02.2025

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
CLIMATIZZAZIONE INTEGRATA

COMPANY PROFILE

EXCELLENCE AND **INNOVATION** TO **SUPPORT INTEGRATED SOLUTIONS** FOR **COMFORT** AND **PROCESS COOLING**.

CLINT
CLIMATIZZAZIONE INTEGRATA

COMPANY PROFILE

ABOUT US

A multinational Group
with a solid background.

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

COMFORT AND INDUSTRIAL 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.

The Company, part of **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.

The key hystorical milestones

1976 Oldest acquired Company start-up

2000 G.I. HOLDING Group start-up

2002 KTK KLIMATECHNIK acquisition

2003 NOVAIR acquisition

2004 CLINT brand launch

2009 GIMEK acquisition

MONTAIR acquisition

2013 G.I. INDUSTRIAL ASIA HOLDING start-up

2015 G.I. MIDDLE EAST start-up

2016 GIMEK new plant start-up

2017 New G.I. HOLDING Group headquarters and Manufacturing Plant

2020 G.I. HOLDING Group: climatic chamber

2021 New Manufacturing Plant in Ronchis (Italy)

G.I. HOLDING Group
Climatic chamber

G.I. HOLDING Group
Showroom

G.I. INDUSTRIAL HOLDING
Large liquid chillers Manufacturing Plant

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COMPANY PROFILE

THE GROUP

G.I. HOLDING GROUP

A wide sales network.

30 SALES REPRESENTATIVES IN ITALY

70 DISTRIBUTORS WORLDWIDE

3 SALES OFFICES

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 4 European plants: Latisana (Italy), Ronchis (Italy), Rivignano Teor (Italy) and Biatorbágy (Gimek Zrt - Hungary).

The **G.I. HOLDING Group Headquarters** are located on a new facility in Latisana (Italy) with a 1.500 m² permanent **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 Manufacturing Plant dedicated to small & medium liquid chillers and the Sales, Marketing and Service Depts.
The network of G.I. HOLDING Group also includes the Hungarian manufacturing Company **GIMEK Zrt**, **G.I. INDUSTRIAL ASIA HOLDING Sdn Bhd**, the manufacturing and trading Company based in Malaysia and **G.I. MIDDLE EAST Fze Dmcc**, 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 3 Sales Offices based in Italy, United Arab Emirates and Malaysia.

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

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COMPANY PROFILE

MANUFACTURING

G.I. INDUSTRIAL HOLDING

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

Latisana – ITALY. Production Plant.

Ronchis – ITALY. Production Plant.

Rivignano Teor – ITALY. Production Plant.

Biatorbágy – HUNGARY. Production Plant (Gimek Zrt).

4
MANUFACTURING FACILITIES
3 in ITALY
1 in HUNGARY

PRODUCTION PLANTS

LATISANA
Small & medium liquid Chillers and Heat Pumps Manufacturing Plant.

RONCHIS
Manufacturing Plant for the production of Close Control units.

RIVIGNANO TEOR
Large liquid Chillers and Heat Pumps Manufacturing Plant.

BIATORBÁGY (GIMEK Zrt)
Manufacturing Plant for the production of Air Handling Units and Packaged Roof Top units.

CLIMATIC CHAMBER

In Rivignano Teor (Italy), in addition to the production plant for large liquid chillers, is located the climatic chamber that allows witness tests to carried out in the presence of the Customer to prove the perfect functionality and performance of the units under a huge variety of operating conditions.
This allows a wide array of tests that can be carried out from -15°C to +52°C outdoor air temperature.

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COMPANY PROFILE

OUR BRANDS

A multi-brand offer for the
HVAC and Process Cooling 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 and Process Cooling business.

CLINT brand is focused on the segment of liquid Chillers, Heat Pumps, 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.
NOVAIR is a leading brand in the Air Treatment and Ventilation sectors.

PRODUCT OVERVIEW

LIQUID CHILLERS

HEAT PUMPS

PACKAGED ROOF TOP UNITS

CLOSE CONTROL UNITS

AIR HANDLING UNITS

FAN COIL UNITS

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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

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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.**
  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 SEPR ErP SEER

• **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.

• **ISO 14001:** The world's most widely used standard on Environmental Management Systems, it is based on the principles of a management system that includes planning, execution, control and improvement actions. The application of this standard defines the most important requirements for identifying, controlling and monitoring the environmental aspects of any organisation that has an environmental policy.

• **P.E.D.** Certification for pressurised fluids which guarantees the correct implementation of cooling and hydraulic circuits in units with compressors.

CE

ISO 9001
ISO 14001
BUREAU VERITAS
Certification

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.

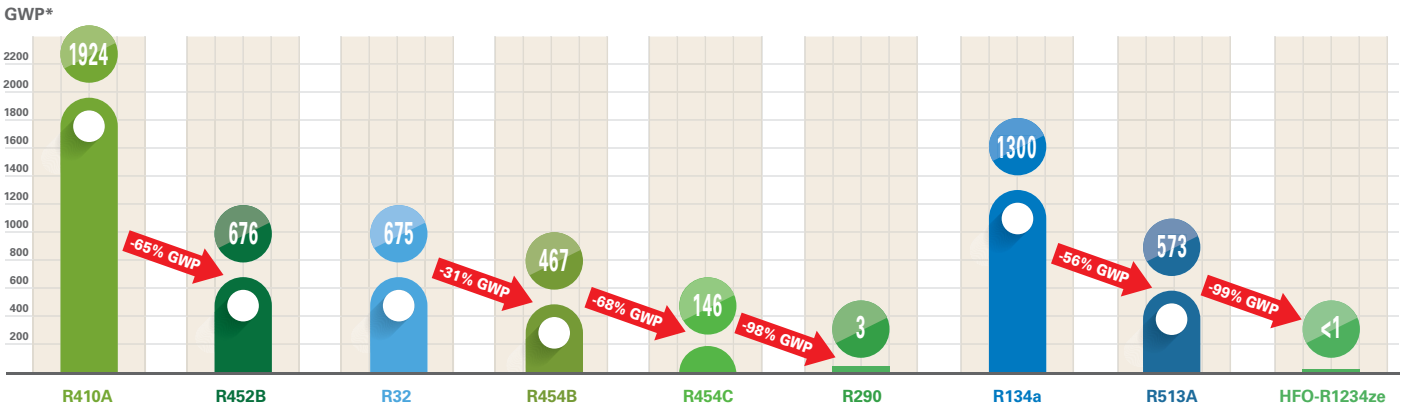
THE HIGHEST EFFICIENCY.

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 cutting-edge and widest high efficiency range with the highest SEER/SEPR/SCOP, including models with Scroll, Screw and Turbocor compressors.

LOW GWP REFRIGERANT: HFO-R1234ze, R513A, R452B, R454B, R454C AND R290.

In a market increasingly concerned with environmental issues, CLINT offers the broadest range of liquid chillers and heat pumps operating with low GWP refrigerants, thus complying with stringent international regulations such as the new FGAS standard. CLINT offers air cooled or water cooled chillers with both Turbocor and Screw compressors, specially designed for **HFO-R1234ze** refrigerant, which has a GWP (Global Warming Potential) of less than 1. For the new range of high water temperature Scroll heat pumps, **R454C** refrigerant with a GWP of less than 150 and **R290** refrigerant (Propane) with a GWP of 3 were used.

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



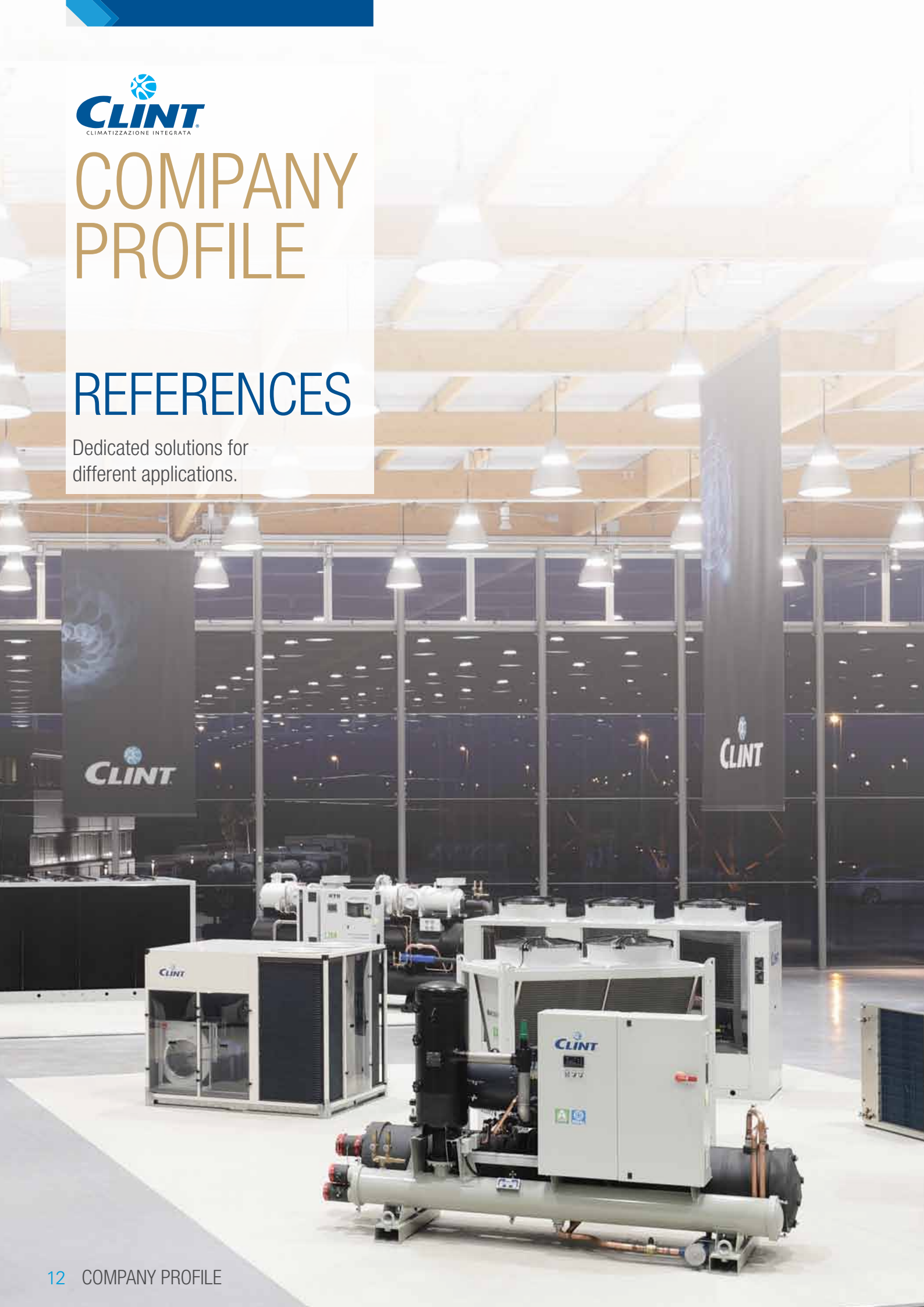
GWP*$_{100AR5}$ = Global Warming Potential calculated over a 100-years period according to 5th Assessment Report (2014) of IPCC Institute.

CLINT
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, Turin, Italy*
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
VDNH - Russian Permanent Expo. COSMOS PAVILION, Moscow, Russia
YAMSKAYA CENTRE Shopping Mall, Moscow, Russia
REAL Shopping Mall, Rostov on Don, Russia
GIPPO Shopping Mall, Minsk, Belarus
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

02 *CULTURAL VILLAGE, Doha, Qatar*
MARJANE Shopping Mall, Marrakech, Morocco
IKEA Store, Zenata, Morocco

03 *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
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
EGYPT AIR CATERING, Cairo, Egypt
CAIRO AIRPORT, Cairo, Egypt
CAIRO MONORAIL, Cairo, Egypt

>> OFFICE BUILDINGS & PLANTS.

PIAGGIO Factory, Pontedera, Italy
DANIELI Headquarters, Buttrio, Italy
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
BRYN EIENDOM - ØSTENSJØVEIEN 34 Business Centre, Oslo, Norway
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
ROWAD National Plastic Factory, Hail Industrial City, Saudi Arabia
NCIC FOR SULFURIC ACID FACTORY Plant, Cairo, Egitto
ABU QUR FERTILIZERS Plant, Cairo, Egitto
04 *QPD – QATAR PETROLEUM DEVELOPMENT Offshore Platform, Qatar*
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
05 *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
06 *NORTH POINT Government Offices, Kowloon, Hong Kong*
NETHERLANDS EMBASSY, Camberra, Australia
MAROOCHYDORE POLICE STATION, Maroochydore, Australia

HILTON SALWA BEACH Resort, Abu Samra, Qatar

Rendering credits: SKS Studio | www.sksimms.com

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

07 *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
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
DAGÁLY Swimming Centre - 2017 FINA SWIMMING WORLD CHAMPIONSHIP, Budapest, Hungary

08 *BIALYSTOK Stadium, Bialystok, Poland*
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
SIDNEY UNIVERSITY SPORTS & AQUATIC CENTRE, Sidney, Australia

Discover all our references on:

www.clint.it

>> 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
ALSIK Hotel, Sønderborg, Denmark
HILTON Hotel, Tallin, Estonia
NUCLEAR MEDICINE CENTRE, Riga, Latvia
RADISSON BLU BÉKE Hotel, Budapest, Hungary
HILTON SALWA BEACH Resort, Abu Samra, Qatar
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
OASIS Hospital, Dubai, U.A.E.
09 *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
10 *NATIONAL ART GALLERY, Sofia, Bulgaria*
UWC Metrology Laboratories, Johannesburg, South Africa
KAZNU University Scientific Library, Karaganda, Kazakhstan

>> INDUSTRIAL PROCESS COOLING AND SERVER ROOMS.

11 *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
12 *EUROPEAN BATTERIES Plant, Varkhaus, Finland*
MICHELIN Plant, Olsztyn, Poland
IMPERIAL TOBACCO POLSKA, Tarnowo Podgórne, Poland
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
SOHAR STEEL, Sohar Industrial Port, Oman
HELWAN FERTILIZER Industry, Cairo, Egypt
ALEXFERT - ALEXANDRIA FERTILIZER Plant, Alessandria, Egypt
ABU QIR FERTILIZERS, Abu Qir, Egypt
MOBCO Plant, Damietta, Egypt
NCIC PLANT, Sokhna, Egypt
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
13 *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
14 *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

ROWAD National Plastic Factory, Hail Industrial City, Saudi Arabia

PRODUCT RANGE

CLINT product ranges are compliant to ErP European Regulations.

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- **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).
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ErP SCOP ErP SEPR ErP SEER

LIQUID CHILLERS AND HEAT PUMPS

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 with Inverter Scroll compressor and with **R452B** and **R454B** refrigerants.

Thermica

THERMICA. The air-to-water Heat Pumps of Thermica range are dedicated to room heating and domestic hot water production, supplying **high water temperature** (up to 65°C) and being able to work down to -20°C outside air. Being reversible, they are also able to supply chilled water for air conditioning during the summer period. The whole range has high efficiency both at full load and partial loads and the units, from 20 to 182 kW, work with **R454C** refrigerant with low GWP, less than 150, enabling them to respect the future requirements of the European Community.

Booster

BOOSTER. The water-to-water Heat Pumps of Booster range are the best solution for systems where **very high temperature** (up to 80°C) hot water production is required for domestic use, room heating or industrial processes. The wide operating range makes these units perfectly integrable in any system solution, including 4-pipe systems for air conditioning and industrial heat recovery. Units are available with **R134a** and **R513A** refrigerants.

ECO V-THERM

ECO V-THERM. The new range of air-to-water Heat Pumps in **R290**, with heating capacities from 48 to 166 kW, is an environmentally friendly and efficient solution for room air conditioning and domestic hot water production; the units can produce water at **high temperature** (up to 70°C) and can operate down to -20°C outside air temperature. The refrigerant R290 (Propane) has a GWP = 3 and meets the future requirements of the European Community for reduced environmental impact. The Heat Pumps are available in basic or high-efficiency version, ensuring high performance both at full and part load and very low noise levels.

AQUA PLUS

AQUA PLUS. The AquaPlus air cooled, water cooled 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. AquaPlus range is available in several levels of energy efficiency, featuring Inverter technology on Scroll compressors and, as option, on fans and circulation pumps. Dedicated Heat Pumps for hot water production at **medium temperature** (up to 55°C) are also available. Units are available with **R410A**, **R452B** and **R454B** refrigerants.

POWER V-TECH

POWER V-TECH. The new range offers a series of air-to-water liquid Chillers available in high and very high efficiency versions with Scroll compressors, up to three per circuit, ensuring optimal load management and high reliability. The range is available with **HFO-R1234ze** refrigerant, which significantly reduces environmental impact due to its low global warming potential (GWP<1). In addition, the POWER V-TECH range features V-shaped condensing modules with Microchannel coils (optional with copper/aluminium). With a capacity ranging from 200 to 600 kW, it is an ideal solution for applications requiring high energy efficiency and reliable performance, making it an excellent choice in terms of quality and sustainability.

multi power

MULTI POWER. The MultiPower range of liquid Chillers and Heat Pumps is based on multi-Scroll technology, for high partial load efficiency as the load is divided between the different compressors, up to 12 on a double refrigerant circuit, according to the required cooling capacity. The MultiPower range is available in different energy efficiency levels also with Inverter technology and includes a line of dedicated Heat Pumps for hot water production at **medium temperature** (up to 55°C). The family includes both air cooled and water cooled models with a capacity range up to 1220 kW. Units are available with **R410A**, **R452B** and **R454B** refrigerants.

ENERGY POWER. The air cooled 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. The range includes models with both Scroll or Inverter Screw compressors. Units are available with **R410A**, **R452B**, **R454B**, **R134a** and **R513A** refrigerants.

MAXI POWER. The MaxiPower air cooled, water cooled and condenserless liquid Chillers and Heat Pumps 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. The range is available in different variants and with different energy efficiency levels. The MaxiPower range includes models with **HFO-R1234ze** refrigerant (GWP<1) and models with **R134a** and **R513A** refrigerants.

TURBOLINE. The TurboLine range, equipped with Turbocor Magnetic Levitation compressors, reaches an extremely high efficiency with the highest EER and SEER / SEPR in the market and a low starting current, in addition to maximum reliability and an extra silent operation. The range includes air cooled and water cooled models with a wide capacity range up to 3900 kW. The Turboline range includes models with **HFO-R1234ze** refrigerant (GWP<1) and models with **R134a** and **R513A** refrigerants.

REMOTE CONDENSERS AND HYDRONIC MODULES

The chiller ranges completed by a whole range of Remote Condensers, with EC Inverter fans and different sound levels, and Remote Hydronic Modules up to 2500 litres.

PACKAGED ROOF TOP UNITS

AIR X. The Packaged Roof Top units of AirX series are characterised by single or double panelling, EC Inverter Plug-Fans and Scroll Inverter compressors. The units are available in different configurations with the addition of a Mixing Box and can be supplied with a Wheel Heat Recovery section. Units are available with **R410A** refrigerant.

AIR PLUS. The Packaged Roof Top units of AirPlus series feature single skin, EC Inverter Plug-Fans and Scroll compressors. The units are available in different configurations with the addition of Mixing Box, Free-Cooling section and Thermodynamic Coil-Boost Heat Recovery. Units are available with **R410A** refrigerant.

AIR MAXI. The Packaged Roof Top units of AirMaxi series feature double skin and EC Inverter Plug-Fans, also with Inverter Scroll compressors. The units are available in different configurations with the addition of a Mixing Box, a Free-Cooling section and a Cross-Flow, Wheel or Thermodynamic Coil-Boost Heat Recovery. Units are available with **R410A** refrigerant.

CONDENSING UNITS

A comprehensive range of Condensing units from 9 to 190 kW with different technical solutions and noise levels is available to complete the CLINT product range. Units are available for **R410A** refrigerant.

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. Also available is a line of fan coil units with cabinet and built-in models with a depth of 130 mm and EC Inverter tangential fans from 1.1 to 4.1 kW.

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

CHAPTER 1

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

COMPACT Line

CHA/IG/A 51÷81 | 9,7-18 kW | 12-20 kW | 44 - 45

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Inverter Scroll compressor, plate exchanger and high efficiency EC Inverter circulator

INVERTER SCROLL

Thermica

CHA/F/ML/WP 52÷92 | 17-24 kW | 19-27 kW | 46 - 47

High efficiency air cooled **dedicated Heat Pumps** for **high temperature** hot water production (up to 65°C) with axial fans, Scroll compressors and plate exchanger

R454C

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

AQUA PLUS

CHA/IK/A 91÷151

26-42 kW | 29-48 kW | 50 - 51

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Inverter Scroll compressor and plate exchanger

INVERTER SCROLL

CHA/IK/A 172-P÷574-P

50-179 kW | 54-193 kW | 52 - 53

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Inverter Scroll compressors and plate exchanger

INVERTER SCROLL MICROCHANNEL

CHA/K/AF 182-P÷604-P

51-183 kW | 55-198 kW | 54 - 55

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and plate exchanger

CHA/K 182-P÷604-P

48-178 kW | 54-187 kW | 56 - 57

Air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and plate exchanger

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHA/K/FC 182-P÷604-P

53-174 kW | -

58 - 59

Air cooled liquid chillers Free-Cooling with axial fans, Scroll compressors and plate exchanger

FREE COOLING

CHA/K 182÷604

49-179 kW | 56-188 kW

60 - 61

Air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and shell and tube exchanger

CRA/IK/A 51÷131

12-36 kW | 14-40 kW

62 - 63

High efficiency air cooled liquid Chillers and Heat Pumps with EC Inverter Plug-Fans, Inverter Scroll compressor and plate exchanger for indoor ducted installation

INVERTER SCROLL *EC INVERTER PLUG FANS*

CHA/K/A/WP 182-P÷604-P

48-163 kW | 56-197 kW

64 - 65

High efficiency air cooled **dedicated Heat Pumps** for **medium temperature** hot water production (up to 55°C) with axial fans, Scroll compressors and plate exchanger

Thermica

NEW

CHA/F/ML/WP 102-P÷504-P

30-157 kW | 32-182 kW

66 - 67

High efficiency air cooled **dedicated Heat Pumps** for **high temperature** hot water production (up to 65°C) with axial fans, Scroll compressors and plate exchanger

R454C

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

ECO V-THERM

NEW

CHV/P/WP 152-P÷504-P | 40-130 kW | 48-164 kW | 68 - 69

Air cooled **dedicated Heat Pumps** for **high temperature** hot water production (up to 70°C) with axial fans, Scroll compressors and plate exchanger

R290

NEW

CHV/P/HE/WP 152-P÷504-P | 41-133 kW | 52-166 kW | 70 - 71

High efficiency super silenced air cooled **dedicated Heat Pumps** for **high temperature** hot water production (up to 70°C) with EC Inverter axial fans, Scroll compressors and plate exchanger

EC INVERTER FANS *R290*

POWER V-TECH

NEW

CHV/H/HE/MC 804-P÷2406-P | 213-600 kW | - | 72 - 73

High efficiency air cooled liquid chillers with axial fans, Scroll compressors and plate exchanger

MICROCHANNEL *EC INVERTER FANS* *HFO R1234ze*

NEW

CHV/H/XE/MC 804-P÷2406-P | 223-618 kW | - | 74 - 75

Very high efficiency air cooled liquid chillers with EC Inverter axial fans, Scroll compressors and plate exchanger

MICROCHANNEL *HFO R1234ze*

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

multi power

CHA/IK/A 674-P÷2356-P

196-668 kW | 212-724 kW | 76 - 77

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Inverter Scroll compressors and plate exchanger

INVERTER SCROLL *MICROCHANNEL*

CHA/K/AF 726-P÷24012-P

197-692 kW | 214-754 kW | 78 - 79

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and plate exchanger

CHA/K 726-P÷36012-P

199-1051 kW | 228-1210 kW | 80 - 81

Air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and plate exchanger

CHA/K/FC 726-P÷36012-P

208-1102 kW | - | 82 - 83

Air cooled liquid chillers Free-Cooling with axial fans, Scroll compressors and plate exchanger

FREE COOLING

CHA/K 726÷36012

200-1062 kW | 229-1222 kW | 84 - 85

Air cooled liquid Chillers and Heat Pumps with axial fans, Scroll compressors and shell and tube exchanger

CHA/K/A/WP 726-P÷24012-P

195-671 kW | 227-762 kW | 86 - 87

High efficiency air cooled **dedicated Heat Pumps** for **medium temperature** hot water production (up to 55°C) with axial fans, Scroll compressors and plate exchanger

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

ENERGY POWER

CHA/K/EP 182-P÷602-P | 49-168 kW | 52-184 kW | 88 - 89

High efficiency air cooled 4-Pipe multifunctional units with axial fans, Scroll compressors and plate exchangers

CHA/K/EP 604-P÷2004-P | 167-507 kW | 180-587 kW | 90 - 91

High efficiency air cooled 4-Pipe multifunctional units with axial fans, Scroll compressors and plate exchangers

CHA/Y/EP 1352÷4402 | 278-1133 kW | 283-1156 kW | 92 - 93

High efficiency air cooled 4-Pipe multifunctional units with EC Inverter axial fans, Inverter Screw compressors and shell and tube exchangers

INVERTER SCREW *EC INVERTER FANS*

MAXI POWER

CHA/H/A 351-P÷1221-P | 79-208 kW | - | 94 - 95

High efficiency air cooled liquid chillers with axial fans, (Inverter) Screw compressor and plate exchanger

INVERTER SCREW *MICROCHANNEL* *HFO R1234ze*

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHA/H/FC 351-P÷901-P | 82-170 kW | - | 96 - 97

Air cooled liquid chillers Free-Cooling with axial fans, (Inverter) Screw compressor and plate exchanger

INVERTER SCREW *FREE COOLING* *HFO R1234ze*

CHA/H/A 351÷1221 | 79-211 kW | - | 98 - 99

High efficiency air cooled liquid chillers with axial fans, (Inverter) Screw compressor and shell and tube exchanger

INVERTER SCREW *MICROCHANNEL* *HFO R1234ze*

CHA/H/A 1002÷6002 | 197-1353 kW | - | 100 - 101

High efficiency air cooled liquid chillers with axial fans, (Inverter) Screw compressors and shell and tube exchanger

INVERTER SCREW *MICROCHANNEL* *HFO R1234ze*

CHA/H/FC 1002÷4802 | 232-1144 kW | - | 102 - 103

Air cooled liquid Chillers Free-Cooling with axial fans, (Inverter) Screw compressors and shell and tube exchanger

INVERTER SCREW *FREE COOLING* *HFO R1234ze*

CHA/Y/A 1302÷6002 | 263-1533 kW | 272-1176 kW | 104 - 105

High efficiency air cooled liquid Chillers and Heat Pumps with axial fans, (Inverter) Screw compressors and shell and tube exchanger

INVERTER SCREW *MICROCHANNEL*

CHA/Y/FC 1202-B÷6002-B | 217-1460 kW | - | 106 - 107

Air cooled liquid Chillers Free-Cooling with axial fans, (Inverter) Screw compressors and shell and tube exchanger

