67	3.56	3.50	3.58	3.71
	SCOP (3)		3.95	4.05	4.05	4.31	3.94	4.18	4.28
	Energy Efficiency (3)	%	150	154	154	164	150	159	163
	Energy Class (4)		A+	A++	A++	A++	A+	A++	A++
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pressure drops	kPa	29	40	47	48	60	49	54
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.25	0.30	0.34	0.41	0.50	0.58	0.73
	Pressure drops	kPa	8	10	13	20	21	22	22
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit SP version	Water flow	l/s	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pump available static pressure	kPa	131	100	93	187	160	131	155
	Tank water volume	l	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (5)	dB(A)	44	45	47	49	49	50	50
Weights	Transport weight (6)	Kg	96	98	100	190	198	204	218
	Operating weight (6)	Kg	98	100	102	193	201	207	221

DIMENSIONS			15	18	21	25	31	41	51	61	71	81	91	101	131	151
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

CWW/K 15÷151

200	500	800	500

CWW/K/SP 91÷151

500	800	800	800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 15 to 35 °C.
2. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
3. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4. Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
6. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

FROM 55 KW TO 195 KW.

CWW/K 182-P÷604-P

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

AQUA PLUS

The CWW/K 182-P÷604-P liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium-sized domestic or industrial systems which require medium power, space-saving units and quiet operation. This range is ideal for indoor installation and, equipped with a self-contained structure, it reduces the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. These units are used to remove the heat developed during industrial processes or, combined with Fan Coil units, for the air conditioning of the rooms. They can be supplied with Modbus RTU protocol through RS485 serial interface. Equipped with polyester powder plate painting structure, Scroll compressors and plate-type exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in the version with tank and pump; and a series of accessories, factory fitted or supplied separately, like desuperheater and total heat recovery, rounds off the variety of equipment in this product range.

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CWW/G 182-P÷604-P)** or **R454B (CWW/L 182-P÷604-P)** refrigerant.

VERSION

CWW/K	***CWW/K/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

CWW/K 182-P÷604-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	55.4	62.5	72.1	82.5	97.2	112	130	149	170	195
	Absorbed power (1)	kW	12.8	14.3	16.6	18.7	21.8	25.7	28.5	32.8	37.7	43.7
	EER (1)		4.33	4.37	4.34	4.41	4.46	4.36	4.56	4.54	4.51	4.46
Cooling (EN14511)	Cooling capacity (1)	kW	55.0	62.1	71.6	82.0	96.7	111	129	148	169	194
	Absorbed power (1)	kW	13.6	15.3	17.6	19.9	22.9	27.3	29.9	34.3	39.3	45.6
	EER (1)		4.04	4.06	4.06	4.13	4.22	4.08	4.33	4.32	4.31	4.26
	SEER (2)		5.28	5.21	5.22	5.21	5.64	5.20	5.72	6.17	5.78	6.16
	Energy Efficiency (2)	%	203	200	201	200	218	200	221	239	223	238
Heating	Heating capacity (3)	kW	72.5	80.1	93.3	105	121	140	159	180	205	237
	Absorbed power (3)	kW	18.0	20.0	23.2	25.7	28.8	33.2	38.4	42.7	51.7	56.7
	COP		4.03	4.01	4.02	4.09	4.20	4.22	4.14	4.22	3.97	4.18
Heating (EN14511)	Heating capacity (3)	kW	72.8	80.6	93.4	105	122	141	159	180	205	237
	Absorbed power (3)	kW	18.3	20.5	23.3	26.1	29.4	33.9	38.5	42.8	51.8	56.9
	COP (3)		3.98	3.94	4.01	4.04	4.14	4.15	4.13	4.21	3.96	4.17
	SCOP (4)		4.29	4.03	4.77	5.15	5.11	5.05	5.37	5.31	4.76	4.76
	Energy Efficiency (4)	%	164	153	183	198	196	194	207	204	182	182
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.65	2.99	3.44	3.94	4.64	5.38	6.23	7.14	8.12	9.33
	Pressure drops	kPa	54	48	49	51	44	57	53	59	49	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Condenser	Water flow	l/s	3.26	3.67	4.24	4.84	5.69	6.60	7.59	8.71	9.92	11.41
	Pressure drops	kPa	47	51	52	43	46	54	36	39	43	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	100	100	90	130	115	120	105	75	110	65
	Tank water volume	l	300	300	300	300	300	300	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (5)	dB(A)	59	59	60	60	62	61	61	63	64	64
	With SL accessory (5)	dB(A)	56	56	57	57	59	58	58	60	61	61
Weights	Transport weight (6)	Kg	384	393	411	423	453	622	658	681	767	803
	Operating weight (6)	Kg	390	400	420	435	470	640	680	705	790	830

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
UNIT + SPU/SPD	L	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREA

CWW/K 182-P÷604-P

0	300	800	300

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
6. Unit without tank and pump.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 57 KW TO 196 KW.

CWW/K 182÷604

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

AQUA PLUS

The CWW/K 182÷604 liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium-sized domestic or industrial systems which require medium power, space-saving units and quiet operation. This range is ideal for indoor installation and, equipped with a self-contained structure, it reduces the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. These units are used to remove the heat developed during industrial processes or, combined with Fan Coil units, for the air conditioning of the rooms. They can be supplied with Modbus RTU protocol through RS485 serial interface. Equipped with Scroll compressors and shell and tube exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in the version with tank and pump; a series of accessories, factory fitted or supplied separately, like desuperheater and total heat recovery, rounds off the variety of equipment in this product range.

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CWW/G 182÷604)** or **R454B (CWW/L 182÷604)** refrigerant.

VERSION

CWW/K	***CWW/K/WP***
Cooling only	Reversible Heat Pump
CWW/K/SSL	***CWW/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with one circuit on the refrigerant side and one on the water side in 182÷453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182÷453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
HR	Desuperheater
HRT	Total heat recovery
SP	Inertial tank
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/K 182÷604

MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	57.0	62.6	70.9	82.9	98.3	111	129	151	172	196
	Absorbed power (1)	kW	13.2	14.3	16.4	18.9	22.0	25.7	28.2	33.1	38.2	44.1
	EER (1)		4.32	4.38	4.32	4.39	4.47	4.32	4.57	4.56	4.50	4.44
Cooling (EN14511)	Cooling capacity (1)	kW	56.7	62.2	70.4	82.2	97.6	110	128	150	171	195
	Absorbed power (1)	kW	13.7	14.9	17.2	19.9	23.1	26.9	29.4	34.5	39.7	45.7
	EER (1)		4.14	4.17	4.10	4.14	4.23	4.10	4.36	4.36	4.31	4.27
	SEER (2)		5.21	5.22	5.21	5.22	5.71	5.22	5.74	6.21	5.83	6.19
	Energy Efficiency (2)	%	200	201	200	201	220	201	222	240	225	240
Heating	Heating capacity (3)	kW	74.6	80.3	91.7	106	122	139	158	182	208	238
	Absorbed power (3)	kW	18.6	20.0	22.9	26.0	29.1	33.2	38.0	43.1	52.3	57.3
	COP		4.01	4.02	4.00	4.08	4.19	4.19	4.16	4.22	3.98	4.15
Heating (EN14511)	Heating capacity (3)	kW	75.1	80.9	92.5	106	123	140	159	183	210	239
	Absorbed power (3)	kW	19.3	20.9	24.0	27.1	30.6	34.8	39.6	44.8	54.4	59.4
	COP (3)		3.89	3.88	3.86	3.92	4.03	4.03	4.02	4.08	3.85	4.03
	SCOP (4)		4.16	4.39	4.39	4.53	4.62	4.57	4.85	4.64	4.72	4.84
	Energy Efficiency (4)	%	158	168	168	173	177	175	186	178	181	186
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°			2				3		4	
Evaporator	Water flow	l/s	2.72	2.99	3.39	3.96	4.70	5.30	6.16	7.21	8.22	9.36
	Pressure drops	kPa	32	42	55	74	62	55	57	49	63	49
	Water connections	"G	1 ½"	1 ½"	2"	2"	2"	2 ½"	2 ½"	3"	3"	3"
Condenser	Water flow	l/s	3.35	3.67	4.17	4.86	5.75	6.53	7.51	8.80	10.04	11.47
	Pressure drops	kPa	15	17	18	20	27	33	23	30	20	27
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	150	145	130	140	110	165	165	140	135	105
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (5)	dB(A)	59	59	61	60	62	62	63	65	65	65
	With SL accessory (5)	dB(A)	56	56	58	57	58	59	60	62	62	62
	SSL version (5)	dB(A)	54	54	56	56	57	57	59	60	60	60
Weights	Transport weight (6)	Kg	465	470	478	488	504	590	606	657	840	856
	Operating weight (6)	Kg	495	500	510	520	540	630	650	710	900	920

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD/SSL	mm	2100	2100	2300	2100	2700	2400	2400	2400	2400	2600
W	STD/SSL	mm	830	830	830	830	830	830	830	830	830	830
H	STD/SSL	mm	1300	1300	1300	1300	1300	1300	1300	1300	1450	1450

CLEARANCE AREA

CWW/K 182÷604

500	500	800	1500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
6. Unit without tank and pump.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 4,0 KW TO 42 KW.

MEA/K 15÷151

CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS WITH ROTARY/ SCROLL COMPRESSOR AND PLATE EXCHANGER.

AQUA PLUS

The liquid Chillers and Heat Pumps for remote condensation of the MEA/K 15÷151 series, with R410A refrigerant, are designed for domestic or service sector systems which require medium power, space-saving units and quiet operation. Combined with remote condenser, these units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Equipped with prepainted plate structure, Rotary/Scroll compressor and plate-type exchanger, these units have cooling and hydraulic circuits designed for quick installation and high energy efficiency, even in the version with tank and pump.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MEA/K	***MEA/K/WP***
Cooling only	Reversible Heat Pump
MEA/K/SP	***MEA/K/WP/SP***
Cooling only with tank and pump	Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
PS	Single circulating pump
RL	Liquid receiver
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
AG	Rubber shock absorbers

MEA/K 15÷151

MODEL			15	18	21	25	31	41	51
Cooling	Cooling capacity (1)	kW	4.0	5.1	6.2	7.3	8.5	10.1	12.1
	Absorbed power (1)	kW	1.4	1.8	2.1	3.0	3.3	3.7	3.3
Heating	Heating capacity (2)	kW	5.1	6.4	8.2	9.4	10.7	13.2	15.5
	Absorbed power (2)	kW	1.5	1.9	2.4	2.7	3.0	4.2	4.5
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.19	0.24	0.30	0.35	0.41	0.48	0.58
	Pressure drops	kPa	15	15	20	18	20	25	35
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	12	12	12	12	12	12	16
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit SP version	Water flow	l/s	0.19	0.24	0.30	0.35	0.41	0.48	0.58
	Pump available static pressure	kPa	50	45	75	70	70	60	180
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	39	39	39	39	41	43	43
Weights	Transport weight (4)	Kg	74	75	77	81	84	87	86
	Operating weight (4)	Kg	75	76	78	82	85	88	88

MODEL			61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	14.5	17.0	20.0	24.1	28.8	33.9	41.5
	Absorbed power (1)	kW	5.2	6.0	7.1	7.8	9.3	10.9	13.3
Heating	Heating capacity (2)	kW	18.5	22.0	25.9	30.4	36.4	43.0	53.2
	Absorbed power (2)	kW	5.5	6.5	7.7	8.3	10.1	11.7	14.2
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pressure drops	kPa	28	35	39	40	45	40	40
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	16	16	16	22	22	22	22
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit SP version	Water flow	l/s	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pump available static pressure	kPa	170	140	110	215	130	155	235
	Tank water volume	l	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	44	45	47	49	49	50	50
Weights	Transport weight (4)	Kg	89	91	93	183	189	195	206
	Operating weight (4)	Kg	91	93	95	186	192	198	209

DIMENSIONS			15	18	21	25	31	41	51	61	71	81	91	101	131	151
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

MEA/K 15÷151

200	500	800	500

MEA/K/SP 91÷151

500	800	800	800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Heated water from 40 to 45 °C, evaporating temperature 0 °C.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of WP versions are specified on technical brochure.

FROM 51 KW TO 176 KW.

MEA/K 182-P÷604-P

CONDENSERLESS LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGER.

AQUA PLUS

MEA/K 182-P÷604-P series liquid Chillers and Heat Pumps for remote condensation, with R410A refrigerant, are designed to meet the needs of residential or industrial-type systems requiring high power together with space-saving and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, minimise overall dimensions while also facilitating installation and maintenance operations. Equipped with polyester plate powder painting structure, Scroll compressors and plate-type exchanger they have refrigerant and hydraulic circuits, even in the version with tank, with pump or tank and pump, complete with everything necessary for quick installation operations and for high energy efficiencies. A number of accessories, factory fitted or supplied separately, such as the desuperheater or the total heat recovery, enhance and complete the equipment of this range.

VERSION

MEA/K	***MEA/K/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 182-P÷453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AM	Spring shock absorbers

MEA/K 182-P÷604-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	50.8	57.1	64.3	73.6	87.1	98.8	114	134	149	176
	Absorbed power (1)	kW	15.4	17.3	19.0	21.6	25.8	29.4	32.9	38.7	43.5	51.5
Heating	Heating capacity (2)	kW	59.5	65.8	74.3	84.7	96.5	107	122	148	157	194
	Absorbed power (2)	kW	18.0	20.0	22.3	24.7	27.8	32.8	37.2	41.1	50.8	56.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.43	2.73	3.07	3.52	4.16	4.72	5.42	6.41	7.10	8.41
	Pressure drops	kPa	47	42	41	42	40	48	44	51	41	40
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Connections	Delivery line	Ø mm	28	28	28	28	28	28	28	28	2 x 28	2 x 28
	Liquid line	Ø mm	22	22	22	22	22	22	22	22	2 x 22	2 x 22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	105	110	100	135	120	130	120	110	120	100
	Tank water volume	l	300	300	300	300	300	300	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (3)	dB(A)	59	59	60	60	62	61	61	63	64	64
	With SL accessory (3)	dB(A)	56	56	57	57	59	58	58	60	61	61
Weights	Transport weight (4)	Kg	347	357	376	386	397	562	581	595	669	708
	Operating weight (4)	Kg	350	360	380	390	405	570	590	605	680	720

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
UNIT + SPU/SPD	L	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREA

MEA/K 182-P÷604-P

0	300	800	300

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Heated water from 40 to 45 °C, evaporating temperature 0 °C.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

RCA/K 4111÷8222

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the RCA/K series are designed to be combined with evaporating units with R410A refrigerant (MEA/K).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCA/K

Base unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/K	15	18	21	25	31	41	51	61	71	81
RCA/K	4111	4111	4111	4111	4111	4112	5111	5111	5112	5113

MEA/K	91	101	131	151						
RCA/K	6111	6112	6113	5121						

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K	6114	6121	6122	6123	6124	6125	6131	6132	8221	8222

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

RCA/K 4111÷8222

MODEL			4111	4112	5111	5112	5113	5121	6111	6112	6113	6114
Fan	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Connections	In	Ø mm	22	28	22	28	28	35	28	28	28	35
	Out	Ø mm	18	18	18	18	18	28	22	22	22	28
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3/50							
	Absorbed power	kW	0.22	0.22	0.83	0.83	0.83	1.90	0.63	1.90	1.90	1.90
	Absorbed current	A	0.97	0.97	1.45	1.45	1.45	3.2	1.25	3.20	3.20	3.20
Sound pressure	STD version (1)	dB(A)	43	43	51	51	51	58	46	58	58	58
Weights	Transport weight	Kg	89	89	89	94	94	169	158	158	158	178
	Operating weight	Kg	90	91	90	96	96	174	161	163	164	184

MODEL			6121	6122	6123	6124	6125	6131	6132	8221	8222
Fan	Quantity	n°	2	2	2	2	2	3	3	4	4
Connections	In	Ø mm	35	42	35	42	42	42	54	2x35	2x35
	Out	Ø mm	28	35	28	35	35	35	35	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	1.26	1.26	3.80	3.80	3.80	5.70	5.70	5.76	7.20
	Absorbed current	A	2.50	2.50	6.40	6.40	6.40	9.60	9.60	11.60	15.20
Sound pressure	STD version (1)	dB(A)	48	48	60	60	60	62	62	54	55
Weights	Transport weight	Kg	178	198	178	198	218	304	322	555	555
	Operating weight	Kg	184	207	184	207	230	313	336	573	569

DIMENSIONS			4111	4112	5111	5112	5113	5121	6111	6112	6113	6114	6121	6122	6123	6124	6125	6131	6132	8221	8222
L	STD	mm	1130	1130	1130	1130	1130	1910	1490	1490	1490	1490	2630	2630	2630	2630	2630	3770	3770	3230	3230
W	STD	mm	900	900	900	900	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	STD	mm	980	980	980	980	980	990	990	990	990	990	990	990	990	990	990	990	990	1565	1565

CLEARANCE AREA

RCA/K 4111÷8222

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCA/K/SL 4111÷8222

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the RCA/K/SL series are designed to be combined with evaporating units with R410A refrigerant (MEA/K).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCA/K/SL

Silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/K	15	18	21	25	31	41	51	61	71	81
RCA/K/SL	4111	4111	4111	4112	4113	5111	5112	5113	5121	6111

MEA/K	91	101	131	151						
RCA/K/SL	6111	6111	6112	6120						

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/SL	6121	6122	6123	6124	6131	6132	6133	6134	8221	8222

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed control

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

RCA/K/SL 4111÷8222

MODEL			4111	4112	4113	5111	5112	5113	5121	6111	6112	6120
Fan	Quantity	n°	1	1	1	1	1	1	2	1	1	2
Connections	In	Ø mm	22	22	22	22	22	28	28	35	35	28
	Out	Ø mm	18	18	18	18	18	18	22	28	28	22
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50				400/3/50					
	Absorbed power	kW	0.22	0.22	0.22	0.22	0.55	0.55	0.55	1.35	1.35	1.15
	Absorbed current	A	0.97	0.97	0.97	0.97	0.97	0.97	0.97	2.20	2.20	2.20
Sound pressure	SL version (1)	dB(A)	43	43	43	43	43	43	43	52	52	42
Weights	Transport weight	Kg	89	89	89	89	89	94	99	158	169	215
	Operating weight	Kg	90	91	92	90	90	96	105	161	174	221

MODEL			6121	6122	6123	6124	6131	6132	6133	6134	8221	8222
Fan	Quantity	n°	2	2	2	2	3	3	3	3	4	4
Connections	In	Ø mm	35	42	35	42	42	42	54	54	2x35	2x42
	Out	Ø mm	28	35	28	35	35	35	35	35	2x28	2x35
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Absorbed power	kW	0.88	0.88	2.70	2.70	1.89	4.05	4.05	4.05	4.60	4.60
	Absorbed current	A	1.46	1.46	4.40	4.40	3.75	6.60	6.60	6.60	8.80	8.80
Sound pressure	SL version (1)	dB(A)	43	43	54	54	50	56	56	56	48	48
Weights	Transport weight	Kg	178	198	178	198	304	304	322	351	555	603
	Operating weight	Kg	184	207	184	207	313	313	336	369	569	625

DIMENSIONS			4111	4112	4113	5111	5112	5113	5121	6111	6112	6120
L	SL	mm	1130	1130	1130	1130	1130	1130	1910	1490	1490	2630
W	SL	mm	900	900	900	900	900	900	900	1260	1260	1260
H	SL	mm	980	980	980	980	980	980	980	990	990	990

DIMENSIONS			6121	6122	6123	6124	6131	6132	6133	6134	8221	8222
L	SL	mm	2630	2630	2630	2630	3770	3770	3770	3770	3230	3230
W	SL	mm	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	SL	mm	990	990	990	990	990	990	990	990	1565	1565

CLEARANCE AREA

RCA/K/SL 4111÷8222

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCA/K/SSL 5111÷8222

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the RCA/K/SSL series are designed to be combined with evaporating units with R410A refrigerant (MEA/K).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCA/K/SSL

Super silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/K	15	18	21	25	31	41	51	61	71	81
RCA/K/SSL	5111	5111	5111	5111	5111	5112	6111	6111	6111	6111

MEA/K	91	101	131	151						
RCA/K/SSL	6112	6121	6121	6121						

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/SSL	6124	6131	6132	6133	6141	8121	8131	8132	8221	8222

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

RCA/K/SSL 5111÷8222

MODEL			5111	5112	6111	6112	6121	6124	6131	6132
Fan	Quantity	n°	1	1	1	1	2	2	3	3
Connections	In	Ø mm	22	28	28	35	35	42	42	42
	Out	Ø mm	18	18	22	28	28	35	35	35
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3/50					
	Absorbed power	kW	0.13	0.94	0.24	0.24	0.47	0.47	0.42	0.71
	Absorbed current	A	0.59	1.60	0.55	0.55	1.10	1.10	0.81	1.65
Sound pressure	SSL version (1)	dB(A)	34	22	41	41	43	43	39	45
Weights	Transport weight	Kg	48	79	158	178	178	198	304	304
	Operating weight	Kg	49	81	161	181	184	207	313	313

MODEL			6133	6141	8121	8131	8132	8221	8222
Fan	Quantity	n°	3	4	2	3	3	4	4
Connections	In	Ø mm	54	35	42	42	54	2x35	2x35
	Out	Ø mm	35	28	35	35	42	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Absorbed power	kW	0.71	0.94	1.78	2.67	2.67	3.56	3.56
	Absorbed current	A	1.65	2.20	4.44	6.66	6.66	8.88	8.88
Sound pressure	SSL version (1)	dB(A)	45	46	46	48	48	49	49
Weights	Transport weight	Kg	322	407	434	545	586	555	603
	Operating weight	Kg	336	419	450	557	604	569	625

DIMENSIONS			5111	5112	6111	6112	6121	6124	6131	6132	6133	6141	8121	8131	8132	8221	8222
L	SSL	mm	1130	1130	1490	1490	2630	2630	3770	3770	3770	4910	3230	4580	4580	3230	3230
W	SSL	mm	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1380	1380	1380	2400	2400
H	SSL	mm	980	980	990	990	990	990	990	990	990	990	1565	1565	1565	1565	1565

CLEARANCE AREA

RCA/K/SSL 5111÷8222

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

FROM 224 KW TO 1242 KW.