INVERTER SCREW *FREE COOLING*

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

TURBOLINE

CHA/TTH 1301-1÷4904-1

262-1340 kW | - | 108 - 109

High efficiency air cooled liquid chillers with axial fans, TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchanger

MICROCHANNEL *HFO R1234ze*

CHA/TTH/FC 1301-1÷4904-1

279-1386 kW | - | 110 - 111

Air cooled liquid chillers Free-Cooling with axial fans, TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchanger

FREE COOLING *HFO R1234ze*

CHA/TTY 1301-1÷5004-1

248-1456 kW | - | 112 - 113

High efficiency air cooled liquid chillers with axial fans, TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchanger

MICROCHANNEL

CHA/TTY/FC 1301-1÷5004-1

246-1443 kW | - | 114 - 115

Air cooled liquid chillers Free-Cooling with axial fans, TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchanger

FREE COOLING

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 3

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

AQUA PLUS

CWW/K 31÷151 | 9,6-49 kW | 13-60 kW | 118 - 119

Water cooled liquid Chillers and Heat Pumps with Rotary/Scroll compressor and plate exchangers

CWW/K 182-P÷604-P | 55-195 kW | 73-237 kW | 120 - 121

Water cooled liquid Chillers and Heat Pumps with Scroll compressors and plate exchangers

CWW/K 182÷604 | 57-196 kW | 75-238 kW | 122 - 123

Water cooled liquid Chillers and Heat Pumps with Scroll compressors and shell and tube exchangers

MEA/K 31÷151 | 8,5-42 kW | 11-53 kW | 124 - 125

Condenserless liquid Chillers and Heat Pumps with Scroll compressor and plate exchanger

MEA/K 182-P÷604-P | 51-176 kW | 60-194 kW | 126 - 127

Condenserless liquid Chillers and Heat Pumps with Scroll compressors and plate exchanger

RCA/K 5111÷8222 | 1,4-23 m³/s | 1,4-23 m³/s | 128 - 129

Remote air cooled Condensers with axial fans

CHAPTER 3

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

RCA/K/SSL 6111÷8222 | 1,5-18 m³/s | 1,5-18 m³/s | 130 - 131

Super silenced Remote air cooled Condensers with axial fans

Booster

CWW/Y/BH 81-P÷1204-P | - | 37-550 kW | 132 - 133

Water cooled **dedicated Heat Pumps** for **very high temperature** hot water production (up to 80°C) with scroll compressors and plate exchangers.

multi power

CWW/K 726-P÷36012-P | 224-1242 kW | 290-1531 kW | 134 - 135

Water cooled liquid Chillers and Heat Pumps with Scroll compressors and plate exchangers

CWW/K 726÷36012 | 225-1254 kW | 291-1546 kW | 136 - 137

Water cooled liquid Chillers and Heat Pumps with Scroll compressors and shell and tube exchangers

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 3

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

MAXI POWER

CWW/H/A 351-P÷901-P | 86-189 kW | - | 138 - 139

High efficiency water cooled liquid Chillers with (Inverter) Screw compressor and plate exchangers

INVERTER SCREW *HFO R1234ze*

CWW/H/A 1002÷6002 | 234-1650 kW | - | 140 - 141

High efficiency water cooled liquid Chillers with (Inverter) Screw compressors and shell and tube exchangers

INVERTER SCREW *HFO R1234ze*

CWW/Y/A 1002-T÷7202-T | 250-2143 kW | - | 142 - 143

High efficiency water cooled liquid Chillers with (Inverter) Screw compressors and shell and tube exchangers

INVERTER SCREW

CWW/Y 1302-B÷9002-B | 267-2349 kW | - | 144 - 145

Water cooled liquid Chillers with (Inverter) Screw compressors and shell and tube exchangers

INVERTER SCREW

MEA/Y 1302-B÷9002-B | 235-2060 kW | - | 146 - 147

Condenserless liquid chillers with (Inverter) Screw compressors and shell and tube exchanger

INVERTER SCREW

RCA/Y 8141÷9282 | 21-124 m³/s | 21-124 m³/s | 148 - 149

Remote air cooled Condensers with axial fans

CHAPTER 3

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

RCA/Y/SSL 8231÷9281

23-76 m³/s | 23-76 m³/s | 150 - 151

Super silenced Remote air cooled Condensers with axial fans

TURBOLINE

CWW/TTH 1701-1÷6606-1

321-1922 kW | - | 152 - 153

High efficiency water cooled liquid chillers with TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchangers for cooling tower operation

HFO R1234ze

CWW/TTH/DR 1701-1÷6606-1

301-1802 kW | - | 154 - 155

High efficiency water cooled liquid chillers with TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchangers for dry-cooler operation

HFO R1234ze

CWW/TTY 1601-1÷14406-1

319-3912 kW | - | 156 - 157

High efficiency water cooled liquid chillers with TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchangers for cooling tower operation

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 3

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

CWW/TTY/DR 1601-1÷6204-1 298-1584 kW - 158 - 159

High efficiency water cooled liquid chillers with TURBOCOR (magnetic levitation) compressors and flooded shell and tube exchangers for dry-cooler operation

CHAPTER 4

HYDRONIC MODULES

MR 30÷70 30-70 l 30-70 l 162 - 163

Remote hydronic modules

MR 1500÷2500 1500-2500 l 1500-2500 l 164 - 165

Remote hydronic modules with pump kit

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 5

PACKAGED ROOF TOP UNITS

AIRX

NEW

RTQ/IK/EC 101÷181

19-42 kW | 19-44 kW | 168 - 169

Single or double skin packaged Roof Top units with Inverter Scroll compressor and EC Inverter Plug-Fan

INVERTER SCROLL *EC INVERTER PLUG FANS*

AIRPLUS

RTA/K/EC/WP 182-R÷453-R

65-171 kW | 63-162 kW | 170 - 171

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

EC INVERTER PLUG FANS *COIL-BOOST HEAT RECOVERY*

AIRMAXI

RTA/IK/EC 172÷724

58-252 kW | 60-262 kW | 172 - 173

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

INVERTER SCROLL *EC INVERTER PLUG FANS*

RTA/IK/EC/MS 172÷724

58-252 kW | 60-262 kW | 174 - 175

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

INVERTER SCROLL *EC INVERTER PLUG FANS*

RTA/IK/EC/ECO 172÷724

58-252 kW | 60-262 kW | 176 - 177

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

INVERTER SCROLL *EC INVERTER PLUG FANS* *COIL-BOOST HEAT RECOVERY*

RTA/IK/EC/ECO/REC-FX 172÷724

58-252 kW | 60-262 kW | 178 - 179

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

INVERTER SCROLL *EC INVERTER PLUG FANS*

CHAPTER 5

PACKAGED ROOF TOP UNITS

RTA/IK/EC/ECO/REC-WH 172÷724

58-252 kW | 60-262 kW | 180 - 181

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

INVERTER SCROLL *EC INVERTER PLUG FANS*

RTA/K/EC 182÷804

58-252 kW | 60-262 kW | 182 - 183

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

EC INVERTER PLUG FANS

RTA/K/EC/MS 182÷804

58-252 kW | 60-262 kW | 184 - 185

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

EC INVERTER PLUG FANS

RTA/K/EC/ECO 182÷804

58-252 kW | 60-262 kW | 186 - 187

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

EC INVERTER PLUG FANS *COIL-BOOST HEAT RECOVERY*

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 5

PACKAGED ROOF TOP UNITS

RTA/K/EC/ECO/REC-FX 182÷804

58-252 kW | 60-262 kW | 188 - 189

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

EC INVERTER PLUG FANS

RTA/K/EC/ECO/REC-WH 182÷804

58-252 kW | 60-262 kW | 190 - 191

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

EC INVERTER PLUG FANS

CHAPTER 6

CONDENSING UNITS

MHA/K 31÷151 9,2-45 kW - 194 - 195

Air cooled condensing units with axial fans and Scroll compressor

MHA/K 182÷604 51-188 kW - 196 - 197

Air cooled condensing units with axial fans and Scroll compressors

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O

CHAPTER 7

FAN COIL UNITS

VXM 123÷614 | 1,4-8,4 kW | 1,9-10 kW | 200 - 201

Fan Coil units with cabinet and 6-speed or EC Inverter centrifugal fans.

EC INVERTER FANS

VXI 123÷614 | 1,4-8,4 kW | 1,9-10 kW | 202 - 203

Fan Coils units for built-in installations with 6-speed or EC Inverter centrifugal fans

EC INVERTER FANS

Airly

NEW

SXM 113÷443 | 1,1-4,1 kW | 1,3-4,3 kW | 204 - 205

SLIM fan coil units with cabinet and EC Inverter tangential fans

EC INVERTER FANS

NEW

SXI 113÷443 | 1,1-4,1 kW | 1,3-4,3 kW | 206 - 207

SLIM fan coil units for built-in installation with EC Inverter tangential fans

EC INVERTER FANS

eurìce®

HWW/EC 22÷42 | 2,1-5,4 kW | 2,7-6,9 kW | 208 - 209

Wall mounted fan coil units with EC Inverter tangential fan

EC INVERTER FANS

TXW 132÷284 | 2,5-11 kW | 3,0-11 kW | 210 - 211

Water cassette with 3-speed or EC Inverter centrifugal fan

EC INVERTER FANS

CHAPTER 7

FAN COIL UNITS

DWX 183÷364

6,0-22 kW | 6,2-23 kW | 212 - 213

Single or double skin ductable a Fan Coil units with 5-speed or EC Inverter centrifugal fans

EC INVERTER FANS

LEGENDA

Version
- Cooling only
- Heating only
- Cooling and Heating

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

Fan
- EC Inverter Axial
- Axial
- EC Inverter Centrifugal
- Centrifugal
- EC Inverter Tangential
- EC Inverter Plug-Fans

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

Solution
- Free-Cooling
- Domestic Hot Water
- Hybrid System Management
- High efficiency in cooling
- High efficiency in heating
- 4-Pipe system
- Web Monitoring

Solution
- Super silenced
- Single skin
- Double skin
- Mixing Box
- Economizer
- Economizer and Coil-Boost Thermodynamic Heat Recovery
- Economizer and Cross-flow Heat Recovery
- Economizer and Wheel Heat Recovery

Refrigerant
- R410A
- R452B
- R454B
- R454C
- R290
- R134a
- R513A
- R1234ze
- H_2O


CLINT
R454C
Thermica

CHAPTER 1

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

CHA/IG/A 51÷81

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSOR, PLATE EXCHANGER AND HIGH EFFICIENCY EC INVERTER CIRCULATOR.

The high efficiency CHA/IG/A 51÷81 series, with refrigerant **R452B** or **R454B**, is the winning choice for ideal comfort in residential and commercial environments. The range 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.

COMPACT Line

INVERTER SCROLL

The units are compliant to the ErP Regulation.

VERSIONS

CHA/IG/A/WP
Reversible Heat Pump

CHA/IG/A
Cooling only

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame. Sound-proofed compressor compartment.
- DC INVERTER Scroll compressor with internal overheat protection, crankcase heater and soundproofing cover.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tubes and aluminium finned coil, complete with condensate 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.
- R452B refrigerant. On request, units can be supplied with R454B 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.
- Advanced functions: remote set-point with 0-10V signal, remote set-point with 4-20mA signal, remote signal for second set-point activation, demand limit from digital input, management of hybrid systems, management of domestic hot water production.

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

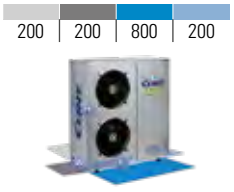
CHA/IG/A 51÷81

MODEL			51	61	71	81
Cooling	Cooling capacity (1)	kW	9.7	13.1	15.1	17.5
	Absorbed power (1)	kW	3.6	4.9	5.7	6.6
	EER (1)		2.67	2.66	2.64	2.64
Cooling (EN14511)	Cooling capacity (1)	kW	9.8	13.2	15.2	17.6
	Absorbed power (1)	kW	3.5	4.8	5.6	6.5
	EER (1)		2.77	2.75	2.97	3.04
	SEER (2)		4.16	4.17	4.15	4.17
	Energy Efficiency (2)	%	163	164	163	164
	Cooling capacity (3)	kW	13.2	17.7	20.2	23.4
	Absorbed power (3)	kW	3.7	5.1	6.1	7.1
	EER (3)		3.55	3.46	3.30	3.27
Heating	Heating capacity (4)	kW	11.5	15.2	17.4	19.5
	Absorbed power (4)	kW	3.6	4.7	5.4	6.1
	COP (4)		3.17	3.21	3.20	3.18
Heating (EN14511)	Heating capacity (4)	kW	11.4	15.1	17.3	19.4
	Absorbed power (4)	kW	3.5	4.6	5.3	6.0
	COP (4)		3.25	3.29	3.27	3.24
	SCOP (5)		2.89	2.87	2.88	2.88
	Energy Efficiency (5)	%	112	112	112	112
	Energy Class (6)		A	A	A	A
	Heating capacity (7)	kW	11.7	15.4	17.6	19.7
	Absorbed power (7)	kW	3.0	3.9	4.5	5.0
	COP (7)		3.94	3.98	3.95	3.90
	SCOP (8)		3.63	3.65	3.70	3.70
	Energy Efficiency (8)	%	142	143	145	145
	Energy Class (9)		A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	13	13	15	18
	Max. starting current	A	8	8	9	10
Water circuit	Water flow	l/s	0.63	0.84	0.96	1.12
	Pump available static pressure	kPa	75	80	70	65
	Water connections	"G	1"	1"	1"	1"
Sound pressure	(10)	dB(A)	58	58	59	60
Weights	Transport weight	kg	195	197	199	201
	Operating weight	kg	245	247	249	251

DIMENSIONS			51	61	71	81
L	STD	mm	1160	1160	1160	1160
W	STD	mm	500	500	500	500
H	STD	mm	1270	1270	1270	1270

CLEARANCE AREAS

CHA/IG/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 Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
4 Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
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 Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
8 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
9 Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
10 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.

CHA/F/ML/WP 52÷92

Thermica R454C

HIGH EFFICIENCY AIR COOLED DEDICATED HEAT PUMPS FOR HIGH TEMPERATURE HOT WATER PRODUCTION (UP TO 65°C) WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

THERMICA is the innovative series of high energy efficiency reversible Heat Pumps, with **R454C** refrigerant, dedicated to hot water production up to **65 °C** and operation up to -20 °C of external air temperature, with Scroll compressors and axial fans. 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 domestic hot water. The THERMICA 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.

The units are designed for **high temperature hot water production (up to 65°C)**.
The units are compliant to the ErP Regulation.

VERSIONS

CHA/ F/ML/WP
Reversible Heat Pump

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 a finned coil with copper pipes and aluminium fins with hydrophilic treatment.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch, flow switch and antifreeze heater.
- R454C refrigerant.
- The condensing / evaporating 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 and up to an outside air temperature of 40 °C in heat pump operation. 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 and up to +40 °C for domestic hot water production in summer.
- The production of hot water up to 65 °C is reachable with outside air temperature down to -5 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 52 °C.
- Advanced functions: remote set-point with 0-10V signal, remote set-point with 4-20mA signal, remote signal for second set-point activation, demand limit from digital input, management of hybrid systems, management of domestic hot water production.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PFC1	Power factor correction condensers (cosφ 0,95)
SL	Unit silencement
EC	EC Inverter fans
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
GS	Single circulating pump gasket for glycol >30%
FO	Antifreeze heater for tank and pipes
FG	Antifreeze heater for single pump and pipes
FUM	Antifreeze heater for tank, single pump and pipes
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
GDS	Leak detector

LOOSE ACCESSORIES

V3D	3-Way valve for domestic hot water production
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers

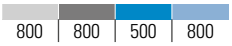
CHA/F/ML/WP 52÷92

MODEL			52	62	92
Heating	Heating capacity (1)	kW	19.1	21.9	27.3
	Absorbed power (1)	kW	5.6	6.4	8.1
	COP (1)		3.41	3.42	3.37
	Heating capacity (2)	kW	20.5	23.4	29.1
	Absorbed power (2)	kW	4.8	5.5	7.0
	COP (2)		4.25	4.28	4.18
	Heating capacity (3)	kW	17.8	20.5	25.6
	Absorbed power (3)	kW	6.6	7.5	9.5
	COP (3)		2.71	2.72	2.71
Heating (EN14511)	Heating capacity (1)	kW	19.1	21.9	27.4
	Absorbed power (1)	kW	5.7	6.5	8.2
	COP (1)		3.38	3.40	3.35
	Heating capacity (2)	kW	20.5	23.4	29.1
	Absorbed power (2)	kW	4.9	5.5	7.0
	COP (2)		4.20	4.24	4.14
	Heating capacity (3)	kW	17.8	20.6	25.6
	Absorbed power (3)	kW	6.6	7.6	9.5
	COP (3)		2.71	2.71	2.70
	SCOP (4)		3.59	3.89	3.90
	Energy Efficiency (4)	%	141	153	153
	Energy Class (5)		A+	A++	A++
Cooling	Cooling capacity (6)	kW	16.8	18.8	24.4
	Absorbed power (6)	kW	5.2	6.0	7.7
	EER (6)		3.23	3.13	3.17
	Cooling capacity (7)	kW	22.8	25.8	33.3
	Absorbed power (7)	kW	5.8	6.6	8.6
	EER (7)		3.90	3.91	3.86
Cooling (EN14511)	Cooling capacity (6)	kW	16.8	18.8	24.4
	Absorbed power (6)	kW	5.2	6.0	7.8
	EER (6)		3.20	3.10	3.14
	Cooling capacity (7)	kW	22.7	25.8	33.2
	Absorbed power (7)	kW	5.9	6.7	8.7
	EER (7)		3.85	3.85	3.81
Compressor	Quantity	n°	2	2	2
	Refrigerant circuits	n°	1	1	1
	Capacity steps	n°		2	
Evaporator	Water flow (1)	l/s	0.93	1.06	1.32
	Pressure drops (1)	kPa	18.3	15.7	15.7
	Water connections	"G	1-1/4"	1-1/4"	1-1/4"
Electrical characteristics	Power supply	V/Ph/Hz		400/3+N/50	
	Max. running current	A	18	21	24
	Max. starting current	A	56	63	80
Water circuit (unit with tank and pump)	Pump available static pressure (1)	kPa	103	84	141
	Tank water volume	l	100	100	100
Sound pressure	STD version (8)	dB(A)	60	60	61
	SL version (8)	dB(A)	58	58	59
Weights	Transport weight	kg	302	321	361
	Operating weight	kg	300	320	360

DIMENSIONS			52	62	92
L	STD/SL	mm	1850	1850	1850
W	STD/SL	mm	1000	1000	1000
H	STD/SL	mm	1300	1300	1300

CLEARANCE AREAS

CHA/ 52÷92



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 Heated water from 47 °C to 55 °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, ambient air temperature 35 °C.
7 Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
8 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side


CLINT
ECO
V-THERM

CHAPTER 2

AIR COOLED LIQUID CHILLERS AND HEAT PUMPS FOR COMMERCIAL & INDUSTRIAL APPLICATION

CHA/IK/A 91÷151

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSOR AND PLATE EXCHANGER.

The high efficiency 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 Fan Coil units or with intermediate heat exchangers for process cooling applications.
All units are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/IPLV/SCOP).
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

AQUA PLUS INVERTER SCROLL

The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/IK/A
Cooling only

CHA/IK/A/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet. Sound-proofed compressor compartment.
- DC INVERTER Scroll compressor with oil sight glass, internal overheat protection, crankcase heater and soundproofing cover.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of copper tube and aluminum finned 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 safety interlock, 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.
- Advanced functions: remote set-point with 0-10V signal, remote set-point with 4-20mA signal, remote signal for second set-point activation, demand limit from digital input, management of hybrid systems, management of domestic hot water production.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
TX	Coil with pre-coated fins
PS	Single circulating pump
GS	Single circulating pump gasket for glycol >30%
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

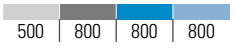
CHA/IK/A 91÷151

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)		3.22	3.21	3.18	3.16
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	25.7	30.4	35.8	42.2
	Absorbed power (1)	kW	8.1	9.6	11.4	13.6
	EER (1)		3.19	3.16	3.13	3.11
	SEER (2)		4.42	4.16	4.21	4.22
	Energy Efficiency (2)	%	174	163	165	166
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	28.8	34.4	40.5	48.1
	Absorbed power (3)	kW	8.2	10.1	12.0	14.2
	COP (3)		3.51	3.42	3.37	3.38
	SCOP (4)		3.74	3.75	3.54	3.74
	Energy Efficiency (4)	%	147	147	139	147
	Energy Class (5)		A+	A+	A+	A+
	SCOP (6)		2.95	2.96	2.93	3.07
	Energy Efficiency (6)	%	115	115	114	120
	Energy Class (7)		A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1
Evaporator	Water flow	l/s	1.23	1.46	1.71	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 (8)	dB(A)	60	61	62	62
Weights	Transport weight	kg	224	239	269	283
	Operating weight	kg	229	244	275	289

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

CLEARANCE AREAS

CHA/IK/A 91÷151



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 Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
7 Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
8 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

CHA/IK/A 172-P÷574-P

AQUA PLUS
INVERTER SCROLL
MICROCHANNEL

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER.

The high 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 equipped with axial fans, Inverter Scroll compressors and plate exchanger, even in the super silent version. All units 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 units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	49.8	57.5	65.6	74.6	85.6	97.5	112	130	152	179
	Absorbed power (1)	kW	15.8	18.4	20.7	23.9	27.5	30.7	35.4	41.1	47.8	56.2
	EER (1)		3.14	3.13	3.18	3.12	3.12	3.17	3.15	3.15	3.18	3.18
	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	49.8	57.5	65.6	74.6	85.6	97.5	112	130	152	179
	Absorbed power (1)	kW	15.6	18.2	20.5	23.7	27.2	30.4	35.1	40.7	47.3	55.6
	EER (1)		3.18	3.17	3.21	3.14	3.15	3.20	3.18	3.18	3.21	3.21
	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	53.9	62.4	71.2	81.0	92.9	105	121	140	164	193
	Absorbed power (3)	kW	16.5	19.0	21.5	24.9	28.6	32.0	37.0	42.6	49.7	58.4
	COP (3)		3.26	3.28	3.31	3.25	3.25	3.29	3.28	3.30	3.30	3.31
	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	2.75	3.13	3.56	4.09	4.66	5.34	6.20	7.24	8.53
	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	47	47	56	56	68	74	91	91	115	135
	Max. starting current	A	130	130	177	177	191	241	232	232	247	302
Unit with pump	Pump available static pressure	kPa	140	135	140	125	135	180	180	165	165	150
	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	70	75	75	75	75
	MC/SSL versions	Pa	65	65	90	85	80	75	75	75	---	---
Sound pressure	STD versions (6)	dB(A)	63	66	66	66	67	68	68	69	68	68
	STD versions with SL accessory (6)	dB(A)	61	63	64	64	65	66	66	67	66	66
	SSL versions (6)	dB(A)	58	61	61	61	62	62	62	62	---	---
	MC versions (6)	dB(A)	62	65	65	65	66	67	67	68	67	67
	MC versions with SL accessory (6)	dB(A)	60	62	63	63	64	65	65	66	65	65
	MC/SSL versions (6)	dB(A)	57	60	60	60	61	61	61	61	---	---
Weight STD versions	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-WP	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL-MC/SSL-WP/SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD-WP-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-MC-WP	mm	1950	2250	2250	2250	2250	1950	2250	2250	2250	2250
	SSL-MC/SSL-WP/SSL	mm	1950	2250	2250	1950	1950	2250	2250	2250	---	---

CLEARANCE AREAS

CHA/IK/A 172-P÷574-P

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

CHA/K/AF 182-P÷604-P

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The high efficiency 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. 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 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.
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.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/AF
Cooling only
CHA/K/AF/SSL
Super silenced cooling only

CHA/K/AF/WP
Reversible Heat Pump
CHA/K/AF/WP/SSL
Super silenced reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
HYM	Hybrid systems management
DHW	Domestic hot water management
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	51.0	58.9	67.1	76.4	87.6	99.7	115	133	156	183
	Absorbed power (1)	kW	16.3	18.8	21.2	24.6	28.1	31.5	36.3	42.2	48.9	57.5
	EER (1)		3.13	3.14	3.17	3.11	3.12	3.17	3.16	3.14	3.18	3.18
	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 (EN14511)	Energy Efficiency (3)	%	131	130	129	134	135	131	132	131	130	130
	Heating capacity (4)	kW	55.6	64.3	73.1	83.4	95.7	109	124	144	169	198
	Absorbed power (4)	kW	17.2	19.8	22.4	25.9	29.5	33.2	38.3	44.2	51.7	60.5
	COP (4)		3.24	3.25	3.27	3.22	3.25	3.30	3.24	3.26	3.27	3.28
	SCOP (3)		3.36	3.32	3.31	3.43	3.45	3.35	3.37	3.34	3.33	3.32
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Heating	Heating capacity (4)	kW	55.4	64.1	72.9	83.1	95.3	109	124	144	169	198
	Absorbed power (4)	kW	16.8	19.4	22.0	25.4	28.8	32.5	37.7	43.4	51.0	59.7
	COP (4)		3.30	3.30	3.31	3.27	3.31	3.35	3.29	3.32	3.31	3.32
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	3.20	3.65	4.19	4.77	5.48	6.34	7.44	8.72
	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	41	44	55	60	67	79	90	101	120	135
	Max. starting current	A	164	166	179	192	235	202	222	268	252	302
Unit with tank and pump	Pump available static pressure	kPa	140	135	135	120	130	180	175	160	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"
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	---	---
Sound pressure	STD versions (6)	dB(A)	63	64	66	66	67	67	67	68	68	68
	With SL accessory (6)	dB(A)	61	62	64	64	65	65	65	66	66	66
Weights	Transport weight (7)	kg	574	606	625	679	728	836	973	1015	1305	1367
	Operating weight (7)	kg	576	612	630	684	734	842	981	1022	1314	1376

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1950	2250	2250	2250	2250	1950	2250	2250	2250	2250
	SSL	mm	1950	2250	2250	1950	1950	2250	2250	2250	---	---

CLEARANCE AREAS

CHA/K/AF 182-P÷604-P

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 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
4 Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
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

CHA/K 182-P÷604-P

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

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.
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). Heat Pump models are compliant to ErP Regulations.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K
Cooling only
CHA/K/SSL
Super silenced cooling only

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
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
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

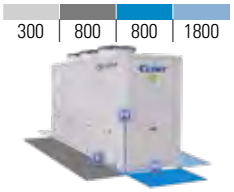
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

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	15.2	17.8	21.0	24.5	27.4	32.1	36.0	41.8	49.9	58.2
	EER (1)		3.13	3.09	3.02	2.98	3.05	2.99	3.06	3.04	2.95	3.06
Cooling (EN14511)	Cooling capacity (1)	kW	47.5	54.7	63.3	72.7	83.2	95.6	110	127	147	178
	Absorbed power (1)	kW	15.5	18.1	21.3	24.9	27.8	32.7	36.6	42.5	50.6	59.0
	EER (1)		3.07	3.03	2.97	2.92	3.00	2.92	3.00	2.98	2.90	3.01
	SEER (2)		4.06	4.08	3.92	3.93	4.01	3.88	3.90	4.01	3.99	3.86
	Energy Efficiency (2)	%	159	160	154	154	157	152	153	157	157	151
	SEER with EC or ECH accessory (2)		4.23	4.23	4.26	4.23	4.28	4.25	4.24	4.31	4.34	4.27
	Energy Efficiency with EC or ECH accessory (2)	%	166	166	167	166	168	167	167	169	171	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	16.6	18.9	22.6	24.9	28.3	33.9	37.0	42.3	50.3	60.4
	COP (3)		3.26	3.27	3.16	3.22	3.19	3.13	3.24	3.19	3.06	3.10
Heating (EN14511)	Heating capacity (3)	kW	54.4	62.1	71.7	80.7	90.8	106	120	135	154	187
	Absorbed power (3)	kW	17.0	19.4	23.1	25.5	28.9	34.7	37.8	43.2	51.3	61.5
	COP (3)		3.19	3.20	3.10	3.16	3.14	3.06	3.18	3.13	3.01	3.05
	SCOP (4)		3.33	3.30	3.31	3.38	3.39	3.38	3.30	3.35	3.34	3.25
	Energy Efficiency (4)	%	130	129	129	132	133	132	129	131	131	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	4.57	5.24	6.05	7.01	8.48
	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	41	44	52	56	64	75	82	93	110	131
	Max. starting current	A	164	166	175	188	231	199	214	261	242	298
Unit with tank and pump	Pump available static pressure	kPa	140	130	130	115	140	165	170	155	150	135
	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	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	---
Sound pressure	STD versions (6)	dB(A)	61	61	64	64	65	67	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	65	65	65	65	65
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

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
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	1950	1950	1950	1950	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K 182-P÷604-P



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

CHA/K/FC 182-P÷604-P

AQUA PLUS FREE COOLING

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

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 2021 ErP Regulation for process cooling application.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 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	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
	SEPR (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	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/FC 182-P÷604-P

NOTES

1 Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2 Seasonal energy efficiency of high temperature process cooling according to EU Regulation No. 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

CHA/K 182÷604

AQUA PLUS

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

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.
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). Heat Pump models are compliant to ErP Regulations.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K
Cooling only
CHA/K/SSL
Super silenced cooling only

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
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
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator/tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

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	48.9	54.9	62.2	73.0	84.1	95.0	109	129	149	179
	Absorbed power (1)	kW	16.7	19.0	21.9	25.8	29.0	32.0	38.0	44.2	51.4	59.5
	EER (1)		2.92	2.89	2.85	2.84	2.90	2.97	2.86	2.91	2.89	3.00
	SEER (2)		3.79	3.81	3.72	3.74	3.83	3.82	3.63	3.76	3.86	3.86
	Energy Efficiency (2)	%	149	149	146	147	150	150	142	147	151	151
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	55.8	62.1	70.5	81.1	91.7	105	119	137	156	188
	Absorbed power (3)	kW	18.0	19.9	23.4	26.4	29.7	34.0	38.9	44.9	52.0	61.9
	COP (3)		3.10	3.12	3.02	3.07	3.09	3.10	3.07	3.06	3.01	3.04
	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	2.34	2.62	2.98	3.49	4.02	4.54	5.19	6.15	7.10	8.53
	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	41	44	55	60	67	79	86	97	112	131
	Max. starting current	A	164	166	179	192	235	202	218	264	244	298
Unit with tank and pump	Pump available static pressure	kPa	160	150	125	110	140	185	170	170	155	145
	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"
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	---
Sound pressure	STD versions (6)	dB(A)	61	61	64	64	65	67	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	65	65	65	65	65
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

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	1950	1950	1950	1950	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K 182÷604

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

CRA/IK/A 51÷131

AQUA PLUS
INVERTER SCROLL
EC INVERTER PLUG FANS

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH EC INVERTER PLUG-FANS, INVERTER SCROLL COMPRESSOR AND PLATE EXCHANGER FOR INDOOR DUCTED INSTALLATION.

The high efficiency indoor liquid Chillers of the CRA/IK/A 51÷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 units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CRA/IK/A
Cooling only

CRA/IK/A/WP
Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame. Sound-proofed compressor compartment (51÷131).
- DC INVERTER Scroll compressor with internal overheat protection, crankcase heater and soundproofing cover (51÷131).
- High efficiency reverse blade EC INVERTER PLUG-FAN, with electronic speed control.
- Condenser made of copper tubes and aluminium finned coil, complete with condensate 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 safety interlock, fuses, compressors (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.
- Advanced functions: remote set-point with 0-10V signal, remote set-point with 4-20mA signal, remote signal for second set-point activation, demand limit from digital input, management of hybrid systems, management of domestic hot water production.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature kit
TX	Coil with pre-coated fins
PS	Single circulating pump
GS	Single circulating pump gasket for glycol >30%
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 51÷131

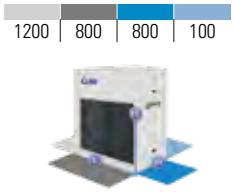
MODEL			51	61	71	81	91	101	131
Cooling	Cooling capacity (1)	kW	12.4	15.7	19.0	22.4	25.8	30.5	35.9
	Absorbed power (1)	kW	4.3	5.4	6.5	7.7	9.3	10.3	12.1
	EER (1)		2.88	2.91	2.92	2.91	2.77	2.96	2.97
Cooling (EN14511)	Cooling capacity (1)	kW	12.4	15.7	19.0	22.3	25.8	30.4	35.8
	Absorbed power (1)	kW	3.9	5.1	6.2	7.4	8.4	9.4	11.3
	EER (1)		3.14	3.10	3.07	3.02	3.08	3.24	3.18
	SEER (2)		4.32	4.30	4.23	4.33	4.32	4.10	4.12
	Energy Efficiency (2)	%	170	169	166	170	170	161	162
Heating	Heating capacity (3)	kW	14.1	17.5	20.9	24.8	28.7	34.3	40.4
	Absorbed power (3)	kW	4.5	5.4	6.4	7.5	9.4	10.7	12.6
	COP (3)		3.13	3.24	3.27	3.31	3.05	3.21	3.21
Heating (EN14511)	Heating capacity (3)	kW	14.2	17.6	21.0	24.9	28.8	34.4	40.5
	Absorbed power (3)	kW	4.2	5.1	6.1	7.2	8.5	9.8	11.8
	COP (3)		3.40	3.46	3.44	3.45	3.39	3.50	3.43
	SCOP (4)		3.58	3.57	3.68	3.70	3.91	4.08	3.79
	Energy Efficiency (4)	%	140	140	144	145	153	160	149
	Energy Class (5)		A+	A+	A+	A+	A++	A++	A+
	SCOP (6)		2.89	2.84	2.87	2.86	2.92	2.93	2.90
	Energy Efficiency (6)	%	113	111	112	111	114	114	113
	Energy Class (7)		A+	A+	A+	A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.59	0.75	0.91	1.07	1.23	1.45	1.71
	Pressure drops	kPa	25	20	29	30	20	29	31
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Fan available static pressure		Pa	115	115	115	115	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	14	14	16	19	22	22	25
	Max. starting current	A	9	9	10	11	12	12	13
Unit with pump	Pump available static pressure	kPa	76	82	70	60	140	115	150
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Sound pressure	(8)	dB(A)	58	58	59	61	62	63	64
Weights	Transport weight	kg	203	213	215	217	353	359	374
	Operating weight	kg	205	215	217	219	356	362	377

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

CLEARANCE AREAS

CRA/IK/A 51÷81

CRA/IK/A 91÷131



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 Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
7 Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
8 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

CHA/K/A/WP 182-P÷604-P

AQUA PLUS

HIGH EFFICIENCY AIR COOLED DEDICATED HEAT PUMPS FOR MEDIUM TEMPERATURE HOT WATER PRODUCTION (UP TO 55°C) WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

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.
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.
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 units are designed for **medium temperature hot water production (up to 55°C)**.
The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/A/WP
Reversible Heat Pump

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
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
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
HYM	Hybrid systems management
DHW	Domestic hot water management
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	55.9	63.8	71.6	81.8	94.4	109	124	142	163	197
	Absorbed power (1)	kW	17.1	19.8	22.1	24.8	28.6	33.7	37.7	44.0	50.7	59.9
	COP (1)		3.26	3.22	3.23	3.30	3.30	3.24	3.29	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	132	132	137	138	134	135	133	133	132
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling	Cooling capacity (4)	kW	48.2	54.9	62.5	71.9	82.8	94.5	108	125	139	163
	Absorbed power (4)	kW	15.8	18.7	20.7	23.7	28.4	32.0	35.6	41.8	48.0	56.2
	EER (4)		3.05	2.94	3.02	3.03	2.92	2.95	3.03	2.99	2.90	2.90
Cooling (EN14511)	Cooling capacity (4)	kW	48.1	54.8	62.4	71.8	82.6	94.4	108	125	139	163
	Absorbed power (4)	kW	16.0	18.9	20.9	23.9	28.7	32.3	36.0	42.3	48.6	56.9
	EER (4)		3.01	2.90	2.98	3.00	2.88	2.93	3.00	2.95	2.85	2.86
	SEER (5)		3.95	3.84	3.96	3.97	3.92	3.86	3.97	4.02	3.87	3.88
	Energy Efficiency (5)	%	155	151	155	156	154	151	156	158	152	152
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	2.98	3.43	3.95	4.50	5.15	5.96	6.63	7.77
	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	41	44	55	60	67	79	86	101	116	131
	Max. starting current	A	164	166	179	192	235	202	218	268	248	298
Unit with tank and pump	Pump available static pressure	kPa	155	150	140	135	155	200	190	170	165	155
	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	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
Sound pressure	STD versions (6)	dB(A)	62	62	65	65	65	67	68	68	69	70
	With SL accessory (6)	dB(A)	60	60	63	63	63	65	66	66	67	68
Weights	Transport weight (7)	kg	635	644	693	760	807	926	1076	1126	1235	1414
	Operating weight (7)	kg	640	650	700	770	820	940	1090	1140	1250	1430

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL	mm	1950	1950	1950	2250	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/A/WP 182-P÷604-P

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 Seasonal energy efficiency of cooling at medium temperature. According to EU Regulation n. 2016/2281.
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 versions are specified on technical brochure.

Electrical board side

CHA/F/ML/WP 102-P÷504-P

NEW

Thermica R454C

HIGH EFFICIENCY AIR COOLED DEDICATED HEAT PUMPS FOR HIGH TEMPERATURE HOT WATER PRODUCTION (UP TO 65°C) WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

THERMICA is the innovative series of high energy efficiency reversible Heat Pumps, with **R454C** refrigerant, dedicated to hot water production up to **65 °C** and operation up to -20 °C of external air temperature, with Scroll compressors and axial fans. 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 domestic hot water. The THERMICA 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.

The units are designed for **high temperature hot water production (up to 65°C)**.
The units are compliant to the ErP Regulation.

VERSIONS

CHA/ F/ML/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 a finned coil with copper pipes and aluminium fins with hydrophilic treatment.
- Evaporator AISI 316 stainless steel braze welded plates type with one (mod. 102-P÷222-P) or two (mod. 144-P÷504-P) independent circuits on the refrigerant side and one on the water side, completed with water differential pressure switch, flow switch and antifreeze heater.
- R454C refrigerant.
- The condensing / evaporating 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 and up to an outside air temperature of 40 °C in heat pump operation. 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 and up to +40 °C for domestic hot water production in summer.
- The production of hot water up to 65 °C is reachable with outside air temperature down to -5 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 52 °C.
- Advanced functions: remote set-point with 0-10V signal, remote set-point with 4-20mA signal, remote signal for second set-point activation, demand limit from digital input, management of hybrid systems, management of domestic hot water production.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
PFC1	Power factor correction condensers (cosφ 0,95)
SL	Unit silencement
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
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FO	Antifreeze heater for tank and pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
GDS	Leak detector

LOOSE ACCESSORIES

V3D	3-Way valve for domestic hot water production
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/F/ML/WP 102-P÷504-P

MODEL			102-P	144-P	184-P	204-P	152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
Heating	Heating capacity (1)	kW	31.8	42.4	51.7	63.4	56.3	67.9	80.6	91.4	112	135	163	182
	COP (1)		3.35	3.14	3.19	3.17	3.25	3.25	3.29	3.24	3.29	3.31	3.30	3.29
	Heating capacity (2)	kW	33.9	45.3	55.1	67.5	60.7	73.1	86.8	98.4	121	145	176	196
	COP (2)		4.18	3.92	3.95	3.96	3.95	3.95	4.01	3.94	4.02	4.04	4.03	4.02
	Heating capacity (3)	kW	29.9	39.7	48.4	59.5	52.1	62.9	74.7	84.6	104	125	151	169
	COP (3)		2.69	2.50	2.57	2.54	2.64	2.62	2.65	2.62	2.66	2.66	2.66	2.65
Heating (EN14511)	Heating capacity (1)	kW	31.9	42.5	51.7	63.5	56.4	68.0	80.7	91.6	112	135	163	182
	COP (1)		3.33	3.13	3.18	3.16	3.23	3.22	3.27	3.22	3.27	3.28	3.27	3.25
	Heating capacity (2)	kW	33.9	45.4	55.2	67.6	60.8	73.3	86.9	98.6	121	146	176	196
	COP (2)		4.14	3.90	3.92	3.94	3.91	3.91	3.97	3.90	3.97	3.99	3.97	3.96
	Heating capacity (3)	kW	29.9	39.7	48.4	59.6	52.1	62.9	74.7	84.7	104	125	151	169
	COP (3)		2.68	2.50	2.56	2.54	2.63	2.62	2.65	2.62	2.65	2.66	2.66	2.64
	SCOP (4)		3.69	3.34	3.38	3.51	3.48	3.49	3.61	3.47	3.37	3.51	3.43	3.48
	Energy Efficiency (4)	%	145	131	132	137	136	136	142	136	132	137	134	136
	Energy Class (5)		A+	A+	A+	A+	A+	A+	A+	A+	-	-	-	-
	SCOP (6)		2.96	2.82	2.83	2.90	2.86	2.84	2.94	2.85	2.83	2.93	2.88	2.90
	Energy Efficiency (6)	%	115	110	110	113	111	111	115	111	110	114	112	113
	Energy Class (7)		A+	A+	A+	A+	A+	A+	A+	A+	-	-	-	-
Cooling	Cooling capacity (8)	kW	29.5	37.2	47.5	56.1	51.4	61.0	72.3	82.6	100	117	141	157
	EER (8)		3.21	3.05	2.99	3.07	2.84	2.77	2.74	2.74	2.72	2.62	2.62	2.56
	Cooling capacity (9)	kW	40.1	50.8	63.8	76.0	68.9	81.2	95.7	110	133	154	187	207
	EER (9)		3.85	3.76	3.54	3.65	3.32	3.19	3.12	3.17	3.12	2.95	2.98	2.88
Cooling (EN14511)	Cooling capacity (8)	kW	29.5	37.2	47.5	56.1	51.3	60.9	72.2	82.5	100	117	141	157
	EER (8)		3.18	3.03	2.97	3.05	2.82	2.75	2.72	2.72	2.71	2.60	2.60	2.54
	Cooling capacity (9)	kW	40.0	50.8	63.8	76.0	68.8	81.1	95.6	110	133	154	186	207
	EER (9)		3.81	3.73	3.52	3.62	3.28	3.16	3.09	3.14	3.08	2.92	2.95	2.84
Compressor	Quantity	n°	2	4	4	4	2	2	2	2	4	4	4	4
	Refrigerant circuits	n°	1	2	2	2	1	1	1	1	2	2	2	2
	Capacity steps	n°	2	4			2				4			
Evaporator	Water flow (1)	l/s	1.54	2.05	2.50	3.07	2.73	3.29	3.90	4.42	5.42	6.53	7.89	8.81
	Pressure drops (1)	kPa	13.9	9.9	11.6	10.4	21.8	23.4	22.5	23.7	25.2	28.6	35.9	41.9
	Water connections	"G	2"	2"	2"	2"	2"	2"	2"	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	25	37	45	50	50	59	69	82	97	115	139	156
	Max. starting current	A	89	80	99	114	176	181	180	233	222	236	249	307
Water circuit (unit with tank and pump)	Pump available static pressure (1)	kPa	125	180	170	160	155	145	135	120	95	175	155	135
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600	600	600
ECH fan available static pressure		Pa	110	110	110	110	110	110	110	110	110	110	110	110
Sound pressure	STD version (10)	dB(A)	62	62	62	64	64	64	65	66	65	66	67	69
	SL version (10)	dB(A)	60	60	60	62	62	62	63	64	63	64	65	67
Weights	Transport weight	kg	717	844	923	996	1013	1070	1079	1118	1564	1580	1726	1744
	Operating weight	kg	737	884	963	1036	1033	1090	1099	1138	1604	1620	1776	1784

DIMENSIONS			102-P	144-P	184-P	204-P	152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
L	STD/SL	mm	2350	2850	2850	2850	2850	2850	2850	3550	4700	4700	4700	4700
W	STD/SL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SL	mm	1950	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/ 102-P÷504-P

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 Heated water from 47 °C to 55 °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 Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
7 Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
8 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
9 Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
10 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

CHV/P/WP 152-P÷504-P

NEW

AIR COOLED DEDICATED HEAT PUMPS FOR HIGH TEMPERATURE HOT WATER PRODUCTION (UP TO 70°C) WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

ECO V-THERM is the new range of **high temperature** air-to-water reversible Heat Pumps designed to offer high performance while respecting the environment.
Equipped with Scroll compressors and EC axial fans, these units produce hot water up to **70 °C** and operate with outdoor temperatures down to -20 °C, ensuring optimal comfort all year round. They are ideal for environments with high daily occupancy, providing winter and summer air conditioning as well as high temperature domestic hot water production.
Using the natural refrigerant **R290**, with an extremely low GWP, they meet current and future European environmental regulations, combining efficiency and sustainability.

ECO V-THERM R290

The units are designed for **high temperature hot water production (up to 70°C)**.
The units are compliant to the ErP Regulation.

VERSIONS

CHV/P/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Painted galvanised steel condensate pan complete with condensate drain (with siphon) and antifreeze electric heater.
- 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 finned coils with copper tubes and aluminium fins with hydrophilic treatment positioned in a V-shaped geometry.
- Evaporator AISI 316 stainless steel braze welded plates type with one (mod. 152-P÷252-P) or two (mod. 304-P÷504-P) independent circuits on the refrigerant side and one on the water side, completed with water differential pressure switch, and antifreeze heater.
- R290 refrigerant.
- The condensing / evaporating control is included: electronic proportional device that ensures efficient and continuous functioning of the unit. 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.
- The production of hot water up to 70 °C is reachable with outside air temperature down to 3 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 55 °C.
- Connection to the machine from a smartphone or tablet via local WiFi access point (IWF, included) or via IS-Modbus RTU protocol (IS, included).
- Advanced functions: set point variation via digital control, 0-10V or 4-20 mA modulating input or via outside air temperature (climate curve); demand limit via digital control, 0-10V or 4-20 mA modulating input; Smart Grid Ready; hybrid system management; domestic hot water production management. User-enabled.
- Electrical board includes: switch disconnector on power supply complete with safety door lock device, circuit breakers, thermal protection relays on compressors and thermo-contacts for fans.

ACCESSORIES

FACTORY FITTED ACCESSORIES

RE	Adjustable minimum/maximum voltage and phase control relay
PFC1	Power factor correction condensers (cosφ 0,95)
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
BT	Low water temperature kit
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FO	Antifreeze heater for tank and pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes
SS	Soft start
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
IEH	Gateway with Ethernet port. Possibility of connection via Modbus TCP-IP (IST) or SNMP (ISS) protocols or via Web Server
LDS	Leak detection sensor R290
GP	Anti-snow coils protection grids

LOOSE ACCESSORIES

V3D	3-Way valve for domestic hot water production
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

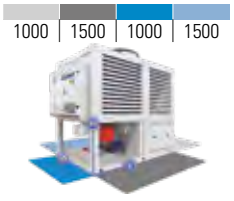
CHV/P/WP 152-P÷504-P

MODEL			152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
Heating	Heating capacity (1)	kW	47.8	59.8	71.2	81.8	95.6	119	142	164
	Absorbed power (1)	kW	14.7	17.3	21.4	24.3	29.4	34.7	43.1	49.0
	COP (1)		3.25	3.46	3.33	3.37	3.25	3.43	3.29	3.35
	Heating capacity (2)	kW	48.8	61.4	73.4	84.5	97.5	122	147	170
	Absorbed power (2)	kW	12.7	14.9	18.5	21.1	25.6	30.0	37.5	42.8
	COP (2)		3.85	4.12	3.96	4.00	3.81	4.07	3.91	3.97
	Heating capacity (3)	kW	46.9	58.1	68.7	78.7	93.7	116	137	158
	Absorbed power (3)	kW	17.0	19.9	24.4	27.6	34.2	40.0	49.4	55.7
	COP (3)		2.75	2.92	2.81	2.86	2.74	2.89	2.77	2.83
Heating (EN14511)	Heating capacity (1)	kW	47.9	60.0	71.4	82.0	95.7	119	142	164
	Absorbed power (1)	kW	14.9	17.6	21.8	24.7	29.6	35.0	43.4	49.5
	COP (1)		3.21	3.41	3.28	3.32	3.23	3.41	3.28	3.32
	Heating capacity (2)	kW	49.0	61.5	73.6	84.8	97.7	122	147	170
	Absorbed power (2)	kW	12.9	15.2	18.9	21.6	25.8	30.2	37.8	43.3
	COP (2)		3.79	4.05	3.89	3.93	3.78	4.04	3.88	3.92
	Heating capacity (3)	kW	47.0	58.1	68.8	78.8	93.7	116	137	158
	Absorbed power (3)	kW	17.1	19.9	24.5	27.7	34.3	40.0	49.5	55.8
	COP (3)		2.75	2.92	2.80	2.85	2.74	2.89	2.77	2.83
	SCOP (4)		3.32	3.58	3.31	3.41	3.36	3.71	3.46	3.51
	Energy Efficiency (4)	%	130	140	129	133	131	145	135	138
	SCOP (5)		2.99	3.15	2.94	3.03	3.03	3.28	3.07	3.13
	Energy Efficiency (5)	%	116	123	115	118	118	128	120	122
Cooling	Cooling capacity (6)	kW	40.1	47.2	58.5	65.8	79.9	93.6	117	130
	Absorbed power (6)	kW	16.2	19.5	23.2	25.9	32.3	38.8	46.4	51.8
	EER (6)		2.48	2.42	2.52	2.54	2.47	2.41	2.52	2.51
	Cooling capacity (7)	kW	54.1	63.4	79.3	89.3	104	122	153	169
	Absorbed power (7)	kW	17.6	21.4	25.4	28.3	34.6	42.1	50.2	56.0
	EER (7)		3.08	2.96	3.13	3.15	3.01	2.90	3.05	3.02
Cooling (EN14511)	Cooling capacity (6)	kW	40.0	47.1	58.4	65.7	79.8	93.5	117	130
	Absorbed power (6)	kW	16.3	19.7	23.4	26.1	32.4	39.0	46.7	52.1
	EER (6)		2.45	2.40	2.49	2.51	2.46	2.40	2.50	2.49
	Cooling capacity (7)	kW	53.9	63.2	78.9	89.0	104	122	153	169
	Absorbed power (7)	kW	17.9	21.9	26.0	28.9	34.9	42.4	50.8	56.6
	EER (7)		3.01	2.89	3.04	3.08	2.98	2.87	3.00	2.98
	SEER (8)		3.33	3.28	3.34	3.34	3.60	3.52	3.58	3.33
	Energy Efficiency (8)	%	130	128	131	131	141	138	140	130
Compressor	Quantity	n°	2	2	2	2	4	4	4	4
	Refrigerant circuits	n°	1	1	1	1	2	2	2	2
	Capacity steps	n°	2				4			
Evaporator	Water flow (1)	l/s	2.31	2.88	3.44	3.96	4.63	5.74	6.89	7.94
	Pressure drops (1)	kPa	40.1	43.2	42.8	45.5	16.0	18.2	18.7	27.2
	Water connections	"G	2"	2"	2"	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	44	49	63	75	87	98	126	149
	Max. starting current	A	172	174	177	228	215	223	240	302
Hydraulic circuit (Unit with pump)	Pump available static pressure (1)	kPa	140	125	115	105	200	185	175	150
Sound power	STD version (9)	dB(A)	82	82	84	84	84	84	86	86
	SL version (9)	dB(A)	80	80	82	82	82	82	84	84
Weights	Transport weight	kg	806	835	884	913	1517	1573	1690	1766
	Operating weight	kg	810	840	890	920	1530	1590	1710	1790

DIMENSIONS			152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
L	STD/SL	mm	2480	2480	2480	2480	4990	4990	4990	4990
W	STD/SL	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	STD/SL	mm	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHV/P/WP 152-P÷504-P



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 Heated water from 47 °C to 55 °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 of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
7 Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
8 Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
9 Sound power level according to Standard ISO 3744 and Eurovent 8/1.

Electrical board side

CHV/P/HE/WP 152-P÷504-P

NEW

ECO V-THERM

EC INVERTER FANS
R290

HIGH EFFICIENCY SUPER SILENCED AIR COOLED DEDICATED HEAT PUMPS FOR HIGH TEMPERATURE HOT WATER PRODUCTION (UP TO 70°C) WITH EC INVERTER AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

ECO V-THERM is the new range of **high temperature** air-to-water reversible Heat Pumps designed to offer high performance while respecting the environment.
Equipped with Scroll compressors and EC axial fans with increased diameter, these units produce hot water up to **70 °C** and operate with outdoor temperatures down to -20 °C, ensuring optimal comfort all year round with extremely quiet operation. They are ideal for environments with high daily occupancy, providing winter and summer air conditioning as well as high temperature domestic hot water production.
Using the natural refrigerant **R290**, with an extremely low GWP, they meet current and future European environmental regulations, combining efficiency and sustainability.

The units are designed for **high temperature hot water production (up to 70°C)**.
The units are compliant to the ErP Regulation.

VERSIONS

CHV/P/HE/WP
High efficiency super silenced reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Painted galvanised steel condensate pan complete with condensate drain (with siphon) and antifreeze electric heater.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans with increased diameter directly coupled to three-phase Inverter external rotor motors. The EC Inverter fans allow the unit to run continuously and efficiently, ensuring low noise levels.
- Condenser made of finned coils with copper tubes and aluminium fins with hydrophilic treatment positioned in a V-shaped geometry.
- Evaporator AISI 316 stainless steel braze welded plates type with one (mod. 152-P÷252-P) or two (mod. 304-P÷504-P) independent circuits on the refrigerant side and one on the water side, completed with water differential pressure switch, and antifreeze heater.
- R290 refrigerant.
- The production of hot water up to 70 °C is reachable with outside air temperature down to 3 °C. With outside air temperature of -20 °C the reachable production of hot water is up to 55 °C.
- Connection to the machine from a smartphone or tablet via local WiFi access point (IWF, included) or via IS-Modbus RTU protocol (IS, included).
- Advanced functions: set point variation via digital control, 0-10V or 4-20 mA modulating input or via outside air temperature (climate curve); demand limit via digital control, 0-10V or 4-20 mA modulating input; Smart Grid Ready; hybrid system management; domestic hot water production management. User-enabled.
- Electrical board includes: switch disconnector on power supply complete with safety door lock device, circuit breakers, thermal protection relays on compressors and thermo-contacts for fans.