CWW/K 726-P÷36012-P

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

multi power

The CWW/K 726-P÷36012-P series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of a high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

The units 726-P÷1128-P are compliant to the ErP Regulation; the units 1208-P÷36012-P are not compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CWW/G 726-P÷36012-P)** or **R454B (CWW/L 726-P÷36012-P)** refrigerant.

VERSION

CWW/K	***CWW/K/WP***
Cooling only	Reversible Heat Pump
CWW/K/SSL	***CWW/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048-P÷36012-P models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
DS	Desuperheater
RT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

CWW/K 726-P÷36012-P

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
Cooling	Cooling capacity (1)	kW	224	250	274	308	345	383	422	462	509
	Absorbed power (1)	kW	52	57	63	70	78	86	95	104	115
	EER (1)		4.31	4.39	4.35	4.40	4.42	4.45	4.44	4.44	4.43
Cooling (EN14511)	Cooling capacity (1)	kW	223	249	273	307	343	382	420	460	507
	Absorbed power (1)	kW	55	60	66	74	82	90	99	109	121
	EER (1)		4.08	4.16	4.11	4.17	4.20	4.26	4.23	4.21	4.20
	ESEER		5.16	5.27	5.25	5.45	5.26	5.51	5.57	5.23	5.57
	EUROVENT Class		D	D	D	D	D	C	D	D	D
	SEER (2)		5.27	5.52	5.56	5.87	5.61	5.99	6.08	6.08	6.14
	Energy Efficiency (2)	%	203	213	214	227	216	232	235	235	238
Heating	Heating capacity (3)	kW	290	320	349	394	437	484	534	584	640
	Absorbed power (3)	kW	66	74	80	88	101	111	119	135	144
	COP (3)		4.39	4.32	4.36	4.48	4.33	4.36	4.49	4.33	4.44
Heating (EN14511)	Heating capacity (3)	kW	291	321	350	396	438	485	536	585	642
	Absorbed power (3)	kW	68	78	81	90	102	112	121	136	146
	COP (3)		4.31	4.14	4.30	4.41	4.29	4.33	4.44	4.29	4.39
	EUROVENT Class		D	D	D	C	D	D	C	D	C
	SCOP (4)		5.23	5.36	5.49	5.50	5.77	5.71	5.78	5.78	5.74
	Energy Efficiency (4)	%	201	206	212	212	223	220	223	223	222
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	10.70	11.94	13.09	14.72	16.48	18.30	20.16	22.07	24.32
	Pressure drops	kPa	54	51	56	56	60	47	52	60	57
	Water connections	DN	80	80	80	80	80	80	80	80	80
Condenser	Water flow	l/s	13.19	14.67	16.10	18.06	20.21	22.41	24.70	27.04	29.81
	Pressure drops	kPa	70	74	81	76	67	59	65	75	76
	Water connections	DN	80	80	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	136	151	163	176	201	218	234	251	293
	Max. starting current	A	261	284	331	344	334	385	402	384	461
Sound pressure	STD version (5)	dB(A)	62	64	65	65	65	66	66	66	67
	With SL accessory (5)	dB(A)	58	60	61	61	61	62	62	62	63
	SSL version (5)	dB(A)	55	56	57	57	57	58	58	58	59
Weights	Transport weight	Kg	1047	1103	1123	1159	1352	1422	1442	1642	1730
	Operating weight	Kg	1080	1140	1160	1200	1400	1480	1500	1700	1800

MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
Cooling	Cooling capacity (1)	kW	562	622	696	786	895	1015	1129	1242
	Absorbed power (1)	kW	129	144	157	176	204	230	261	287
	EER (1)		4.36	4.32	4.43	4.47	4.39	4.41	4.33	4.33
Cooling (EN14511)	Cooling capacity (1)	kW	559	619	693	783	891	1011	1124	1236
	Absorbed power (1)	kW	135	151	164	183	213	239	273	301
	EER (1)		4.13	4.11	4.24	4.29	4.18	4.22	4.12	4.11
	ESEER		5.30	5.38	4.56	4.70	4.39	4.49	4.26	4.10
	EUROVENT Class		D	D	D	C	D	D	D	D
	SEER (2)		5.95	5.96	5.91	6.22	6.08	6.16	6.03	6.03
	Energy Efficiency (2)	%	230	230	228	241	235	238	233	233
Heating	Heating capacity (3)	kW	710	783	874	986	1113	1255	1391	1531
	Absorbed power (3)	kW	164	181	203	224	259	289	321	357
	COP (3)		4.33	4.33	4.31	4.40	4.30	4.34	4.33	4.29
Heating (EN14511)	Heating capacity (3)	kW	713	787	875	987	1114	1257	1393	1533
	Absorbed power (3)	kW	167	185	204	225	260	291	323	359
	COP (3)		4.28	4.26	4.29	4.39	4.28	4.32	4.31	4.27
	EUROVENT Class		D	D	D	C	D	D	D	D
	SCOP (4)		-	-	-	-	-	-	-	-
	Energy Efficiency (4)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	26.85	29.72	33.25	37.55	42.76	48.49	53.94	59.34
	Pressure drops	kPa	70	59	60	53	66	61	70	79
	Water connections	DN	80	80	150	150	150	150	150	150
Condenser	Water flow	l/s	33.01	36.60	40.75	45.98	52.51	59.48	66.41	73.05
	Pressure drops	kPa	70	77	60	53	65	61	70	78
	Water connections	DN	80	80	150	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	326	352	399	454	506	559	629	699
	Max. starting current	A	494	519	576	631	720	773	891	961
Sound pressure	STD version (5)	dB(A)	67	68	71	72	73	73	74	74
	With SL accessory (5)	dB(A)	63	63	67	68	69	69	70	70
	SSL version (5)	dB(A)	59	59	63	64	65	65	66	66
Weights	Transport weight	Kg	1930	1968	2806	2884	3184	3558	3658	3708
	Operating weight	Kg	2000	2050	2900	3000	3300	3700	3800	3850

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD/SSL	mm	2500	2500	2500	2500	3000	3000	3000	3550	3550	4000	4000	4650	4650	4650	4650	4650	4650
W	STD/SSL	mm	800	800	800	800	800	800	800	800	800	800	800	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

CWW/K 726-P÷36012-P

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 225 KW TO 1254 KW.

CWW/K 726÷36012

WATERCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

multi power

The CWW/K 726÷36012 series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of a high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

The units 726-P÷1128-P are compliant to the ErP Regulation; the units 1208-P÷36012-P are not compliant to the ErP Regulation.

On request, units can be supplied with **R452B (CWW/G 726÷36012)** or **R454B (CWW/L 726÷36012)** refrigerant.

VERSION

CWW/K	***CWW/K/WP***
Cooling only	Reversible Heat Pump
CWW/K/SSL	***CWW/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048÷36012 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/K 726÷36012

MODEL			726	786	826	906	1048	1128	1208	13010	15010
Cooling	Cooling capacity (1)	kW	225	248	271	302	343	375	422	464	511
	Absorbed power (1)	kW	53	57	64	72	79	88	94	107	117
	EER (1)		4.25	4.35	4.23	4.19	4.34	4.26	4.49	4.34	4.37
Cooling (EN14511)	Cooling capacity (1)	kW	225	248	271	302	343	375	422	464	511
	Absorbed power (1)	kW	53	57	64	72	79	88	94	107	117
	EER (1)		4.25	4.35	4.23	4.19	4.34	4.26	4.49	4.34	4.37
	ESEER		5.22	5.30	5.40	5.46	5.38	5.50	5.92	5.35	5.71
	EUROVENT Class		D	C	D	D	C	C	C	C	C
	SEER (2)		5.31	5.52	5.52	5.67	5.58	5.81	6.26	6.03	6.19
	Energy Efficiency (2)	%	204	213	213	219	215	224	242	233	240
Heating	Heating capacity (3)	kW	291	317	345	386	434	474	534	586	642
	Absorbed power (3)	kW	67	74	81	91	102	113	118	139	147
	COP (3)		4.34	4.28	4.26	4.24	4.25	4.19	4.53	4.22	4.37
Heating (EN14511)	Heating capacity (3)	kW	293	319	346	387	436	476	536	589	644
	Absorbed power (3)	kW	69	77	83	93	105	116	121	143	151
	COP (3)		4.25	4.14	4.17	4.16	4.15	4.10	4.43	4.12	4.26
	EUROVENT Class		B	C	B	B	C	C	B	C	B
	SCOP (4)		4.93	5.20	5.13	4.97	5.26	5.04	5.28	5.31	5.16
	Energy Efficiency (4)	%	189	200	197	191	202	194	203	204	198
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	10.75	11.85	12.95	14.43	16.39	17.92	20.16	22.17	24.41
	Pressure drops	kPa	38	38	24	27	31	25	25	36	31
	Water connections	DN	125	125	150	150	150	150	150	150	150
Condenser	Water flow	l/s	13.28	14.57	16.01	17.87	20.16	22.12	24.65	27.28	30.00
	Pressure drops	kPa	31	28	31	36	35	36	31	35	44
	Water connections	DN	65	65	65	65	65	65	65	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	136	151	163	176	201	218	234	251	293
	Max. starting current	A	261	284	331	344	334	385	402	384	461
Sound pressure	STD version (5)	dB(A)	62	64	65	65	65	66	66	66	67
	With SL accessory (5)	dB(A)	58	60	61	61	61	62	62	62	63
	SSL version (5)	dB(A)	55	56	57	57	57	58	58	58	59
Weights	Transport weight	Kg	1370	1399	1544	1554	1819	2024	2076	2449	2493
	Operating weight	Kg	1470	1500	1680	1690	1950	2230	2280	2650	2700

MODEL			16812	18012	21012	24012	27012	30012	33012	36012
Cooling	Cooling capacity (1)	kW	579	628	710	801	913	1035	1152	1254
	Absorbed power (1)	kW	132	146	159	181	208	233	264	290
	EER (1)		4.39	4.30	4.47	4.43	4.39	4.44	4.36	4.32
Cooling (EN14511)	Cooling capacity (1)	kW	579	628	710	801	913	1035	1152	1254
	Absorbed power (1)	kW	132	146	160	182	208	233	265	291
	EER (1)		4.39	4.30	4.44	4.40	4.39	4.44	4.35	4.31
	ESEER		5.59	5.61	5.81	5.28	5.19	4.96	5.08	4.97
	EUROVENT Class		C	C	C	C	C	C	C	C
	SEER (2)		6.11	6.04	6.02	6.25	6.22	6.29	6.22	6.16
	Energy Efficiency (2)	%	236	234	233	242	241	244	241	238
Heating	Heating capacity (3)	kW	731	791	891	1005	1135	1280	1419	1546
	Absorbed power (3)	kW	168	183	206	231	264	292	325	361
	COP (3)		4.35	4.32	4.33	4.35	4.30	4.38	4.37	4.28
Heating (EN14511)	Heating capacity (3)	kW	734	794	894	1009	1140	1287	1425	1554
	Absorbed power (3)	kW	173	189	212	238	273	303	335	373
	COP (3)		4.24	4.20	4.22	4.24	4.18	4.25	4.25	4.17
	EUROVENT Class		B	B	B	B	B	B	B	B
	SCOP (4)		-	-	-	-	-	-	-	-
	Energy Efficiency (4)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	27.66	30.00	33.92	38.27	43.62	49.45	55.04	59.91
	Pressure drops	kPa	34	34	27	38	38	59	45	53
	Water connections	DN	150	150	150	150	200	200	200	200
Condenser	Water flow	l/s	33.97	36.98	41.52	46.92	53.56	60.58	67.65	73.77
	Pressure drops	kPa	42	47	49	43	55	30	35	40
	Water connections	DN	80	80	80	80	80	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	326	352	399	454	506	559	629	699
	Max. starting current	A	494	519	576	631	720	773	891	961
Sound pressure	STD version (5)	dB(A)	67	68	71	72	73	73	74	74
	With SL accessory (5)	dB(A)	63	63	67	68	69	69	70	70
	SSL version (5)	dB(A)	59	59	63	64	65	65	66	66
Weights	Transport weight	Kg	2728	2863	3568	3446	3772	4300	4370	4440
	Operating weight	Kg	2960	3160	3950	3800	4110	4650	4720	4790

DIMENSIONS			726	786	826	906	1048	1128	1208	13010	15010	16812	18012	21012	24012	27012	30012	33012	36012
L	STD/SSL	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3300	3300	3300	4000	4000	4000	4000	4000
W	STD/SSL	mm	800	800	800	800	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

CWW/K 726÷36012

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, water temperature at the evaporator from 15 to 10 °C.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 86 KW TO 189 KW.

CWW/H/A 351-P÷901-P

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGERS.

NEW

MAXI POWER

INVERTER SCREW

HFO R1234ze

The liquid Chillers of the CWW/H/A 351-P÷901-P series, with A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
Equipped with latest generation Screw compressor and plate exchangers, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one compressor is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The units are compliant to the ErP 2021 Regulation.

VERSION

CWW/H/A	*CWW/H/A/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature kit
RT	Total heat recovery
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
IQ	Inverter on one compressor
SS	Soft start
DP	Device for heat pump operation
HTW	Device for high temperature hot water production.
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers

CWW/H/A 351-P÷901-P

MODEL			351-P	601-P	801-P	901-P
Cooling	Cooling capacity (1)	kW	86.4	115	152	189
	Absorbed power (1)	kW	16.8	21.7	28.9	35.2
	EER (1)		5.14	5.30	5.26	5.37
Cooling (EN14511)	Cooling capacity (1)	kW	86.3	115	152	189
	Absorbed power (1)	kW	17.0	22.0	29.3	36.0
	EER (1)		5.08	5.23	5.19	5.25
	SEER (2)		5.51	5.49	5.55	5.60
	Energy Efficiency (2)	%	212	212	214	214
Compressor	Quantity	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Evaporator	Water flow	l/s	4.13	5.49	7.26	9.03
	Pressure drops	kPa	13	14	13	15
	Water connections	"G	2 ½"	2 ½"	3"	3"
Condenser	Water flow	l/s	4.93	6.52	8.60	10.66
	Pressure drops	kPa	12	11	12	19
	Water connections	"G	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	93	92	122	141
	Max. starting current	A	172	183	268	317
Unit with tank and pump	Pump available static pressure	kPa	165	125	125	80
	Tank water volume	l	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	3"	3"
Sound pressure	STD version (3)	dB(A)	74	75	75	76
	SSL version (3)	dB(A)	70	71	71	72
Weights	Transport weight (4)	Kg	922	1189	1390	1506
	Operating weight (4)	Kg	960	1280	1490	1610

DIMENSIONS			351-P	601-P	801-P	901-P
L	UNIT	mm	2800	2800	2800	2800
	UNIT + SPU/SPD	mm	3910	3910	3910	3910
W	UNIT	mm	730	730	730	730
	UNIT + SPU/SPD	mm	730	730	730	730
H	UNIT	mm	1620	1620	1620	1620
	UNIT + SPU/SPD	mm	1620	1620	1620	1620

CLEARANCE AREA

CWW/H/A 351-P÷901-P

0	300	800	300

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 234 KW TO 1650 KW.

CWW/H/A 1002÷6002

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

MAXI POWER

INVERTER SCREW

HFO R1234ze

The liquid Chillers of the CWW/H/A 1002÷6002 series, with A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one Screw compressor or both is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The models 1002÷1402 are compliant to the ErP 2021 Regulation. The models 1602÷6002 are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with ID accessory (Inverter on all compressors).

VERSION

CWW/H/A	CWW/H/A/SSL
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each cooling circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
DP	Device for heat pump operation
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/H/A 1002÷6002

MODEL			1002	1202	1402	1602	1802	2202	2502
Cooling	Cooling capacity (1)	kW	234	310	375	437	488	558	655
	Absorbed power (1)	kW	44	57	66	80	89	100	117
	EER (1)		5.32	5.44	5.68	5.46	5.48	5.58	5.60
Cooling (EN14511)	Cooling capacity (1)	kW	233	309	373	436	487	557	653
	Absorbed power (1)	kW	45	59	68	83	92	103	121
	EER (1)		5.18	5.23	5.46	5.27	5.32	5.39	5.42
	SEER (2)		5.68	5.84	5.93	5.88	5.90	5.91	5.95
	Energy Efficiency (2)	%	219	226	229	227	228	228	230
	SEER with ID accessory (2)		6.53	6.71	6.81	6.76	6.79	6.80	6.84
	Energy Efficiency with ID accessory (2)	%	253	260	264	262	264	264	266
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	11.18	14.81	17.92	20.88	23.32	26.66	31.29
	Pressure drops	kPa	36	37	42	39	32	31	35
	Water connections	DN	125	150	150	150	200	200	200
Condenser	Water flow	l/s	13.28	17.53	21.07	24.70	27.57	31.44	36.88
	Pressure drops	kPa	17	28	34	36	36	35	32
	Water connections	DN	80	80	80	80	80	80	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	144	190	220	260	290	334	384
	Max. starting current	A	199	257	318	373	420	504	492
Sound pressure	STD version (3)	dB(A)	76	76	76	76	76	76	76
	SSL version (3)	dB(A)	72	72	72	72	72	72	72
Weights	Transport weight	Kg	2140	2445	2640	2860	3090	3230	4180
	Operating weight	Kg	2300	2660	2840	3100	3420	3550	4590

MODEL			2802	3302	3602	4602	4802	5402	6002
Cooling	Cooling capacity (1)	kW	736	868	980	1160	1278	1475	1650
	Absorbed power (1)	kW	131	154	174	222	242	275	304
	EER (1)		5.62	5.64	5.63	5.23	5.28	5.36	5.43
Cooling (EN14511)	Cooling capacity (1)	kW	734	866	977	1157	1274	1469	1644
	Absorbed power (1)	kW	135	159	180	229	250	285	314
	EER (1)		5.42	5.45	5.44	5.06	5.10	5.16	5.23
	SEER (2)		6.02	6.11	6.07	6.14	6.21	6.33	6.33
	Energy Efficiency (2)	%	233	236	235	238	240	245	245
	SEER with ID accessory (2)		6.92	7.02	6.98	7.06	7.14	7.28	7.28
	Energy Efficiency with ID accessory (2)	%	269	273	271	274	278	283	283
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	35.16	41.47	46.82	55.42	61.06	70.47	78.83
	Pressure drops	kPa	45	39	38	39	49	57	54
	Water connections	DN	200	200	250	250	250	250	250
Condenser	Water flow	l/s	41.42	48.83	55.14	66.03	72.62	83.61	93.36
	Pressure drops	kPa	34	37	37	37	37	35	32
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	436	489	549	701	761	873	961
	Max. starting current	A	576	692	782	1144	1174	1372	1416
Sound pressure	STD version (3)	dB(A)	77	78	79	80	80	81	82
	SSL version (3)	dB(A)	73	74	75	76	76	77	78
Weights	Transport weight	Kg	4560	5205	5670	6950	7080	9060	10050
	Operating weight	Kg	5110	5880	6470	7220	7880	10030	11230

DIMENSIONS			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802	5402	6002
L	STD/SSL	mm	3700	3700	3700	3800	3900	3900	3900	4900	4900	4900	5300	5300	5550	5550
W	STD	mm	1000	1100	1100	1150	1200	1200	1200	1200	1300	1300	1400	1400	2000	2000
	SSL	mm	1200	1250	1250	1350	1350	1350	1400	1400	1450	1450	1550	1550	2150	2150
H	STD	mm	1800	1800	1900	1950	2000	2050	2150	2150	2250	2300	2450	2450	2500	2550
	SSL	mm	1800	1950	2050	2100	2150	2200	2300	2300	2400	2450	2600	2600	2650	2700

CLEARANCE AREA

CWW/H/A 1002÷6002

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

FROM 280 KW TO 1289 KW.

CWW/Y/A 1302÷4802

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS.

MAXI POWER

INVERTER SCREW

The A CLASS liquid Chillers of the CWW/Y/A 1302÷4802 series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power. These units are characterized by an high efficiency (EER) and are equipped with latest generation Screw compressors, flooded shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler. Furthermore, they have a series of accessories which are factory fitted or supplied separately such as desuperheater, total heat recovery and, if neccessary, a device for operating a Heat Pump. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. The units can be equipped with Inverter control on one or on both the Screw compressors, to significantly reduce the inrush current of the unit. The solution with double Inverter allows, in addition to the above described, to increase the power efficiency of the unit in the same size, adapting to the different needs and solutions.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(CWW/J/A 1302÷4802).**

VERSION

CWW/Y/A	***CWW/Y/A/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with suction filter, oil sight glass, thermal protection and stepless capacity steps. Oil separator and crankcase heater installed on cooling circuit.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
DP	Device for heat pump operation
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/Y/A 1302÷4802

MODEL			1302	1502	1702	1902	2002	2602	2802	3002	3602	4202	4802
Cooling	Cooling capacity (1)	kW	280	341	392	448	507	626	711	792	961	1126	1289
	Absorbed power (1)	kW	50	60	69	79	88	108	121	132	160	188	217
	EER (1)		5.60	5.68	5.68	5.67	5.76	5.80	5.88	6.00	6.01	5.99	5.94
Cooling (EN14511)	Cooling capacity (1)	kW	279	340	391	446	505	623	708	789	957	1122	1284
	Absorbed power (1)	kW	51	61	70	81	90	111	124	135	164	192	222
	EER (1)		5.47	5.57	5.59	5.51	5.61	5.61	5.71	5.84	5.84	5.84	5.78
	SEER (2)		7.03	7.20	7.25	7.11	7.27	7.34	7.46	7.63	7.66	7.67	7.62
	Energy Efficiency (2)	%	273	280	282	276	283	286	290	297	298	299	297
Cooling *	Cooling capacity (1)	kW	329	401	459	527	595	734	833	928	1125	1319	1510
	Absorbed power (1)	kW	60	73	84	96	107	131	148	161	194	228	263
	EER (1)		5.48	5.49	5.46	5.49	5.56	5.60	5.63	5.76	5.80	5.79	5.74
Cooling * (EN14511)	Cooling capacity (1)	kW	328	399	458	524	592	730	828	923	1119	1312	1502
	Absorbed power (1)	kW	61	75	85	99	110	135	153	166	200	235	271
	EER (1)		5.38	5.32	5.39	5.29	5.38	5.41	5.41	5.56	5.60	5.58	5.54
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless										
Evaporator	Water flow	l/s	13.38	16.29	18.73	21.40	24.22	29.91	33.97	37.84	45.91	53.80	61.59
	Pressure drops	kPa	28	32	26	60	54	57	57	54	56	57	61
	Water connections	DN	100	100	100	125	125	125	125	150	150	150	150
Condenser	Water flow	l/s	15.77	19.16	22.03	25.18	28.43	35.07	39.75	44.15	53.56	62.78	71.95
	Pressure drops	kPa	46	39	42	62	52	60	62	65	58	58	59
	Water connections	DN	80	100	100	100	125	125	125	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	178	214	238	270	292	354	398	438	456	536	622
	Max. starting current	A	240	258	314	330	434	465	487	549	558	598	775
Sound pressure	STD version (3)	dB(A)	76	76	77	77	77	77	77	79	79	80	80
	SSL version (3)	dB(A)	72	72	73	73	73	73	73	75	75	76	76
Weights	Transport weight	Kg	2690	2830	2913	3215	3602	3980	4210	4745	5210	5675	6500
	Operating weight	Kg	2750	2900	3000	3500	3700	4100	4350	4900	5400	5900	6750

DIMENSIONS			1302	1502	1702	1902	2002	2602	2802	3002	3602	4202	4802
L	STD/SSL	mm	3700	3700	3700	4200	4200	4200	4200	4200	4200	4500	4600
W	STD/SSL	mm	1300	1300	1300	1400	1400	1400	1400	1400	1600	1600	1600
H	STD/SSL	mm	2100	2100	2100	2200	2200	2200	2200	2200	2250	2250	2250

CLEARANCE AREA

CWW/Y/A 1302÷4802

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

* Unit provided with Inverter on both compressors.

Electrical board side

FROM 250 KW TO 2143 KW.

CWW/Y/A 1002-T÷7202-T

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

NEW

MAXI POWER

INVERTER SCREW

The liquid Chillers of the CWW/Y/A 1002-T÷7202-T series, with A CLASS energy efficiency and R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one Screw compressor or both is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(CWW/J/A 1002-T÷7202-T).**

VERSION

CWW/Y/A	*CWW/Y/A/SSL*
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each cooling circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
DP	Device for heat pump operation
HTW	Device for high temperature hot water production.
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/Y/A 1002-T÷7202-T

MODEL			1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T
Cooling	Cooling capacity (1)	kW	250	307	359	427	499	572	675	783
	Absorbed power (1)	kW	46.2	58.1	65.4	78.1	85.0	101	121	137
	EER (1)		5.41	5.28	5.49	5.47	5.87	5.66	5.58	5,72
Cooling (EN14511)	Cooling capacity (1)	kW	250	307	359	427	499	571	674	782
	Absorbed power (1)	kW	47.6	60.0	67.7	80.7	88.4	104	125	142
	EER (1)		5.25	5.12	5.30	5.29	5.64	5.49	5.39	5.51
	SEER (2)		6.35	6.55	6.71	6.68	6.87	6.87	6.98	6.87
	Energy Efficiency (2)	%	246	254	260	259	267	267	271	267
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	11.94	14.67	17.15	20.40	23.84	27.33	32.25	37.41
	Pressure drops	kPa	43	37	40	39	34	38	38	52
	Water connections	DN	125	150	150	150	200	200	200	200
Condenser	Water flow	l/s	14.15	17.44	20.28	24.13	27.90	32.15	38.03	43.96
	Pressure drops	kPa	19	27	32	35	37	37	34	40
	Water connections	DN	80	80	80	80	80	80	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	184	182	210	240	278	306	392	444
	Max. starting current	A	200	218	245	282	347	383	471	559
Sound pressure	STD version (3)	dB(A)	75	75	75	75	76	76	76	76
	SSL version (3)	dB(A)	71	71	71	71	72	72	72	72
Weights	Transport weight	Kg	1983	2254	2423	2625	2943	3039	3715	4079
	Operating weight	Kg	2140	2460	2620	2860	3260	3350	4110	4610

MODEL			3302-T	3602-T	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T
Cooling	Cooling capacity (1)	kW	901	1040	1183	1342	1497	1662	1902	2143
	Absorbed power (1)	kW	157	182	205	235	255	293	355	374
	EER (1)		5.74	5.71	5.77	5.71	5.87	5,67	5.36	5.73
Cooling (EN14511)	Cooling capacity (1)	kW	901	1039	1182	1341	1496	1661	1901	2142
	Absorbed power (1)	kW	163	188	212	243	265	301	366	387
	EER (1)		5.53	5.53	5.58	5.52	5.65	5.52	5.19	5.53
	SEER (2)		6.99	7.07	7.23	7.21	7.29	7.22	7.12	7.12
	Energy Efficiency (2)	%	272	275	281	280	284	281	277	277
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	43,05	49.69	56.52	64.12	71.52	79.41	90.87	102
	Pressure drops	kPa	43	44	42	52	59	40	50	49
	Water connections	DN	200	250	250	250	250	250	250	300
Condenser	Water flow	l/s	50.55	58.38	66.32	75.35	83.71	93.41	108	120
	Pressure drops	kPa	39	41	37	40	35	32	42	41
	Water connections	DN	100	100	125	125	125	125	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	528	590	672	770	730	804	1296	1464
	Max. starting current	A	564	653	784	893	912	992	1583	1667
Sound pressure	STD version (3)	dB(A)	77	77	77	78	79	79	81	82
	SSL version (3)	dB(A)	73	73	73	74	75	75	77	78
Weights	Transport weight	Kg	4862	5259	6070	6315	7843	8263	9713	10308
	Operating weight	Kg	5520	6040	6820	7110	8790	9250	10700	11470

DIMENSIONS			1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T	3302-T	3602-T	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T
L	STD/SSL	mm	3700	3700	3700	3800	3900	3900	3900	4900	4900	4900	5300	5300	5550	5550	5550	5550
W	STD	mm	1000	1100	1100	1150	1200	1200	1200	1200	1300	1300	1400	1400	2000	2000	2000	2000
	SSL	mm	1200	1250	1250	1350	1350	1350	1400	1400	1450	1450	1550	1550	2150	2150	2150	2150
H	STD	mm	1800	1800	1900	1950	2000	2050	2150	2150	2250	2300	2450	2450	2500	2550	2550	2550
	SSL	mm	1800	1950	2050	2100	2150	2200	2300	2300	2400	2450	2600	2600	2650	2700	2700	2700

CLEARANCE AREA

CWW/Y/A 1002-T÷7202-T

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

FROM 267 KW TO 2349 KW.

CWW/Y 1302-B÷9002-B

WATERCOOLED LIQUID CHILLERS WITH SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

NEW

The liquid Chillers of the CWW/Y 1302-B÷9002-B series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units can also be produced in super silent versions. Furthermore, they have a series of accessories which are factory fitted or supplied separately such as heat recovery in series or in parallel, soft start and, if necessary, a device for operating a Heat Pump. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation.

The models 1302-B÷1702-B are compliant to the ErP 2021 Regulation. The models 1902-B÷9002-B are compliant to the ErP 2021 Regulation with ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant **(CWW/J 1302-B÷9002-B).**

VERSION

CWW/Y	***CWW/Y/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations. Each cooling circuit is supplied with an independent condenser. Water connections for cooling tower and Dry-Cooler operation; on request for well water.
- Shell and tube type evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
DP	Device for heat pump operation
HTW	Device for high temperature hot water production.
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
PV3	3-Way electronic pressostatic valve
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/Y 1302-B÷9002-B

MODEL			1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B
Cooling	Cooling capacity (1)	kW	267	323	374	426	488	577	660	750	892
	Absorbed power (1)	kW	57	69	80	90	99	123	136	150	182
	EER (1)		4.68	4.68	4.68	4.73	4.93	4.69	4.85	5.00	4.90
Cooling (EN14511)	Cooling capacity (1)	kW	266	322	372	424	486	574	657	747	889
	Absorbed power (1)	kW	59	72	83	94	103	128	142	157	189
	EER (1)		4.47	4.48	4.46	4.51	4.74	4.48	4.62	4.77	4.70
	SEER (2)		5.66	5.71	5.71	5.95	6.11	5.93	5.95	6.15	6.07
	Energy Efficiency (2)	%	218	220	220	230	236	229	230	238	235
	SEER with ID accessory (2)		6.23	6.28	6.28	6.55	6.54	6.52	6.55	6.58	6.56
	Energy Efficiency with ID accessory (2)	%	241	243	243	254	254	253	254	255	254
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	12.76	15.43	17.87	20.35	23.32	27.57	31.53	35.83	42.62
	Pressure drops	kPa	51	43	55	60	48	61	67	66	47
	Water connections	DN	100	125	125	125	125	150	150	150	200
Condenser	Water flow	l/s	15.48	18.71	21.67	24.67	28.00	33.43	38.00	42.99	51.32
	Pressure drops	kPa	43	49	51	47	36	52	48	45	57
	Water connections	DN	65	65	65	65	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (3)	dB(A)	76	76	76	76	76	76	76	77	78
	SSL version (3)	dB(A)	72	72	72	72	72	72	72	73	74
Weights	Transport weight	Kg	2124	2183	2309	2340	2973	3121	3174	4274	4613
	Operating weight	Kg	2240	2350	2480	2510	3160	3440	3490	4580	5050

MODEL			4202-B	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B
Cooling	Cooling capacity (1)	kW	1049	1159	1286	1438	1612	1753	1922	2116	2349
	Absorbed power (1)	kW	210	234	256	287	323	350	383	425	475
	EER (1)		5.00	4.95	5.02	5.01	4.99	5.01	5.02	4.98	4.95
Cooling (EN14511)	Cooling capacity (1)	kW	1045	1155	1281	1432	1604	1744	1913	2107	2333
	Absorbed power (1)	kW	219	244	269	299	339	367	403	444	502
	EER (1)		4.78	4.73	4.77	4.79	4.73	4.75	4.75	4.75	4.65
	SEER (2)		6.24	6.13	6.2	6.37	6.45	6.45	6.33	6.33	6.33
	Energy Efficiency (2)	%	242	237	240	247	250	250	245	245	245
	SEER with ID accessory (2)		6.68	6.68	6.76	6.82	7.10	7.10	7.03	7.03	7.03
	Energy Efficiency with ID accessory (2)	%	259	259	262	265	276	276	273	273	273
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	50.12	55.37	61.44	68.70	77.02	83.75	91.83	101,10	112,23
	Pressure drops	kPa	62	51	59	65	81	74	70	60	107
	Water connections	DN	200	200	200	200	200	250	250	250	250
Condenser	Water flow	l/s	60.17	66.55	73.67	82.42	92.45	100,48	110,13	121,40	134,92
	Pressure drops	kPa	49	66	77	66	63	63	73	67	57
	Water connections	DN	100	100	100	100	125	125	125	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	801	863	1032	1144
	Max. starting current	A	765	765	793	1610	1479	1013	1045	1129	1365
Sound pressure	STD version (3)	dB(A)	79	80	80	81	82	82	83	84	85
	SSL version (3)	dB(A)	75	76	76	77	78	78	79	80	81
Weights	Transport weight	Kg	4645	4650	5360	5440	6000	6630	8040	8100	9150
	Operating weight	Kg	5100	5220	5940	6100	6690	7380	8940	9050	10170

DIMENSIONS			1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B
L	STD/SSL	mm	3550	3550	3300	3300	3300	3500	3500	3600	3600
W	STD/SSL	mm	800	800	1400	1400	1400	1450	1450	1650	1650
H	STD/SSL	mm	2000	2000	2150	2150	2150	2150	2150	2150	2150

DIMENSIONS			4202-B	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B
L	STD/SSL	mm	3600	4800	4800	5200	5200	5500	5500	5500	5500
W	STD/SSL	mm	1650	1800	1800	1800	1800	2250	2250	2250	2250
H	STD/SSL	mm	2150	2150	2150	2150	2150	2200	2200	2200	2200

CLEARANCE AREA

CWW/Y 1302-B÷9002-B

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

FROM 235 KW TO 2060 KW.

MEA/Y 1302-B÷9002-B

CONDENSERLESS LIQUID CHILLERS WITH SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

NEW

MAXI POWER

The liquid Chillers for remote condensation of MEA/Y 1302-B÷9002-B series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems which require high power with continual refrigerant delivery, space-saving units and quiet operation. Combined with the remote condenser, these units are ideal for indoor installation and, equipped with a self-supporting structure that sustains the main components, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Equipped with latest generation Screw compressors and shell and tube exchanger, these units can also be produced in a super silent version. They have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency. A series of accessories, factory fitted or supplied separately, rounds off the variety of equipment in this product range.

On request, units can be supplied for **R513A** refrigerant **(MEA/J 1302-B÷9002-B).**

VERSION

MEA/Y	***MEA/Y/SSL***
Cooling only	Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Shell and tube type evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
BT	Low water temperature Kit
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MEA/Y 1302-B÷9002-B

MODEL			1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B
Cooling	Cooling capacity (1)	kW	235	279	325	375	424	526	599	672	778
	Absorbed power (1)	kW	73	85	103	118	133	158	176	193	228
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	11.23	13.33	15.53	17.92	20.26	25.13	28.62	32.11	37.17
	Pressure drops	kPa	49	34	39	41	34	50	48	55	51
	Water connections	DN	100	125	125	125	125	150	150	150	150
Connections	Delivery line	Ø mm	2 x 42	2 x 42	2 x 54	2 x 54	2 x 54	2 x 64	2 x 64	2 x 76	2 x 76
	Liquid line	Ø mm	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 42	2 x 42	2 x 42	2 x 54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (2)	dB(A)	76	76	76	76	76	76	76	77	78
	SSL version (2)	dB(A)	72	72	72	72	72	72	72	73	74
Weights	Transport weight	Kg	1480	1820	1840	1860	1900	2420	2540	2590	3190
	Operating weight	Kg	1570	1960	1990	2010	2040	2680	2820	2850	3460

MODEL			4202-B	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B
Cooling	Cooling capacity (1)	kW	905	1015	1140	1282	1433	1535	1681	1833	2060
	Absorbed power (1)	kW	262	296	327	364	417	447	483	528	599
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	43.24	48.49	54.47	61.25	68.47	73.34	80.31	87.58	98.42
	Pressure drops	kPa	57	55	56	52	69	75	54	62	86
	Water connections	DN	150	200	200	200	200	250	250	250	250
Connections	Delivery line	Ø mm	2 x 76	2 x 76	2 x 89	2 x 89	2 x 89	2x89	2x89	2x108	2x108
	Liquid line	Ø mm	2 x 54	2 x 54	2 x 54	2 x 54	2 x 54	2x54	2x64	2x64	2x64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	801	863	1032	1144
	Max. starting current	A	765	765	793	1610	1479	1013	1045	1129	1365
Sound pressure	STD version (2)	dB(A)	79	80	80	81	82	82	83	84	85
	SSL version (2)	dB(A)	75	76	76	77	78	78	79	80	81
Weights	Transport weight	Kg	3225	3525	4445	4530	4600	4830	5690	6925	7280
	Operating weight	Kg	3480	3980	4980	5040	5100	5420	6390	7660	7980

DIMENSIONS			1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B
L	STD/SSL	mm	3300	3300	3700	3700	3700	3800	4000	4000	4300
W	STD	mm	800	800	800	800	800	1080	1080	1080	1080
	SSL	mm	800	800	800	800	800	1080	1080	1080	1080
H	STD	mm	1700	1700	1700	1700	1700	1700	2100	2100	2100
	SSL	mm	1700	1700	1700	1700	1700	1700	2100	2100	2100

DIMENSIONS			4202-B	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B
L	STD/SSL	mm	4300	4300	5100	5100	5100	6000	6000	6000	6000
W	STD	mm	1080	1080	1080	1080	1080	1400	1400	1400	1400
	SSL	mm	1080	1080	1080	1080	1080	1450	1450	1500	1500
H	STD	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

MEA/Y 1302-B÷9002-B

500	500	800	500

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, condensing temperature 50 °C.
2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL version are specified on technical brochure.

RCA/Y 8141÷9282

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the RCA/Y series are designed to be combined with evaporating units with R134a refrigerant (MEA/Y).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

On request, units can be supplied for **R513A** refrigerant **(RCA/J 8141÷9282).**

VERSION

RCA/Y

Base unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/Y	8141	8151	8161	8171	8172	8251	8261	8271	8281	8282

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/J	8141	8151	8161	8171	8172	8251	8261	8271	8281	8282

MEA/Y	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/Y	9272	9273	9281	9282	2x8272	2x8281	2x8282	2x9272		

MEA/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/J	9272	9273	9281	9282	2x8272	2x8281	2x8282	2x9272		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed control

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

RCA/Y 8141÷9282

MODEL			8141	8151	8161	8171	8172	8251	8252	8261	8262
Fan	Quantity	n°	4	5	6	7	7	10	10	12	12
Connections	In	Ø mm	2X64	2X64	2X76	2X76	2X76	2X64	2X64	2X76	2X76
	Out	Ø mm	2x42	2x42	2x42	2x54	2x54	2x42	2x42	2x42	2x42
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	7.20	9.00	10.80	12.60	12.60	18.00	68.40	21.60	21.60
	Absorbed current	A	15.20	19.00	22.80	26.60	26.60	38.00	38.00	45.60	45.60
Sound pressure	STD version (1)	dB(A)	55	56	57	56	56	59	59	59	59
Weights	Transport weight	Kg	822	1016	1210	1302	1404	1590	1467	1754	1902
	Operating weight	Kg	854	1055	1282	1366	1489	1660	1521	1854	2033

MODEL			8271	8272	8281	8282	9272	9273	9281	9282
Fan	Quantity	n°	14	14	16	16	14	14	16	16
Connections	In	Ø mm	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76
	Out	Ø mm	2x54	2x54	2x54	2x54	2X64	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	25.20	25.20	28.80	28.80	34.30	34.30	39.20	57.60
	Absorbed current	A	53.20	53.20	60.80	60.80	72.80	72.80	83.20	115.20
Sound pressure	STD version (1)	dB(A)	59	59	60	60	63	63	64	70
Weights	Transport weight	Kg	2043	2214	2331	2528	3971	4218	4769	4769
	Operating weight	Kg	2196	2367	2463	2702	4102	4369	4940	4940

DIMENSIONS			8141	8151	8161	8171	8172	8251	8252	8261	8262	8271	8272	8281	8282	9272	9273	9281	9282
L	STD	mm	5930	7280	8630	9980	9980	7280	7280	8630	8630	9980	9980	11330	11330	9240	9240	10490	10490
W	STD	mm	1380	1380	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	STD	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	2260	2260	2260	2260

CLEARANCE AREA

RCA/Y 8141÷8282

RCA/Y 9261÷9282

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCA/Y/SL 8231÷9282

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The Remote aircooled Condensers with axial fans of the RCA/Y/SL series are designed to be combined with evaporating units with R134a refrigerant (MEA/Y).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

On request, units can be supplied for **R513A** refrigerant **(RCA/J/SL 8231÷9282).**

VERSION

RCA/Y/SL

Silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/Y/SL	8231	8232	8241	8242	8251	8261	8271	8281	9261	9271

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/J/SL	8231	8232	8241	8242	8251	8261	8271	8281	9261	9271

MEA/Y	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/Y/SL	9281	9282	2x8272	2x8282	2x9252	2x9261	2x9271	2x9281		

MEA/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/J/SL	9281	9282	2x8272	2x8282	2x9252	2x9261	2x9271	2x9281		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

RCA/Y/SL 8231÷9282

MODEL			8231	8232	8241	8242	8251	8261	8271	8272	8281
Fan	Quantity	n°	6	6	8	8	10	12	14	14	16
Connections	In	Ø mm	2x54	2x54	2x54	2x54	2X64	2X76	2X76	2X76	2X76
	Out	Ø mm	2x42	2x42	2x35	2x42	2x42	2x42	2x54	2x54	2x54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	6.90	6.90	9.20	9.20	11.50	13.80	16.10	16.10	18.40
	Absorbed current	A	13.20	13.20	17.60	17.60	22.00	26.40	30.80	30.80	35.20
Sound pressure	SL version (1)	dB(A)	50	50	51	51	52	52	52	52	53
Weights	Transport weight	Kg	891	965	1179	1278	1467	1754	2043	2214	2331
	Operating weight	Kg	924	1008	1222	1334	1521	1854	2160	2367	2463

MODEL			8282	9171	9172	9251	9252	9261	9271	9281	9282
Fan	Quantity	n°	16	7	7	10	10	12	14	16	16
Connections	In	Ø mm	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76	2X76
	Out	Ø mm	2x54	2x54	2x54	2x54	2x54	2x54	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	18.40	10.92	10.92	15.60	15.60	18.72	21.84	24.96	38.40
	Absorbed current	A	35.20	20.30	20.30	29.00	29.00	34.80	40.60	46.40	65.60
Sound pressure	SL version (1)	dB(A)	53	53	53	55	55	56	56	57	65
Weights	Transport weight	Kg	2528	2097	2283	2942	3117	3668	4218	4769	4769
	Operating weight	Kg	2702	2183	2396	3027	3227	3799	4369	4940	4940

DIMENSIONS			8231	8232	8241	8242	8251	8261	8271	8272	8281	8282	9171	9172	9251	9252	9261	9271	9281	9282
L	SL	mm	4580	4580	5930	5930	7280	8630	9980	9980	11330	11330	10275	10275	6740	6740	7990	9240	10490	10490
W	SL	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	1170	1170	2400	2400	2400	2400	2400	2400
H	SL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1805	1805	2260	2260	2260	2260	2260	2260

CLEARANCE AREA

RCA/Y/SL 8231÷8282

RCA/Y/SL 9171÷9282

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCA/Y/SSL 8151÷9281

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

The remote aircooled Condensers with axial fans of the RCA/Y/SSL series are designed to be combined with evaporating units with R134a refrigerant (MEA/Y).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

On request, units can be supplied for **R513A** refrigerant **(RCA/J/SSL 8151÷9281).**

VERSION

RCA/Y/SSL

Super silenced unit

FEATURES

- Frame in oven painted with a polyurethane resin and galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger is made with corrugated tubes with a greater heat exchange surface, fins cut with a special louver configuration to give the best external coefficient of heat exchange.