ACCESSORIES

FACTORY FITTED ACCESSORIES

RE	Adjustable minimum/maximum voltage and phase control relay
PFC1	Power factor correction condensers (cosφ 0,95)
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
BT	Low water temperature kit
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FO	Antifreeze heater for tank and pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes
FEV	Antifreeze heater for fans
SS	Soft start
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
IEH	Gateway with Ethernet port. Possibility of connection via Modbus TCP-IP (IST) or SNMP (ISS) protocols or via Web Server
LDS	Leak detection sensor R290
GP	Anti-snow coils protection grids

LOOSE ACCESSORIES

V3D	3-Way valve for domestic hot water production
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

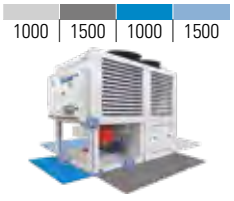
CHV/P/HE/WP 152-P÷504-P

MODEL			152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
Heating	Heating capacity (1)	kW	51.5	61.5	75.0	82.7	103	123	150	166
	Absorbed power (1)	kW	13.8	16.4	19.7	22.3	27.8	33.0	39.8	45.0
	COP (1)		3.73	3.75	3.81	3.71	3.71	3.73	3.77	3.69
	Heating capacity (2)	kW	52.8	63.0	77.4	85.1	106	126	155	171
	Absorbed power (2)	kW	11.8	13.9	16.7	19.1	23.7	28.2	33.9	38.8
	COP (2)		4.49	4.52	4.62	4.45	4.45	4.47	4.56	4.41
	Heating capacity (3)	kW	50.3	59.8	72.3	80.0	101	119	144	160
	Absorbed power (3)	kW	16.2	19.0	22.8	25.6	32.7	38.3	46.3	51.8
	COP (3)		3.11	3.15	3.17	3.13	3.07	3.11	3.12	3.10
Heating (EN14511)	Heating capacity (1)	kW	51.6	61.7	75.2	82.9	103	123	150	166
	Absorbed power (1)	kW	14.0	16.7	20.1	22.7	28.0	33.2	40.2	45.5
	COP (1)		3.68	3.70	3.75	3.66	3.68	3.71	3.74	3.65
	Heating capacity (2)	kW	52.9	63.1	77.6	85.3	106	126	155	171
	Absorbed power (2)	kW	12.0	14.2	17.1	19.5	23.9	28.4	34.4	39.3
	COP (2)		4.42	4.44	4.53	4.37	4.42	4.44	4.51	4.36
	Heating capacity (3)	kW	50.3	59.8	72.3	80.0	101	119	145	160
	Absorbed power (3)	kW	16.2	19.1	22.9	25.7	32.8	38.4	46.4	51.9
	COP (3)		3.10	3.14	3.16	3.12	3.07	3.11	3.12	3.09
	SCOP (4)		3.89	4.03	4.03	3.88	4.05	4.18	4.18	3.96
	Energy Efficiency (4)	%	153	158	158	152	159	164	164	155
	Energy Class (5)		A++	A++	A++	-	-	-	-	-
	SCOP (6)		3.47	3.52	3.52	3.41	3.61	3.66	3.65	3.49
	Energy Efficiency (6)	%	136	138	138	133	141	143	143	137
	Energy Class (7)		A++	A++	A++	A++	-	-	-	-
Cooling	Cooling capacity (8)	kW	40.7	48.2	60.4	68.0	80.8	96.6	119	133
	Absorbed power (8)	kW	15.3	18.3	21.2	24.2	30.5	36.5	42.3	49.0
	EER (8)		2.66	2.63	2.85	2.81	2.65	2.65	2.81	2.71
	Cooling capacity (9)	kW	55.1	64.7	82.1	91.7	106	126	156	173
	Absorbed power (9)	kW	16.6	20.2	23.1	26.7	32.8	39.8	45.5	53.1
	EER (9)		3.33	3.21	3.55	3.44	3.25	3.17	3.43	3.25
Cooling (EN14511)	Cooling capacity (8)	kW	40.6	48.1	60.3	67.9	80.7	96.5	119	133
	Absorbed power (8)	kW	15.4	18.4	21.4	24.4	30.6	36.7	42.5	49.3
	EER (8)		2.63	2.61	2.82	2.78	2.64	2.63	2.80	2.69
	Cooling capacity (9)	kW	55.0	64.5	81.8	91.4	106	126	156	172
	Absorbed power (9)	kW	16.8	20.6	23.7	27.2	33.0	40.1	46.0	53.7
	EER (9)		3.27	3.14	3.46	3.37	3.22	3.13	3.39	3.21
	SEER (10)		3.49	3.42	3.71	3.62	3.77	3.70	3.96	3.48
	Energy Efficiency (10)	%	137	134	145	142	148	145	155	136
Compressor	Quantity	n°	2	2	2	2	4	4	4	4
	Refrigerant circuits	n°	1	1	1	1	2	2	2	2
	Capacity steps	n°	2				4			
Evaporator	Water flow (1)	l/s	2.50	2.96	3.63	4.00	4.97	5.94	7.25	8.02
	Pressure drops (1)	kPa	35.6	35.7	40.7	37.2	14.0	14.5	22.2	26.6
	Water connections	"G	2"	2"	2"	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	41	47	58	69	81	93	115	138
	Max. starting current	A	169	172	172	222	209	218	229	291
Hydraulic circuit (Unit with pump)	Pump available static pressure (1)	kPa	140	135	115	115	195	185	165	150
Sound pressure	STD version (11)	dB(A)	54	54	57	57	56	56	59	59
Weights	Transport weight	kg	896	925	964	973	1687	1753	1850	1856
	Operating weight	kg	900	930	970	980	1700	1770	1870	1880

DIMENSIONS			152-P	182-P	222-P	252-P	304-P	374-P	444-P	504-P
L	STD	mm	2480	2480	2480	2480	4990	4990	4990	4990
W	STD	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200

CLEARANCE AREAS

CHV/P/HE/WP 152-P÷504-P



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 Heated water from 47 °C to 55 °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 Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
7 Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
8 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
9 Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
10 Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
11 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

CHV/H/HE/MC 804-P÷2406-P

NEW

POWER V-TECH MICROCHANNEL HFO R1234ze

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The high energy efficiency liquid Chillers of the CHV/H/HE/MC 804-P÷2406-P series, with **HFO-R1234ze** 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 of the rooms or to remove the heat developed during industrial processes.
Microchannel condensing coils on standard version provide higher efficiency levels (EER), as they ensure better heat exchange than conventional coils. Copper/aluminum coils are available on dedicated versions. Inverter control is available, as accessory, 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.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the ErP Regulation.

VERSIONS

CHV/H/HE/MC
High efficiency cooling only with MICROCHANNEL condensing coils

CHV/H/HE
High efficiency cooling only with CuAl condensing coils

CHV/H/HE/MC/SSL
High efficiency super silenced cooling only with MICROCHANNEL condensing coils

CHV/H/HE/SSL
High efficiency super silenced cooling only with CuAl condensing coils

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to a three-phase electric motor with external rotor. A safety fan guard is fitted on the air flow discharge. They are also fitted with an electronic proportional device for continuous and efficient operation of the unit with an outdoor air temperature as low as -20 °C in cooling. It also allows to reduce the sound level, especially at night.
- Condenser made of aluminum MICROCHANNEL coils or copper tube and aluminum 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.
- Cooling circuit shut-off valve on liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze 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.
- Units can be selected in standard, silenced and super-silenced versions. The super-silenced version includes: reduced fans speed: to guarantee the same cooling capacity compared to the standard version, the SSL version can include an increased number of modules; soundproofing enclosure for compressors: consisting of an external galvanised sheet metal enclosure, painted and internally coated with soundproofing material.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TXB	Coil with epoxy treatment
TX	Coil with pre-coated fins
EWR	Right-side external water connections
EWB	External water connections on rear side
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FE	Antifreeze heater for evaporator
FN	Antifreeze heater for pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
GDS	Leak detector
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers

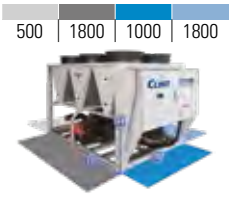
CHV/H/HE/MC 804-P÷2406-P

MODEL			804-P	1004-P	1204-P	1604-P	1806-P	2406-P
Cooling MC version	Cooling capacity (1)	kW	213	260	322	402	487	600
	Absorbed power (1)	kW	67.0	80.0	103	126	154	189
	EER (1)		3.18	3.25	3.13	3.19	3.16	3.17
Cooling MC version (EN14511)	Cooling capacity (1)	kW	213	260	322	402	487	600
	Absorbed power (1)	kW	67.4	80.5	104	127	155	190
	EER (1)		3.16	3.23	3.10	3.17	3.14	3.15
	SEER (2)		4.51	4.56	4.48	4.61	4.71	4.72
	Energy Efficiency (2)	%	177	179	176	181	185	186
Cooling CuAl version	Cooling capacity (1)	kW	212	258	318	399	485	598
	Absorbed power (1)	kW	68.0	81.0	105	128	155	191
	EER (1)		3.12	3.18	3.04	3.13	3.12	3.12
Cooling CuAl version (EN14511)	Cooling capacity (1)	kW	212	258	318	399	485	597
	Absorbed power (1)	kW	68.4	81.5	105	128	156	192
	EER (1)		3.09	3.16	3.01	3.11	3.10	3.10
	SEER (2)		4.43	4.48	4.40	4.53	4.65	4.65
	Energy Efficiency (2)	%	174	176	173	178	183	183
Compressor	Quantity	n°	2+2	2+2	2+2	2+2	3+3	3+3
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	4				6	
	Unitary absorbed power	kW	15.3	17.8	23.5	28.6	23.2	28.6
Evaporator	Water flow	l/s	10.15	12.39	15.35	19.16	23.21	28.60
	Pressure drops	kPa	17	18	18	19	19	21
	Water connections	DN	100	100	100	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	175	146	183	232	275	349
	Max. starting current	A	373	442	504	651	643	819
Unit with pump	Pump available static pressure	kPa	129	118	119	110	140	116
	Water connections	DN	100	100	100	150	150	150
ECH fan available static pressure	MC version	Pa	70	75	75	75	75	70
Sound pressure	MC version (3)	dB(A)	71	73	74	76	75	76
	MC version with SL accessory (3)	dB(A)	68	70	71	73	72	73
	MC/SSL version (3)	dB(A)	62	64	66	67	66	68
Weights MC versions	Transport weight	kg	2376	3049	3240	3998	5035	5866
	Operating weight	kg	2420	3100	3300	4080	5160	5980

DIMENSIONS			804-P	1004-P	1204-P	1604-P	1806-P	2406-P
L	MC-CuAl	mm	3150	4500	4500	5850	7200	8550
	MC/SSL-CuAl/SSL	mm	4500	5850	5850	7200	8550	9900
W	MC-CuAl-MC/SSL-CuAl/SSL	mm	2250	2250	2250	2250	2250	2250
H	MC-CuAl-MC/SSL-CuAl/SSL	mm	2550	2550	2550	2550	2550	2550

CLEARANCE AREAS

CHV/H/HE 804-P÷2406-P



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

CHV/H/XE/MC 804-P÷2406-P

NEW

POWER V-TECH
MICROCHANNEL
EC INVERTER FANS
HFO R1234ze

VERY HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH EC INVERTER AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The very high efficiency liquid Chillers of the CHV/H/XE/MC 804-P÷2406-P series, with **HFO-R1234ze** 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 of the rooms or to remove the heat developed during industrial processes.
Microchannel condensing coils on standard version provide higher efficiency levels (EER), as they ensure better heat exchange than conventional coils. Copper/aluminum coils are available on dedicated versions. Inverter control is available, as accessory, on circulating pumps 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.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the ErP Regulation.

VERSIONS

CHV/H/XE/MC
Very high efficiency cooling only with MICROCHANNEL condensing coils

CHV/H/XE
Very high efficiency cooling only with CuAl condensing coils

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an Inverter three-phase electric motor with external rotor. A safety fan guard is fitted on the flow discharge. The EC Inverter fans allow continuous and efficient operation of the unit with an outdoor air temperature as low as -20°C in cooling. They also allow to reduce the sound level, especially at night.
- Condenser made of aluminum MICROCHANNEL coils or copper tube and aluminum 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.
- Cooling circuit shut-off valve on liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
ECH	EC Inverter fans with high available static pressure
TXB	Coil with epoxy treatment
TX	Coil with pre-coated fins
EWR	Right-side external water connections
EWB	External water connections on rear side
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FE	Antifreeze heater for evaporator
FN	Antifreeze heater for pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
GDS	Leak detector
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers

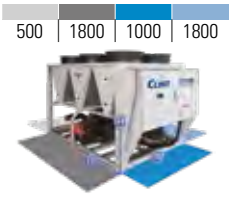
CHV/H/XE/MC 804-P÷2406-P

MODEL			804-P	1004-P	1204-P	1604-P	1806-P	2406-P
Cooling MC version	Cooling capacity (1)	kW	223	270	337	415	503	618
	Absorbed power (1)	kW	64.9	78.0	100	121	150	183
	EER (1)		3.44	3.46	3.37	3.43	3.35	3.38
Cooling MC version (EN14511)	Cooling capacity (1)	kW	223	270	337	415	503	618
	Absorbed power (1)	kW	65.4	78.5	101	122	151	184
	EER (1)		3.41	3.43	3.34	3.40	3.33	3.35
	SEER (2)		5.40	5.41	5.21	5.33	5.46	5.41
	Energy Efficiency (2)	%	213	213	205	210	215	213
Cooling CuAl version	Cooling capacity (1)	kW	222	268	333	412	501	616
	Absorbed power (1)	kW	66.0	79.0	102	122	151	185
	EER (1)		3.36	3.39	3.26	3.38	3.32	3.33
Cooling CuAl version (EN14511)	Cooling capacity (1)	kW	222	268	333	412	501	616
	Absorbed power (1)	kW	66.5	79.5	103	123	152	186
	EER (1)		3.34	3.36	3.24	3.35	3.30	3.31
	SEER (2)		5.23	5.24	5.08	5.15	5.40	5.33
	Energy Efficiency (2)	%	206	207	200	203	213	210
Compressor	Quantity	n°	2+2	2+2	2+2	2+2	3+3	3+3
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	4				6	
	Unitary absorbed power	kW	14.0	16.5	22.0	26.6	22.0	27.0
Evaporator	Water flow	l/s	10.63	12.87	16.06	19.78	23.98	29.46
	Pressure drops	kPa	19	19	20	20	20	22
	Water connections	DN	100	100	100	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	179	227	275	338	412	504
	Max. starting current	A	377	445	507	653	644	818
ECH fan available static pressure	MC version	Pa	60	65	65	60	60	60
Sound pressure	MC version (3)	dB(A)	70	72	74	75	75	76
	MC version with SL accessory (3)	dB(A)	68	69	71	72	72	73
Weights MC versions	Transport weight	kg	3016	3699	3890	4598	5665	6496
	Operating weight	kg	3060	3750	3950	4680	5790	6610

DIMENSIONS			804-P	1004-P	1204-P	1604-P	1806-P	2406-P
L	MC-CuAl	mm	4500	5850	5850	7200	8550	9900
W	MC-CuAl	mm	2250	2250	2250	2250	2250	2250
H	MC-CuAl	mm	2550	2550	2550	2550	2550	2550

CLEARANCE AREAS

CHV/H/XE 804-P÷2406-P



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 CuAl versions are specified on technical brochure.

Electrical board side

196 KW TO 668 KW

CHA/IK/A 674-P÷2356-P

multi power

INVERTER SCROLL

MICROCHANNEL

R410A R452B R454B

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER.

The high 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.
All units 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, as accessory, 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 a high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations.

The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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. 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 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

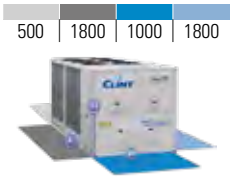
CHA/IK/A 674-P÷2356-P

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)		4.44	4.45	4.49	4.50	4.46	4.60	4.73	4.76	4.74	4.73
	Energy Efficiency (2)	%	175	175	177	177	175	181	186	187	187	186
Heating STD versions	Heating capacity (3)	kW	212	253	311	343	379	417	458	497	559	724
	Absorbed power (3)	kW	63	75	93	102	112	124	137	148	169	218
	COP (3)		3.37	3.37	3.34	3.36	3.38	3.36	3.34	3.36	3.31	3.32
Heating STD versions (EN14511)	Heating capacity (3)	kW	213	254	312	344	380	418	459	499	561	726
	Absorbed power (3)	kW	65	77	95	104	115	127	140	151	172	223
	COP (3)		3.28	3.30	3.28	3.31	3.30	3.29	3.28	3.30	3.26	3.26
	SCOP (4)		3.67	3.57	3.60	3.52	3.61	3.52	3.53	3.48	3.54	3.53
	Energy Efficiency (4)	%	144	140	141	138	141	138	138	136	139	138
Compressor	Quantity	n°	2+2	2+2	2+2	2+2	2+2	3+3	3+3	3+3	3+3	3+3
	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 AREAS

CHA/IK/A 674-P÷2356-P



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

Electrical board side

CHA/K/AF 726-P÷24012-P

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The CHA/K/AF 726-P÷24012-P liquid Chillers and Heat Pumps, with **R410A** refrigerant, are characterized by high efficiency in cooling and heating.
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.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

multi power

VERSIONS

CHA/K/AF
Cooling only
CHA/K/AF/SSL
Super silenced cooling only

CHA/K/AF/WP
Reversible Heat Pump
CHA/K/AF/WP/SSL
Super silenced reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

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
	EER (1)		3.18	3.19	3.22	3.27	3.16	3.13	3.25
Cooling (EN14511)	Cooling capacity (1)	kW	197	220	245	271	300	329	361
	EER (1)		3.13	3.14	3.18	3.22	3.11	3.10	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
	COP (3)		3.29	3.27	3.28	3.35	3.28	3.29	3.28
Heating (EN14511)	Heating capacity (3)	kW	214	239	266	295	326	360	392
	COP (3)		3.24	3.22	3.24	3.30	3.23	3.25	3.24
	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	9.39	10.49	11.68	12.92	14.30	15.68	17.21
	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	166	179	187	202	239	254	270
	Max. starting current	A	289	311	354	370	371	422	437
Unit with pump	Pump available static pressure	kPa	155	135	200	180	180	180	160
	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)	65	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

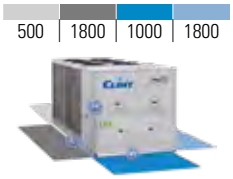
MODEL			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
Cooling	Cooling capacity (1)	kW	396	435	485	538	609	692
	EER (1)		3.19	3.17	3.15	3.18	3.17	3.14
Cooling (EN14511)	Cooling capacity (1)	kW	396	435	485	538	609	692
	EER (1)		3.15	3.13	3.12	3.15	3.14	3.12
	SEER (2)		4.48	4.56	4.59	4.57	4.56	4.60
	Energy Efficiency (2)	%	176	179	181	180	179	181
Heating	Heating capacity (3)	kW	431	473	526	586	663	754
	COP (3)		3.34	3.31	3.25	3.33	3.28	3.26
Heating (EN14511)	Heating capacity (3)	kW	432	474	527	587	664	755
	COP (3)		3.29	3.26	3.21	3.29	3.25	3.23
	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	18.88	20.73	23.12	25.64	29.03	32.98
	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	291	329	374	397	462	520
	Max. starting current	A	423	497	541	564	650	707
Unit with pump	Pump available static pressure	kPa	145	125	180	165	160	140
	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
L	STD	mm	4000	4000	4000	4000	5000	5000	5000
	SSL	mm	5000	5000	5000	5000	6200	6200	6200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100

DIMENSIONS			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
L	STD	mm	5000	5000	6200	6200	7200	7200
	SSL	mm	6200	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHA/K/AF 726-P÷24012-P



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.

Electrical board side

CHA/K 726-P÷36012-P

multi power

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

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 a high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The 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** or **R454B** refrigerant.

VERSIONS

CHA/K
Cooling only
CHA/K/SSL
Super silenced cooling only

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

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
	EER (1)		2.88	2.82	2.95	2.94	2.92	2.96	3.01	3.05	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	199	226	251	276	304	335	367	403	444
	EER (1)		2.85	2.79	2.90	2.89	2.88	2.93	2.96	3.01	2.82
	SEER (2)		3.61	3.66	3.73	3.81	3.79	3.86	4.01	4.08	4.14
	Energy Efficiency (2)	%	141	143	146	149	149	151	157	160	163
	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
	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	256	284	311	339	370	402	442	511
	COP (3)		3.08	3.02	3.08	2.96	3.08	3.00	2.98	3.08	3.06
	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	9.48	10.77	11.96	13.16	14.49	15.97	17.49	19.21	21.16
	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	158	171	179	195	223	239	254	283	322
	Max. starting current	A	281	304	346	362	355	406	421	415	489
Unit with pump	Pump available static pressure	kPa	160	130	175	165	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	72	73	73
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	69	69	70
	SSL version (5)	dB(A)	64	65	65	65	65	66	66	67	67
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

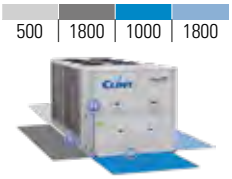
MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
Cooling	Cooling capacity (1)	kW	495	546	602	671	751	845	942	1051
	EER (1)		2.91	2.97	2.85	2.76	2.73	2.79	2.80	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	495	545	601	670	750	844	941	1050
	EER (1)		2.88	2.93	2.82	2.73	2.71	2.76	2.78	2.85
	SEER (2)		4.14	4.20	4.24	4.19	4.13	4.19	4.15	4.19
	Energy Efficiency (2)	%	163	165	167	165	162	165	163	165
	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
	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
	COP (3)		3.05	3.02	3.01	3.07	3.02	3.04	3.05	3.11
	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	23.59	26.02	28.69	31.98	35.79	40.28	44.90	50.09
	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	358	381	439	504	559	605	682	751
	Max. starting current	A	525	548	626	692	771	818	917	986
Unit with pump	Pump available static pressure	kPa	165	145	135	130	165	140	135	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)	68	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
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100

DIMENSIONS			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD	mm	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHA/K 726-P÷36012-P



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.

Electrical board side

CHA/K/FC 726-P÷36012-P

multi power FREE COOLING

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

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.
Are available as option the **new EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the 2021 ErP Regulation for process cooling application.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase 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.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 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	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 AREAS

CHA/K/FC 726-P÷36012-P

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 high temperature process cooling according to EU Regulation No. 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.

Electrical board side

CHA/K 726÷36012

multi power

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

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 a high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The 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** or **R454B** refrigerant.

VERSIONS

CHA/K
Cooling only
CHA/K/SSL
Super silenced cooling only

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

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
	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
	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
	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
	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
	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

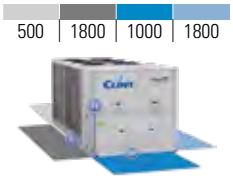
MODEL			16812	18012	21012	24012	27012	30012	33012	36012
Cooling	Cooling capacity (1)	kW	510	551	614	684	766	862	961	1062
	EER (1)		2.93	2.96	2.87	2.74	2.73	2.81	2.83	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	508	549	611	682	763	858	958	1058
	EER (1)		2.89	2.92	2.82	2.71	2.69	2.76	2.79	2.84
	SEER (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
	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
	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
	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
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100

DIMENSIONS			16812	18012	21012	24012	27012	30012	33012	36012
L	STD	mm	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHA/K 726÷36012



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.

Electrical board side

CHA/K/A/WP 726-P÷24012-P

multi power

HIGH EFFICIENCY AIR COOLED DEDICATED HEAT PUMPS FOR MEDIUM TEMPERATURE HOT WATER PRODUCTION (UP TO 55°C) WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.

The CHA/K/A/WP 726-P÷24012-P reversible Heat Pumps, with **R410A** refrigerant, are characterized by high efficiency in cooling and heating.
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.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The units are designed for **medium temperature hot water production (up to 55°C)**.
The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/A/WP
Reversible Heat Pump

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges

LOOSE ACCESSORIES

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
	COP (1)		3.44	3.41	3.36	3.46	3.35	3.48	3.47
Heating (EN14511)	Heating capacity (1)	kW	227	257	272	294	343	370	390
	COP (1)		3.38	3.35	3.31	3.41	3.30	3.44	3.42
	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	195	217	239	259	294	322	339
	EER (3)		2.91	2.89	3.06	3.05	2.94	3.01	3.00
Cooling (EN14511)	Cooling capacity (3)	kW	195	217	239	259	294	322	339
	EER (3)		2.87	2.85	3.02	3.01	2.90	2.98	2.97
	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	9.29	10.34	11.39	12.34	14.01	15.35	16.16
	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	158	171	187	202	231	247	262
	Max. starting current	A	281	304	354	370	363	414	429
Unit with pump	Pump available static pressure	kPa	155	130	205	195	185	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
	COP (1)		3.36	3.38	3.39	3.35	3.35	3.37
Heating (EN14511)	Heating capacity (1)	kW	421	477	533	567	678	763
	COP (1)		3.31	3.33	3.35	3.31	3.32	3.34
	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
	EER (3)		2.83	2.92	2.93	2.98	2.88	2.78
Cooling (EN14511)	Cooling capacity (3)	kW	359	421	475	512	597	671
	EER (3)		2.79	2.89	2.91	2.95	2.86	2.76
	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	17.11	20.07	22.64	24.40	28.45	31.98
	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	283	329	366	397	462	520
	Max. starting current	A	415	497	533	564	650	707
Unit with pump	Pump available static pressure	kPa	160	135	185	175	160	150
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (5)	dB(A)	74	76	76	76	76	78
	With SL accessory (5)	dB(A)	71	73	73	73	73	75
	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
L	STD	mm	2800	4000	4000	4000	4000	5000	5000
	SSL	mm	4000	4000	5000	5000	5000	5000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100

DIMENSIONS			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
L	STD	mm	5000	5000	6200	6200	7200	7200
	SSL	mm	5000	6200	6200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

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 cooling at low 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.

CHA/K/EP 182-P÷602-P

HIGH EFFICIENCY AIR COOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/K/EP 182-P÷602-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.
Are available as option the **EC Inverter axial fans and the new EC Inverter fans with high available static pressure and efficiency** for indoor ducted installation.