COMBINATIONS

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/Y/SSL	8151	8161	8171	8251	8251	8261	8272	8282	9271	9272

MEA/Y	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/Y/SSL	9281	2x8271	2x8281	2x8282	3x8261	3x8271	3x8272	3x8281		

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCA/J/SSL	8151	8161	8171	8251	8251	8261	8272	8282	9271	9272

MEA/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCA/J/SSL	9281	2x8271	2x8281	2x8282	2x8282	2x9271	2x9272	2x9281		

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES

SVV	Supports for vertical air flow versions

RCA/Y/SSL 8151÷9281

MODEL			8151	8161	8171	8251	8261	8271	8272	8281	8282	9271	9272	9281
Fan	Quantity	n°	5	6	7	10	12	14	14	16	16	14	14	16
Connections	In	Ø mm	2X64	2X76	2X76	2X64	2X76	2X76	2X76	2x54	2x54	2X76	2X76	2X76
	Out	Ø mm	2x42	2x42	2x54	2x42	2x42	2x54	2x54	2x54	2x54	2X64	2X64	2X64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	4.45	5.34	6.23	8.90	10.68	12.46	12.46	14.24	14.24	12.74	12.74	14.56
	Absorbed current	A	11.10	13.32	15.54	22.20	26.64	31.08	31.08	35.52	35.52	31.78	31.78	36.32
Sound pressure	SSL version (1)	dB(A)	50	51	50	53	53	53	53	54	54	57	57	58
Weights	Transport weight	Kg	1016	1210	1404	1467	1902	2214	2043	2528	2331	3971	4218	3769
	Operating weight	Kg	1055	1282	1489	1521	2033	2367	2156	2702	2463	4088	4369	3940

DIMENSIONS			8151	8161	8171	8251	8261	8271	8272	8281	8282	9271	9272	9281
L	SSL	mm	7280	8630	9980	7280	8630	9980	9980	11330	11330	9240	9240	10490
W	SSL	mm	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	SSL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	2262	2262	2262

CLEARANCE AREA

RCA/Y/SSL 8151÷8282

RCA/Y/SSL 9271÷9281

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at condensing temperature 50 °C, ambient air temperature 35 °C.

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

FROM 321 KW TO 1922 KW.

CWW/TTH 1701-1÷6606-1

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

TURBOLINE

HFO R1234ze

The innovative CWW/TTH 1701-1÷6606-1 **TURBOLINE** units for **cooling tower** operation, featuring A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, through dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

VERSION

CWW/TTH

Cooling only for **cooling tower**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/TTH 1701-1÷6606-1

MODEL			1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
Cooling	Cooling capacity (1)	kW	321	639	958	1279	1601	1922
	Absorbed power (1)	kW	54	108	162	216	271	325
	EER (1)		5.94	5.92	5.91	5.92	5.91	5.91
Cooling (EN14511)	Cooling capacity (1)	kW	320	637	955	1276	1595	1916
	Absorbed power (1)	kW	56	110	165	220	277	331
	EER (1)		5.71	5.79	5.79	5.80	5.76	5.79
	SEER (2)		8.55	8.67	8.83	9.53	9.75	9.77
	Energy Efficiency (2)	%	334	339	345	373	382	383
Compressor	Quantity	n°	1	2	3	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1
	Capacity steps	n°	Stepless					
Evaporator	Water flow	l/s	15.34	30.53	45.77	61.11	76.49	91.83
	Pressure drops	kPa	45	46	45	34	52	50
	Water connections	DN	100	125	150	150	200	200
Condenser	Water flow	l/s	17.93	35.69	53.51	71.43	89.44	107
	Pressure drops	kPa	49	50	49	50	55	52
	Water connections	DN	100	125	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	150	300	450	600	750	900
	Max. starting current	A	5	155	305	455	605	755
Sound pressure (3)		dB(A)	72	74	76	76	77	78
Weights	Transport weight	Kg	1798	2837	3924	6408	7741	11474
	Operating weight	Kg	1930	3100	4340	7120	8780	13140

DIMENSIONS			1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
L	STD	mm	3400	3400	3450	4550	5500	6500
W	STD	mm	1100	1150	1800	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2100	2150

CLEARANCE AREA

CWW/TTH 1701-1÷6606-1

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 301 KW TO 1802 KW.

CWW/TTH/DR 1701-1÷6606-1

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

TURBOLINE

HFO R1234ze

The innovative CWW/TTH/DR 1701-1÷6606-1 **TURBOLINE** units for **Dry-Cooler** operation, featuring A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, through dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

VERSION

CWW/TTH/DR

Cooling only for **Dry-Cooler**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/TTH/DR 1701-1÷6606-1

MODEL			1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
Cooling	Cooling capacity (1)	kW	301	603	899	1203	1499	1802
	Absorbed power (1)	kW	54	108	162	216	271	325
	EER (1)		5.94	5.92	5.91	5.92	5.91	5.91
Cooling (EN14511)	Cooling capacity (1)	kW	320	637	955	1276	1595	1916
	Absorbed power (1)	kW	56	110	165	220	277	331
	EER (1)		5.71	5.79	5.79	5.80	5.76	5.79
	SEER (2)		8.55	8.67	8.83	9.53	9.75	9.77
	Energy Efficiency (2)	%	334	339	345	373	382	383
Compressor	Quantity	n°	1	2	3	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1
	Capacity steps	n°	Stepless					
Evaporator	Water flow	l/s	14.38	28.81	42.95	57.48	71.62	86.10
	Pressure drops	kPa	41	42	41	30	47	44
	Water connections	DN	100	125	150	150	200	200
Condenser	Water flow	l/s	19.4	38.8	58.0	77.7	96.7	116
	Pressure drops	kPa	55	56	55	56	62	58
	Water connections	DN	100	125	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	150	300	450	600	750	900
	Max. starting current	A	5	155	305	455	605	755
Sound pressure (3)		dB(A)	72	74	76	76	77	78
Weights	Transport weight	Kg	1849	2919	4065	6587	7942	11716
	Operating weight	Kg	1990	3200	4510	7340	9040	13460

DIMENSIONS			1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
L	STD	mm	3400	3400	3450	4550	5500	6500
W	STD	mm	1100	1150	1800	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2100	2150

CLEARANCE AREA

CWW/TTH/DR 1701-1÷6606-1

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, temperature at the condenser (with ethylene glycol at 35%) from 40 to 45 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 319 KW TO 3912 KW.

CWW/TTY 1601-1÷14406-1

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

TURBOLINE

The innovative CWW/TTY 1601-1÷14406-1 **TURBOLINE** units for **cooling tower** operation, featuring A CLASS energy efficiency, are designed to provide an effective solution to highly selective system needs. Efficiency at partial loads, low breakaway starting current, low levels of operational noise, reduced weight and the specific design and handling every manufacturing aspect, make the TURBOLINE series the top of the range.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, through dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(CWW/TTJ 1601-1÷14406-1).**

VERSION

CWW/TTY

Cooling only for **cooling tower**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/TTY 1601-1÷14406-1

MODEL			1601-1	2001-1	2501-1	3002-1	3502-1	4002-1	4203-1	4602-1	5103-1	5202-1
Cooling	Cooling capacity (1)	kW	319	421	519	642	712	838	962	1040	1260	1302
	Absorbed power (1)	kW	55	71	85	110	121	141	166	170	213	206
	EER (1)		5.80	5.93	6.11	5.84	5.88	5.94	5.80	6.12	5.92	6.32
Cooling (EN14511)	Cooling capacity (1)	kW	318	420	517	640	710	835	958	1036	1255	1298
	Absorbed power (1)	kW	55	72	87	112	123	143	167	174	216	210
	EER (1)		5.78	5.83	5.94	5.71	5.77	5.84	5.74	5.95	5.81	6.18
	SEER (2)		8.15	8.45	8.83	8.66	8.79	8.40	8.40	8.78	8.67	9.13
	Energy Efficiency (2)	%	318	330	345	338	344	328	328	343	339	357
Compressor	Quantity	n°	1	1	1	2	2	2	3	2	3	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	15.24	20.11	24.80	30.67	34.02	40.04	45.96	49.69	60.20	62.21
	Pressure drops	kPa	46	48	50	49	42	53	57	53	59	45
	Water connections	DN	100	100	100	125	125	125	150	150	150	150
Condenser	Water flow	l/s	17.87	23.51	28.86	35.93	39.80	46.77	53.89	57.81	70.38	72.05
	Pressure drops	kPa	46	45	37	45	38	46	47	48	44	47
	Water connections	DN	100	100	125	125	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	145	231	187	290	462	462	435	374	693	420
	Max. starting current	A	2	2	2	147	233	233	292	189	464	212
Sound pressure (3)		dB(A)	72	74	74	75	76	77	76	76	77	77
Weights	Transport weight	Kg	1795	2060	2360	2870	3225	3325	3715	3540	4235	4155
	Operating weight	Kg	1920	2230	2580	3120	3560	3660	4070	3940	4720	4740

MODEL			5303-1	5703-1	6204-1	7303-1	7603-1	8104-1	9704-1	10104-1	12605-1	14406-1
Cooling	Cooling capacity (1)	kW	1427	1563	1676	1787	1944	2080	2382	2600	3245	3912
	Absorbed power (1)	kW	238	257	281	295	306	341	396	411	511	617
	EER (1)		6.00	6.08	5.96	6.06	6.35	6.10	6.02	6.33	6.35	6.34
Cooling (EN14511)	Cooling capacity (1)	kW	1423	1559	1671	1783	1939	2075	2376	2592	3234	3898
	Absorbed power (1)	kW	242	260	286	298	311	346	401	419	522	631
	EER (1)		5.88	6.00	5.84	5.98	6.23	6.00	5.93	6.19	6.20	6.18
	SEER (2)		9.01	8.81	9.24	9.52	9.58	9.58	9.20	9.22	9.50	9.52
	Energy Efficiency (2)	%	352	344	362	373	375	375	360	361	372	373
Compressor	Quantity	n°	3	3	4	3	3	4	4	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	68.18	74.68	80.08	85.38	92.88	99.38	114	124	155	187
	Pressure drops	kPa	45	54	48	28	36	36	37	48	58	62
	Water connections	DN	200	200	200	200	200	200	250	250	300	300
Condenser	Water flow	l/s	79.55	86.96	93.50	99.47	108	116	133	144	179	216
	Pressure drops	kPa	42	49	35	36	45	46	36	46	50	52
	Water connections	DN	200	200	200	200	200	250	250	250	300	300
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	561	561	924	630	630	748	840	840	1050	1260
	Max. starting current	A	376	376	695	422	422	563	632	632	842	1052
Sound pressure (3)		dB(A)	78	78	79	78	78	78	79	79	80	80
Weights	Transport weight	Kg	4725	4825	7355	7730	7880	8350	9330	9430	14440	18420
	Operating weight	Kg	5310	5410	8190	8760	8910	9400	10520	10620	16590	21260

DIMENSIONS			1601-1	2001-1	2501-1	3002-1	3502-1	4002-1	4203-1	4602-1	5103-1	5202-1
L	STD	mm	3400	3400	3400	3400	3400	3400	3400	3400	3450	3450
W	STD	mm	1100	1150	1150	1150	1250	1250	1700	1300	1800	1400
H	STD	mm	1800	1850	1950	1950	2000	2000	2000	2050	2050	2100

DIMENSIONS			5303-1	5703-1	6204-1	7303-1	7603-1	8104-1	9704-1	10104-1	12605-1	14406-1
L	STD	mm	3450	3450	4500	4500	4500	4500	4750	4750	5750	6750
W	STD	mm	1800	1800	1750	1800	1800	1800	1800	1800	1950	2100
H	STD	mm	2100	2100	2100	2150	2150	2150	2200	2200	2350	2400

CLEARANCE AREA

CWW/TTY 1601-1÷14406-1

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 298 KW TO 1584 KW.

CWW/TTY/DR 1601-1÷6204-1

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

TURBOLINE

The innovative CWW/TTY/DR 1601-1÷6204-1 **TURBOLINE** units for **Dry-Cooler** operation, featuring A CLASS energy efficiency, are designed to provide an effective solution for highly selective system needs. Efficiency at partial loads, low breakaway starting current, low levels of operational noise, reduced weight and the specific design and handling every manufacturing aspect, make the TURBOLINE series the top of the range.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, through dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(CWW/TTJ/DR 1601-1÷6204-1).**

VERSION

CWW/TTY/DR

Cooling only for **Dry-Cooler**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CWW/TTY/DR 1601-1÷6204-1

MODEL			1601-1	2001-1	3002-1	4002-1	4203-1	5103-1	6204-1
Cooling	Cooling capacity (1)	kW	298	395	598	792	894	1185	1584
	Absorbed power (1)	kW	70	92	141	186	211	277	372
	EER (1)		4.26	4.29	4.24	4.26	4.24	4.28	4.26
Cooling (EN14511)	Cooling capacity (1)	kW	297	394	596	789	891	1180	1579
	Absorbed power (1)	kW	71	94	144	189	214	282	376
	EER (1)		4.18	4.19	4.14	4.17	4.16	4.18	4.20
	SEER (2)		8.15	8.45	8.66	8.40	8.40	8.67	9.24
	Energy Efficiency (2)	%	318	330	338	328	328	339	362
Compressor	Quantity	n°	1	1	2	2	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	14.24	18.87	28.57	37.84	42.71	56.62	75.68
	Pressure drops	kPa	44	45	48	50	54	56	42
	Water connections	DN	100	100	125	125	150	150	200
Condenser	Water flow	l/s	19.20	25.40	38.55	51.02	57.64	76.26	102
	Pressure drops	kPa	58	52	57	53	59	52	40
	Water connections	DN	100	100	125	125	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	145	231	290	462	435	693	924
	Max. starting current	A	2	2	147	233	292	464	695
Sound pressure (3)		dB(A)	72	74	75	76	76	77	78
Weights	Transport weight	Kg	1840	2115	2955	3430	3855	4415	7555
	Operating weight	Kg	1980	2300	3220	3790	4240	4940	8450

DIMENSIONS			1601-1	2001-1	3002-1	4002-1	4203-1	5103-1	6204-1
L	STD	mm	3400	3400	3400	3400	3400	3450	4500
W	STD	mm	1100	1150	1150	1250	1700	1800	1750
H	STD	mm	1800	1850	1950	2000	2000	2050	2100

CLEARANCE AREA

CWW/TTY/DR 1601-1÷6204-1

500	500	800	500

NOTES

1. Chilled water from 12 to 7 °C, temperature at the condenser (with ethylene glycol at 35%) from 40 to 45 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side


CLINT
CLINT

CHAPTER 4

DRY-COOLERS AND HYDRONIC MODULES

RCW 6121÷9282

DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the RCW series are designed to be combined with watercooled liquid Chillers (CWW).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCW

Base unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

CWW/K-CWW/G	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCW	6121	8111	6132	6134	8121	8122	6141	8131	8132	6151

CWW/K-CWW/G	182	202	242	262	302	363	393	453	524	604
RCW	6121	8111	6132	6134	8121	8122	6141	8131	8132	6151

CWW/K-CWW/G	726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P
RCW	8141	8141	8152	8152	8241	8241	8242	8243	8243	8252

CWW/K-CWW/G	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P			
RCW	8261	9261	9261	9271	9282	9282	2x8262			

CWW/K-CWW/G	726	786	826	906	1048	1128	1208	13010	15010	16812
RCW	8141	8141	8152	8152	8241	8241	8242	8243	8243	8252

CWW/K-CWW/G	18012	21012	24012	27012	30012	33012	36012			
RCW	8261	9261	9261	9271	9282	9282	2x8262			

CWW/H/A	351-P	601-P	801-P	901-P						
RCW	6134	8122	8131	6151						

CWW/H/A	1002	1202	1402	1602	1802	2202	2502	2802	3302	3602
RCW	8141	8231	8241	8242	8243	8252	8261	9261	9271	9282

CWW/H/A	4602	4802	5402	6002						
RCW	9282	2x8262	2x9261	2x9262						

CWW/Y/A-CWW/J/A	1302	1502	1702	1902	2002	2602	2802	3002	3602	4202
RCW	8152	8241	8241	8242	8243	8261	9261	9261	9271	9282

CWW/Y/A-CWW/J/A	4802									
RCW	2x8262									

CWW/Y/A-CWW/J/A	1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T	3302-T	3602-T
RCW	8141	8231	8241	8242	8243	8252	8261	9261	9271	9282

CWW/Y/A-CWW/J/A	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T				
RCW	9282	2x8262	2x9261	2x9262	2x9281	3x8262				

CWW/Y-CWW/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCW	8151	8231	8241	8242	8243	8252	8261	9261	9271	9282

CWW/Y-CWW/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCW	9282	2x8262	2x9261	2x9262	2x9271	2x9281	3x8262	3x9261		

CWW/TTH/DR	1701-1	2202-1	3303-1	4404-1	5505-1	6606-1				
RCW	8242	9271	9282	2x8262	2x9271	2x9282				

CWW/TTY/DR - CWW/TTJ/DR	1601-1	2001-1	3002-1	4002-1	4203-1	5103-1	6204-1			
RCW	8242	8252	9271	9282	9282	2x8262	2x9282			

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed control

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

RCW 6121÷9282

MODEL			6121	6131	6132	6133	6134	6141	6151	8111	8121	8122	8131	8132	8141	8151	8152
Fan	Air flow	m³/s	4.67	7.32	7.01	6.56	12.31	15.44	17.86	5.18	10.83	10.37	16.25	15.55	20.73	27.08	25.92
	Quantity	n°	2	3	3	3	3	4	5	1	2	2	3	3	4	5	5
Connections	In	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
	Out	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50														
	Absorbed power	kW	1.32	1.98	1.98	1.98	4.95	6.60	8.25	2.00	4.00	4.00	6.00	6.00	8.00	10.00	10.00
	Absorbed current	A	2.6	3.9	3.9	3.9	9.3	12.4	15.5	4.0	8.0	8.0	12.0	12.0	16.0	20.0	20.0
Sound pressure	STD version (1)	dB(A)	49	51	51	51	57	58	59	49	52	52	53	53	54	55	55
Weights	Transport weight	Kg	145	191	205	245	239	337	516	182	308	326	470	497	646	684	724
	Operating weight	Kg	160	211	225	265	259	367	566	197	333	351	520	547	706	754	794

MODEL			8231	8232	8241	8242	8243	8251	8252	8261	8262	9261	9262	9271	9281	9282
Fan	Air flow	m³/s	31.96	30.45	44.80	42.62	40.60	53.28	50.75	63.93	65.33	68.50	65.33	76.22	91.33	87.11
	Quantity	n°	6	6	8	8	8	10	10	12	12	12	12	14	16	16
Connections	In	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
	Out	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50													
	Absorbed power	kW	12.00	12.00	16.00	16.00	16.00	20.00	20.00	24.00	24.00	24.00	24.00	28.00	32.00	32.00
	Absorbed current	A	24.0	24.0	32.0	32.0	32.0	40.0	40.0	48.0	48.0	48.0	48.0	56.0	64.0	64.0
Sound pressure	STD version (1)	dB(A)	56	56	57	57	57	58	58	58	59	59	59	59	60	60
Weights	Transport weight	Kg	860	910	994	1204	1274	1548	1638	1892	3390	3060	3390	3890	3960	4380
	Operating weight	Kg	950	1000	1094	1304	1374	1658	1748	2032	3530	3360	3690	4240	4360	4780

DIMENSIONS			6121	6131	6132	6133	6134	6141	6151	8111	8121	8122	8131	8132	8141	8151	8152
L	STD	mm	2425	3525	3525	3525	3525	4625	5725	1803	3278	3278	4753	4753	6228	7703	7703
W	STD	mm	630	630	630	630	630	630	630	795	795	795	795	795	795	795	795
H	STD	mm	1098	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272	1272

DIMENSIONS			8231	8232	8241	8242	8243	8251	8252	8261	8262	9261	9262	9271	9281	9282
L	STD	mm	4783	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	9120	9120
W	STD	mm	878	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	STD	mm	2322	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

CLEARANCE AREA

RCW 6121÷9262

RCW 9271÷9282

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCW/SL 6122÷9281

SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the RCW/SL series are designed to be combined with watercooled liquid Chillers (CWW).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCW/SL

Silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

CWW/K-CWW/G	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCW/SL	6122	6131	6141	8121	8131	6151	6152	8132	8142	8142

CWW/K-CWW/G	182	202	242	262	302	363	393	453	524	604
RCW/SL	6122	6131	6141	8121	8131	6151	6152	8132	8142	8142

CWW/K-CWW/G	726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P
RCW/SL	8152	8152	8231	8231	8242	8243	8251	8252	8252	8262

CWW/K-CWW/G	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P			
RCW/SL	9261	9271	9271	9281	2x8252	2x8261	2x9262			

CWW/K-CWW/G	726	786	826	906	1048	1128	1208	13010	15010	16812
RCW/SL	8152	8152	8231	8231	8242	8243	8251	8252	8252	8262

CWW/K-CWW/G	18012	21012	24012	27012	30012	33012	36012			
RCW/SL	9261	9271	9271	9281	2x8252	2x8261	2x9262			

CWW/H/A	351-P	601-P	801-P	901-P						
RCW/SL	8121	6151	8132	8142						

CWW/H/A	1002	1202	1402	1602	1802	2202	2502	2802	3302	3602
RCW/SL	8152	8241	8242	8251	8252	8262	9261	9271	9281	2x8252

CWW/H/A	4602	4802	5402	6002						
RCW/SL	2x8261	2x9262	2x9271	2x9272						

CWW/Y/A-CWW/J/A	1302	1502	1702	1902	2002	2602	2802	3002	3602	4202
RCW/SL	8231	8242	8243	8251	8252	9261	9271	9271	9281	2x8261

CWW/Y/A-CWW/J/A	4802									
RCW/SL	2x9262									

CWW/Y/A-CWW/J/A	1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T	3302-T	3602-T
RCW/SL	8152	8241	8242	8251	8252	8262	9261	9271	9281	2x8252

CWW/Y/A-CWW/J/A	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T				
RCW/SL	2x8261	2x9262	2x9271	2x9272	3x9261	3x9262				

CWW/Y-CWW/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCW/SL	8152	8241	8242	8251	8252	8262	9261	9271	9281	2x8252

CWW/Y-CWW/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCW/SL	2x8261	2x9262	2x9271	2x9272	2x9281	3x9261	3x9262	3x9271		

CWW/TTH/DR	1701-1	2202-1	3303-1	4404-1	5505-1	6606-1				
RCW/SL	8251	9281	2x8261	2x9262	2x9281	4x8261				

CWW/TTY/DR - CWW/TTJ/DR	1601-1	2001-1	3002-1	4002-1	4203-1	5103-1	6204-1			
RCW/SL	8251	8262	9281	2x8261	2x8261	2x9262	4x8261			

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed control

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

RCW/SL 6122÷9281

MODEL			6122	6131	6132	6141	6151	6152	8121	8131	8132	8141	8142	8151	8152
Fan	Air flow	m³/s	4.67	6.01	5.66	8.01	9.04	10.90	8.24	13.10	11.78	16.49	15.71	20.61	19.64
	Quantity	n°	2	3	3	4	5	5	2	3	3	4	4	5	5
Connections	In	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
	Out	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	1.32	1.20	1.20	1.60	2.00	3.30	2.50	3.75	3.75	5.00	5.00	6.25	6.25
	Absorbed current	A	2.6	2.1	2.1	2.8	3.5	6.5	4.6	6.9	6.9	9.2	9.2	11.5	11.5
Sound pressure	SL version (1)	dB(A)	49	44	44	45	46	52	45	47	47	48	48	49	49
Weights	Transport weight	Kg	145	145	145	145	388	448	308	388	497	611	646	684	724
	Operating weight	Kg	160	165	165	175	438	498	333	438	547	671	706	754	794

MODEL			8231	8241	8242	8243	8251	8252	8261	8262	9261	9262	9271	9272	9281
Fan	Air flow	m³/s	21.95	34.90	32.26	29.27	40.32	36.58	48.39	43.90	52.33	49.08	61.06	57.26	65.44
	Quantity	n°	6	8	8	8	10	10	12	12	12	12	14	14	16
Connections	In	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
	Out	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	7.50	10.00	10.00	10.00	12.50	12.50	15.00	15.00	15.00	15.00	17.50	17.50	20.00
	Absorbed current	A	13.8	18.4	18.4	18.4	23.0	23.0	27.6	27.6	27.6	27.6	32.2	32.2	36.8
Sound pressure	SL version (1)	dB(A)	50	51	51	51	51	51	52	52	52	52	53	53	53
Weights	Transport weight	Kg	910	994	1204	1274	1548	1638	1892	2200	3060	3390	3510	3890	4380
	Operating weight	Kg	1000	1094	1304	1374	1658	1748	2032	2340	3360	3690	3860	4240	4780

DIMENSIONS			6122	6131	6132	6141	6151	6152	8121	8131	8132	8141	8142	8151	8152
L	SL	mm	2425	3525	3525	4625	5725	5725	3278	4753	4753	6228	6228	7703	7703
W	SL	mm	630	630	630	630	630	630	795	795	795	795	795	795	795
H	SL	mm	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272

DIMENSIONS			8231	8241	8242	8243	8251	8252	8261	8262	9261	9262	9271	9272	9281
L	SL	mm	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	8020	9120
W	SL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	SL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

CLEARANCE AREA

RCW/SL 6122÷8262

RCW/SL 9261÷9281

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

RCW/SSL 6132÷9282

SUPER SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the RCW/SSL series are designed to be combined with watercooled liquid Chillers (CWW).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

RCW/SSL

Super silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

COMBINATIONS

CWW/K-CWW/G	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCW/SSL	6132	6141	6151	8131	8132	8141	8151	8152	8231	8241

CWW/K-CWW/G	182	202	242	262	302	363	393	453	524	604
RCW/SSL	6132	6141	6151	8131	8132	8141	8151	8152	8231	8241

CWW/K-CWW/G	726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P
RCW/SSL	8242	8242	8252	8252	8262	8262	8264	9271	9271	9282

CWW/K-CWW/G	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P			
RCW/SSL	2x8261	2x8262	2x8263	2x9261	2x9282	2x9282	3x8264			

CWW/K-CWW/G	726	786	826	906	1048	1128	1208	13010	15010	16812
RCW/SSL	8242	8242	8252	8252	8262	8262	8264	9271	9271	9282

CWW/K-CWW/G	18012	21012	24012	27012	30012	33012	36012			
RCW/SSL	2x8261	2x8262	2x8263	2x9261	2x9282	2x9282	3x8264			

CWW/H/A	351-P	601-P	801-P	901-P						
RCW/SSL	8131	8141	8152	8241						

CWW/H/A	1002	1202	1402	1602	1802	2202	2502	2802	3302	3602
RCW/SSL	8242	8253	8262	8264	9271	9282	2x8261	2x8262	2x9261	2x9282

CWW/H/A	4602	4802	5402	6002						
RCW/SSL	2x9282	3x8264	2x9271	2x9282						

CWW/Y/A-CWW/J/A	1302	1502	1702	1902	2002	2602	2802	3002	3602	4202
RCW/SSL	8252	8262	8262	8264	9271	2x8261	2x8262	2x8263	2x9261	2x9282

CWW/Y/A-CWW/J/A	4802									
RCW/SSL	3x8264									

CWW/Y/A-CWW/J/A	1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T	3302-T	3602-T
RCW/SSL	8242	8253	8262	8264	9271	9282	2x8261	2x8262	2x9261	2x9282

CWW/Y/A-CWW/J/A	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T				
RCW/SSL	2x9282	3x8264	2x9271	2x9282	4x9261	4x9271				

CWW/Y-CWW/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	4202-B
RCW/SSL	8251	8253	8262	8264	9271	9282	2x8261	2x8262	2x9261	2x9282

CWW/Y-CWW/J	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B		
RCW/SSL	2x9282	3x8264	2x9271	2x9282	3x9282	4x9261	4x9271	4x9282		

CWW/TTH/DR	1701-1	2202-1	3303-1	4404-1	5505-1	6606-1				
RCW/SSL	8264	2x9261	2x9282	3x8264	4x8264	4x9282				

CWW/TTY/DR - CWW/TTJ/DR	1601-1	2001-1	3002-1	4002-1	4203-1	5103-1	6204-1			
RCW/SSL	8264	9282	2x9261	2x9282	2x9282	3x8264	4x9282			

ACCESSORIES

FACTORY FITTED ACCESSORIES

SD Wiring integrated in branch circuit box
FR Fan speed control

LOOSE ACCESSORIES

SVV Supports for vertical air flow versions

RCW/SSL 6132÷9282

MODEL			6132	6141	6142	6151	6152	8131	8132	8141	8151	8152	8231	8241
Fan	Air flow	m³/s	3.83	5.51	5.11	6.88	6.38	7.80	7.64	9.87	13.11	12.33	15.58	20.78
	Quantity	n°	3	4	4	5	5	3	3	4	5	5	6	8
Connections	In	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
	Out	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	0.57	0.76	0.76	0.95	0.95	1.41	1.41	1.48	1.85	1.85	2.22	2.96
	Absorbed current	A	1.1	1.5	1.5	1.9	1.9	3.0	3.0	4.8	6.0	6.0	7.2	9.6
Sound pressure	SSL version (1)	dB(A)	35	36	36	37	37	38	38	38	38	38	39	40
Weights	Transport weight	Kg	191	256	273	332	363	470	497	611	562	684	710	994
	Operating weight	Kg	211	286	303	382	413	520	547	671	632	754	800	1094

MODEL			8242	8251	8252	8253	8261	8262	8263	8264	9261	9271	9281	9282
Fan	Air flow	m³/s	19.53	25.97	24.40	24.40	31.17	29.29	30.56	27.35	31.50	36.75	39.66	36.77
	Quantity	n°	8	10	10	10	12	12	12	12	12	14	16	16
Connections	In	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
	Out	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	2.96	3.70	3.70	3.70	4.40	4.40	5.64	5.64	4.44	5.18	7.52	7.52
	Absorbed current	A	9.6	12.0	12.0	12.0	14.4	14.4	12.0	12.0	14.4	16.8	16.0	16.0
Sound pressure	SSL version (1)	dB(A)	40	41	41	41	42	42	43	43	42	42	44	44
Weights	Transport weight	Kg	1204	1278	1548	1548	1562	1892	1892	2200	3060	3510	3960	4380
	Operating weight	Kg	1304	1388	1658	1658	1702	2032	2032	2340	3360	3860	4360	4780

DIMENSIONS			6132	6141	6142	6151	6152	8131	8132	8141	8151	8152	8231	8241
L	SSL	mm	3525	4625	4625	5725	5725	4753	4753	6228	7703	7703	4783	6258
W	SSL	mm	630	630	630	630	630	795	795	795	795	795	878	878
H	SSL	mm	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	2322	2322

DIMENSIONS			8242	8251	8252	8253	8261	8262	8263	8264	9261	9271	9281	9282
L	SSL	mm	6258	7733	7733	7733	9208	9208	9208	9208	6920	8020	9120	9120
W	SSL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350
H	SSL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450

CLEARANCE AREA

RCW/SSL 6132÷8264

RCW/SSL 9261÷9282

NOTES

1. Sound pressure level measured in free field conditions at 10 m from the unit. According to ISO 3744.

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

30 L. AND 70 L.

MR 50÷80

REMOTE HYDRONIC MODULES.

The Remote Hydronic Modules of the MR 50÷80 series are intended to solve technical problems resulting from thermal inertia in air conditioning systems for both residential and industrial use. Installing a tank for cooled water allows units to reduce the operating cycles of the compressors, thus extending the useful life of the machines. It also results in a greater capacity of the system itself, a remarkable operational saving and a greater flexibility, being able to work with temperatures other than the design temperatures.

VERSION

MR 50	***MR 80***
30 l tank	70 l tank

FEATURES

- Self-supporting frame in peraluman. Easy to remove front panel allows access to the inside of the unit for maintenance and other necessary operations.
- Water circuit includes: insulated inertial tank, safety valve, automatic air release valves, expansion vessel inserted in the storage tank, gauge, air vent valve, plant charge and water drain.

MR 50÷80

MODEL			50	80
Water circuit	Tank water volume	l	30	70
	Expansion vessel	l	3	3
	Safety valve	bar	3	3
	Water connections	"G	1"	1"
Weights	Transport weight	Kg	28	36
	Operating weight	Kg	78	116

DIMENSIONS			50	80
L	STD	mm	240	340
W	STD	mm	320	500
H	STD	mm	1100	1270

CLEARANCE AREA

MR 50÷80

600 | 600 | 600 | 800

Electrical board side

MR 1500÷2500

REMOTE HYDRONIC MODULES WITH PUMP KIT.

The Remote Hydronic Modules with pump kit of the MR 1500÷2500 series are designed to solve technical problems resulting from thermal inertia in air conditioning systems for both residential and industrial use.
Installing a tank for cooled water allows units to reduce the operating cycles of the compressors, thus extending the useful life of the machines. It also results in a greater capacity of the system itself, a remarkable operational saving and a greater flexibility, being able to work with temperatures other than the design temperatures. The tanks are available with a capacity of 1500 and 2500 litres, with circulating pump or double circulating pump accessory and are complete with all the components necessary for a quick on-site installation.

VERSION

MR 1500	***MR 2500***
With 1500 l tank	With 2500 l tank

FEATURES

- Self-supporting galvanized steel frame further protected with polyester powder painting. Easy to remove panels allow access to the inside of the unit for maintenance and other necessary operations.
- Electrical board. Present only with the accessories circulating pump, it includes main switch with door safety interlock; automatic switches for protection of circulating pumps, of secondary circuit and of antifreeeze heaters, signalling lamps, interface relay and clamps for external connections.
- Water circuit includes: insulated inertial tank, safety valve, automatic air release valves, expansion vessel, gauge, automatic filling group, plant charge and discharge water shut-off valve.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PU1-PU5	Single circulating pump
PD1-PD5	Double circulating pump
FA	Antifreeze heater for tank
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes

MR 1500÷2500

MODEL			1500	2500
Pump kit	Tank water volume	l	1500	2500
	Expansion vessel	l	2x25	3x25
	Safety valve	bar	3	3
	Water connections	"G	4"	4"
Transport weight	STD version	Kg	470	520
	STD+PU1	Kg	513	565
	STD+PU2	Kg	569	617
	STD+PU3	Kg	569	617
	STD+PU4	Kg	634	686
	STD+PU5	Kg	740	796
	STD+PD1	Kg	586	638
	STD+PD2	Kg	696	740
	STD+PD3	Kg	696	740
	STD+PD4	Kg	826	878
	STD+PD5	Kg	1055	990
Operating weight	STD version	Kg	1970	3020
	STD+PU1	Kg	2014	3066
	STD+PU2	Kg	2070	3118
	STD+PU3	Kg	2070	3118
	STD+PU4	Kg	2135	3187
	STD+PU5	Kg	2241	3297
	STD+PD1	Kg	2088	3140
	STD+PD2	Kg	2198	3242
	STD+PD3	Kg	2198	3242
	STD+PD4	Kg	2328	3380
	STD+PD5	Kg	2557	3492
PUMPS ELECTRICAL CHARACTERISTICS				
Nominal absorbed power	PU1	kW	3	3
	PU2	kW	5.5	5.5
	PU3	kW	7.5	7.5
	PU4	kW	15	15
	PU5	kW	22	22
	PD1	kW	6	6
	PD2	kW	11	11
	PD3	kW	15	15
	PD4	kW	30	30
	PD5	kW	44	44
Max. running current	PU1	A	5.6	5.6
	PU2	A	11	11
	PU3	A	14.6	14.6
	PU4	A	28.6	28.6
	PU5	A	40.3	40.3
	PD1	A	11.2	11.2
	PD2	A	22	22
	PD3	A	29.2	29.2
	PD4	A	57.2	57.2
	PD5	A	80.6	80.6

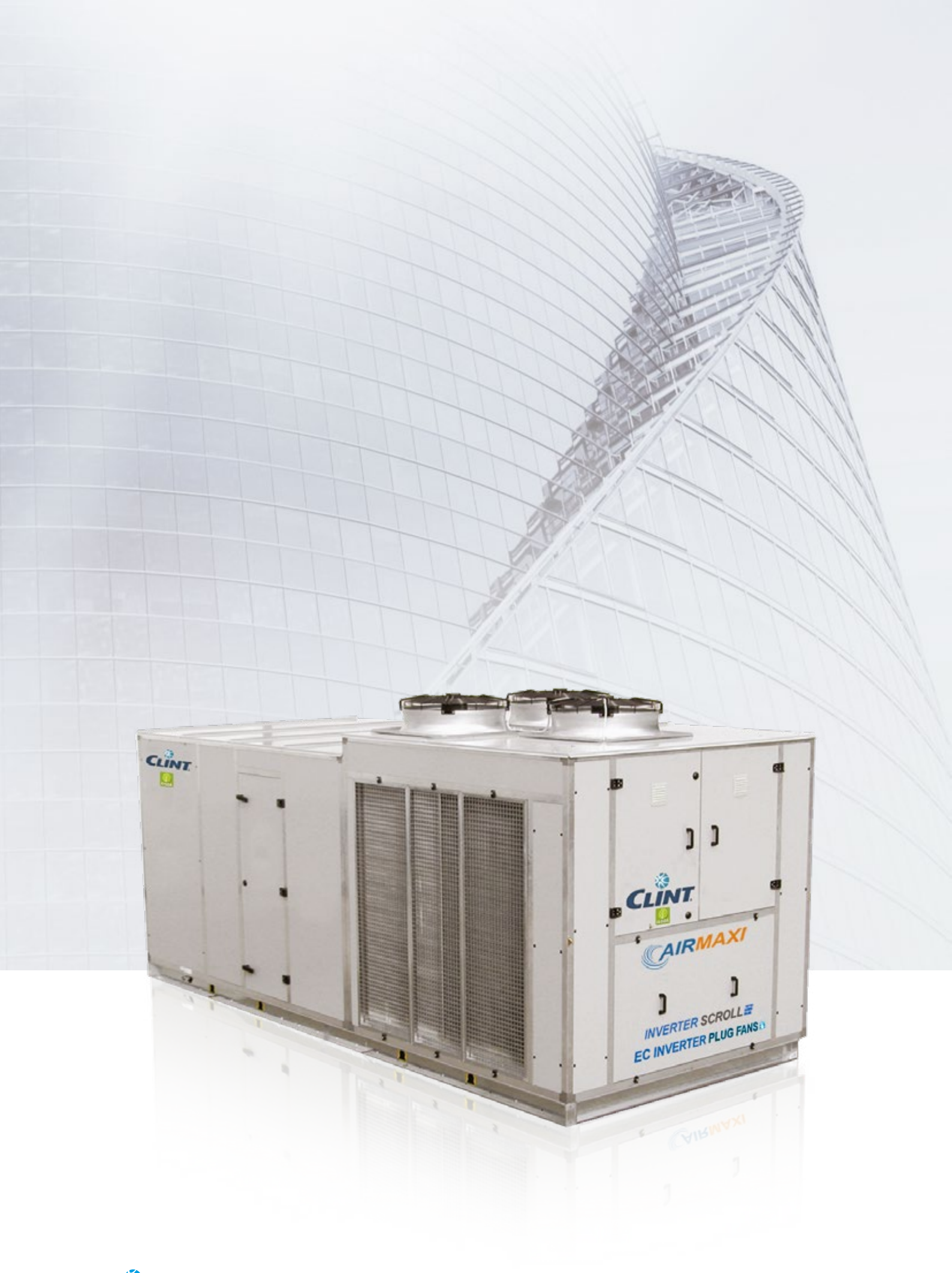
DIMENSIONS			1500	2500
L	STD	mm	1900	1900
W	STD	mm	2260	2260
H	STD	mm	1780	1780

CLEARANCE AREA

MR 1500÷2500

800 | 800 | 800 | 800

Electrical board side


CLINT
CLINT
AIRMAXI
INVERTER SCROLL
EC INVERTER PLUG FANS

CHAPTER 5

PACKAGED ROOF TOP UNITS

FROM 63 KW TO 162 KW.