The units are designed for **medium temperature hot water production (up to 55°C)**.
The units are compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/EP
Multifunctional unit

CHA/K/EP/SSL
Super silenced multifunctional unit

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 with hydrophilic treatment.
- Condenser 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.
- 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
PFC1	Power factor correction condensers (cosφ 0,95)
RE	Adjustable minimum/maximum voltage and phase control relay
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
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
PSC+PSH	Single circulating pump cooling side + heating side
PSIC+PSIH	Inverter single circulating pump cooling side + heating side
PDC+PDH	Double circulating pump cooling side + heating side
PDIC+PDIH	Inverter double circulating pump cooling side + heating side
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
GH	Single circulating pump cooling side + heating side gaskets for glycol > 30%
GY	Double circulating pump cooling side + heating side gaskets for glycol > 30%
FNC	Antifreeze heater for pipes cooling side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
FNH	Antifreeze heater for pipes heating 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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IAV	Remote set-point, 0-10V signal
IDL	Demand limit from digital input
CP	Potential free contacts
GDS	Leak detector
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards

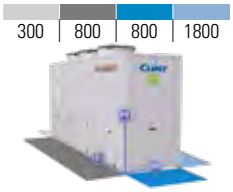
CHA/K/EP 182-P÷602-P

MODEL			182-P	202-P	242-P	262-P	302-P	362-P	402-P	452-P	502-P	602-P
Cooling only	Cooling capacity (1)	kW	48.6	55.9	63.2	72.2	81.8	95.1	110	122	134	168
	Absorbed power (1)	kW	16.8	19.3	21.9	24.4	27.9	33.0	37.9	40.9	46.5	58.9
	EER (1)		2.89	2.90	2.89	2.96	2.93	2.88	2.90	2.98	2.88	2.85
Cooling only (EN14511)	Cooling capacity (1)	kW	48.5	55.7	63.0	72.0	81.5	94.8	110	122	134	168
	Absorbed power (1)	kW	17.0	19.6	22.3	24.8	28.4	33.6	38.4	41.6	47.2	59.8
	EER (1)		2.85	2.85	2.83	2.90	2.88	2.82	2.86	2.93	2.83	2.80
	SEER (2)		4.17	4.18	4.17	4.20	4.19	4.17	4.15	4.15	4.17	4.14
	Energy Efficiency (2)	%	164	164	164	165	165	164	163	163	164	163
Heating only	Heating capacity (3)	kW	52.2	59.7	67.0	75.5	86.0	105	122	134	142	184
	Absorbed power (3)	kW	16.0	18.7	21.2	23.4	26.5	31.6	36.4	40.2	42.8	55.9
	COP (3)		3.26	3.19	3.16	3.23	3.25	3.32	3.35	3.33	3.32	3.29
Heating only (EN14511)	Heating capacity (3)	kW	52.2	59.7	67.0	75.5	86.0	105	122	134	142	184
	Absorbed power (3)	kW	16.0	18.7	21.2	23.4	26.5	31.6	36.4	40.2	42.8	55.9
	COP (3)		3.26	3.19	3.16	3.23	3.25	3.32	3.35	3.33	3.32	3.29
	SCOP (4)		3.49	3.46	3.36	3.36	3.38	3.54	3.55	3.64	3.73	3.56
	Energy Efficiency (4)	%	137	135	131	131	132	139	139	143	146	139
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling + Heating	Cooling capacity (6)	kW	49.6	56.5	62.9	71.8	83.3	98.0	112	124	140	173
	Heating capacity (6)	kW	64.9	73.9	82.5	94.1	109	127	145	161	181	224
	Absorbed power (6)	kW	15.3	17.4	19.6	22.3	25.2	29.0	33.3	37.1	40.7	50.7
	TER (6)		7.48	7.49	7.42	7.44	7.61	7.76	7.73	7.68	7.88	7.82
Cooling + Heating (EN14511)	Cooling capacity (6)	kW	49.5	56.4	62.7	71.6	83.0	97.7	112	124	140	173
	Heating capacity (6)	kW	65.0	74.0	82.7	94.3	109	127	146	162	181	224
	Absorbed power (6)	kW	15.7	17.9	20.2	23.0	26.0	30.0	34.4	38.4	42.1	52.5
	TER (6)		7.30	7.28	7.19	7.21	7.37	7.49	7.49	7.42	7.61	7.55
Evaporator - cooling side	Water flow	l/s	2.32	2.66	3.01	3.44	3.90	4.53	5.24	5.81	6.39	8.01
	Pressure drops	kPa	35	40	51	48	50	55	42	51	51	60
	Water connections	"G	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	3"
Condenser - heating side	Water flow	l/s	2.53	2.89	3.24	3.65	4.16	5.08	5.90	6.48	6.87	8.90
	Pressure drops	kPa	32	36	39	43	41	41	42	48	49	51
	Water connections	"G	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	41	44	55	60	67	77	87	94	102	129
	Max. starting current	A	164	166	179	192	235	265	274	307	315	364
Unit with pump - cooling side	Pump available static pressure	kPa	145	135	115	110	130	105	100	155	150	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"
Unit with pump - heating side	Pump available static pressure	kPa	145	135	115	110	130	105	100	155	150	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"
ECH fan available static pressure	STD version	Pa	95	100	95	95	95	100	60	50	60	50
	SSL version	Pa	70	85	70	70	70	90	50	50	60	50
Sound pressure	STD version (7)	dB(A)	63	64	64	65	65	67	68	68	69	70
	With SL accessory (7)	dB(A)	61	62	62	63	63	65	66	66	67	68
	SSL version (7)	dB(A)	58	59	59	60	60	61	63	63	64	65
Weight STD versions	Transport weight	kg	754	763	817	911	934	1027	1072	1300	1308	1492
	Operating weight	kg	765	775	830	925	950	1045	1095	1325	1335	1535

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	362-P	402-P	452-P	502-P	602-P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	3550	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1950	1950	1950	2250	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/EP 182-P÷602-P



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

CHA/K/EP 604-P÷2004-P

HIGH EFFICIENCY AIR COOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/K/EP 604-P÷2004-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, 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.
Are available as option the **EC Inverter axial fans and the new EC Inverter fans with high available static pressure and efficiency**.

ENERGY POWER

The units are designed for **medium temperature hot water production (up to 55°C)**.
The models 604-P÷1404-P are compliant to ErP Regulations.The models 1604-P÷2004-P are compliant to ErP 2021 Regulations for comfort cooling application if provided with EC or ECH accessory (EC Inverter fans).
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

CHA/K/EP
Multifunctional unit

CHA/K/EP/SSL
Super silenced multifunctional unit

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 with hydrophilic treatment.
- Condenser 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.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
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
PSC+PSH	Single circulating pump cooling side + heating side
PSIC+PSIH	Inverter single circulating pump cooling side + heating side
PDC+PDH	Double circulating pump cooling side + heating side
PDIC+PDIH	Inverter double circulating pump cooling side + heating side
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
GH	Single circulating pump cooling side + heating side gaskets for glycol > 30%
GY	Double circulating pump cooling side + heating side gaskets for glycol > 30%
FNC	Antifreeze heater for pipes cooling side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
FNH	Antifreeze heater for pipes heating 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
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IAV	Remote set-point, 0-10V signal
IDL	Demand limit from digital input
CP	Potential free contacts
GDS	Leak detector
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/EP 604-P÷2004-P

MODEL			604-P	724-P	804-P	904-P	1004-P	1104-P	1204-P	1404-P	1604-P	1804-P	2004-P
Cooling only	Cooling capacity (1)	kW	167	190	218	241	264	301	332	385	428	472	507
	Absorbed power (1)	kW	57	69	75	85	93	104	116	129	143	166	188
	EER (1)		2.93	2.75	2.91	2.84	2.84	2.89	2.86	2.98	2.99	2.84	2.70
Cooling only (EN14511)	Cooling capacity (1)	kW	167	190	218	241	264	301	332	385	428	471	507
	Absorbed power (1)	kW	58	70	76	86	94	105	117	130	145	168	190
	EER (1)		2.89	2.72	2.87	2.80	2.80	2.86	2.83	2.95	2.95	2.80	2.67
	SEER (2)		4.14	4.22	4.18	4.17	4.22	4.19	4.16	4.19	4.34	4.38	4.40
	Energy Efficiency (2)	%	163	166	164	164	166	165	163	165	171	172	173
Heating only	Heating capacity (3)	kW	180	204	231	257	281	318	379	439	478	541	587
	Absorbed power (3)	kW	55	64	72	79	86	97	113	129	143	158	175
	COP (3)		3.27	3.19	3.21	3.25	3.27	3.28	3.35	3.40	3.34	3.42	3.35
Heating only (EN14511)	Heating capacity (3)	kW	180	204	231	257	281	318	379	439	478	541	587
	Absorbed power (3)	kW	55	64	72	79	86	97	113	129	143	158	175
	COP (3)		3.27	3.19	3.21	3.25	3.27	3.28	3.35	3.40	3.34	3.42	3.35
	SCOP (4)		3.52	3.36	3.65	3.58	3.43	3.63	3.39	3.26	3.43	3.60	3.64
	Energy Efficiency (5)	%	138	131	143	140	134	142	133	127	134	141	143
Cooling + Heating	Cooling capacity (5)	kW	170	195	214	243	270	303	335	386	427	491	542
	Heating capacity (5)	kW	220	255	281	318	351	396	440	503	558	636	703
	Absorbed power (5)	kW	50	60	67	75	81	93	105	117	131	145	161
	TER (5)		7.80	7.50	7.39	7.48	7.67	7.52	7.38	7.60	7.52	7.77	7.73
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	170	195	214	243	270	303	335	386	427	490	541
	Heating capacity (5)	kW	220	255	281	318	351	396	441	504	559	637	703
	Absorbed power (5)	kW	51	62	69	77	83	95	108	120	135	149	165
	TER (5)		7.59	7.32	7.21	7.32	7.48	7.36	7.20	7.41	7.31	7.55	7.54
Compressor	Quantity	n°	4	4	4	4	4	4	4	4	4	4	4
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°						4					
Evaporator - cooling side	Water flow	l/s	7.96	9.06	10.39	11.49	12.58	14.35	15.82	18.35	20.40	22.50	24.16
	Pressure drops	kPa	33.5	34.3	39.2	39.1	48.3	41.3	48.0	48.5	53.7	57.9	41.6
	Water connections	DN	100	100	100	100	100	100	100	100	125	125	150
Condenser - heating side	Water flow	l/s	8.71	9.87	11.18	12.44	13.60	15.39	18.34	21.24	23.13	26.18	28.40
	Pressure drops	kPa	36	37	40	31	38	34	48	46	55	47	53
	Water connections	DN	100	100	100	100	100	100	100	100	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz						400/3/50					
	Max. running current	A	133	151	171	186	201	227	241	288	328	372	408
	Max. starting current	A	301	328	347	400	415	466	480	557	597	706	742
STD version with SL accessory	Fan	n°	4	4	4	4	4	4	6	8	8	8	10
	Air flow	m³/s	22.4	22.4	21.3	21.3	21.3	23.6	32.3	42.6	42.6	42.6	53.0
Unit with pump - cooling side	Pump nominal power	kW	3.0	3.0	3.0	3.0	3.0	4.0	4.0	5.5	5.5	5.5	7.5
	Pump available static pressure	kPa	175	165	150	135	115	135	105	135	115	80	155
	Expansion vessel	l	18	18	18	18	18	18	18	18	18	18	18
	Water connections	DN	100	100	100	100	100	100	100	100	125	125	150
Unit with pump - heating side	Pump nominal power	kW	3.0	3.0	3.0	3.0	3.0	4.0	4.0	5.5	5.5	5.5	7.5
	Pump available static pressure	kPa	175	165	150	135	115	135	105	135	115	80	155
	Expansion vessel	l	18	18	18	18	18	18	18	18	18	18	18
	Water connections	DN	100	100	100	100	100	100	100	100	125	125	150
Sound pressure	STD version (6)	dB(A)	70	70	71	71	71	73	74	74	74	76	76
	With SL accessory (6)	dB(A)	67	67	68	68	68	70	71	71	71	73	73
	SSL version (6)	dB(A)	64	64	65	65	65	66	67	67	67	70	70
Weight STD versions	Transport weight	kg	2253	2279	2397	2439	2469	3232	3467	4394	4574	4572	4639
	Operating weight	kg	2353	2379	2497	2549	2579	3362	3607	4544	4724	4772	4879

DIMENSIONS			604-P	724-P	804-P	904-P	1004-P	1104-P	1204-P	1404-P	1604-P	1804-P	2004-P
L	STD	mm	3350	3350	3350	3350	3350	5000	5000	6200	6200	6200	7200
	SSL	mm	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360

CLEARANCE AREAS

CHA/K/EP 604-P÷2004-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

278 KW TO 1133 KW

CHA/Y/EP 1352÷4402

ENERGY POWER INVERTER SCREW EC INVERTER FANS

HIGH EFFICIENCY AIR COOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH EC INVERTER AXIAL FANS, INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

ENERGYPOWER is the range of high efficiency multifunctional units for 4-Pipe systems. The units CHA/Y/EP 1352÷4402, with **R134a** refrigerant, are provided with latest generation of Inverter Screw compressors and EC Inverter axial fans, 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**.

The units are designed for **medium temperature hot water production (up to 55°C)**.
The units are compliant to the ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CHA/Y/EP
Multifunctional unit

CHA/Y/EP/SSL
Super silenced multifunctional unit

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Screw Inverter compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass and thermal protection.
- EC Inverter axial fans directly coupled to an Inverter three-phase electric motor with external rotor. They attenuate the sound level of the unit using a continuous regulation of fans rotation speed and allow the cooling operation of the unit up to outside air temperatures of -20 °C.
- Copper tube and aluminum finned coils with hydrophilic treatment.
- Shell and tube condenser, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- 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.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
PFC1	Power factor correction condensers (cosφ 0,95)
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
ECH	EC Inverter fans with high available static pressure
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
FI	Antifreeze heater for evaporator and condenser
FNC	Antifreeze heater for pipes cooling side
FGC	Antifreeze heater for single pump and pipes cooling side
FMC	Antifreeze heater for double pump and pipes cooling side
FNH	Antifreeze heater for pipes heating side
TS	Touch Screen Interface
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
GDS	Leak detector
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

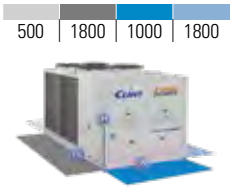
CHA/Y/EP 1352÷4402

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	88	99	115	132	152	176	208	256	313	363
	EER (1)		3.15	3.15	3.19	3.21	3.19	3.21	3.24	3.21	3.13	3.12
Cooling only (EN14511)	Cooling capacity (1)	kW	277	311	365	422	483	563	675	821	977	1132
	Absorbed power (1)	kW	89	101	117	134	154	178	211	259	317	368
	EER (1)		3.11	3.10	3.13	3.16	3.15	3.17	3.20	3.17	3.08	3.07
	SEER (2)		4.73	4.73	4.73	4.75	4.74	4.75	4.78	4.75	4.72	4.72
	Energy Efficiency (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	85	90	106	121	138	158	188	229	269	311
	COP (3)		3.32	3.55	3.54	3.57	3.56	3.63	3.57	3.66	3.68	3.72
Heating only (EN14511)	Heating capacity (3)	kW	283	321	376	432	491	573	673	839	991	1157
	Absorbed power (3)	kW	86	91	107	122	139	159	190	231	271	313
	COP (3)		3.30	3.52	3.52	3.54	3.54	3.60	3.55	3.64	3.66	3.70
	SCOP (4)		3.52	3.78	3.76	3.76	3.75	4.12	4.06	4.14	4.35	4.46
	Energy Efficiency (4)	%	138	148	148	147	147	162	159	162	171	176
Cooling + Heating	Cooling capacity (5)	kW	276	318	370	429	492	575	686	834	996	1181
	Heating capacity (5)	kW	359	405	469	544	622	727	865	1054	1261	1495
	Absorbed power (5)	kW	83	87	99	115	130	152	179	220	265	314
	TER (5)		7.65	8.31	8.47	8.46	8.57	8.57	8.66	8.58	8.52	8.52
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	275	317	369	428	491	574	685	833	995	1180
	Heating capacity (5)	kW	359	405	469	544	622	727	865	1054	1261	1495
	Absorbed power (5)	kW	84	88	101	117	132	154	182	223	269	320
	TER (5)		7.55	8.17	8.32	8.32	8.43	8.43	8.53	8.45	8.38	8.36
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	13.25	14.87	17.44	20.16	23.07	26.88	32.22	39.18	46.61	54.00
	Pressure drops	kPa	33	40	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	l/s	13.69	15.48	18.14	20.86	23.71	27.68	32.52	40.55	47.91	55.94
	Pressure drops	kPa	21	23	20	18	17	20	18	20	20	20
	Water connections	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	152	164	193	210	238	270	319	402	462	516
Unit with pump	Pump available static pressure	kPa	186	161	182	150	175	165	143	171	136	156
	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
Weight STD versions	Transport weight	kg	4430	4575	5160	5817	6337	7345	8645	9835	10235	10905
	Operating weight	kg	4630	4780	5580	6290	6790	7910	9360	10620	11140	12170

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	2360	2360	2360	2360	2750	2750	2750	2750	2750	2750

CLEARANCE AREAS

CHA/Y/EP 1352÷4402



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

CHA/H/A 351-P÷1221-P

MAXI POWER INVERTER SCREW MICROCHANNEL HFO R1234ze

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGER.

The high efficiency CHA/H/A 351-P÷1221-P 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.
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. The super silenced versions, obtained through soundproofing the compressor compartment and the 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).

VERSIONS

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

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 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. 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	99.6	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	---
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	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/H/A 351-P÷1221-P

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

CHA/H/FC 351-P÷901-P

MAXI POWER
INVERTER SCREW
FREE COOLING
HFO R1234ze

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

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 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 indoor ducted installation.

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

VERSIONS

CHA/H/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
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
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/H/FC 351-P÷901-P

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
	SEPR (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	"G	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	600	600	600	600
	Water connections	"G	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	2250	2250	2250	2250

CLEARANCE AREAS

CHA/H/FC 351-P÷901-P

NOTES

1 Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2 Seasonal energy efficiency of high temperature process cooling according to EU Regulation No. 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

CHA/H/A 351÷1221

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND SHELL AND TUBE EXCHANGER.

The high efficiency CHA/H/A 351÷1221 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.
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. The super silenced versions, obtained through soundproofing the compressor compartment and the 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).

VERSIONS

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 on the water side.
- 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. 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
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
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	601	801	901	1221
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	66.6
	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	---
Weights	Transport weight (4)	kg	1361	1465	2005	2073	2367
	Operating weight (4)	kg	1380	1490	2040	2120	2420

DIMENSIONS			351	601	801	901	1221
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	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/H/A 351÷1221

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

197 KW TO 1353 KW

CHA/H/A 1002÷6002

MAXI POWER
INVERTER SCREW
MICROCHANNEL
HFO R1234ze

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND SHELL AND TUBE EXCHANGER.

The high efficiency CHA/H/A 1002÷6002 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.
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. The super silenced versions, obtained through soundproofing the compressor compartment and the 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).

VERSIONS

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

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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. 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 for other compressors
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

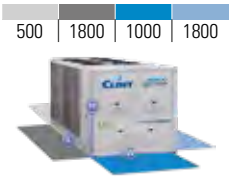
CHA/H/A 1002÷6002

MODEL			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802	5402	6002
Cooling STD version	Cooling capacity (1)	kW	197	261	309	366	406	464	548	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	63	83	98	116	129	147	168	189	223	249	300	333	379	422
	EER (1)		3.13	3.14	3.15	3.16	3.15	3.16	3.26	3.22	3.22	3.25	3.27	3.20	3.24	3.21
Cooling STD version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547	606	714	806	978	1061	1224	1348
	EER (1)		3.13	3.10	3.11	3.12	3.12	3.11	3.24	3.17	3.17	3.21	3.24	3.16	3.20	3.16
	SEER (2)		3.81	3.84	3.94	3.89	4.09	4.03	4.11	4.15	4.16	4.13	4.15	4.13	4.16	4.18
	Energy Efficiency (2)	%	149	151	155	153	161	158	161	163	163	162	163	162	163	164
	SEER with EC or ECH accessory (2)		4.17	4.20	4.39	4.26	4.55	4.55	4.57	4.56	4.57	4.57	4.58	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	164	165	173	167	179	179	180	179	180	180	180	179	179	179
Cooling MC version	Cooling capacity (1)	kW	197	261	309	366	406	464	548	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	62	81	96	114	126	144	165	185	219	244	294	326	371	414
	EER (1)		3.18	3.22	3.22	3.21	3.22	3.22	3.32	3.29	3.27	3.32	3.33	3.26	3.31	3.27
Cooling MC version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547	606	714	806	978	1061	1224	1348
	EER (1)		3.18	3.17	3.18	3.17	3.19	3.17	3.30	3.24	3.23	3.28	3.30	3.22	3.26	3.22
	SEER (2)		3.85	3.88	3.95	3.93	4.10	4.04	4.12	4.16	4.17	4.14	4.16	4.13	4.18	4.19
	Energy Efficiency (2)	%	151	152	155	154	161	159	162	163	164	163	163	162	164	165
	SEER with EC or ECH accessory (2)		4.22	4.25	4.43	4.30	4.55	4.55	4.61	4.60	4.61	4.61	4.62	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	166	167	174	169	179	179	181	181	181	181	182	179	179	179
Compressor	Quantity	n°	2	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	2
	Capacity steps	n°	Stepless													
Evaporator	Water flow	l/s	9.41	12.47	14.76	17.49	19.40	22.17	26.18	29.05	34.26	38.65	46.82	50.84	58.67	64.64
	Pressure drops	kPa	39	37	32	34	31	28	37	33	40	42	30	38	47	54
	Water connections	DN	125	125	150	150	150	150	150	150	200	200	200	200	250	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50													
	Max. running current	A	203	275	319	355	413	467	512	597	670	731	764	831	951	1039
	Max. starting current	A	291	417	488	586	642	723	783	896	947	1091	1206	1244	1450	1494
Unit with tank and pump	Pump available static pressure	kPa	155	185	180	155	140	180	160	145	160	140	120	170	180	155
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	3000	3000	3000	-	-	-	-
	Water connections	DN	100	100	100	100	125	125	150	150	150	150	-	-	-	-
Sound pressure	STD version (3)	dB(A)	75	76	76	77	77	78	78	78	80	81	82	82	84	84
	With SL accessory (3)	dB(A)	72	73	73	74	74	75	75	75	77	78	79	79	81	81
	SSL version (3)	dB(A)	67	68	68	69	69	70	70	70	72	73	74	74	---	---
Weights	Transport weight (4)	kg	2700	3215	3540	4015	4120	4625	5165	5260	6240	7460	8995	9435	11230	11560
	Operating weight (4)	kg	2790	3300	3670	4180	4280	4820	5430	5520	6570	7880	9500	9910	11800	12190

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

CLEARANCE AREAS

CHA/H/A 1002÷6002



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

232 KW TO 1144 KW

CHA/H/FC 1002÷4802

MAXI POWER
INVERTER SCREW
FREE COOLING
HFO R1234ze

AIR COOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

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 ErP 2021 European Regulations for process cooling application if provided with EC or ECH accessory (EC Inverter fans).

VERSIONS

CHA/H/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
II	Inverter on one compressor and soft start for other compressors
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

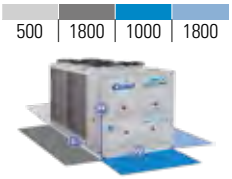
CHA/H/FC 1002÷4802

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	5.50	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 AREAS

CHA/H/FC 1002÷4802



NOTES

1 Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2 Seasonal energy efficiency of high temperature process cooling according to EU Regulation No. 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

CHA/Y/A 1302÷6002

MAXI POWER INVERTER SCREW MICROCHANNEL

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The CHA/Y/A 1302÷6002 units, with **R134a** refrigerant, have extremely high efficiency levels due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The 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.

VERSIONS

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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 for other compressors
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	263	313	358	412	463	573	695	838	958	1135	1263	1397	1532
	EER (1)		3.17	3.22	3.10	3.11	3.14	3.17	3.14	3.24	3.11	3.19	3.29	3.14	3.15
	SEER (2)		4.13	4.25	4.22	4.36	4.39	4.44	4.33	4.47	4.53	4.43	4.41	4.45	4.47
	Energy Efficiency (2)	%	162	167	166	171	173	175	170	176	178	174	173	175	176
	SEER with EC or ECH accessory (2)		4.58	4.66	4.55	4.73	4.74	4.77	4.65	4.86	4.85	4.69	4.74	4.71	4.73
	Energy Efficiency with EC or ECH accessory (2)	%	180	183	179	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	3.40	3.24	3.26
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	263	313	358	412	463	573	695	838	958	1135	1263	1397	1532
	EER (1)		3.25	3.29	3.15	3.18	3.20	3.25	3.20	3.31	3.17	3.25	3.36	3.20	3.21
	SEER (2)		4.14	4.26	4.23	4.34	4.39	4.43	4.33	4.48	4.53	4.42	4.41	4.46	4.47
	Energy Efficiency (2)	%	163	167	166	171	173	174	170	176	178	174	173	175	176
	SEER with EC or ECH accessory (2)		4.14	4.26	4.23	4.34	4.39	4.43	4.33	4.48	4.53	4.42	4.41	4.46	4.47
	Energy Efficiency with EC or ECH accessory (2)	%	163	167	166	171	173	174	170	176	178	174	173	175	176
Heating STD versions	Heating capacity (3)	kW	272	324	372	428	480	594	721	869	993	1176	---	---	---
	Absorbed power (3)	kW	81	95	113	129	143	177	218	253	302	348	---	---	---
	COP (3)		3.36	3.42	3.30	3.32	3.36	3.35	3.31	3.43	3.29	3.38	---	---	---
Heating STD versions (EN14511)	Heating capacity (3)	kW	273	324	373	429	481	595	722	870	994	1177	---	---	---
	COP (3)		3.33	3.40	3.26	3.29	3.33	3.32	3.26	3.39	3.24	3.32	---	---	---
	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	12.54	14.92	17.11	19.68	22.11	27.36	33.17	39.99	45.71	54.14	60.24	66.63	73.06
	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												
Unit with tank and pump	Pump available static pressure	kPa	145	150	170	155	185	175	175	160	130	90	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	75	76	75	76	75	76	77	76	77	78	78	79
	STD versions with SL accessory (5)	dB(A)	72	72	73	72	73	72	73	74	73	74	75	75	76
	SSL versions (5)	dB(A)	65	65	65	64	66	66	67	67	67	68	---	---	---
	MC versions (5)	dB(A)	75	75	75	75	76	75	76	76	76	77	77	77	78
	MC versions with SL accessory (5)	dB(A)	72	72	72	72	73	72	73	73	73	74	74	74	75
	MC/SSL versions (5)	dB(A)	65	65	65	64	65	65	66	67	67	67	---	---	---
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
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 AREAS

CHA/Y/A/WP 1302÷6002

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

Electrical board side

CHA/Y/FC 1202-B÷6002-B

MAXI POWER INVERTER SCREW FREE COOLING

AIR COOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

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 ErP 2021 Regulations for process cooling application with EC or ECH accessory (EC Inverter fans). The models 1902-B÷6002-B are compliant to ErP 2021 Regulations for process 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.

VERSIONS

CHA/Y/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
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
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
II	Inverter on one compressor and soft start for other compressors
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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

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	5.40
	SEPR with EC or ECH accessory and ID (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 accessory and ID (2)		5.74	5.50	5.57	5.50	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
L	STD	mm	4400	4400	4400	4400	5550	5550	6700
W	STD	mm	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360

DIMENSIONS			3002-B	3602-B	4202-B	4802-B	5402-B	6002-B
L	STD	mm	10050	10050	10050	10050	11100	13400
W	STD	mm	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2750	2750	2750	2750

CLEARANCE AREAS

CHA/Y/FC 1202-B÷6002-B

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 high temperature process cooling according to EU Regulation No. 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

262 KW TO 1340 KW

CHA/TTH 1301-1÷4904-1

TURBOLINE MICROCHANNEL HFO R1234ze

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

The innovative CHA/TTH 1301-1÷4904-1 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 unequaled 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%.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the 2021 ErP Regulation.