RTA/K/EC/WP 182-R÷453-R

SINGLE-SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

AIRPLUS

EC INVERTER PLUG FANS

THERMODYNAMIC
COIL-BOOST HEAT RECOVERY

The single skin packaged Roof Top units of the **AIRPLUS** series are the ideal solution for air conditioning of medium-wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. The units are equipped with Scroll compressors with R410A refrigerant, and are available in Reversible Heat Pump version also with **Free-Cooling** with 2 or 3 dampers. AIRPLUS is equipped with **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery, managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity. The unit can easily adapt to diverse engineering needs thanks to the possibility of selecting onsite the air flow direction, choosing among 8 positions of both intake and output air direction. The unit's structure is made of a frame with extruded aluminium profiles and prepainted panels, and features flat type filters with varying efficiency levels, maintaining high air quality and high comfort.
The unit can be equipped, as an option, with the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

The units are compliant to the ErP Regulation with ECA accessory (EC Inverter fans on condensing section).

VERSION

RTA/K/EC/WP	RTA/K/EC/WP/MS	RTA/K/EC/WP/ECO
Reversible Heat Pump	Reversible Heat Pump with Free-Cooling section (2 dampers)	Reversible Heat Pump with Economizer (Free-Cooling section with 3 dampers)

FEATURES

- Structure of base perimeter made of galvanised steel sheet elements. The frame is made of extruded aluminium alloy profiles connected by 3 way joints. The assembling of the base to the frame is of dual support and grants the walking on the base panels installation of which is effected without sticking out screws. The perimeter panels are realised in prepainted sheet steel, they can be easily removed and allow access inside the unit for maintenance and repair operations.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- The air treatment section has removable panels allowing the selection of intake and output configurations that adapt to the specific needs of the system.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT	Plate filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CS	Dampers rain hood
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers

RTA/K/EC/WP 182-R÷453-R

MODEL			182-R	202-R	242-R	262-R	302-R	363-R	393-R	453-R
Heating	Heating capacity (1)	kW	62.9	71.1	81.2	92.9	107	123	142	162
	Absorbed power (1).(2)	kW	18.6	21.7	25.2	28.1	31.0	38.1	42.6	50.1
Heating (EN14511)	SCOP (3)		3.09	3.10	3.10	3.14	3.14	3.10	3.12	3.12
	Energy Efficiency (3)	%	121	121	121	123	123	121	122	122
	SCOP with ECA accessory (3)		3.24	3.26	3.26	3.3	3.3	3.26	3.28	3.28
	Energy Efficiency with ECA accessory (3)	%	127	127	127	129	129	127	128	128
Cooling	Cooling capacity (4)	kW	64.9	73.8	85.6	96.8	111	128	147	171
	Absorbed power (2).(4)	kW	20.9	24.2	27.2	30.0	35.4	41.1	45.9	54.1
Cooling (EN14511)	SEER (5)		3.18	3.16	3.28	3.38	3.32	3.31	3.41	3.39
	Energy Efficiency (5)	%	124	123	128	132	130	129	133	133
	SEER with ECA accessory (5)		3.53	3.54	3.54	3.58	3.55	3.57	3.65	3.63
	Energy Efficiency with ECA accessory (5)	%	138	139	139	140	139	140	143	142
Air treatment section	Air flow	m³/s	2.50	2.78	3.34	3.61	4.44	4.44	5.83	6.67
	Available static pressure	Pa	200	200	200	200	200	200	200	200
	Fan	n°	1	1	1	1	2	2	2	2
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.00	2.22	2.67	2.89	3.55	3.55	4.72	5.33
	Available static pressure	Pa	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3	
Hot water coil	Heating capacity (6)	kW	65.4	68.6	74.9	78.9	84.9	84.9	103	110
	Air pressure drops	Pa	16	19	26	30	43	43	68	86
	Water flow (6)	l/s	1.56	1.64	1.79	1.89	2.03	2.03	2.46	2.62
	Water connections	"G	2	2	2	2	2	2	2	2
Electrical heater	Power supply	V/Ph/Hz	400/3/50							
	Heating capacity	kW	21	27	27	27	40	40	40	48
	Max. absorbed current	A	30	39	39	39	59	59	59	69
	Steps	n°	2	2	2	2	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	53	56	65	69	79	91	110	131
	Max. starting current	A	190	165	188	201	208	215	242	260
Sound pressure	STD/MS/ECO versions (7)	dB(A)	56	56	60	60	60	60	61	61
Weights	Transport weight	Kg	1280	1315	1370	1380	1475	1570	1920	2020
	Operating weight	Kg	1265	1300	1355	1365	1460	1555	1900	2000

MS - ECO

MS. Free-Cooling section with 2 dampers - Further to components of the basic version, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).
ECO. Free-Cooling section with 3 dampers - Further to components of the basic version, includes return air EC INVERTER PLUG-FANS; motorized wing profile aluminium dampers (dampers with opposite movement). Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS			182-R	202-R	242-R	262-R	302-R	363-R	393-R	453-R
L	STD/MS/ECO	mm	2930	2930	2930	2930	2930	2930	3930	3930
W	STD/MS/ECO	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MS/ECO	mm	2370	2370	2370	2370	2370	2370	2370	2370

CLEARANCE AREA

RTA/K/EC/WP 182-R÷453-R

1000	1800	1000	1000

NOTES

1. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
4. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
5. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of MS and ECO versions are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/IK/EC 172÷724

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans**. The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.

The units are compliant to the ErP Regulation.

AIRMAXI

INVERTER SCROLL

EC INVERTER PLUG FANS

VERSION

RTA/IK/EC	***RTA/IK/EC/WP***
Cooling only with EC Inverter Plug-Fans	Reversible Heat Pump with EC Inverter Plug-Fans

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/IK/EC 172÷724

ErP SEER 2021 ErP SCOP

MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UM Section with preparation for Humidifier
UM/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/IK/EC 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC 352÷724

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 58 KW TO 252 KW.

RTA/IK/EC/MS 172÷724

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND MIXING BOX.

AIRMAXI

INVERTER SCROLL

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans**. The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The MS units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, a **MIXING BOX.**

The units are compliant to the ErP Regulation.

VERSION

RTA/IK/EC/MS	RTA/IK/EC/WP/MS
Cooling only with EC Inverter Plug-Fans and Mixing Box	Reversible Heat Pump with EC Inverter Plug-Fans and Mixing Box

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/IK/EC/MS 172÷724

MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors; the opposite movement is ensured by transmission of nylon gear.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/IK/EC/MS 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC/MS 352÷724

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/IK/EC/ECO 172÷724

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND ECONOMIZER.

AIRMAXI

INVERTER SCROLL

EC INVERTER PLUG FANS

THERMODYNAMIC
COIL-BOOST HEAT RECOVERY

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING.
The unit can be equipped, as an option, with the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

The units are compliant to the ErP Regulation.

VERSION

RTA/IK/EC/ECO	RTA/IK/EC/WP/ECO
Cooling only with EC Inverter Plug-Fans and Economizer	Reversible Heat Pump with EC Inverter Plug-Fans and Economizer

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/IK/EC/ECO 172÷724

ErP SEER 2021 ErP SCOP

MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers, the opposite movement is ensured by transmission of nylon gear. Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/IK/EC/ECO 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC/ECO 352÷724

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/IK/EC/ECO/REC-FX 172÷724

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

AIRMAXI

INVERTER SCROLL

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans**. The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-FX units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **CROSS-FLOW HEAT RECOVERY.**

The units are compliant to the ErP Regulation.

VERSION

RTA/IK/EC/ECO/REC-FX	***RTA/IK/EC/WP/ECO/REC-FX***
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/IK/EC/ECO/REC-FX 172÷724

ErP SEER 2021 ErP SCOP

MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1).(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2).(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to the components of the ECO section, it includes: static recovery device made of aluminium with moisture drain pan, flat filters inspectable through hinged door and dampers with return spring servomotors (fresh air damper + air recirculation damper + exhaust air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/IK/EC/ECO/REC-FX 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC/ECO/REC-FX 352÷724

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 58 KW TO 252 KW.

RTA/IK/EC/ECO/REC-WH 172÷724

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

AIRMAXI

INVERTER SCROLL

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans**. The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-WH units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **WHEEL HEAT RECOVERY,** able to treat up to 100% of total air flow.

The units are compliant to the ErP Regulation.

VERSION

RTA/IK/EC/ECO/REC-WH	RTA/IK/EC/WP/ECO/REC-WH
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section, contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems for air and rooms
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/IK/EC/ECO/REC-WH 172÷724

MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless										
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to the components of the ECO section, includes: high efficiency wheel-type heat recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan and dampers with spring return (fresh air damper + air recirculation damper + exhaust air damper). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/IK/EC/ECO/REC-WH 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC/ECO/REC-WH 352÷724

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 58 KW TO 252 KW.

RTA/K 182÷804

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS AND RADIAL FANS OR EC INVERTER PLUG-FANS.

AIRMAXI

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans**. The EC Inverter Plug-Fans with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.

The units are compliant to the ErP Regulation only if provided with EC INVERTER PLUG-FANS.

VERSION

RTA/K	*RTA/K/WP*
Cooling only with radial fans	Reversible Heat Pump with radial fans
RTA/K/EC	***RTA/K/EC/WP***
Cooling only with EC Inverter Plug-Fans	Reversible Heat Pump with EC Inverter Plug-Fans

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems for air and rooms
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/K 182÷804

ErP SEER 2021 ErP SCOP

MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50					
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	STD version (7)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1030	1085	1180	1280	1300	1540	1900	1950	2270	2480	3320
	Operating weight	Kg	1015	1070	1165	1265	1285	1520	1880	1930	2250	2460	3290
Weights (EC version)	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UM Section with preparation for Humidifier
UM/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	EC	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/K 182÷363

800 | 1700 | 800 | 1700

RTA/K 393÷804

1000 | 1700 | 1000 | 1700

Electrical board side

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

FROM 58 KW TO 252 KW.

RTA/K/MS 182÷804

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS AND MIXING BOX.

AIRMAXI

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans**. The EC Inverter Plug-Fans with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The MS units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, a **MIXING BOX**.

The units are compliant to the ErP Regulation only if provided with EC INVERTER PLUG-FANS.

VERSION

RTA/K/MS	***RTA/K/WP/MS***
Cooling only with radial fans and Mixing Box	Reversible Heat Pump with radial fans and Mixing Box
RTA/K/EC/MS	***RTA/K/EC/WP/MS***
Cooling only with EC Inverter Plug-Fans and Mixing Box	Reversible Heat Pump with EC Inverter Plug-Fans and Mixing Box

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/K/MS 182÷804

ErP SEER 2021 ErP SCOP

MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50					
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	STD version (7)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1110	1170	1285	1380	1400	1610	2000	2050	2370	2600	3570
	Operating weight	Kg	1095	1155	1265	1360	1380	1590	1980	2030	2350	2580	3540
Weights (EC version)	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors; the opposite movement is ensured by transmission of nylon gear.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	EC	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/K/MS 182÷363

800 | 1700 | 800 | 1700

RTA/K/MS 393÷804

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/K/ECO 182÷804

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS AND ECONOMIZER.

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans**. The EC Inverter Plug-Fans with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING.
The unit can be equipped, as an option, with the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

The units are compliant to the ErP Regulation only if provided with EC INVERTER PLUG-FANS.

AIRMAXI

EC INVERTER PLUG FANS

THERMODYNAMIC COIL-BOOST HEAT RECOVERY

VERSION

RTA/K/ECO	***RTA/K/WP/ECO***
Cooling only with radial fans and Economizer	Reversible Heat Pump with radial fans and Economizer
RTA/K/EC/ECO	***RTA/K/EC/WP/ECO***
Cooling only with EC Inverter Plug-Fans and Economizer	Reversible Heat Pump with EC Inverter Plug-Fans and Economizer

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems for air and rooms
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/K/ECO 182÷804

ErP SEER 2021 ErP SCOP

MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50					
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	STD version (7)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1570	1690	1810	1910	1930	2160	2560	2610	3130	3500	4520
	Operating weight	Kg	1550	1670	1790	1890	1910	2135	2535	2585	3100	3465	4480
Weights (EC version)	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers, the opposite movement is ensured by transmission of nylon gear. Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

COMPLEMENTARY SECTIONS

UM Section with preparation for Humidifier
UM/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	EC	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/K/ECO 182÷363

800 | 1700 | 800 | 1700

RTA/K/ECO 393÷804

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/K/ECO/REC-FX 182÷804

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

AIRMAXI

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans**. The EC Inverter Plug-Fans with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-FX units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **CROSS-FLOW HEAT RECOVERY.**

The units are compliant to the ErP Regulation only if provided with EC INVERTER PLUG-FANS.

VERSION

RTA/K/ECO/REC-FX	***RTA/K/WP/ECO/REC-FX***
Cooling only with radial fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with radial fans, Economizer and Cross-flow Heat Recovery
RTA/K/EC/ECO/REC-FX	***RTA/K/EC/WP/ECO/REC-FX***
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems for air and rooms
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/K/ECO/REC-FX 182÷804

ErP SEER 2021 ErP SCOP

MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	STD version (7)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1715	1800	1980	2090	2110	2370	2800	2850	3370	3720	4720
	Operating weight	Kg	1690	1775	1955	2065	2085	2345	2770	2820	3335	3685	4680
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to the components of the ECO section, it includes: static recovery device made of aluminium with moisture drain pan, flat filters inspectable through hinged door and dampers with return spring servomotors (fresh air damper + air recirculation damper + exhaust air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/K/ECO/REC-FX 182÷363

800 | 1700 | 800 | 1700

RTA/K/ECO/REC-FX 393÷804

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 58 KW TO 252 KW.

RTA/K/ECO/REC-WH 182÷804

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, RADIAL FANS OR EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

AIRMAXI

EC INVERTER PLUG FANS

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Scroll compressors with R410A refrigerant and radial fans or **EC Inverter Plug-Fans.** The EC Inverter Plug-Fans with high energy efficiency backward blades both for intake as well as delivery are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-WH units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **WHEEL HEAT RECOVERY,** able to treat up to 100% of total air flow.

The units are compliant to the ErP Regulation only if provided with EC INVERTER PLUG-FANS.

VERSION

RTA/K/ECO/REC-WH	*RTA/K/WP/ECO/REC-WH*
Cooling only with radial fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with radial fans, Economizer and Wheel Heat Recovery
RTA/K/EC/ECO/REC-WH	***RTA/K/EC/WP/ECO/REC-WH***
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery	Reversible Heat Pump with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised. Frame made of extruded aluminium alloy profiles connected by 3 way joints. Assembling of the base to the frame is of dual support and grants the walking on the base panels installation without sticking out screws. 50mm thick sandwich panels made of prepainted steel sheet; water proofing granted by gaskets having shape memory for perfect seal up even after repeated removals. Section connection is effected by means of assembling conic stirrups and water proofing is granted by gaskets.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- Delivery & intake radial fans coupled to 3-phase motors by V belt and variable pulley.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	2-Row hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coil protection metallic guards

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

RTA/K/ECO/REC-WH 182÷804

ErP SEER 2021 ErP SCOP

MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1	1	1	1
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Air flow	m³/s	6.9	7.1	6.9	6.7	6.7	9.8	14.0	13.9	13.9	13.4	20.0
	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50										
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	50	53	63	67	76	94	100	109	133	150	173
	Max. starting current	A	173	175	186	199	243	218	232	276	265	317	347
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	STD version (7)	dB(A)	58	58	58	58	58	59	60	60	61	61	62
	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1715	1800	1980	2090	2110	2370	2800	2850	3370	3720	4720
	Operating weight	Kg	1690	1775	1955	2065	2085	2345	2770	2820	3335	3685	4680
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to the components of the ECO section, includes: high efficiency wheel-type heat recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan and dampers with spring return (fresh air damper + air recirculation damper + exhaust air damper). Also the adjustment of this section is included into the unit control.

COMPLEMENTARY SECTIONS

UM	Section with preparation for Humidifier
UM/EN	Section Humidifier with electrodes immersed
F/CD	Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

RTA/K/ECO/REC-WH 182÷363

800 | 1700 | 800 | 1700

RTA/K/ECO/REC-WH 393÷804

1000 | 1700 | 1000 | 1700

NOTES

1. Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2. Excluded the power absorbed by fans of air treatment section.
3. Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
4. Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
5. Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
6. Inlet air temperature 20 °C, water temperature 70/60 °C.
7. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side


CLINT
R410A

CHAPTER 6

CONDENSING UNITS

FROM 4,5 KW TO 46 KW.

MHA/K 15÷151

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND ROTARY/SCROLL COMPRESSOR.

The condensing units and reversible condensing units of the MHA/K 15÷151 series, with R410A refrigerant, are designed for small and medium-sized domestic or industrial systems. With a peraluman structure, these outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air conditioning applications
They are equipped with Rotary/Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MHA/K	***MHA/K/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only (15÷81).
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses and compressor remote control switch.
- Microprocessor control and regulation system (WP only).

ACCESSORIES

FACTORY FITTED ACCESSORIES

CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES

RP	Coils protection metallic guards
AG	Rubber shock absorbers

MHA/K 15÷151

MODEL			15	18	21	25	31	41	51
Cooling	Cooling capacity (1)	kW	4.5	5.6	6.8	8.0	9.2	10.8	13.2
	Absorbed power (1)	kW	1.4	1.8	2.1	2.5	2.9	3.7	4.1
Heating	Heating capacity (2)	kW	4.8	5.9	7.3	8.4	9.7	11.3	13.7
	Absorbed power (2)	kW	1.5	1.9	2.3	2.6	3.0	3.8	4.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	7	9	11	11	15	18	7
	Max. starting current	A	37	43	62	62	79	86	58
Sound pressure (3)		dB(A)	49	50	49	51	53	54	54
Weights	Transport weight	Kg	81	83	83	87	90	92	109
	Operating weight	Kg	82	84	84	88	91	93	111

MODEL			61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	15.8	19.1	21.2	26.4	30.9	36.6	45.9
	Absorbed power (1)	kW	5.1	6.2	7.1	8.6	9.2	11.5	14.2
Heating	Heating capacity (2)	kW	16.8	19.9	22.0	27.4	33.2	40.9	51.9
	Absorbed power (2)	kW	5.3	6.4	7.3	8.8	9.8	11.9	15.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Scroll						
Connections	Suction line	Ø mm	18	22	22	28	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	10	10	12	23	29	30	39
	Max. starting current	A	61	58	74	142	147	142	167
Sound pressure (3)		dB(A)	54	55	56	59	61	61	61
Weights	Transport weight	Kg	111	113	115	218	232	252	266
	Operating weight	Kg	114	116	118	221	235	256	271

DIMENSIONS			15	18	21	25	31	41	51	61	71	81	91	101	131	151
L	STD	mm	870	870	870	870	870	870	1160	1160	1160	1160	1850	1850	1850	1850
W	STD	mm	320	320	320	320	320	320	500	500	500	500	1000	1000	1000	1000
H	STD	mm	1100	1100	1100	1100	1100	1100	1270	1270	1270	1270	1300	1300	1300	1300

CLEARANCE AREA

MHA/K 15÷41

200	200	800	200

MHA/K 51÷81

200	200	800	200

MHA/K 91÷151

500	800	800	800

Electrical board side

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

FROM 51 KW TO 188 KW.

MHA/K 182÷604

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND SCROLL COMPRESSORS.

The condensing units and reversible condensing units of the MHA/K 182÷604 series, with R410A refrigerant, are designed to satisfy the needs of medium and large-sized domestic or industrial systems.
These outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications
They are equipped with Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MHA/K	***MHA/K/WP***
Cooling only	Reversible Heat Pump
MHA/K/SSL	***MHA/K/WP/SSL***
Super silenced cooling only	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
EC	EC Inverter fans
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

MHA/K 182÷604

MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	50.6	58.6	66.9	77.2	88.4	102	117	134	156	188
	Absorbed power (1)	kW	17.4	19.7	22.5	25.8	29.5	34.2	39.2	45.6	53.2	63.2
Heating	Heating capacity (2)	kW	55.5	63.5	73.6	83.9	94.5	109	125	142	162	193
	Absorbed power (2)	kW	14.7	16.0	19.1	21.7	24.4	27.9	32.7	36.6	41.7	49.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	1x42	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22	2x22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	40	43	52	56	65	75	85	98	111	132
	Max. starting current	A	163	165	175	188	232	199	218	265	243	299
Sound pressure	STD version (3)	dB(A)	61	61	64	64	65	66	68	68	69	70
	With SL accessory (3)	dB(A)	59	59	62	62	63	64	66	66	67	68
	SSL version (3)	dB(A)	57	57	60	60	61	62	63	63	64	---
Weights	Transport weight	Kg	550	575	615	625	670	770	800	830	980	1090
	Operating weight	Kg	560	585	625	635	680	785	815	845	1005	1120

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

MHA/K 182÷604

300	800	800	1800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

FROM 4,5 KW TO 37 KW.

MRA/K 15÷131

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND ROTARY/SCROLL COMPRESSOR FOR INDOOR DUCTED INSTALLATION

The indoor condensing units and reversible condensing units of the MRA/K 15÷131 series, with R410A refrigerant, are intended to satisfy the needs of small and medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air-conditioning applications.
They are equipped with Rotary/Scroll compressors and radial fans, with appreciable useful head, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MRA/K	***MRA/K/WP***
Cooling only	Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Double inlet radial fan statically and dynamically balanced directly driven by a electric motor (15÷81) or belt driven connected to a three-phase electric motor (91÷131).
- Condenser in copper tubes and aluminium finned coil, complete with drain pan for WP version only.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuse and compressors remote control switch.
- Microprocessor control and regulation system (WP only).