VERSIONS

CHA/TTH
Cooling only

CHA/TTH/MC
Cooling only with MICROCHANNEL condensing coils

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 independent 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 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PU	Single circulating pump
PD	Double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTH 1301-1÷4904-1

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

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

CLEARANCE AREAS

CHA/TTH 1301-1÷4904-1

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

CHA/TTH/FC 1301-1÷4904-1

TURBOLINE FREE COOLING HFO R1234ze

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

The innovative CHA/TTH/FC 1301-1÷4904-1 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 unequaled 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.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

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

VERSIONS

CHA/TTH/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 independent 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 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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÷4904-1

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

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

CLEARANCE AREAS

CHA/TTH/FC 1301-1÷4904-1

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 high temperature process cooling according to EU Regulation No. 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

248 KW TO 1456 KW

CHA/TTY 1301-1÷5004-1

TURBOLINE MICROCHANNEL

HIGH EFFICIENCY AIR COOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

The innovative CHA/TTY 1301-1÷5004-1 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 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 unequaled 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%.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the 2021 ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CHA/TTY
Cooling only

CHA/TTY/MC
Cooling only with MICROCHANNEL condensing coils

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 independent 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 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PU	Single circulating pump
PD	Double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
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
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTY 1301-1÷5004-1

MODEL			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1
Cooling STD version	Cooling capacity (1)	kW	248	282	335	403	509	627
	Absorbed power (1)	kW	73	81	97	116	145	185
	EER (1)		3.40	3.48	3.45	3.47	3.51	3.39
Cooling STD version (EN14511)	Cooling capacity (1)	kW	247	281	334	402	507	624
	Absorbed power (1)	kW	74	82	98	117	147	188
	EER (1)		3.32	3.43	3.40	3.42	3.46	3.33
	SEER (2)		4.88	5.06	5.07	5.18	5.14	5.16
	Energy Efficiency (2)	%	192	199	200	204	203	203
Cooling MC version	Cooling capacity (1)	kW	248	282	335	403	509	627
	Absorbed power (1)	kW	64	73	86	106	132	163
	EER (1)		3.88	3.86	3.90	3.80	3.86	3.85
Cooling MC version (EN14511)	Cooling capacity (1)	kW	248	282	335	403	509	627
	Absorbed power (1)	kW	64	73	86	106	132	163
	EER (1)		3.88	3.86	3.90	3.80	3.86	3.85
	SEER (2)		4.93	5.11	5.12	5.23	5.19	5.22
	Energy Efficiency (2)	%	194	201	202	206	205	206
Compressor	Quantity	n°	1	1	1	1	2	2
	Refrigerant circuits	n°	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
	Pressure drops	kPa	64	40	40	35	44	56
	Water connections	DN	100	100	100	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	168	168	168	262	329	337
	Max. starting current	A	25	25	25	33	186	194
Unit with pump	Pump available static pressure	kPa	150	200	195	165	175	145
	Water connections	DN	100	100	100	125	125	150
Sound pressure	STD version (3)	dB(A)	69	69	69	69	70	70
	MC version (3)	dB(A)	68	68	68	68	69	69
Weights	Transport weight	kg	2440	2440	2770	2790	3685	4020
	Operating weight	kg	2510	2510	2900	2920	3825	4170

MODEL			4002-1	4302-1	4603-1	4804-1	5004-1
Cooling STD version	Cooling capacity (1)	kW	770	929	1075	1260	1456
	Absorbed power (1)	kW	221	274	311	362	433
	EER (1)		3.48	3.39	3.46	3.48	3.36
Cooling STD version (EN14511)	Cooling capacity (1)	kW	767	925	1072	1256	1450
	Absorbed power (1)	kW	224	278	315	366	439
	EER (1)		3.43	3.32	3.41	3.43	3.31
	SEER (2)		5.34	5.29	5.36	5.40	5.25
	Energy Efficiency (2)	%	211	209	211	213	207
Cooling MC version	Cooling capacity (1)	kW	770	929	1075	1260	1456
	Absorbed power (1)	kW	198	243	281	328	381
	EER (1)		3.89	3.82	3.83	3.84	3.82
Cooling MC version (EN14511)	Cooling capacity (1)	kW	770	929	1075	1260	1456
	Absorbed power (1)	kW	198	243	281	328	381
	EER (1)		3.89	3.82	3.83	3.84	3.82
	SEER (2)		5.40	5.34	5.41	5.46	5.31
	Energy Efficiency (2)	%	213	211	213	215	209
Compressor	Quantity	n°	2	2	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	36.79	44.39	51.36	60.20	69.56
	Pressure drops	kPa	46	68	46	50	59
	Water connections	DN	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	509	517	763	658	1002
	Max. starting current	A	280	288	534	515	773
Unit with pump	Pump available static pressure	kPa	155	120	170	220	185
	Water connections	DN	150	150	150	200	200
Sound pressure	STD version (3)	dB(A)	70	69	70	71	71
	MC version (3)	dB(A)	69	68	69	70	70
Weights	Transport weight	kg	4055	5710	6460	7430	7640
	Operating weight	kg	4225	5910	6680	7660	7880

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1
L	STD/MC	mm	4000	4000	5000	5000	6200	7200
W	STD/MC	mm	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2100	2100

DIMENSIONS			4002-1	4302-1	4603-1	4804-1	5004-1
L	STD/MC	mm	7200	8400	10050	11100	11100
W	STD/MC	mm	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2500	2500	2500	2500

CLEARANCE AREAS

CHA/TTY 1301-1÷2201-1

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

246 KW TO 1443 KW

CHA/TTY/FC 1301-1÷5004-1

TURBOLINE FREE COOLING

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

The innovative CHA/TTY/FC 1301-1÷5004-1 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 unequaled 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.
Are available as option **the new EC Inverter fans with high available static pressure and efficiency**.

The units are compliant to the 2021 ErP Regulation for process cooling application.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CHA/TTY/FC
Cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
GS	Single circulating pump gasket for glycol >30%
GD	Double circulating pump gaskets for glycol >30%
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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÷5004-1

MODEL			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1
Cooling	Cooling capacity (1)	kW	246	281	333	400	495	588
	Absorbed power (1)	kW	71	80	94	116	143	171
	EER (1)		3.46	3.51	3.54	3.45	3.46	3.44
Cooling (EN14511)	Cooling capacity (1)	kW	244	279	331	397	491	582
	Absorbed power (1)	kW	73	82	96	119	147	177
	EER (1)		3.34	3.40	3.45	3.34	3.34	3.29
	SEPR (2)		7.29	7.38	7.07	7.02	7.40	7.19
Free-Cooling cycle	Air temperature (3)	°C	-2.5	0.5	-2.9	0.0	-2.8	-2.3
	Absorbed power (3)	kW	10.8	10.8	10.8	14.4	18.0	21.6
Compressor	Quantity	n°	1	1	1	1	2	2
	Refrigerant circuits	n°	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
	Pressure drops	kPa	92	97	88	105	115	155
	Water connections	DN	100	100	100	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	168	168	168	262	329	337
	Max. starting current	A	25	25	25	33	186	194
Unit with pump	Pump available static pressure	kPa	135	125	115	110	150	140
	Water connections	DN	100	100	100	125	125	150
Sound pressure	STD version (4)	dB(A)	68	68	69	69	69	70
Weights	Transport weight	kg	3040	3200	3600	3700	4620	5150
	Operating weight	kg	3180	3360	3810	3930	4850	5400

MODEL			4002-1	4302-1	4603-1	4804-1	5004-1
Cooling	Cooling capacity (1)	kW	696	869	1046	1229	1443
	Absorbed power (1)	kW	204	257	307	357	425
	EER (1)		3.41	3.38	3.41	3.44	3.40
Cooling (EN14511)	Cooling capacity (1)	kW	690	861	1033	1211	1421
	Absorbed power (1)	kW	210	265	321	375	447
	EER (1)		3.29	3.25	3.22	3.23	3.18
	SEPR (2)		7.04	7.23	7.04	7.23	7.22
Free-Cooling cycle	Air temperature (3)	°C	-0.5	-0.2	1.0	1.0	1.0
	Absorbed power (3)	kW	21.6	25.2	32.4	36.0	36.0
Compressor	Quantity	n°	2	2	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Water circuit	Water flow	l/s	35.91	44.84	53.97	63.42	74.46
	Pressure drops	kPa	125	144	220	256	275
	Water connections	DN	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	509	517	763	658	1002
	Max. starting current	A	280	288	534	515	773
Unit with pump	Pump available static pressure	kPa	155	105	160	205	145
	Water connections	DN	150	150	150	200	200
Sound pressure	STD version (4)	dB(A)	70	69	70	70	70
Weights	Transport weight	kg	5500	7700	8800	10000	10300
	Operating weight	kg	5810	8080	9250	10480	10790

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2602-1	3302-1
L	STD	mm	4000	4000	5000	5000	6200	7200
W	STD	mm	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360

DIMENSIONS			4002-1	4302-1	4603-1	4804-1	5004-1
L	STD	mm	7200	8400	10050	11100	11100
W	STD	mm	2200	2200	2200	2200	2200
H	STD	mm	2360	2750	2750	2750	2750

CLEARANCE AREAS

CHA/TTY/FC 1301-1÷2602-1

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 high temperature process cooling according to EU Regulation No. 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

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

CWW/K 31÷151

AQUA PLUS

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

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, 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, complete the outstanding versatility and functionality of the series.
Cooling only units are not compliant to ErP 2021 Regulations for comfort cooling application. Heat Pump units are compliant to ErP Regulations.

VERSIONS

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

FEATURES

- Self-supporting prepainted steel frame.
- 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.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Electrical board includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PV	Pressure valve (for cooling only versions)
VV	Pressure valve and solenoid valve (for WP versions)
BT	Low water temperature kit
PS	Single circulating pump
GS	Single circulating pump gasket for glycol >30%
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

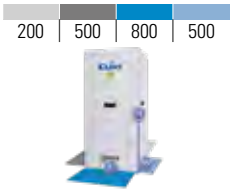
CWW/K 31÷151

MODEL			31	41	51	61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	9.6	11.6	14.3	17.1	20.0	23.0	27.7	33.6	39.7	49.2
	Absorbed power (1)	kW	2.3	2.9	3.4	4.1	4.8	5.5	6.8	7.9	9.3	11.5
	EER (1)		4.17	4.00	4.21	4.17	4.17	4.18	4.07	4.25	4.27	4.28
Cooling (EN14511)	Cooling capacity (1)	kW	9.5	11.5	14.2	17.0	19.8	22.8	27.5	33.3	39.4	48.8
	Absorbed power (1)	kW	2.5	3.2	3.7	4.4	5.2	6.0	7.4	8.7	10.1	12.1
	EER (1)		3.78	3.58	3.80	3.86	3.79	3.79	3.72	3.83	3.92	4.03
Heating	Heating capacity (2)	kW	12.5	14.9	17.5	20.8	24.3	28.4	33.8	39.8	47.0	59.5
	COP (2)		4.17	4.26	4.07	3.85	3.98	4.06	4.12	3.94	4.02	4.13
Compressor	Type		Scroll									
	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.46	0.55	0.68	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pressure drops	kPa	30	45	42	29	40	47	48	60	49	54
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.14	0.17	0.21	0.25	0.30	0.34	0.41	0.50	0.58	0.73
	Pressure drops	kPa	8	10	5	8	10	13	20	21	22	22
	Water connections	"G	1"	1"	1"	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	22	9	11	14	15	18	20	23	29
	Max. starting current	A	75	86	50	71	74	74	142	142	147	197
Unit SP versions	Water flow	l/s	0.46	0.55	0.68	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pump available static pressure	kPa	50	35	128	131	100	93	187	160	131	155
	Tank water volume	l	50	50	50	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	41	43	43	44	45	47	49	49	50	50
Weights	Operating weight (4)	kg	97	100	104	108	110	112	212	221	227	243
	Transport weight (4)	kg	96	99	102	106	108	110	209	218	224	240
Weight STD versions	Transport weight (4)	kg	87	90	93	96	98	100	190	198	204	218
Heating (EN14511)	Heating capacity (2)	kW	11.9	13.7	17.1	19.7	22.5	26.3	31.8	37.9	44.5	56.4
	Absorbed power (2)	kW	3.7	3.9	4.5	5.6	6.3	7.2	8.9	10.8	12.4	15.2
	COP (2)		3.25	3.56	3.81	3.50	3.59	3.67	3.56	3.50	3.58	3.71
	SCOP (5)		4.31	4.38	4.34	3.95	4.05	4.05	4.31	3.94	4.18	4.28
	Energy Efficiency (5)	%	164	167	166	150	154	154	164	150	159	163
	Energy Class (6)		A++	A++	A++	A+	A++	A++	A++	A+	A++	A++

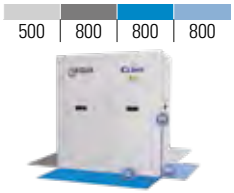
DIMENSIONS			31	41	51	61	71	81	91	101	131	151
L	STD	mm	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREAS

CWW/K/WP 31÷151



CWW/K/WP/SP 31÷151



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 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4 Unit without tank and pump.
5 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
6 Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

CWW/K 182-P÷604-P

AQUA PLUS

WATER COOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

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 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** or **R454B** refrigerant.

VERSIONS

CWW/K
Cooling only

CWW/K/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
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
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AG1	Rubber shock absorbers for SPU and SPD modules
AM	Spring shock absorbers
AM1	Spring shock absorbers for SPU and SPD modules

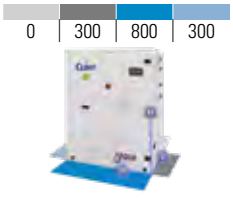
CWW/K 182-P÷604-P

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
L	UNIT	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	UNIT + SPU/SPD	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
W	UNIT	mm	680	680	680	680	680	680	680	680	680	680
	UNIT + SPU/SPD	mm	680	680	680	680	680	680	680	680	680	680
H	UNIT	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
	UNIT + SPU/SPD	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREAS

CWW/K 182-P÷604-P



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

CWW/K 182÷604

AQUA PLUS

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

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** or **R454B** refrigerant.

VERSIONS

CWW/K
Cooling only
CWW/K/SSL
Super silenced cooling only

CWW/K/WP
Reversible Heat Pump
CWW/K/WP/SSL
Super silenced reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
BT	Low water temperature kit
HR	Desuperheater
HRT/P	Total heat recovery in parallel
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/tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers
AG2	Rubber vibration dampers unit with SP, SPU or SPD accessory
AM	Spring shock absorbers
AM2	Spring-loaded antivibration unit with SP, SPU or SPD accessory
FL	Flow switch

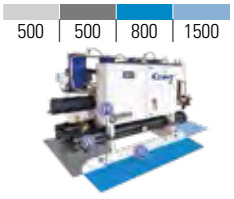
CWW/K 182÷604

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 (3)		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 AREAS

CWW/K 182÷604



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

MEA/K 31÷151

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

The liquid Chillers and Heat Pumps for remote condensation of the MEA/K 31÷151 series, set up for **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, Scroll compressor and plate 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, complete the outstanding versatility and functionality of the series.

VERSIONS

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

FEATURES

- Self-supporting prepainted steel frame.
- 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
GS	Single circulating pump gasket for glycol >30%
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

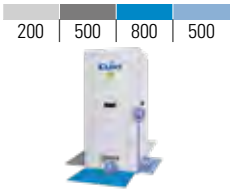
MEA/K 31÷151

MODEL			31	41	51	61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	8.5	10.1	12.1	14.5	17.0	20.0	24.1	28.8	33.9	41.5
	Absorbed power (1)	kW	3.3	3.7	3.3	5.2	6.0	7.1	7.8	9.3	10.9	13.3
Heating	Heating capacity (2)	kW	10.7	13.2	15.5	18.5	22.0	25.9	30.4	36.4	43.0	53.2
	Absorbed power (2)	kW	3.0	4.2	4.5	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	1	1	1
Evaporator	Water flow	l/s	0.41	0.48	0.58	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pressure drops	kPa	20	25	35	28	35	39	40	45	40	40
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	12	12	16	16	16	16	22	22	22	22
	Liquid line	Ø mm	10	10	12	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3+N/50							
	Max. running current	A	16	22	9	11	14	15	18	20	23	29
	Max. starting current	A	75	86	50	71	74	74	142	142	147	197
Unit SP versions	Water flow	l/s	0.41	0.48	0.58	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pump available static pressure	kPa	70	60	180	170	140	110	215	130	155	235
	Tank water volume	l	50	50	50	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	41	43	43	44	45	47	49	49	50	50
Weights	Transport weight (4)	kg	84	87	86	89	91	93	183	189	195	206
	Operating weight (4)	kg	85	88	88	91	93	95	186	192	198	209

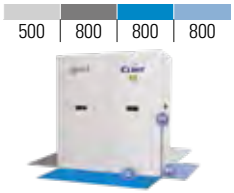
DIMENSIONS			31	41	51	61	71	81	91	101	131	151
L	STD	mm	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREAS

MEA/K 31÷151



MEA/K/SP 31÷151



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.

Electrical board side

MEA/K 182-P÷604-P

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

MEA/K 182-P÷604-P series liquid Chillers and Heat Pumps for remote condensation, set up for **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 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.

AQUA PLUS

VERSIONS

MEA/K
Cooling only

MEA/K/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
RL	Liquid receiver
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AG1	Rubber shock absorbers for SPU and SPD modules
AM	Spring shock absorbers
AM1	Spring shock absorbers for SPU and SPD modules

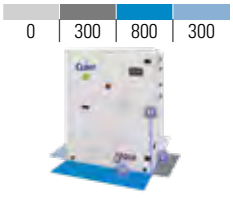
MEA/K 182-P÷604-P

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
	Expansion vessel	l	12	12	12	12	12	12	12	12	12	12
	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
	Transport weight (5)	kg	567	577	596	606	617	782	811	825	899	938
	Operating weight (4)	kg	350	360	380	390	405	570	590	605	680	720
	Operating weight (5)	kg	870	880	900	910	925	1090	1120	1135	1210	1250

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

CLEARANCE AREAS

MEA/K 182-P÷604-P



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.
5 Unit with tank and pump.
N.B. Weights of WP version are specified on technical brochure.

Electrical board side

RCA/K 5111÷8222

REMOTE AIR COOLED CONDENSERS WITH AXIAL FANS.

These Remote air cooled Condensers with axial fans are designed to be combined with evaporating units set up for **R410A** refrigerant.
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced and Super silenced, 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 and can be equipped with high efficiency EC fans.

VERSIONS

RCA/K
Cooling only units with horizontal air flow

RCA/K/VX
Cooling only units with vertical air flow

RCA/K/EC
Cooling only units with horizontal air flow and EC Inverter fans

RCA/K/EC/VX
Cooling only units with vertical air flow and EC Inverter fans

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.
- R410A refrigerant.
- Electrical board includes: main switch, fuses, fans wiring, terminals for external connections, fans speed controller via 0-10V signal.
- Electrical board (EC versions) includes: main switch, automatic circuit breakers, fans wiring, terminals for external connections, therminals for 0-10V signal for fan speed control.

COMBINATIONS

MEA/K	31	41	51	61	71	81	91	101	131	151
RCA/K	1x5111	1x5111	1x5112	1x5113	1x5114	1x5114	1x6111	1x6112	1x6112	1x6113

MEA/K	91	101	131	151						
RCA/K/EC	1x6111	1x6112	1x6112	1x6113						

MEA/K	31	41	51	61	71	81	91	101	131	151
RCA/K/VX	1x5111	1x5111	1x5112	1x5113	1x5114	1x5114	1x6111	1x6112	1x6112	1x6113

MEA/K	91	101	131	151						
RCA/K/EC/VX	1x6111	1x6112	1x6112	1x6113						

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K	1x6114	1x6121	1x6122	1x6123	1x6124	1x6125	1x6131	1x6132	1x8221	1x8222

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/EC	1x6114	1x6121	1x6122	1x6123	1x6124	1x6125	1x6131	1x6132	1x8221	1x8222

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/VX	1x6114	1x6121	1x6122	1x6123	1x6124	1x6125	1x6131	1x6132	1x8221	1x8222

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/EC/VX	1x6114	1x6121	1x6122	1x6123	1x6124	1x6125	1x6131	1x6132	1x8221	1x8222

RCA/K 5111÷8222

MODEL			5111	5112	5113	5114	6111	6112	6113	6114	6121
Fan	Air flow	m³/s	1.38	1.43	2.23	2.07	2.83	4.58	4.38	4.17	5.66
	Quantity	n°	1	1	1	1	1	1	1	1	2
Connections	In	Ø mm	22	22	22	28	28	28	35	35	35
	Out	Ø mm	18	18	18	18	22	22	28	28	28
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50	400/3/50							
	Absorbed power	kW	0.22	0.26	0.83	0.83	0.63	1.90	1.90	1.90	1.26
	Absorbed current	A	0.97	0.63	1.45	1.45	1.25	3.20	3.20	3.20	2.50
Sound pressure	STD version (1)	dB(A)	43	42	53	53	48	60	60	60	50
Weights	Transport weight	kg	102	102	102	108	183	183	196	206	206

MODEL			6122	6123	6124	6125	6131	6132	8221	8222
Fan	Air flow	m³/s	5.41	9.15	8.76	8.34	13.73	13.14	19.50	23.37
	Quantity	n°	2	2	2	2	3	3	4	4
Connections	In	Ø mm	42	35	42	42	42	54	2 X 35	2 X 35
	Out	Ø mm	35	28	35	35	35	35	2 x 28	2 x 28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	1.26	3.80	3.80	3.80	5.70	5.70	5.76	7.20
	Absorbed current	A	2.50	6.40	6.40	6.40	9.60	9.60	11.60	15.60
Sound pressure	STD version (1)	dB(A)	50	62	62	62	64	64	56	57
Weights	Transport weight	kg	230	206	230	253	352	373	642	642

DIMENSIONS			5111	5112	5113	5114	6111	6112	6113	6114	6121
L	STD	mm	1130	1130	1130	1130	1490	1490	1490	1490	2630
	VX	mm	1130	1130	1130	1130	1490	1490	1490	1490	2630
W	STD	mm	600	600	600	600	600	600	600	600	600
	VX	mm	900	900	900	900	1260	1260	1260	1260	1260
H	STD	mm	870	870	870	870	1230	1230	1230	1230	1230
	VX	mm	980	980	980	980	990	990	990	990	990

DIMENSIONS			6122	6123	6124	6125	6131	6132	8221	8222
L	STD	mm	2630	2630	2630	2630	3770	3770	3230	3230
	VX	mm	2630	2630	2630	2630	3770	3770	3230	3230
W	STD	mm	600	600	600	600	600	600	800	800
	VX	mm	1260	1260	1260	1260	1260	1260	2400	2400
H	STD	mm	1230	1230	1230	1230	1230	1230	2390	2390
	VX	mm	990	990	990	990	990	990	1565	1565

CLEARANCE AREAS

RCA/K 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

RCA/K/SSL 6111÷8222

SUPER SILENCED REMOTE AIR COOLED CONDENSERS WITH AXIAL FANS.

These Remote air cooled Condensers with axial fans are designed to be combined with evaporating units set up for **R410A** refrigerant.
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced and Super silenced, 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 and can be equipped with high efficiency EC fans.

VERSIONS

RCA/K/SSL
Super silenced cooling only units with horizontal air flow

RCA/K/VX/SSL
Super silenced cooling only units with vertical air flow

RCA/K/EC/SSL
Super silenced cooling only units with horizontal air flow and EC Inverter fans

RCA/K/EC/VX/SSL
Super silenced cooling only units with vertical air flow and EC Inverter fans

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.
- R410A refrigerant
- Electrical board includes: main switch, fuses, fans wiring, terminals for external connections, fans speed controller via 0-10V signal.
- Electrical board (EC versions) includes: main switch, automatic circuit breakers, fans wiring, terminals for external connections, therminals for 0-10V signal for fan speed control.

COMBINATIONS

MEA/K	71	81	91	101	131	151				
RCA/K/SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123				

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	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	1x8221	1x8222

MEA/K	71	81	91	101	131	151				
RCA/K/EC/ SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123				

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/EC/ SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	1x8221	1x8222

MEA/K	71	81	91	101	131	151				
RCA/K/VX/ SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123				

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/VX/ SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	1x8221	1x8222

MEA/K	71	81	91	101	131	151				
RCA/K/EC/ VX/SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123				

MEA/K	182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
RCA/K/EC/ VX/SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	1x8221	1x8222

RCA/K/SSL 6111÷8222

MODEL			6111	6112	6113	6121	6122	6123	6124	6131
Fan	Air flow	m³/s	1.45	1.74	1.61	3.14	2.90	3.48	3.34	4.35
	Quantity	n°	1	1	1	1	2	2	2	3
Connections	In	Ø mm	28	28	35	28	35	35	42	42
	Out	Ø mm	22	22	28	22	28	28	35	35
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	0.14	0.24	0.24	1.35	0.28	0.47	0.47	0.42
	Absorbed current	A	0.27	0.55	0.55	2.20	0.54	1.10	1.10	0.81
Sound pressure	SSL version (1)	dB(A)	37	43	43	54	39	45	45	41
Weights	Transport weight	kg	183	183	206	183	206	206	230	352

MODEL			6132	6133	6141	8121	8131	8132	8221	8222
Fan	Air flow	m³/s	5.22	5.02	6.95	7.30	12.27	11.56	17.90	17.90
	Quantity	n°	3	3	4	2	3	3	4	4
Connections	In	Ø mm	42	54	35	42	42	54	2 X 35	2 x 42
	Out	Ø mm	35	35	28	35	35	42	2 x 28	2 X 35
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	0.71	0.71	0.94	1.88	2.82	2.82	4.60	4.60
	Absorbed current	A	1.65	1.65	2.20	4.44	6.66	6.66	8.80	8.80
Sound pressure	SSL version (1)	dB(A)	47	47	48	51	53	53	50	50
Weights	Transport weight	kg	352	373	470	503	629	677	642	698

DIMENSIONS			6111	6112	6113	6121	6122	6123	6124	6131
L	SSL	mm	1490	1490	1490	1490	2630	2630	2630	3770
	VX/SSL	mm	1490	1490	1490	1490	2630	2630	2630	3770
W	SSL	mm	600	600	600	600	600	600	600	600
	VX/SSL	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	SSL	mm	1230	1230	1230	1230	1230	1230	1230	1230
	VX/SSL	mm	990	990	990	990	990	990	990	990

DIMENSIONS			6132	6133	6141	8121	8131	8132	8221	8222
L	SSL	mm	3770	3770	4910	3230	4580	4580	3230	3230
	VX/SSL	mm	3770	3770	4910	3230	4580	4580	3230	3230
W	SSL	mm	600	600	600	800	800	800	800	800
	VX/SSL	mm	1260	1260	1260	1380	1380	1380	800	800
H	SSL	mm	1230	1230	1230	1370	1370	1370	2390	2390
	VX/SSL	mm	990	990	990	1565	1565	1565	2390	2390

CLEARANCE AREAS

RCA/K/SSL 6111÷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

CWW/Y/BH 81-P÷1204-P

Booster

WATER COOLED DEDICATED HEAT PUMPS FOR VERY HIGH TEMPERATURE HOT WATER PRODUCTION (UP TO 80°C) WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

The units are designed to produce hot water at very high temperature, in compliance with the most stringent directives on energy efficiency and respect for the environment. In addition to this, their flexibly interacts with all technological plant solutions defined for every type of building, be it residential, commercial or industrial.
These units, with **R134a** refrigerant, are ideal for indoor installation and, equipped with a self-contained structure, they can reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Thanks to the high construction standard and the precise regulation system, the units are able to guarantee a very high efficiency both at the nominal operating point and in partial load conditions.
These characteristics are visible on the machine's working range which is among the most extensive on the market with the production of hot water leaving the condenser up to 80° C with evaporator water outlet temperatures up to 40° C.

The units are designed for **very high temperature hot water production (up to 80°C)**.
The units are compliant to the ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CWW/Y/BH
Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 81-P÷602-P models; with two independent circuits on the refrigerant side and one on the water side in 804-P÷1204-P models, complete with water differential pressure switch.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 81-P÷602-P models; with two independent circuits on the refrigerant side and one on the water side in 804-P÷1204-P models, complete with water differential pressure switch.
- 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, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
PV3E	3-Way electronic pressostatic valve for evaporation control
PV3C	3-Way electronic pressostatic valve for cold start
FI	Antifreeze heater for evaporator and condenser
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
IVE	0-10V signal for the management of the 3-Way electronic pressostatic valve for evaporation control
IVC	0-10V signal for the management of the 3-Way electronic pressostatic valve for cold start
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers

CWW/Y/BH 81-P÷1204-P

MODEL			81-P	91-P	101-P	131-P	151-P	162-P	182-P	202-P
Heating	Heating capacity (1)	kW	37.1	43.1	49.3	61.0	70.1	77.0	87.3	101
	Absorbed power (1)	kW	9.2	9.9	11.5	14.8	17.5	18.3	19.7	23.0
	COP (1)		4.03	4.35	4.29	4.12	4.01	4.21	4.43	4.39
Heating (EN14511)	Heating capacity (1)	kW	37.1	43.2	49.4	61.1	70.2	77.1	87.4	101
	Absorbed power (1)	kW	9.3	10.0	11.7	15.1	17.8	18.6	20.0	23.4
	COP (1)		3.98	4.29	4.23	4.06	3.95	4.14	4.36	4.33
	SCOP (2)		4.08	4.24	4.22	4.23	4.07	4.53	4.71	4.69
	Energy Efficiency (2)	%	155	162	161	161	155	173	180	180
	Energy Class (3)		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Compressor	Quantity	n°	1	1	1	1	1	2	2	2
	Type		Scroll							
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1
	Capacity steps	n°			1				2	
Condenser	Water flow	l/s	1.14	1.32	1.51	1.87	2.14	2.36	2.67	3.09
	Pressure drops	kPa	13.0	15.0	15.0	20.0	20.0	14.0	15.0	17.0
	Water connections	DN	32	32	32	32	32	65	65	65
Evaporator	Water flow	l/s	1.35	1.61	1.83	2.24	2.54	2.84	3.27	3.78
	Pressure drops	kPa	16.0	17.0	20.0	25.0	26.0	29.0	27.0	24.0
	Water connections	DN	32	32	32	32	32	65	65	65
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	16	16	19	25	32	31	32	38
	Max. starting current	A	95	111	118	140	174	111	127	137
Sound pressure	STD version (4)	dB(A)	58	58	59	60	62	61	61	62
	With SL accessory (4)	dB(A)	55	55	56	57	59	58	58	59
Weights	Transport weight	kg	344	353	371	381	399	407	415	433
	Operating weight	kg	350	360	380	390	410	420	430	450

MODEL			262-P	302-P	402-P	522-P	602-P	804-P	1044-P	1204-P
Heating	Heating capacity (1)	kW	126	147	192	238	293	368	459	550
	Absorbed power (1)	kW	29.6	34.9	46.5	57.7	70.3	92.8	114	142
	COP (1)		4.26	4.21	4.13	4.12	4.17	3.97	4.03	3.87
Heating (EN14511)	Heating capacity (1)	kW	126	147	192	238	293	368	459	550
	Absorbed power (1)	kW	30.1	35.4	47.2	58.4	71.1	94.3	116	144
	COP (1)		4.20	4.16	4.07	4.08	4.12	3.90	3.96	3.81
	SCOP (2)		4.70	4.52	4.56	4.57	4.60	4.50	4.56	4.50
	Energy Efficiency (2)	%	180	173	174	175	176	172	174	172
	Energy Class (3)		---	---	---	---	---	---	---	---
Compressor	Quantity	n°	2	2	2	2	2	4	4	4
	Type		Scroll							
	Refrigerant circuits	n°	1	1	1	1	1	2	2	2
	Capacity steps	n°			2				4	
Condenser	Water flow	l/s	3.86	4.50	5.88	7.28	8.97	11.26	14.05	16.83
	Pressure drops	kPa	17.0	17.0	18.0	14.0	15.0	21.0	22.0	30.1
	Water connections	DN	65	65	65	80	80	80	80	80
Evaporator	Water flow	l/s	4.66	5.43	7.04	8.73	10.78	13.32	16.69	19.74
	Pressure drops	kPa	25.0	21.0	27.0	20.1	19.0	39.0	43.3	42.0
	Water connections	DN	65	65	65	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	51	65	80	95	114	160	190	227
	Max. starting current	A	165	206	265	320	367	345	415	481
Sound pressure	STD version (4)	dB(A)	63	65	65	67	69	71	71	72
	With SL accessory (4)	dB(A)	60	62	62	64	66	68	68	69
Weights	Transport weight	kg	448	464	765	890	974	1320	1426	1519
	Operating weight	kg	470	490	800	940	1040	1380	1500	1610

DIMENSIONS			81-P	91-P	101-P	131-P	151-P	162-P	182-P	202-P
L	STD	mm	1200	1200	1200	1200	1200	1200	1200	1200
W	STD	mm	680	680	680	680	680	680	680	680
H	STD	mm	1520	1520	1520	1520	1520	1520	1520	1520

DIMENSIONS			262-P	302-P	402-P	522-P	602-P	804-P	1044-P	1204-P
L	STD	mm	1200	1200	2285	2285	2285	2500	2500	2500
W	STD	mm	680	680	680	680	680	800	800	800
H	STD	mm	1520	1520	1520	1520	1520	1900	1900	1900

CLEARANCE AREAS

CWW/Y/BH 81-P÷602-P

0 | 300 | 800 | 300

CWW/Y/BH 804-P÷1204-P

500 | 500 | 800 | 500

NOTES

1 Heated water from 70 °C to 78 °C, evaporator water temperature from 45 °C to 40 °C
2 Seasonal energy efficiency of heating at medium temperature with average climatic conditions. According to EU Regulation n. 813/2013.
3 Seasonal energy efficiency class of heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

CWW/K 726-P÷36012-P

multi power

WATER COOLED LIQUID CHILLERS AND HEAT PUMPS WITH SCROLL COMPRESSORS AND PLATE EXCHANGERS.

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.

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** or **R454B** refrigerant.

VERSIONS

CWW/K
Cooling only
CWW/K/SSL
Super silenced cooling only

CWW/K/WP
Reversible Heat Pump
CWW/K/WP/SSL
Super silenced reversible Heat Pump

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
BT	Low water temperature kit
DS	Desuperheater
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
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
	EER (1)		4.08	4.16	4.11	4.17	4.20	4.26	4.23	4.21	4.20
	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
	COP (3)		4.31	4.14	4.30	4.41	4.29	4.33	4.44	4.29	4.39
	SCOP (4)		5	5	5	6	6	6	6	6	6
	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)	68	70	71	71	71	72	72	72	73
	With SL accessory (5)	dB(A)	65	66	67	67	67	68	68	68	69
	SSL version (5)	dB(A)	61	62	63	63	63	64	64	64	65
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
	EER (1)		4.13	4.11	4.24	4.29	4.18	4.22	4.12	4.11
	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
	COP (3)		4.28	4.26	4.29	4.39	4.28	4.32	4.31	4.27
	SCOP (4)		5	6	4	6	5	6	5	6
	Energy Efficiency (4)	%	173	220	155	232	175	225	172	216
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)	73	74	77	78	79	79	80	80
	With SL accessory (5)	dB(A)	69	69	73	74	75	75	76	76
	SSL version (5)	dB(A)	65	64	69	70	71	71	72	72
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
L	STD/SSL	mm	2500	2500	2500	2500	3000	3000	3000	3550	3550
W	STD/SSL	mm	800	800	800	800	800	800	800	800	800
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900

DIMENSIONS			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD/SSL	mm	4000	4000	4650	4650	4650	4650	4650	4650
W	STD/SSL	mm	800	800	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREAS

CWW/K 726-P÷36012-P

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.

Electrical board side

CWW/K 726÷36012

multi power

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

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.

The units 726÷1128 are compliant to the ErP Regulation; the units 1208÷36012 are not compliant to the ErP Regulation.
On request, units can be supplied with **R452B** or **R454B** refrigerant.

VERSIONS

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

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
BT	Low water temperature kit
HR	Desuperheater
HRT/P	Total heat recovery in parallel
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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
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
	EER (1)		4.25	4.35	4.23	4.19	4.34	4.26	4.49	4.34	4.37
	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
	COP (3)		4.25	4.14	4.17	4.16	4.15	4.10	4.43	4.12	4.26
	SCOP (4)		5	5	5	5	5	5	5	5	5
	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)	68	69	70	71	71	72	72	72	73
	With SL accessory (5)	dB(A)	64	65	67	67	67	68	68	68	69
	SSL version (5)	dB(A)	60	61	63	63	63	64	64	64	65
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
	EER (1)		4.39	4.30	4.44	4.40	4.39	4.44	4.35	4.31
	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
	COP (3)		4.24	4.20	4.22	4.24	4.18	4.25	4.25	4.17
	SCOP (4)		5	6	4	6	5	6	5	6
	Energy Efficiency (4)	%	190	229	166	233	182	235	192	225
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)	73	74	78	78	79	80	80	80
	With SL accessory (5)	dB(A)	69	69	74	74	75	76	76	76
	SSL version (5)	dB(A)	65	64	70	70	71	72	72	73
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
L	STD/SSL	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000
W	STD/SSL	mm	800	800	800	800	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900	1900

DIMENSIONS			16812	18012	21012	24012	27012	30012	33012	36012
L	STD/SSL	mm	3300	3300	3300	4000	4000	4000	4000	4000
W	STD/SSL	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900	1900	1900

CLEARANCE AREAS

CWW/K 726÷36012

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.

Electrical board side

CWW/H/A 351-P÷901-P

MAXI POWER INVERTER SCREW HFO R1234ze

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGERS.

The high efficiency liquid Chillers of the CWW/H/A 351-P÷901-P series, with **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 ErP 2021 European Regulations for comfort cooling application.

VERSIONS

CWW/H/A
Cooling only

CWW/H/A/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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 relays for compressors.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
PV2	2-Way electronic pressostatic valve
PV3	3-Way electronic pressostatic valve
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
HRT/P	Total heat recovery in parallel
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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AG1	Rubber shock absorbers for SPU and SPD modules
AM	Spring shock absorbers
AM1	Spring shock absorbers for SPU and SPD modules

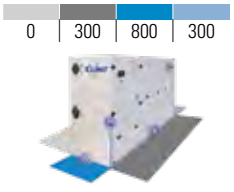
CWW/H/A 351-P÷901-P

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	216
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 AREAS

CWW/H/A 351-P÷901-P



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

234 KW TO 1650 KW

CWW/H/A 1002÷6002

MAXI POWER INVERTER SCREW HFO R1234ze

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The high efficiency liquid Chillers of the CWW/H/A 1002÷6002 series, with **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).

VERSIONS

CWW/H/A
Cooling only

CWW/H/A/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
PV3	3-Way electronic pressostatic valve
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start for other compressors
ID	Inverter on all compressors
SS	Soft start
DP	Device for Heat Pump operation
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
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)	%	253	260	264	262	264	264	266
	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

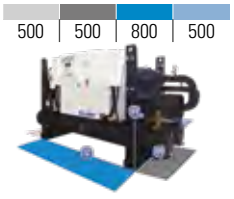
MODEL			2802	3302	3602	4602	4802	5402	6002
Cooling	Cooling capacity (1)	kW	736	868	980	1160	1278	1475	1650
	Absorbed power (1)	kW	131	154	174	222	242	275	304
	EER (1)		5.62	5.64	5.63	5.23	5.28	5.36	5.43
Cooling (EN14511)	Cooling capacity (1)	kW	734	866	977	1157	1274	1469	1644
	Absorbed power (1)	kW	135	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)	%	269	273	271	274	278	283	283
	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
L	STD	mm	3700	3700	3700	3800	3900	3900	3900
	SSL	mm	3700	3700	3700	3800	3900	3900	3900
W	STD	mm	1000	1100	1100	1150	1200	1200	1200
	SSL	mm	1200	1250	1250	1350	1350	1350	1400
H	STD	mm	1800	1800	1900	1950	2000	2050	2150
	SSL	mm	1800	1950	2050	2100	2150	2200	2300

DIMENSIONS			2802	3302	3602	4602	4802	5402	6002
L	STD	mm	4900	4900	4900	5300	5300	5550	5550
	SSL	mm	4900	4900	4900	5300	5300	5550	5550
W	STD	mm	1200	1300	1300	1400	1400	2000	2000
	SSL	mm	1400	1450	1450	1550	1550	2150	2150
H	STD	mm	2150	2250	2300	2450	2450	2500	2550
	SSL	mm	2300	2400	2450	2600	2600	2650	2700

CLEARANCE AREAS

CWW/H/A 1002÷6002



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.

Electrical board side

CWW/Y/A 1002-T÷7202-T

MAXI POWER INVERTER SCREW

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The high efficiency liquid Chillers of the CWW/Y/A 1002-T÷7202-T 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 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 2021 ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CWW/Y/A
Cooling only

CWW/Y/A/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
PV3	3-Way electronic pressostatic valve
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
HR	Desuperheater
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start for other compressors
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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
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

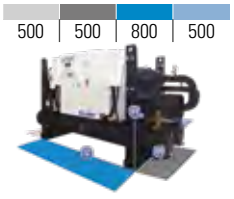
MODEL			3302-T	3602-T	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T
Cooling	Cooling capacity (1)	kW	901	1040	1183	1342	1497	1662	1902	2143
	Absorbed power (1)	kW	157	182	205	235	255	293	355	374
	EER (1)		5.74	5.71	5.77	5.71	5.87	5.67	5.36	5.73
Cooling (EN14511)	Cooling capacity (1)	kW	901	1039	1182	1341	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
L	STD/SSL	mm	3700	3700	3700	3800	3900	3900	3900	4900
W	STD	mm	1000	1100	1100	1150	1200	1200	1200	1200
	SSL	mm	1200	1250	1250	1350	1350	1350	1400	1400
H	STD	mm	1800	1950	2050	2100	2150	2200	2300	2300
	SSL	mm	1800	1950	2050	2100	2150	2200	2300	2300

DIMENSIONS			3302-T	3602-T	4602-T	4802-T	5402-T	6002-T	6602-T	7202-T
L	STD/SSL	mm	4900	4900	5300	5300	5550	5550	5550	5550
W	STD	mm	1300	1300	1400	1400	2000	2000	2000	2000
	SSL	mm	1450	1450	1550	1550	2150	2150	2150	2150
H	STD	mm	2400	2450	2600	2600	2650	2700	2700	2700
	SSL	mm	2400	2450	2600	2600	2650	2700	2700	2700

CLEARANCE AREAS

CWW/Y/A 1002-T÷7202-T



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.

Electrical board side

CWW/Y 1302-B÷9002-B

MAXI POWER INVERTER SCREW

ENERGY EFFICIENCY WATER COOLED LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.

The liquid Chillers of the CWW/Y 1302-B÷9003-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 ErP 2021 Regulations. The models 1902-B÷9002-B are compliant to ErP 2021 Regulations with ID accessory (Inverter on all compressors).
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CWW/Y
Cooling only

CWW/Y/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
PV3	3-Way electronic pressostatic valve
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
HR	Desuperheater
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start for other compressors
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/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
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	6.20	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	112
	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	110	121	135
	Pressure drops	kPa	49	66	77	66	63	63	73	67	57
	Water connections	DN	100	100	100	100	125	100	100	100	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 AREAS

CWW/Y 1302-B÷9002-B

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.

Electrical board side

MEA/Y 1302-B÷9002-B

MAXI POWER INVERTER SCREW

CONDENSERLESS LIQUID CHILLERS WITH (INVERTER) SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.

The liquid Chillers for remote condensation of MEA/Y 1302-B÷9002-B series, set up for **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 set up for **R513A** refrigerant.

VERSIONS

MEA/Y
Cooling only

MEA/Y/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- 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 for 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
RE	Adjustable minimum/maximum voltage and phase control relay
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit
BT	Low water temperature kit
FE	Antifreeze heater for evaporator
II	Inverter on one compressor and soft start for other compressors
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/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 IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	2x42	2x42	2x54	2x54	2x54	2x64	2x64	2x76	2x76
	Liquid line	Ø mm	2x35	2x35	2x35	2x35	2x35	2x42	2x42	2x42	2x54
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

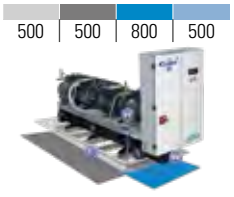
MODEL			4202-B	4402-B	4802-B	5402-B	6002-B	6602-B	7202-B	8102-B	9002-B
Cooling	Cooling capacity (1)	kW	905	1015	1140	1282	1433	1535	1681	1833	2060
	Absorbed power (1)	kW	262	296	327	364	417	447	483	528	599
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	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	2x76	2x76	2x89	2x89	2x89	2x89	2x89	2x108	2x108
	Liquid line	Ø mm	2x54	2x54	2x54	2x54	2x54	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	4560	6020	6055	6640
	Operating weight	kg	3480	3980	4980	5040	5100	5150	6720	6790	7340

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	2200	2200
	SSL	mm	2100	2100	2100	2100	2100	2200	2200	2300	2300

CLEARANCE AREAS

MEA/Y 1302-B÷9002-B



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.

Electrical board side

RCA/Y 8141÷9282

REMOTE AIR COOLED CONDENSERS WITH AXIAL FANS.

These Remote air cooled Condensers with axial fans are designed to be combined with evaporating units set up for **R134a** refrigerant.
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced and Super silenced, 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 and can be equipped with high efficiency EC fans.

On request, units can be set up for **R513A** refrigerant.

VERSIONS

RCA/Y
Cooling only units with horizontal air flow

RCA/Y/VX
Cooling only units with vertical air flow

RCA/Y/EC
Cooling only units with horizontal air flow and EC Inverter fans

RCA/Y/EC/VX
Cooling only unit with vertical air flow and EC Inverter fans

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.
- R134a refrigerant. On request for R513A.
- Electrical board includes: main switch, fuses, fans wiring, terminals for external connections, fans speed controller via 0-10V signal.
- Electrical board (EC versions) includes: main switch, automatic circuit breakers, fans wiring, terminals for external connections, therminals for 0-10V signal for fan speed control.

COMBINATIONS

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/Y	4202-B	7202-B	8102-B							
RCA/Y	1x8282	2x8282	2x8282							

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/EC	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/Y	4202-B	7202-B	8102-B							
RCA/Y/EC	1x8282	2x8282	2x8282							

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/VX	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/Y	4202-B	7202-B	8102-B	4402-B	9002-B	4802-B	5402-B	6002-B		
RCA/Y/VX	1x8282	2x8282	2x8282	1x9271	2x9271	1x9272	1x9281	1x9282		

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/EC/VX	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/Y	4202-B	7202-B	8102-B	4402-B	9002-B	4802-B	5402-B	6002-B		
RCA/Y/EC/VX	1x8282	2x8282	2x8282	1x9271	2x9271	1x9272	1x9281	1x9282		

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/J	4202-B	7202-B	8102-B							
RCA/Y	1x8282	2x8282	2x8282							

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/EC	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/J	4202-B	7202-B	8102-B							
RCA/Y/EC	1x8282	2x8282	2x8282							

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/VX	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/J	4202-B	7202-B	8102-B	4402-B	9002-B	4802-B	5402-B	6002-B		
RCA/Y/VX	1x8282	2x8282	2x8282	1x9271	2x9271	1x9272	1x9281	1x9282		

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	3602-B	6602-B
RCA/Y/EC/VX	1x8141	1x8151	1x8161	1x8171	1x8172	1x8251	1x8261	1x8271	1x8281	2x8281

MEA/J	4202-B	7202-B	8102-B	4402-B	9002-B	4802-B	5402-B	6002-B		
RCA/Y/EC/VX	1x8282	2x8282	2x8282	1x9271	2x9271	1x9272	1x9281	1x9282		

RCA/Y 8141÷9282

MODEL			8141	8151	8161	8171	8172	8251	8261
Fan	Air flow	m³/s	20.9	26.1	31.3	39.1	36.5	49.7	64.5
	Quantity	n°	4	5	6	7	7	10	12
Connections	In	Ø mm	64	64	76	76	76	2 x 64	2 x 76
	Out	Ø mm	42	42	42	54	54	2 x 42	2 x 42
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Absorbed power	kW	7.2	9.0	10.8	12.6	12.6	18.0	21.6
	Absorbed current	A	15.6	19.5	23.4	27.3	27.3	39.0	46.8
Sound pressure	STD version (1)	dB(A)	57	58	59	58	58	61	61
Weights	Transport weight	kg	945	1168	1392	1497	1615	1829	2017

MODEL			8271	8281	8282	9271	9272	9281	9282
Fan	Air flow	m³/s	75.2	86.0	79.6	96.7	102	111	124
	Quantity	n°	14	16	16	14	14	16	16
Connections	In	Ø mm	2 x 76	2 x 76	2 x 76	2 x 76	2 x 76	2 x 76	2 x 76
	Out	Ø mm	2 x 54	2 x 54	2 x 54	2 x 64	2 x 64	2 x 64	2 x 64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Absorbed power	kW	25.2	28.8	28.8	34.3	34.3	39.2	57.6
	Absorbed current	A	54.6	62.4	62.4	72.8	72.8	83.2	115
Sound pressure	STD version (1)	dB(A)	61	62	62	66	66	67	72
Weights	Transport weight	kg	2349	2681	2907	4851	4567	5484	5484

DIMENSIONS			8141	8151	8161	8171	8172	8251	8261
L	STD	mm	5930	7280	8630	9980	9980	7280	8630
	VX	mm	5930	7280	8630	9980	9980	7280	8630
W	STD	mm	800	800	800	800	800	800	800
	VX	mm	1380	1380	1380	1380	1380	2400	2400
H	STD	mm	1370	1370	1370	1370	1370	2390	2390
	VX	mm	1565	1565	1565	1565	1565	1565	1565

DIMENSIONS			8271	8281	8282	9271	9272	9281	9282
L	STD	mm	9980	11330	11330	-	-	-	-
	VX	mm	9980	11330	11330	9240	9240	10490	10490
W	STD	mm	800	800	800	-	-	-	-
	VX	mm	2400	2400	2400	2400	2400	2400	2400
H	STD	mm	2390	2390	2390	-	-	-	-
	VX	mm	1565	1565	1565	2262	2262	2262	2262

CLEARANCE AREAS

RCA/Y 8141÷8282

RCA/Y 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 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 8231÷9281

SUPER SILENCED REMOTE AIR COOLED CONDENSERS WITH AXIAL FANS.

These Remote air cooled Condensers with axial fans are designed to be combined with evaporating units set up for **R134a** refrigerant.
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced and Super silenced, 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 and can be equipped with high efficiency EC fans.

On request, units can be set up for **R513A** refrigerant.

VERSIONS

RCA/Y/SSL
Super silenced cooling only unit with horizontal air flow

RCA/Y/VX/SSL
Super silenced cooling only unit with vertical air flow

RCA/Y/EC/SSL
Super silenced cooling only unit with horizontal air flow and EC Inverte fans

RCA/Y/EC/VX/SSL
Super silenced cooling only units with vertical air flow and EC Inverter fans

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.
- R134a refrigerant. On request for R513A.
- Electrical board includes: main switch, fuses, fans wiring, terminals for external connections, fans speed controller via 0-10V signal.
- Electrical board (EC versions) includes: main switch, automatic circuit breakers, fans wiring, terminals for external connections, therminals for 0-10V signal for fan speed control.

COMBINATIONS

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/EC/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/EC/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/VX/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/VX/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/Y	3602-B	6602-B	4202-B	4802-B	7202-B	8102-B	4402-B	9002-B		
RCA/Y/VX/SSL	1x9261	2x9261	1x9271	2x9271	2x9271	2x9271	1x9281	2x9281		

MEA/J	3602-B	6602-B	4202-B	4802-B	7202-B	8102-B	4402-B	9002-B		
RCA/Y/VX/SSL	1x9261	2x9261	1x9271	2x9271	2x9271	2x9271	1x9281	2x9281		

MEA/Y	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/EC/VX/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/J	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	2802-B	3002-B	5402-B	6002-B
RCA/Y/EC/VX/SSL	1x8231	1x8232	1x8241	1x8242	1x8251	1x8261	1x8271	1x8281	2x8281	2x8281

MEA/Y	3602-B	6602-B	4202-B	4802-B	7202-B	8102-B	4402-B	9002-B		
RCA/Y/EC/VX/SSL	1x9261	2x9261	1x9271	2x9271	2x9271	2x9271	1x9281	2x9281		

MEA/J	3602-B	6602-B	4202-B	4802-B	7202-B	8102-B	4402-B	9002-B		
RCA/Y/EC/VX/SSL	1x9261	2x9261	1x9271	2x9271	2x9271	2x9271	1x9281	2x9281		

RCA/Y/SSL 8231÷9281

MODEL			8231	8232	8241	8242	8251	8261	8271	8281	9261	9271	9281
Fan	Air flow	m³/s	24.4	22.5	32.5	30.0	40.7	48.8	56.9	65.1	65.0	75.8	75.6
	Quantity	n°	6	6	8	8	10	12	14	16	12	14	16
Connections	In	Ø mm	2 x 54	2 x 54	2 x 54	2 x 54	2 x 64	2 x 76	2 x 76	2 x 76	2 x 76	2 x 76	2 x 76
	Out	Ø mm	2 x 42	2 x 42	2 X 35	2 x 42	2 x 42	2 x 42	2 x 54	2 x 54	2 x 64	2 x 64	2 x 64
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	18.40	18.72	21.84	15.49
	Absorbed current	A	13.20	13.20	17.60	17.60	22.00	26.40	30.80	35.20	34.80	40.60	37.44
Sound pressure	SSL version (1)	dB(A)	52	52	53	53	54	54	54	55	58	58	62
Weights	Transport weight	kg	1025	1110	1356	1470	1687	2017	2349	2681	4218	4851	5484

DIMENSIONS			8231	8232	8241	8242	8251	8261	8271	8281	9261	9271	9281
L	SSL	mm	4580	4580	5930	5930	7280	8630	9980	11330	-	-	-
	VX/SSL	mm	4580	4580	5930	5930	7280	8630	9980	11330	7790	9240	10490
W	SSL	mm	800	800	800	800	800	800	800	800	-	-	-
	VX/SSL	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	SSL	mm	2390	2390	2390	2390	2390	2390	2390	2390	-	-	-
	VX/SSL	mm	1565	1565	1565	1565	1565	1565	1565	1565	2262	2262	2262

CLEARANCE AREAS

RCA/Y/SSL 8231÷8281

RCA/Y/SSL 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 condensing temperature 50 °C, ambient air temperature 35 °C.
N.B. Clearance areas are specified on installation, use and maintenance manual.