ACCESSORIES

FACTORY FITTED ACCESSORIES

CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES

RP	Coils protection metallic guards
AG	Rubber shock absorbers

MRA/K 15÷131

MODEL			15	18	21	25	31	41	51
Cooling	Cooling capacity (1)	kW	4.5	5.6	6.8	8.0	9.2	10.8	13.2
	Absorbed power (1)	kW	1.5	1.9	2.2	2.6	3.0	3.8	4.9
Heating	Heating capacity (2)	kW	4.8	5.9	7.3	8.4	9.7	11.3	13.7
	Absorbed power (2)	kW	1.6	2.0	2.4	2.7	3.1	3.9	5.0
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Available static pressure		Pa	90	90	80	80	80	80	115
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	10	12	13	14	17	21	11
	Max. starting current	A	40	46	65	65	82	89	61
Sound pressure (3)		dB(A)	51	51	51	52	53	54	59
Weights	Transport weight	Kg	120	121	123	126	131	133	190
	Operating weight	Kg	121	122	124	127	132	134	192

MODEL			61	71	81	91	101	131
Cooling	Cooling capacity (1)	kW	15.8	19.1	21.2	26.4	30.9	36.6
	Absorbed power (1)	kW	5.9	7.0	7.9	10.3	10.4	13.5
Heating	Heating capacity (2)	kW	16.8	19.9	22.0	27.4	33.2	40.9
	Absorbed power (2)	kW	6.1	7.2	8.1	10.5	11.0	13.9
Compressor	Quantity	n°	1	1	1	1	1	1
	Type		Scroll					
Connections	Suction line	Ø mm	18	22	22	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12
Available static pressure		Pa	115	115	115	150	150	160
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50					
	Max. running current	A	14	14	15	27	33	36
	Max. starting current	A	64	61	77	146	151	148
Sound pressure (3)		dB(A)	59	60	60	62	62	64
Weights	Transport weight	Kg	200	202	204	313	319	334
	Operating weight	Kg	203	205	207	316	322	338

DIMENSIONS			15	18	21	25	31	41	51	61	71	81	91	101	131
L	STD	mm	900	900	900	900	900	900	900	900	900	900	1500	1500	1500
W	STD	mm	550	550	550	550	550	550	690	690	690	690	800	800	800
H	STD	mm	1425	1425	1425	1425	1425	1425	1725	1725	1725	1725	1425	1425	1425

CLEARANCE AREA

MRA/K 15÷41

100	800	800	800

MRA/K 51÷81

100	800	800	1000

MRA/K 91÷131

1200	800	800	100

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP version are specified on technical brochure.

Electrical board side

FROM 51 KW TO 188 KW.

MRA/K 182÷604

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND SCROLL COMPRESSORS.

The indoor condensing units and reversible condensing units of the MRA/K 182÷604 series, with R410A refrigerant, are designed to satisfy the needs of medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
These units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications.
They are equipped with Scroll compressors and radial fans even in a high ESP version, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

VERSION

MRA/K	***MRA/K/AP***
Cooling only	Cooling only with high ESP fans
MRA/K/WP	***MRA/K/WP/AP***
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser made of copper tubes and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

MRA/K 182÷604

MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	50.6	58.6	66.9	77.2	88.4	102	117	134	156	188
	Absorbed power (1)	kW	18.3	21.4	24.9	28.2	31.9	36.6	43.2	49.6	58.2	69.2
Heating	Heating capacity (2)	kW	55.5	63.5	73.6	83.9	94.5	109	125	142	162	193
	Absorbed power (2)	kW	15.6	17.7	21.5	24.1	26.8	30.3	36.7	40.6	46.7	55.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	1x42	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22	2x22
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	43	48	57	61	70	80	94	107	122	146
	Max. starting current	A	166	169	180	193	237	204	227	275	255	313
Sound pressure	STD version (3)	dB(A)	70	70	70	70	71	73	74	74	75	76
	STD version with SL accessory (3)	dB(A)	68	68	68	68	69	71	72	72	73	74
	High ESP version (3)	dB(A)	71	71	71	71	72	74	---	---	76	---
	High ESP version with SL accessory (3)	dB(A)	69	69	69	69	70	72	---	---	74	---
Weights	Transport weight	Kg	595	600	670	680	725	825	865	895	1080	1185
	Operating weight	Kg	605	610	680	690	735	840	880	910	1105	1215

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	1705	1705	1705	1705	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

MRA/K 182÷604

300	800	800	1800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

CHAPTER 7

FAN COIL UNITS

FROM 1,3 KW TO 7,3 KW.

FVW 13÷74 FLOYD

FAN COIL UNITS WITH CABINET AND 3-SPEED OR EC INVERTER RADIAL FANS.

floyd®

EC INVERTER FAN

The hydronic Fan Coil units with cabinet of FVW series feature a refined, exclusive design combined with the highest efficiency and noiseless operation.
Part of an hydronic system equipped with a liquid Chiller, **FLOYD** generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. All installation needs are considered in the many standard features of the unit. It can be installed horizontally or vertically, with front, bottom or rear intake. There is also a series of accessories, also for 4-Pipe systems, that includes a control panel that is installed on-board or in the room.
Units are available both with 3-Speed or EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

FVW/VP	***FVW/VH***	***FVW/VE***	***FVW/VO***
Vertical unit with bottom inlet and vertical delivery	Vertical unit with front inlet and vertical delivery	Horizontal unit with rear inlet and horizontal delivery	Horizontal unit with bottom inlet and horizontal delivery
FVW/VP/EC	***FVW/VH/EC***	***FVW/VE/EC***	***FVW/VO/EC***
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery	Vertical unit with EC Inverter fans, front inlet and vertical delivery	Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery	Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Structure made of galvanized sheet protected by a prepainted sheet covering cabinet and ABS details, complete with heat/sound insulation, regenerating filter, heat-resistant ABS polymer grills adjustable in 4 different directions and natural discharge condensation tray.
- Radial fan type directly coupled to a 6-Speed single phase electric motor, with 3 speeds connected in the standard configuration.
- Radial EC INVERTER fan (23÷74).
- Heat exchanger coils with copper pipes and aluminium fins with airvent on the distributors.

ACCESSORIES

LOOSE ACCESSORIES

Z	Couple of feet
C	Auxiliary condensate drain pan
WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
PP	Rear panel
TP	Rear closure
S	Manual damper
SG	Manual damper with grid
SMF	On/off motorized damper
SMG	On/off motorized damper with grid
RM	Wall connection for damper
DBA	On board automatic electronic control panel
DRA	Wall mounted automatic electronic control panel
VB	On board fan speed control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DBE	On board electromechanic control panel
DRE	Wall mounted electromechanic control panel
DBV	On board automatic electronic control panel
DRV	Wall mounted automatic electronic control panel
MCC	Multicontrol connection card
BC	Universal connecting terminal
TMB	Minimum temperature thermostat for VB and VR
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system
MP	Condensate drain pump

FVW 13÷74 floyd

MODEL			13	14	23	24	33	34	43
Cooling	Total cooling capacity (1),(2)	kW	1.31	1.49	1.77	2.05	2.47	2.77	3.11
	Sensible cooling capacity (1),(2)	kW	1.09	1.26	1.45	1.68	1.96	2.16	2.42
	Water flow (1),(2)	l/h	225	256	304	353	425	476	535
	Pressure drops (1),(2)	kPa	5	1	11	6	8	5	14
Heating	Heating capacity (2),(3)	kW	3.20	3.45	4.19	4.53	5.70	6.35	7.03
	Water flow (2),(3)	l/h	275	297	360	390	490	546	605
	Pressure drops (2),(3)	kPa	4	1	8	2	6	4	11
Rows	Quantity	n°	3	4	3	4	3	4	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	240	240	340	340	430	430	540
	Med	m³/h	190	190	260	260	340	340	420
	Min	m³/h	140	140	170	170	250	250	280
Air flow (EC version)	Max	m³/h	---	---	340	340	430	430	540
	Min	m³/h	---	---	150	150	180	180	230
Additional coil	Heating capacity (2),(3)	kW	1.50	1.50	2.16	2.16	2.92	2.92	3.75
	Water flow (2),(3)	l/h	129	129	186	186	251	251	322
	Pressure drops (2),(3)	kPa	5	5	9	9	15	15	26
	Rows	n°	1	1	1	1	1	1	1
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	0.6	0.6	1.0	1.0	1.6	1.6	2.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.03	0.03	0.05	0.05	0.05	0.05	0.07
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---		230/1/50				
	Max absorbed power	kW	---	---	0.02	0.02	0.03	0.03	0.04
Sound pressure	Max (4)	dB(A)	41	41	44	44	40	40	44
	Med (4)	dB(A)	34	34	38	38	34	34	37
	Min (4)	dB(A)	26	26	26	26	25	25	27
Sound pressure (EC version)	Max (4)	dB(A)	---	---	44	44	40	40	44
	Min (4)	dB(A)	---	---	25	25	24	24	26
Weights	Transport weight	Kg	16	16	19	19	24	25	28
	Operating weight	Kg	14	14	17	17	22	23	26

MODEL			44	53	54	63	64	73	74
Cooling	Total cooling capacity (1),(2)	kW	3.54	4.04	4.58	5.09	5.96	6.45	7.26
	Sensible cooling capacity (1),(2)	kW	2.71	3.12	3.47	3.86	4.63	5.07	5.57
	Water flow (1),(2)	l/h	609	695	788	875	1025	1109	1249
	Pressure drops (1),(2)	kPa	9	26	17	8	5	16	15
Heating	Heating capacity (2),(3)	kW	7.75	9.01	9.93	11.69	13.00	14.59	16.19
	Water flow (2),(3)	l/h	666	775	854	1005	1118	1255	1392
	Pressure drops (2),(3)	kPa	7	20	13	6	4	12	8
Rows	Quantity	n°	4	3	4	3	4	3	4
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	540	690	690	910	910	1180	1180
	Med	m³/h	420	530	530	730	730	810	810
	Min	m³/h	280	400	400	510	510	590	590
Air flow (EC version)	Max	m³/h	540	690	690	910	910	1180	1180
	Min	m³/h	230	300	300	420	420	500	500
Additional coil	Heating capacity (2),(3)	kW	3.75	4.65	4.65	6.01	6.01	7.84	7.84
	Water flow (2),(3)	l/h	322	400	400	517	517	674	674
	Pressure drops (2),(3)	kPa	26	18	18	13	13	24	24
	Rows	n°	1	1	1	1	1	1	1
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	2.0	2.5	2.5	3.0	3.0	4.0	4.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.07	0.09	0.09	0.16	0.16	0.19	0.19
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.07	0.07	0.09	0.09	0.13	0.13
Sound pressure	Max (4)	dB(A)	44	46	46	48	48	52	52
	Med (4)	dB(A)	37	39	39	43	43	42	42
	Min (4)	dB(A)	27	33	33	34	34	34	34
Sound pressure (EC version)	Max (4)	dB(A)	44	46	46	48	48	52	52
	Min (4)	dB(A)	26	29	29	28	28	33	33
Weights	Transport weight	Kg	29	33	34	43	44	54	56
	Operating weight	Kg	27	31	32	41	42	52	54

DIMENSIONS			13	14	23	24	33	34	43	44	53	54	63	64	73	74
L	STD/EC	mm	650	650	780	780	1040	1040	1170	1170	1430	1430	1430	1430	1690	1690
W	STD/EC	mm	210	210	210	210	210	210	210	210	210	210	275	275	275	275
H	STD/EC	mm	500	500	500	500	500	500	500	500	500	500	570	570	570	570
D (5)	STD/EC	mm	90	90	90	90	90	90	90	90	90	90	90	90	90	90

CLEARANCE AREA

FVW 13÷74 floyd

Electrical board side

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
5. Feet height.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

FROM 1,3 KW TO 7,3 KW.

FIW 13÷74

FAN COIL UNITS FOR BUILT-IN INSTALLATION WITH 3-SPEED OR EC INVERTER RADIAL FANS.

EC INVERTER FAN

The hydronic Fan Coil units of FIW series are designed for built-in installation: vertical floor-mounted or horizontal ceiling-mounted in domestic environments or service sector including offices, hotels, restaurants, gyms and shops.
Part of an hydronic system equipped with a liquid Chiller, FIW Fan Coil generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. All installation needs are considered in the many standard features of the unit. It can be installed horizontally or vertically, with front, bottom or rear intake. There is also a series of accessories, also for 4-Pipe systems, that includes a control panel that is installed in the room.
Units are available both with 3-Speed or EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

FIW/IV	***FIW/IF***	***FIW/IO***	***FIW/II***
Vertical unit with bottom inlet and vertical delivery	Vertical unit with front inlet and vertical delivery	Horizontal unit with rear inlet and horizontal delivery	Horizontal unit with bottom inlet and horizontal delivery
FIW/IV/EC	***FIW/IF/EC***	***FIW/IO/EC***	***FIW/II/EC***
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery	Vertical unit with EC Inverter fans, front inlet and vertical delivery	Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery	Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Structure made of galvanized sheet complete with heat/sound insulation, regenerating filter and natural discharge condensation tray.
- Radial fan type directly coupled to a 6-Speed single phase electric motor, with 3 speeds connected in the standard configuration.
- Radial EC INVERTER fan (23÷74).
- Heat exchanger coils with copper pipes and aluminium fins with airvent on the distributors.

ACCESSORIES

LOOSE ACCESSORIES

C	Auxiliary condensate drain pan
WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
S	Manual damper
SG	Manual damper with grid
SMF	On/off motorized damper
SMG	On/off motorized damper with grid
RM	Wall connection for damper
SF	Supply frame
DRA	Wall mounted automatic electronic control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DRE	Wall mounted electromechanic control panel
DRV	Wall mounted automatic electronic control panel
MCC	Multicontrol connection card
BC	Universal connecting terminal
TMB	Minimum temperature thermostat for VB and VR
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system
MP	Condensate drain pump

FIW 13÷74

MODEL			13	14	23	24	33	34	43
Cooling	Total cooling capacity (1),(2)	kW	1.31	1.49	1.77	2.05	2.47	2.77	3.11
	Sensible cooling capacity (1),(2)	kW	1.09	1.26	1.45	1.68	1.96	2.16	2.42
	Water flow (1),(2)	l/h	225	256	304	353	425	476	535
	Pressure drops (1),(2)	kPa	5	1	11	6	8	5	14
Heating	Heating capacity (2),(3)	kW	3.20	3.45	4.19	4.53	5.70	6.35	7.03
	Water flow (2),(3)	l/h	275	297	360	390	490	546	605
	Pressure drops (2),(3)	kPa	4	1	8	2	6	4	11
Rows	Quantity	n°	3	4	3	4	3	4	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	240	240	340	340	430	430	540
	Med	m³/h	190	190	260	260	340	340	420
	Min	m³/h	140	140	170	170	250	250	280
Air flow (EC version)	Max	m³/h	---	---	340	340	430	430	540
	Min	m³/h	---	---	150	150	180	180	230
Additional coil	Heating capacity (2),(3)	kW	1.50	1.50	2.16	2.16	2.92	2.92	3.75
	Water flow (2),(3)	l/h	129	129	186	186	251	251	322
	Pressure drops (2),(3)	kPa	5	5	9	9	15	15	26
	Rows	n°	1	1	1	1	1	1	1
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	0.6	0.6	1.0	1.0	1.6	1.6	2.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.03	0.03	0.05	0.05	0.05	0.05	0.07
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---		230/1/50				
	Max absorbed power	kW	---	---	0.02	0.02	0.03	0.03	0.04
Sound pressure	Max (4)	dB(A)	41	41	44	44	40	40	44
	Med (4)	dB(A)	34	34	38	38	34	34	37
	Min (4)	dB(A)	26	26	26	26	25	25	27
Sound pressure (EC version)	Max (4)	dB(A)	---	---	44	44	40	40	44
	Min (4)	dB(A)	---	---	25	25	24	24	26
Weights	Transport weight	Kg	12	12	14	14	18	19	21
	Operating weight	Kg	10	10	12	12	16	17	19

MODEL			44	53	54	63	64	73	74
Cooling	Total cooling capacity (1),(2)	kW	3.54	4.04	4.58	5.09	5.96	6.45	7.26
	Sensible cooling capacity (1),(2)	kW	2.71	3.12	3.47	3.86	4.63	5.07	5.57
	Water flow (1),(2)	l/h	609	695	788	875	1025	1109	1249
	Pressure drops (1),(2)	kPa	9	26	17	8	5	16	15
Heating	Heating capacity (2),(3)	kW	7.75	9.01	9.93	11.69	13.00	14.59	16.19
	Water flow (2),(3)	l/h	666	775	854	1005	1118	1255	1392
	Pressure drops (2),(3)	kPa	7	20	13	6	4	12	8
Rows	Quantity	n°	4	3	4	3	4	3	4
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	540	690	690	910	910	1180	1180
	Med	m³/h	420	530	530	730	730	810	810
	Min	m³/h	280	400	400	510	510	590	590
Air flow (EC version)	Max	m³/h	540	690	690	910	910	1180	1180
	Min	m³/h	230	300	300	420	420	500	500
Additional coil	Heating capacity (2),(3)	kW	3.75	4.65	4.65	6.01	6.01	7.84	7.84
	Water flow (2),(3)	l/h	322	400	400	517	517	674	674
	Pressure drops (2),(3)	kPa	26	18	18	13	13	24	24
	Rows	n°	1	1	1	1	1	1	1
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	2.0	2.5	2.5	3.0	3.0	4.0	4.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.07	0.09	0.09	0.16	0.16	0.19	0.19
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.07	0.07	0.09	0.09	0.13	0.13
Sound pressure	Max (4)	dB(A)	44	46	46	48	48	52	52
	Med (4)	dB(A)	37	39	39	43	43	42	42
	Min (4)	dB(A)	27	33	33	34	34	34	34
Sound pressure (EC version)	Max (4)	dB(A)	44	46	46	48	48	52	52
	Min (4)	dB(A)	26	29	29	28	28	33	33
Weights	Transport weight	Kg	22	24	25	33	34	42	44
	Operating weight	Kg	20	22	23	31	32	40	42

DIMENSIONS			13	14	23	24	33	34	43	44	53	54	63	64	73	74
L	STD/EC	mm	440	440	560	560	760	760	960	960	1160	1160	1135	1135	1410	1410
W	STD/EC	mm	195	195	195	195	195	195	195	195	195	195	260	260	260	260
H	STD/EC	mm	475	475	475	475	475	475	475	475	475	475	545	545	545	545

CLEARANCE AREA

FIW 13÷74

Electrical board side

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

FROM 1,4 KW TO 6,7 KW.

FIW/AP 23÷74

FAN COIL UNITS FOR BUILT-IN INSTALLATION WITH HIGH AVAILABLE STATIC PRESSURE AND 3-SPEED OR EC INVERTER RADIAL FANS.

EC INVERTER FAN

HIGH STATIC PRESSURE

The hydronic Fan Coil units of FIW/AP series, with high available static pressure fan, are designed for built-in and ducted installation: vertical floor-mounted or horizontal ceiling-mounted in domestic environments or service sector including offices, hotels, restaurants, gyms and shops. Part of an hydronic system equipped with a liquid Chiller, FIW/AP Fan Coil generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. All installation needs are considered in the many standard features of the unit. It can be installed horizontally or vertically, with front, bottom or rear intake. There is also a series of accessories, also for 4-Pipe systems, that includes a control panel that is installed in the room.
The high available static pressure fan allows to reach up to 60 Pa, therefore makes the unit also suitable for installation on air ducts.
Units are available both with 3-Speed or EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

FIW/AP/IV	***FIW/AP/IF***	***FIW/AP/IO***	***FIW/AP/II***
Vertical unit with bottom inlet and vertical delivery	Vertical unit with front inlet and vertical delivery	Horizontal unit with rear inlet and horizontal delivery	Horizontal unit with bottom inlet and horizontal delivery
FIW/AP/IV/EC	***FIW/AP/IF/EC***	***FIW/AP/IO/EC***	***FIW/AP/II/EC***
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery	Vertical unit with EC Inverter fans, front inlet and vertical delivery	Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery	Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Structure made of galvanized sheet complete with heat/sound insulation, regenerating filter and natural discharge condensation tray.
- Radial fan type directly coupled to a 6-Speed single phase electric motor, with 3 speeds connected in the standard configuration.
- Radial EC INVERTER fan.
- Heat exchanger coils with copper pipes and aluminium fins with airvent on the distributors.

ACCESSORIES

LOOSE ACCESSORIES

WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
C	Auxiliary condensate drain pan
S	Manual damper
SG	Manual damper with grid
SMF	On/off motorized damper
SMG	On/off motorized damper with grid
RM	Wall connection for damper
SF	Supply frame
DRA	Wall mounted automatic electronic control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DRE	Wall mounted electromechanic control panel
DRV	Wall mounted automatic electronic control panel
MCC	Multicontrol connection card
BC	Universal connecting terminal
TMB	Minimum temperature thermostat for VB and VR
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system
MP	Condensate drain pump

FIW/AP 23÷74

MODEL			23	24	33	34	43	44	53	54	63	64	73	74
Cooling	Total cooling capacity (1),(2)	kW	1.35	1.55	1.96	2.15	2.72	3.00	3.31	3.70	4.39	5.09	5.99	6.69
	Sensible cooling capacity (1),(2)	kW	1.05	1.14	1.49	1.56	2.08	2.24	2.50	2.67	3.27	3.69	4.64	5.08
	Water flow (1),(2)	l/h	232	267	337	369	468	528	569	636	755	876	1030	1151
	Pressure drops (1),(2)	kPa	7	1	5	3	11	7	18	11	6	4	14	9
Heating	Heating capacity (2),(3)	kW	3.00	3.20	4.30	4.73	6.02	6.58	7.17	7.82	9.80	10.80	13.33	14.71
	Water flow (2),(3)	l/h	258	276	369	407	517	566	616	673	843	930	1146	1264
	Pressure drops (2),(3)	kPa	4	1	4	2	8	5	13	8	4	3	10	6
Rows	Quantity	n°	3	4	3	4	3	4	3	4	3	4	3	4
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	230	230	310	310	450	450	530	530	740	740	1060	1060
	Med	m³/h	190	190	270	270	400	400	460	460	520	520	890	890
	Min	m³/h	140	140	190	190	220	220	400	400	420	420	600	600
Air flow (EC version)	Max	m³/h	230	230	310	310	450	450	530	530	740	740	1060	1060
	Min	m³/h	120	120	170	170	190	190	360	360	380	380	540	540
Available static pressure	Max	Pa	60	60	60	60	60	60	60	60	60	60	60	60
	Med	Pa	50	50	50	50	50	50	50	50	50	50	50	50
	Min	Pa	30	30	40	40	35	35	40	40	35	35	30	30
Available static pressure (EC version)	Max	Pa	60	60	60	60	60	60	60	60	60	60	60	60
	Min	Pa	30	30	40	40	35	35	40	40	35	35	30	30
Additional coil	Heating capacity (2),(3)	kW	1.66	1.66	2.34	2.34	3.32	3.32	3.89	3.89	5.25	5.25	7.31	7.31
	Water flow (2),(3)	l/h	143	143	201	201	285	285	335	335	451	451	628	628
	Pressure drops (2),(3)	kPa	4	4	10	10	19	19	5	5	10	10	21	21
	Rows	n°	1	1	1	1	1	1	1	1	1	1	1	1
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
Electrical heater	Power supply	V/Ph/Hz	230/1/50											
	Absorbed power	kW	1.0	1.0	1.6	1.6	2.0	2.0	2.5	2.5	3.0	3.0	4.0	4.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50											
	Max absorbed power	kW	0.06	0.06	0.07	0.07	0.08	0.08	0.11	0.11	0.14	0.14	0.19	0.19
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50											
	Max absorbed power	kW	0.03	0.03	0.04	0.04	0.05	0.05	0.09	0.09	0.13	0.13	0.14	0.14
Sound pressure	Max (4)	dB(A)	48	48	47	47	47	47	49	49	50	50	54	54
	Med (4)	dB(A)	45	45	44	44	45	45	45	45	45	45	48	48
	Min (4)	dB(A)	32	32	34	34	33	33	39	39	38	38	43	43
Sound pressure (EC version)	Max (4)	dB(A)	49	49	49	49	49	49	52	52	55	55	56	56
	Min (4)	dB(A)	31	31	34	34	30	30	35	35	37	37	41	41
Weights	Transport weight	Kg	14	14	18	19	21	22	24	25	33	34	42	44
	Operating weight	Kg	12	12	16	17	19	20	22	23	31	32	40	42

DIMENSIONS			23	24	33	34	43	44	53	54	63	64	73	74
L	STD/EC	mm	560	560	760	760	960	960	1160	1160	1135	1135	1410	1410
W	STD/EC	mm	195	195	195	195	195	195	195	195	260	260	260	260
H	STD/EC	mm	475	475	475	475	475	475	475	475	545	545	545	545

CLEARANCE AREA

FIW/AP 23÷74

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 2,1 KW TO 5,4 KW.

HWW/EC 22÷62 EURÌCE

WALL MOUNTED FAN COIL UNITS WITH EC INVERTER TANGENTIAL FAN.

eurìce®

EC INVERTER FAN

The hydronic Fan Coil units of the HWW/EC series are designed for wall-mounted installation in domestic environments or service sector including offices and shops.
Part of an hydronic system equipped with a liquid Chiller, the HWW/EC wall-mounted Fan Coil unit generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs.
A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms.
HWW/EC is provided with remote control, 3-Way valve, flexible hydraulic hook-ups for easy installation and maintenance operations, and is also pre-set for master-slave functioning, with RS485 serial interface. The units are equipped with EC Inverter motor that can modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

HWW/EC

Base unit with 3-Way valve and remote control

FEATURES

- High design appearance with rounded lines, structure in ABS with improved mechanical features resistant to aging.
- Heat exchanger coils with copper pipes and aluminium fins with elevated heat exchanging surfaces; equipped with air blowing in condensation drain.
- 3-Way water valve incorporated inside the unit.
- Tangential fan unit with EC INVERTER motor, maximum silent operations, air flow fins with adjustable horizontal direction and motorized deflector fin controllable via remote control.
- Microprocessor control with timer for on/off programming. Program for automatic operations, cooling, heating and ventilation; night wellness program and dehumidifier.
- Automatic restarting after power outage
- Flexible water connections for easy installation and maintenance operations.
- Easy removal and cleaning of air filter, maintaining appropriate air quality.
- Infrared remote control with wall support.

ACCESSORIES

LOOSE ACCESSORIES

EH	Supplementary electrical heater
DRC	Wall mounted automatic electronic control panel

HWW/EC 22÷62 eurìce

MODEL			22	23	32	42	52	62
Cooling	Total cooling capacity (1)	kW	2.07	2.49	3.02	3.74	4.81	5.38
	Sensible cooling capacity (1)	kW	1.52	1.81	2.22	2.74	3.46	3.89
	Water flow (1)	l/h	355	427	525	642	826	924
	Pressure drops	kPa	22	28	39	38	45	52
Heating	Water flow (2)	l/h	355	427	525	642	826	924
	Heating capacity (2)	kW	2.70	3.21	3.93	4.87	6.10	6.85
	Pressure drops	kPa	18	23	32	29	34	40
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	500	500	645	788	980	1240
	Min	m³/h	290	290	370	570	600	600
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50					
	Max absorbed power	kW	0.014	0.014	0.020	0.030	0.042	0.060
Sound pressure	Max (3)	dB(A)	37	37	43	46	40	45
	Min (3)	dB(A)	26	26	29	34	30	30
Weights	Transport weight	Kg	14	15	15	16	18	18
	Operating weight	Kg	12	13	13	14	16	16

DIMENSIONS			22	23	32	42	52	62
L	STD	mm	875	875	875	875	1060	1060
W	STD	mm	220	220	220	220	240	240
H	STD	mm	300	300	300	300	310	310

CLEARANCE AREA

HWW/EC 22÷62 eurìce

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Ambient air temperature 20 °C d.b., water temperature 50 °C.
3. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 70 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 2,4 KW TO 11 KW.

TCW 22÷122

WATER CASSETTE WITH 3-SPEED OR EC INVERTER RADIAL FAN.

EC INVERTER FAN

The Water Cassette of the TCW series has been designed to be installed in false ceilings, in domestic environments or the services sector including offices, hotels, restaurants, gyms and shops.
Part of an hydronic system equipped with a liquid Chiller, the TCW Water Cassette generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level, and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms. The TCW series, in addition to having a rich set of accessories to complete the unit, also has an attractive intake grid that integrates perfectly in the surrounding environment and adjustable deflectors to distribute the air in the room in an ideal manner. TCW Water Cassette features auxiliary moisture drain pan already included and are pre-set for master-slave functioning, with RS485 serial interface. Units are available both with 3-Speed and EC Inverter fans. The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

TCW	***TCW/WB***
Base unit with remote control for 2-Pipe system	Unit with remote control for 4-Pipe system
TCW/EC	***TCW/WB/EC***
Unit with EC Inverter fan and remote control for 2-Pipe system	Unit with EC Inverter fan and remote control for 4-Pipe system

FEATURES

- Structure for insulated recess fitting, limited body depth (250/290 mm) and compact dimensions; specially designed for easy installation and maintenance of the hydraulic and electrical connections, accessible starting from the front panel grid.
- Casing in insulated galvanized sheet; combined air intake/suction grid; automatic adjustment of air diffusion on the four sides; suction in middle with regenerable filter; precut holes for connection to an external air intake and for connection to a branch duct for conditioning an adjoining room.
- Combined air diffusion/suction grid with air filter and adjustable air diffusion on the 4 sides with suction in middle.
- Radial fan turbine with direct feed. The motors, mounted on elastic suspension and equipped with internal thermal safety, are 3-Speed.
- Radial fan turbine with direct feed. EC INVERTER motors, mounted on elastic suspension and equipped with internal thermal safety (32-53-73-122).
- Lift pump with float and detection at 3 levels (On-Off-Alarm) of condensation for lift in the upper part of the box. Discharge occurs by gravity, outside the appliance (lift height up to 500 mm).
- Heat exchanger in copper pipes and aluminium fins with air vent on the headers.
- Regenerable-type air filter, accessible after opening the combined air intake/suction grid.
- Microprocessor control with timer for on/off programming. Program for automatic operations, cooling, heating and ventilation; night wellness program and dehumidifier.
- Infrared remote control with wall support.

ACCESSORIES

LOOSE ACCESSORIES

EH	Supplementary electrical heater
DRC	Wall mounted automatic electronic control panel
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system

TCW 22÷122

MODEL			22	32	42	53	63	73	122
Cooling 2-Pipe unit	Total cooling capacity (1)	kW	2.4	3.2	4.1	4.9	6.1	6.9	10.9
	Sensible cooling capacity (1)	kW	1.7	2.5	3.0	3.5	4.9	5.1	7.9
	Water flow (1)	l/h	413	550	705	843	1049	1187	1875
	Pressure drops (1)	kPa	10	20	28	42	28	39	43
Cooling 2-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	3.2	---	4.6	---	6.8	10.9
	Sensible cooling capacity (1)	kW	---	2.4	---	3.2	---	5.0	7.9
	Water flow (1)	l/h	---	550	---	791	---	1170	1875
	Pressure drops (1)	kPa	---	20	---	39	---	39	38
Heating 2-Pipe unit	Heating capacity (2)	kW	4.9	6.6	7.8	9.7	11.9	12.7	18.9
	Water flow (2)	l/h	422	568	672	834	1023	1090	1624
	Pressure drops (2)	kPa	8	17	25	40	24	26	32
Heating 2-Pipe unit (EC version)	Heating capacity (2)	kW	---	7.1	---	9.2	---	13.4	18.3
	Water flow (2)	l/h	---	610	---	791	---	1152	1574
	Pressure drops (2)	kPa	---	20	---	34	---	31	25
Cooling 4-Pipe unit	Total cooling capacity (1)	kW	---	---	3.1	3.9	---	5.8	7.9
	Sensible cooling capacity (1)	kW	---	---	2.4	2.9	---	4.5	6.0
	Water flow (1)	l/h	---	---	533	671	---	998	1359
	Pressure drops (1)	kPa	---	---	21	23	---	46	29
Cooling 4-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	---	---	3.8	---	5.8	7.1
	Sensible cooling capacity (1)	kW	---	---	---	2.8	---	4.2	5.2
	Water flow (1)	l/h	---	---	---	654	---	998	1221
	Pressure drops (1)	kPa	---	---	---	21	---	52	24
Heating 4-Pipe unit	Heating capacity (2)	kW	---	---	3.8	4.3	---	5.0	9.7
	Water flow (2)	l/h	---	---	326	370	---	430	834
	Pressure drops (2)	kPa	---	---	11	12	---	15	27
Heating 4-Pipe unit (EC version)	Heating capacity (2)	kW	---	---	---	4.3	---	4.6	9.3
	Water flow (2)	l/h	---	---	---	370	---	395	800
	Pressure drops (2)	kPa	---	---	---	11	---	14	19
Water connections	2-Pipe (In / Out)	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	4-Pipe (In / Out)	"G	---	---	3/4"	3/4"	---	3/4"	3/4"
Air flow	Max	m³/h	380	580	730	810	1050	1300	2130
	Med	m³/h	240	290	520	617	820	960	1640
	Min	m³/h	200	200	450	450	700	700	1380
Air flow (EC version)	Max	m³/h	---	580	---	810	---	1300	2100
	Min	m³/h	---	200	---	200	---	360	820
Electrical heater	Power supply	V/Ph/Hz	230/1/50						
	Absorbed power	kW	1	1	2	2	3	3	4
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						
	Max absorbed power	kW	0.04	0.06	0.06	0.09	0.11	0.20	0.30
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---	230/1/50	---		---		
	Max absorbed power	kW	---	0.03	---	0.04	---	0.09	0.20
Sound pressure	Max (3)	dB(A)	39	42	46	48	51	53	55
	Med (3)	dB(A)	33	36	40	43	44	48	48
	Min (3)	dB(A)	31	31	34	34	39	39	42
Sound pressure (EC version)	Max (3)	dB(A)	---	42	---	48	---	53	54
	Min (3)	dB(A)	---	29	---	30	---	34	36
Weights	Transport weight	Kg	31	31	33	33	40	40	55
	Operating weight	Kg	28	28	30	30	36	36	50

DIMENSIONS			22	32	42	53	63	73	122
BODY	L	mm	580	580	580	580	730	730	830
	W	mm	680	680	680	680	830	830	980
	H	mm	580	580	580	580	730	730	830
PANEL	L	mm	680	680	680	680	830	830	980
	W	mm	250	250	290	290	260	260	290
	H	mm	28	28	28	28	28	28	28

CLEARANCE AREA

TCW 22÷122

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
3. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 80 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

FROM 4,6 KW TO 43 KW.

UTW 63÷544

DUCTABLE FAN COIL UNITS WITH 3-SPEED OR EC INVERTER RADIAL FANS.

EC INVERTER FAN

The modular Fan Coil units of the UTW series are the ideal solution to meet the air treatment needs of systems including distribution through ducting or directly into the room and installation in false ceilings or in service rooms.
Part of an hydronic system equipped with a liquid Chiller, the UTW modular ductable Fan Coil unit generates cool air silently and with instantaneous reaction. During the winter, if combined with a boiler or heat pump, it provides warm air, making it possible to meet home or business heating needs. A filter, which absorbs and retains dust in suspension, allows to keep the air quality at a suitable level and its easy removal enables continuous cleaning cycles to be carried out, which are particularly important in order to guarantee suitable hygiene standards in highly frequented rooms.
This product range, available for 2-Pipe and 4-Pipe systems, is complete with various accessories such as: outdoor air intake plenum, mixing section with dampers room delivery plenum for flexible ducts and electrical heating section. Units are available both with 3-Speed and EC Inverter fans.The units equipped with EC Inverter motor are able to modulate the air flow ensuring a perfect adaptability to the load without any temperature fluctuations, achieving superior performance compared to the traditional solutions even from energy consumption point of view.

VERSION

UTW	***UTW/EC***
Base unit	Unit with EC Inverter fans

FEATURES

- Structure in galvanized sheet (63÷274) or in prepainted metal sheet (333÷544), entirely lined with heat/sound insulation material.
- Radial type fan with double intake, statically and dynamically balanced to reduce vibration and noise to a minimum, directly coupled on single-phase 3-Speed electric motor (63÷274) or with belt and pulley transmission, connected to 3-phase single speed electric motor (333÷544).
- Radial type fan with double intake and EC INVERTER fan type (63÷274).
- Heat exchanger in copper pipes and aluminium fins, complete with air vent and drain pan.
- Air filter made of recyclable synthetic material class EU3; inspection is foreseen from the bottom part (63÷274) or side part (333÷544).
- Air bleed valves, positioned on the water connections of the coil, make it possible to bleed air from the coil.
- Electrical board comprising a terminal board for wiring to room control panel and power supply.

ACCESSORIES

LOOSE ACCESSORIES

C	Auxiliary condensate drain pan
CW	Auxiliary moisture drain pan for units with WSF accessory
AF	Filtering section
SF	Supply frame
GRI/R	Intake grid with air filter
BM	Supply grid with adjustable fins
PR	Intake plenum
MB	Mixing box with damper
PM	Supply plenum
P3	Supply plenum for flexible ducts
WS	Hot water coil for 4-Pipe system
WSF	Hot water coil section for 4-Pipe system
EH1	Supplementary electrical heater section
EH2	Supplementary electrical heater section
SM	Servo-motor for damper
DRA	Wall mounted automatic electronic control panel
VR	Wall mounted fan speed control panel
TA	Wall mounted ambient thermostat
DRE	Wall mounted electromechanic control panel
DRV	Wall mounted automatic electronic control panel
V2	3-Way on/off valve for 2-Pipe system
V4	3-Way on/off valves for 4-Pipe system

UTW 63÷544

MODEL			63	93	104	133	153	233	274	333	414	464	544
Cooling	Total cooling capacity (1),(2)	kW	4.6	7.5	9.1	10.5	13.1	15.7	20.7	25.9	31.7	38.1	42.8
	Sensible cooling capacity (1),(2)	kW	3.5	6.0	7.1	8.4	9.8	13.0	16.7	20.1	24.6	29.6	33.2
	Water flow (1),(2)	l/h	791	1290	1565	1806	2253	2700	3560	4455	5452	6553	7362
	Pressure drops (1),(2)	kPa	14	19	21	18	24	24	26	29	14	29	26
Heating	Heating capacity (2),(3)	kW	9.8	15.5	19.7	21.6	25.9	35.5	46.3	60.1	75.8	91.8	97.1
	Water flow (2),(3)	l/h	843	1333	1694	1858	2227	3053	3982	5169	6519	7895	8351
	Pressure drops (2),(3)	kPa	23	17	22	35	25	23	32	34	14	39	34
Rows	Quantity	n°	3	3	4	3	3	3	4	3	4	4	4
Water connections	In / Out	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 ½"	1 ½"	1 ½"	1 ½"
Additional coil	Heating capacity (2),(3)	kW	6.8	10.9	11.5	13.5	16.0	20.3	22.2	47.4	58.4	64.0	75.1
	Water flow (2),(3)	l/h	585	937	989	1161	1376	1746	1909	4076	5022	5504	6459
	Pressure drops (2),(3)	kPa	10	11	12	15	14	19	23	10	15	10	14
	Rows	n°	2	2	2	2	2	2	2	2	2	2	2
	Water connections (In / Out)	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Air flow	Max (4)	m³/h	1000	1600	1700	2200	2500	3900	4500	5500	6800	7700	9000
	Med (4)	m³/h	800	1200	1300	1800	2000	3000	3800	---	---	---	---
	Min (4)	m³/h	600	850	900	900	1300	1900	2000	---	---	---	---
Air flow (EC version)	Max (4)	m³/h	1000	1600	1700	2200	2500	3900	4500				
	Min (4)	m³/h	530	760	810	810	1140	1700	1200	---	---	---	---
Available static pressure	Max (4)	Pa	80	90	90	95	95	115	115	150	150	150	150
	Med (4)	Pa	50	50	50	50	50	70	70	---	---	---	---
	Min (4)	Pa	40	40	40	40	40	55	55	---	---	---	---
Available static pressure (EC version)	Max (4)	Pa	80	90	90	95	95	115	115	---	---	---	---
	Min (4)	Pa	40	40	40	40	40	55	55	---	---	---	---
EH1 Electrical heater	Power supply	V/Ph/Hz	400/3+N/50								---		--
	Absorbed power	kW	3	4	4	4	6	6	6	---	---	---	---
	Max. absorbed current	A	4.3	8.7	8.7	8.7	13.0	13.0	13.0	---	---	---	---
	Steps	n°	1	1	1	1	1	1	1	---	---	---	---
EH2 Electrical heater	Power supply	V/Ph/Hz	400/3+N/50							---			
	Absorbed power	kW	6	8	8	8	12	12	12	---	---	---	---
	Max. absorbed current	A	8.7	17.4	17.4	17.4	26.1	26.1	26.1	---	---	---	---
	Steps	n°	1	1	1	1	1	1	1	---	---	---	---
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50							400/3+N/50			
	Max absorbed power	kW	0.13	0.26	0.26	0.52	0.42	0.42	0.60	0.75	1.10	1.10	1.50
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50							---			
	Max absorbed power	kW	0.13	0.25	0.25	0.45	0.45	0.42	0.60	---	---	---	---
Sound pressure	Max (5)	dB(A)	45	44	45	47	49	51	55	56	57	57	58
	Med (5)	dB(A)	40	38	39	43	44	45	51	---	---	---	---
	Min (5)	dB(A)	34	30	31	28	35	35	37	---	---	---	---
Sound pressure (EC version)	Max (5)	dB(A)	45	44	45	47	49	51	55	---	---	---	---
	Min (5)	dB(A)	33	29	29	29	34	34	35	---	---	---	---
Weights	Transport weight	Kg	29	42	44	57	65	67	70	168	168	173	175
	Operating weight	Kg	27	40	42	55	63	65	68	166	166	171	173

DIMENSIONS			63	93	104	133	153	233	274	333	414	464	544
L	STD/EC	mm	645	1005	1005	1105	1345	1345	1345	1400	1400	1400	1400
W	STD/EC	mm	455	455	455	505	540	540	540	800	800	800	800
H	STD/EC	mm	295	295	295	325	325	375	375	800	800	1050	1050

CLEARANCE AREA

UTW 63÷544

NOTES

1. Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2. Performances also valid for EC version.
3. Ambient air temperature 20 °C d.b., water temperature 70/60 °C.
4. 3-phase single speed electrical motors for units 333, 414, 464, 544.
5. Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.

N.B. Maximum operating pressure 1000 kPa.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.

Electrical board side

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