Electrical board side

CWW/TTH 1701-1÷6606-1

TURBOLINE HFO R1234ze

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

The innovative high efficiency CWW/TTH 1701-1÷6606-1 units for **cooling tower** operation, featuring **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, units have low operational costs during their entire use, with a savings that can even reach 50%.

The units are compliant to the 2021 ErP Regulation.

VERSIONS

CWW/TTH
Cooling only for cooling tower

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	STD version (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 AREAS

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

CWW/TTH/DR 1701-1÷6606-1

TURBOLINE HFO R1234ze

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

The innovative high efficiency CWW/TTH/DR 1701-1÷6606-1 units for **dry-cooler** operation, featuring **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, units have low operational costs during their entire use, with a savings that can even reach 50%.

The units are compliant to the 2021 ErP Regulation.

VERSIONS

CWW/TTH/DR
Cooling only for dry-cooler

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	71	142	212	283	354	424
	EER (1)		4.24	4.25	4.24	4.25	4.23	4.25
Cooling (EN14511)	Cooling capacity (1)	kW	300	601	896	1200	1494	1797
	Absorbed power (1)	kW	72	144	215	286	359	429
	EER (1)		4.17	4.17	4.17	4.20	4.16	4.19
	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	STD version (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 AREAS

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

CWW/TTY 1601-1÷14406-1

TURBOLINE

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

The innovative high efficiency CWW/TTY 1601-1÷14406-1 TURBOLINE units, with **R134a** refrigerant, for **cooling tower** operation, 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 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, units have low operational costs during their entire use, with a savings that can even reach 50%.

The units are compliant to the 2021 ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CWW/TTY
Cooling only for cooling tower

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	STD version (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	STD version (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 AREAS

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

CWW/TTY/DR 1601-1÷6204-1

TURBOLINE

HIGH EFFICIENCY WATER COOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

The innovative high efficiency CWW/TTY/DR 1601-1÷6204-1 units, with **R134a** refrigerant, for **dry-cooler** operation, 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, specific design and handling of every manufacturing aspect, make the 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 savings that can even reach 50%.

The units are compliant to the 2021 ErP Regulation.
On request, units can be supplied with **R513A** refrigerant.

VERSIONS

CWW/TTY/DR
Cooling only for dry-cooler

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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, equipped with RS485 serial interface, can be supplied with an optional Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
HRT/P	Total heat recovery in parallel
FE	Antifreeze heater for evaporator
TS	Touch Screen Interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
IVV	0-10V signal for the management of the electronic pressostatic valve source side
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	STD version (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 AREAS

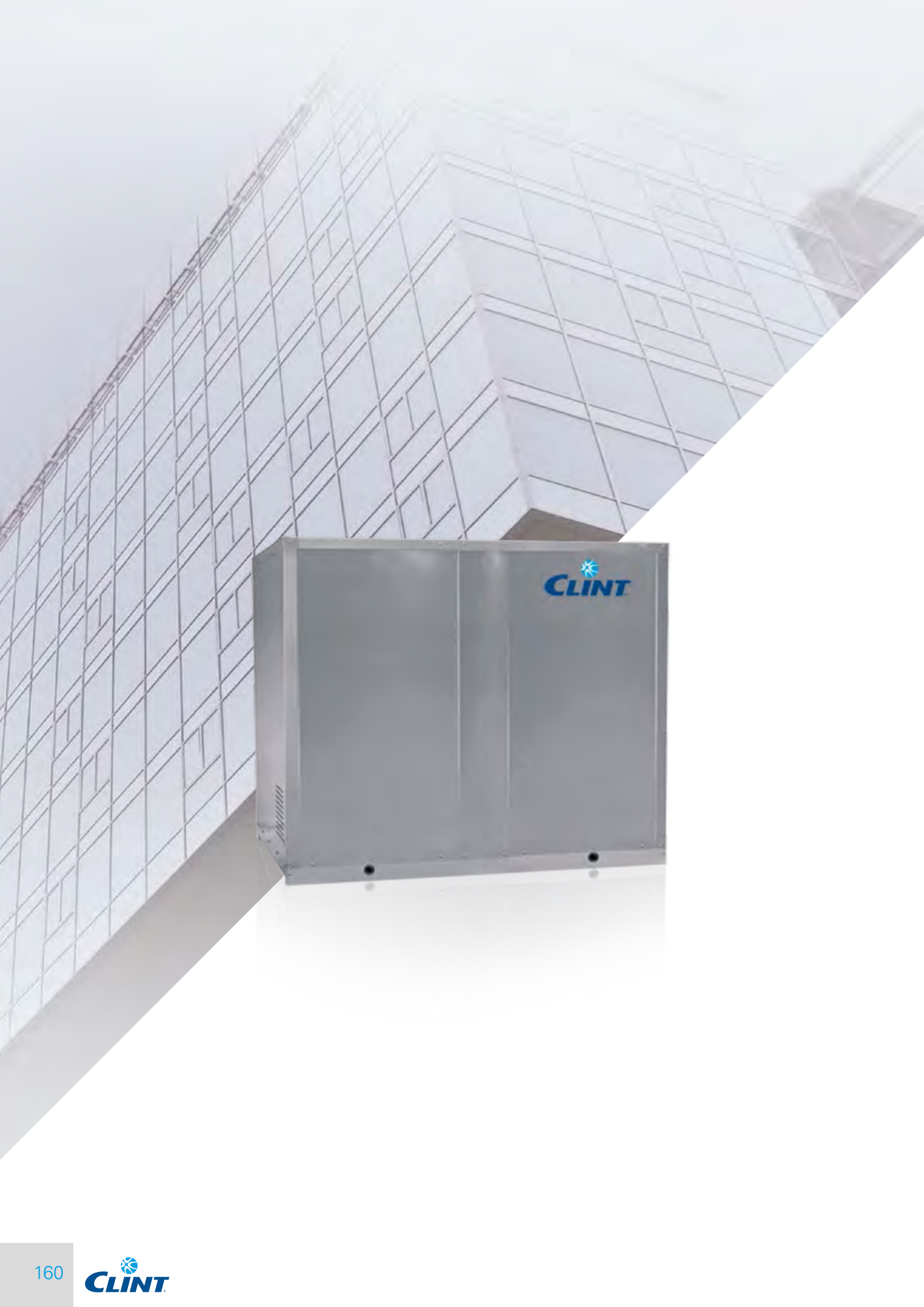
CWW/TTY/DR 1601-1÷6204-1

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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CHAPTER 4

HYDRONIC MODULES

MR 30÷70

REMOTE HYDRONIC MODULES.

The Remote Hydronic Modules of the MR 30÷70 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.

VERSIONS

MR 30
30 l. tank

MR 70
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.

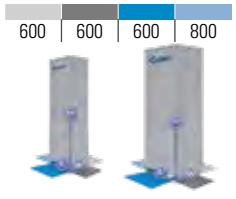
MR 30÷70

MODEL			30	70
Water circuit	Tank water content	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			30	70
L	STD	mm	240	340
W	STD	mm	320	500
H	STD	mm	1100	1270

CLEARANCE AREAS

MR 30÷70



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.

VERSIONS

MR 1500
With 1500 l. tank

MR 2500
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	Single circulating pump
PU2	Single circulating pump
PU3	Single circulating pump
PU4	Single circulating pump
PU5	Single circulating pump
PD1	Double circulating pump
PD2	Double circulating pump
PD3	Double circulating pump
PD4	Double circulating pump
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 content	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
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 AREAS

MR 1500÷2500

Electrical board side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INVERTER SCROLL

CHAPTER 5

PACKAGED ROOFTOP UNITS

RTQ/IK/EC 101÷181

NEW

AIRX INVERTER SCROLL
EC INVERTER PLUG FANS

SINGLE OR DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSOR AND EC INVERTER PLUG-FAN.

The single skin packaged Roof Top units of this series are the ideal solution for air conditioning of medium surfaces such as shopping malls, restaurants and canteens. These units are equipped with Inverter Scroll compressor with **R410A** refrigerant, and are available in Cooling only and reversible Heat Pump version, also with Free-Cooling with 2 dampers. It is equipped with **EC Inverter Plug-Fans** with high energy efficiency backward blades, managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity. The unit can easily adapt to different engineering needs thanks to the possibility of selecting onsite the air flow direction, choosing among different positions of both intake and output air direction. For MS versions it is possible to connect an additional enthalpy wheel heat recovery module.

The units are compliant to the ErP Regulation.

VERSIONS

RTQ/IK/EC
Cooling only
RTQ/IK/EC/MS
Cooling only with Free-Cooling section (2 dampers)

RTQ/IK/EC/WP
Reversible Heat Pump
RTQ/IK/EC/WP/MS
Reversible Heat Pump with free-cooling section (2 dampers)

FEATURES

- Structure of base perimeter made of steel sheet elements galvanised, passive treated and press-bent. 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 with bottom panels installed without sticking out screws. The perimeter panels are made of pre-painted sheet metal, easily removable, and allow access to the inside of the unit for maintenance. The panels on the air-handling side are provided with insulation material made of 6 mm polyethylene foam (density 33 kg/m³), while those on the condensate side are provided with insulation made of 20 mm polyurethane foam with a ridged profile for sound absorption (density 25 kg/m³). By selecting the DBK option, the unit will be supplied with 25 mm thick sandwich panels (with polyurethane foam insulation with a minimum density of 45 kg/m³).
- INVERTER Scroll compressor with oil sight glass, internal overheat protection, crankcase heater and soundproofing cover.
- Condenser and evaporator with copper tube and aluminium finned coil.
- EC INVERTER PLUG-FAN delivery fan with high energy efficient reversed blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: disconnector switch with door lock; circuit breakers to protect each electrical utility (compressor, fans, etc.) contactors for the fan motors of the air treatment section and for the condensation fans; interface relays and push-in type terminals for easy and safe wiring including external customer connections.
- Electronic proportional device: condensation control that allows the speed of the condensing-side fans to be adjusted according to the required load, allowing the sound level of the unit to be attenuated.
- Microprocessor for the automatic control of the unit.
- Communication with Modbus RTU protocol through RS485 serial interface.
- MS. Free-Cooling section with 2 dampers - Further to components of the basic version, includes two aluminium dampers with spring return servomotors (dampers with opposite movement).

ACCESSORIES

FACTORY FITTED ACCESSORIES

DBK	Double skin
SL	Unit silencement
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT7	Plate filters efficency ePM1 50% (F7)
FT8	Plate filters efficency ePM1 65% (F8)
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SC	Smoke sensor
SB	Fire sensor
PF	Differential pressure switch filters control
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
MN	High and low pressure gauges
CS	Dampers rain hood

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
RP	Coils protection metallic guards
AG	Rubber shock absorbers
AG3	Rubber shock absorbers for F-Module
AG4	Rubber shock absorbers for RWH and RWH1 modules

COMPLEMENTARY SECTIONS

F	Condensation endothermic hot air generator with gas burner
RWH	Single panel wheel heat recovery with EC Plug-Fan.
RWH1	Double panel wheel heat recovery with EC Plug-Fan.

RTQ/IK/EC 101÷181

MODEL			101	121	151	181
Cooling	Cooling capacity (1)	kW	19.1	24.4	31.1	41.6
	Absorbed power (1)	kW	6.0	8.1	9.6	14.6
Cooling (EN14511)	SEER (2)		4.71	4.36	4.57	3.87
	Energy Efficiency (2)	%	185	171	180	152
Heating	Heating capacity (3)	kW	19.4	24.6	31.1	43.9
	Absorbed power (3)	kW	5.8	7.4	9.3	13.8
Heating (EN14511)	SCOP (4)		3.68	3.61	3.42	3.39
	Energy Efficiency (4)	%	144	141	134	133
Air treatment section	Air flow	m³/h	3750	5000	6400	7800
	Available static pressure	Pa	100	120	120	150
	Fan	n°	1	1	1	1
Condensing section	Compressor	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	%	Stepless	Stepless	Stepless	Stepless
Electrical heater	Power supply	V/Ph/Hz	400/3/50			
	Heating capacity	kW	18	18	24	24
	Max absorbed current	A	26	26	35	35
	Steps	n°	2	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	19	23	32	43
	Max. starting current	A	11	11	12	12
Sound pressure	STD version (5)	dB(A)	71	71	72	74
	With SL accessory (5)	dB(A)	68	68	69	71
Weights	Transport weight	kg	610	615	805	815
	Operating weight	kg	605	610	800	810

DIMENSIONS			101	121	151	181
L	STD/MS	mm	1950	1950	2200	2200
W	STD/MS	mm	1450	1450	1750	1750
H	STD/MS	mm	1435	1435	1470	1470

CLEARANCE AREAS

RTQ/IK/EC 101÷181

NOTES

1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
2 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
3 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4 Seasonal energy efficiency of heating with average climatic conditions. 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 WP version are specified on technical brochure.

Electrical board side

RTA/K/EC/WP 182-R÷453-R

AIRPLUS EC INVERTER PLUG FANS
COIL-BOOST HEAT RECOVERY

SINGLE-SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

The single skin packaged Roof Top units of this series are the ideal solution for air conditioning of medium-wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These 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. It 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 **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 2021 Regulation with ECA accessory (EC Inverter fans on condensing section).

VERSIONS

RTA/K/EC/WP
Reversible Heat Pump

RTA/K/EC/WP/ECO
Reversible Heat Pump with Economizer (Free-Cooling section with 3 dampers)

RTA/K/EC/WP/MS
Reversible Heat Pump with Free-Cooling section (2 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 unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
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
FT6	Plate filters efficency ePM10 75% (M6)
FT7	Plate filters efficency ePM1 50% (F7)
FT8	Plate filters efficency ePM1 65% (F8)
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
MN	High and low pressure gauges

LOOSE ACCESSORIES

CS	Dampers rain hood
CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
RP	Coils 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 with ECA accessory (3)		3.24	3.26	3.26	3.30	3.30	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 (4),(2)	kW	20.9	24.2	27.2	30.0	35.4	41.1	45.9	54.1
Cooling (EN14511)	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/h	9000	10000	12000	12950	15950	15950	20950	24000
	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/h	7200	7950	9600	10400	12750	12750	16950	19150
	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 pressure drops	kPa	12	14	15	17	18	18	24	28
	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	41	41	41	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	44	48	57	61	70	85	97	108
	Max. starting current	A	168	170	180	193	237	208	229	275
Sound pressure	STD version (7)	dB(A)	67	68	71	73	73	73	71	74
	With SL accessory (7)	dB(A)	64	65	68	70	70	70	68	71
Weights	Transport weight	kg	1280	1315	1370	1380	1475	1570	1920	2020
	Operating weight	kg	1265	1300	1355	1365	1460	1555	1900	2000
	Transport weight MS version	kg	1320	1350	1395	1415	1515	1610	1940	2060
	Operating weight MS version	kg	1305	1335	1380	1400	1500	1595	1920	2040
	Transport weight ECO version	kg	1370	1400	1445	1465	1565	1660	1990	2110
	Operating weight ECO version	kg	1355	1385	1430	1450	1550	1645	1970	2090

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	2395	2395	2395	2395	2395	2395	2400	2400

CLEARANCE AREAS

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

RTA/IK/EC 172÷724

AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

The double skin packaged Roof Top units of this series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those 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.
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.

VERSIONS

RTA/IK/EC
Cooling only with EC Inverter Plug-Fans

RTA/IK/EC/WP
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.
- EC INVERTER PLUG-FAN delivery fan with high energy efficient reversed blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing unit and contactors for the fan motors of the air handling unit.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/IK/EC 172÷724

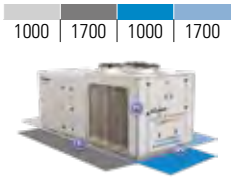
MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	55	56	68	68	80	86	104	104	140	160	207
	Max. starting current	A	138	139	190	190	203	253	245	245	272	327	395
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70	70
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

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	3430	3430	3590	3590	3590	4050	4770	4770	4770	4770	6800
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 AREAS

RTA/IK/EC 172÷302

RTA/IK/EC 352÷724



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

RTA/IK/EC/MS 172÷724

AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND MIXING BOX.

The double skin packaged Roof Top units of this series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those 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.
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.

VERSIONS

RTA/IK/EC/MS
Cooling only with EC Inverter Plug-Fans and Mixing Box

RTA/IK/EC/WP/MS
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.
- EC INVERTER PLUG-FAN delivery fan with high energy efficient reversed blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing unit and contactors for the fan motors of the air handling unit.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/IK/EC/MS 172÷724

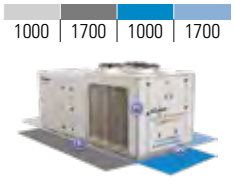
MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	55	56	68	68	80	86	104	104	140	160	207
	Max. starting current	A	138	139	190	190	203	253	245	245	272	327	395
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70	70
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

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	3880	3880	4040	4040	4040	4500	5220	5220	5220	5220	7250
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 AREAS

RTA/IK/EC/MS 172÷302

RTA/IK/EC/MS 352÷724



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

RTA/IK/EC/ECO 172÷724

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

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND ECONOMIZER.

The double skin packaged Roof Top units of this series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those 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.
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 **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.

VERSIONS

RTA/IK/EC/ECO
Cooling only with EC Inverter Plug-Fans and Economizer

RTA/IK/EC/WP/ECO
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 unit and contactors for the fan motors of the air handling unit.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/IK/EC/ECO 172÷724

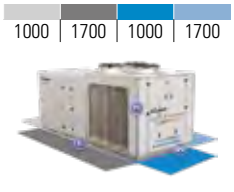
MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	64	65	77	77	97	103	121	121	159	194	241
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361	429
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70	70
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

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	5250	5350	5410	5410	5660	6110	6650	6650	6490	6850	9160
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 AREAS

RTA/IK/EC/ECO 172÷302

RTA/IK/EC/ECO 352÷724



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

RTA/IK/EC/ECO/REC-FX 172÷724

AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

The double skin packaged Roof Top units of this series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those 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.
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.

VERSIONS

RTA/IK/EC/ECO/REC-FX
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

RTA/IK/EC/WP/ECO/REC-FX
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 unit and contactors for the fan motors of the air handling unit.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/IK/EC/ECO/REC-FX 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	64	65	77	77	97	103	121	121	159	194	241
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361	429
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70	70
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

DIMENSIONS			172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	6220	6190	6260	6260	6730	7070	7920	7920	7630	8030	10050
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 AREAS

RTA/IK/EC/ECO/REC-FX 172÷302

800 | 1700 | 800 | 1700

RTA/IK/EC/ECO/REC-FX 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

RTA/IK/EC/ECO/REC-WH 172÷724

AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH INVERTER SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

The double skin packaged Roof Top units of this series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. Those 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.
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.

VERSIONS

RTA/IK/EC/ECO/REC-WH
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

RTA/IK/EC/WP/ECO/REC-WH
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 unit and contactors for the fan motors of the air handling unit.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/IK/EC/ECO/REC-WH 172÷724

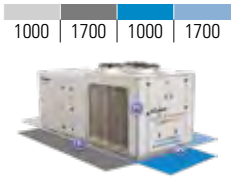
MODEL			172	192	212	232	272	302	352	372	484	574	724
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	64	65	77	77	97	103	121	121	159	194	241
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361	429
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70	70
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

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 AREAS

RTA/IK/EC/ECO/REC-WH
172÷302

RTA/IK/EC/ECO/REC-WH
352÷724



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

RTA/K/EC 182÷804

AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS AND EC INVERTER PLUG-FANS.

The double skin packaged Roof Top units of this series are the ideal solution for the air conditioning of wide surface areas for public use such as halls, shopping centres, cafeterias, restaurants and health centres, or for industrial environments such as food processing or preservation centres. Those units feature Scroll compressors with **R410A** refrigerant and **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.

VERSIONS

RTA/K/EC
Cooling only with EC Inverter Plug-Fans

RTA/K/EC/WP
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.
- EC INVERTER PLUG-FAN delivery fan with high energy efficient reversed blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/K/EC 182÷804

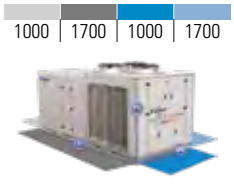
MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	46	53	65	71	83	88	101	119	143	167	206
	Max. starting current	A	157	172	161	186	226	183	215	261	257	309	393
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69	69
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

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	STD	mm	3430	3430	3590	3590	3590	4050	4770	4770	4770	4770	6800
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 AREAS

RTA/K/EC 182÷363

RTA/K/EC 393÷804



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

RTA/K/EC/MS 182÷804

AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND MIXING BOX.

The double skin packaged Roof Top units of this series are the ideal solution for the air conditioning of wide surface areas for public use such as halls, shopping centres, cafeterias, restaurants and health centres, or for industrial environments such as food processing or preservation centres. Those units feature Scroll compressors with **R410A** refrigerant and **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.

VERSIONS

RTA/K/EC/MS
Cooling only with EC Inverter Plug-Fans and Mixing Box

RTA/K/EC/WP/MS
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.
- EC INVERTER PLUG-FAN delivery fan with high energy efficient reversed blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/K/EC/MS 182÷804

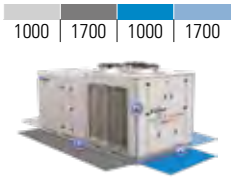
MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	46	53	65	71	83	88	101	119	143	167	206
	Max. starting current	A	157	172	161	186	226	183	215	261	257	309	393
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69	69
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

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	STD	mm	3880	3880	4040	4040	4040	4500	5220	5220	5220	5220	7250
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 AREAS

RTA/K/EC/MS 182÷363

RTA/K/EC/MS 393÷804



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

RTA/K/EC/ECO 182÷804

AIRMAXI EC INVERTER PLUG FANS
COIL-BOOST HEAT RECOVERY

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, EC INVERTER PLUG-FANS AND ECONOMIZER.

The double skin packaged Roof Top units of this series are the ideal solution for the air conditioning of wide surface areas for public use such as halls, shopping centres, cafeterias, restaurants and health centres, or for industrial environments such as food processing or preservation centres. Those units feature Scroll compressors with **R410A** refrigerant and **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 **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.

VERSIONS

RTA/K/EC/ECO
Cooling only with EC Inverter Plug-Fans and Economizer

RTA/K/EC/WP/ECO
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 centrifugal 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 unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
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/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/K/EC/ECO 182÷804

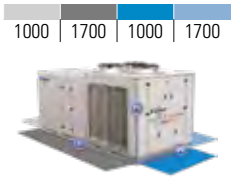
MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	55	62	74	80	100	105	118	136	162	201	240
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343	427
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69	69
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

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	STD	mm	5250	5350	5410	5410	5660	6110	6650	6650	6490	6850	9160
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 AREAS

RTA/K/EC/ECO 182÷363

RTA/K/EC/ECO 393÷804



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

RTA/K/EC/ECO/REC-FX 182÷804

AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND CROSS-FLOW HEAT RECOVERY.

The double skin packaged Roof Top units of this series are the ideal solution for the air conditioning of wide surface areas for public use such as halls, shopping centres, cafeterias, restaurants and health centres, or for industrial environments such as food processing or preservation centres. Those units feature Scroll compressors with **R410A** refrigerant and **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.

VERSIONS

RTA/K/EC/ECO/REC-FX
Cooling only with EC Inverter Plug-Fans, Economizer and Cross-flow Heat Recovery

RTA/K/EC/WP/ECO/REC-FX
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 centrifugal 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 unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/K/EC/ECO/REC-FX 182÷804

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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	55	62	74	80	100	105	118	136	162	201	240
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343	427
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69	69
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

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
L	STD	mm	6220	6190	6260	6260	6730	7070	7920	7920	7630	8030	10050
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 AREAS

RTA/K/EC/ECO/REC-FX
182÷363

800 | 1700 | 800 | 1700

RTA/K/EC/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

RTA/K/EC/ECO/REC-WH 182÷804

AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOF TOP UNITS WITH SCROLL COMPRESSORS, EC INVERTER PLUG-FANS, ECONOMIZER AND WHEEL HEAT RECOVERY.

The double skin packaged Roof Top units of this series are the ideal solution for the air conditioning of wide surface areas for public use such as halls, shopping centres, cafeterias, restaurants and health centres, or for industrial environments such as food processing or preservation centres. Those units feature Scroll compressors with **R410A** refrigerant and **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.

VERSIONS

RTA/K/EC/ECO/REC-WH
Cooling only with EC Inverter Plug-Fans, Economizer and Wheel Heat Recovery

RTA/K/EC/WP/ECO/REC-WH
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 centrifugal 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 unit and contactors for the fan motors of the air handling unit.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
RE	Adjustable minimum/maximum voltage and phase control relay
SL	Unit silencement
SNM	Air delivery sensor
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
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M6	Soft bag filters efficency ePM10 70% (M6)
FT/M7	Soft bag filters efficency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficency ePM1 70% (F8)
FT/R6	Rigid bag filters efficency ePM10 70% (M6)
FT/R7	Rigid bag filters efficency ePM1 50% (F7)
FT/R8	Rigid bag filters efficency ePM1 70% (F8)
FT/E	Electrostatic filter
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
AT/C	Control adjustment of the air flow according to the load
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control
SQ	Air quality probe
SQO	Air quality probe (CO2)
SQV	Air quality probe (CO2+VOC)
SSA	Active sanitation systems for air and rooms
PF	Differential pressure switch filters control
SB	Fire sensor
SC	Smoke sensor
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet IP protocol, Ethernet port
ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10V signal
IAA	Remote set-point, 4-20mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts
RP	Coils protection metallic guards
MN	High and low pressure gauges

LOOSE ACCESSORIES

CR	Remote control panel
CDT	Touch Screen room thermostat with unit visualization
AG	Rubber shock absorbers

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

RTA/K/EC/ECO/REC-WH 182÷804

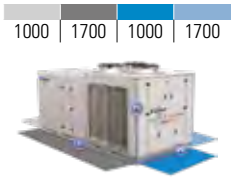
MODEL			182	202	242	262	302	363	393	453	524	604	804
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy 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 (4),(2)	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200	44300
	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	55	62	74	80	100	105	118	136	162	201	240
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343	427
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69	69
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

DIMENSIONS			182	202	242	262	302	363	393	453	524	604	804
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 AREAS

RTA/K/EC/ECO/REC-WH
182÷363

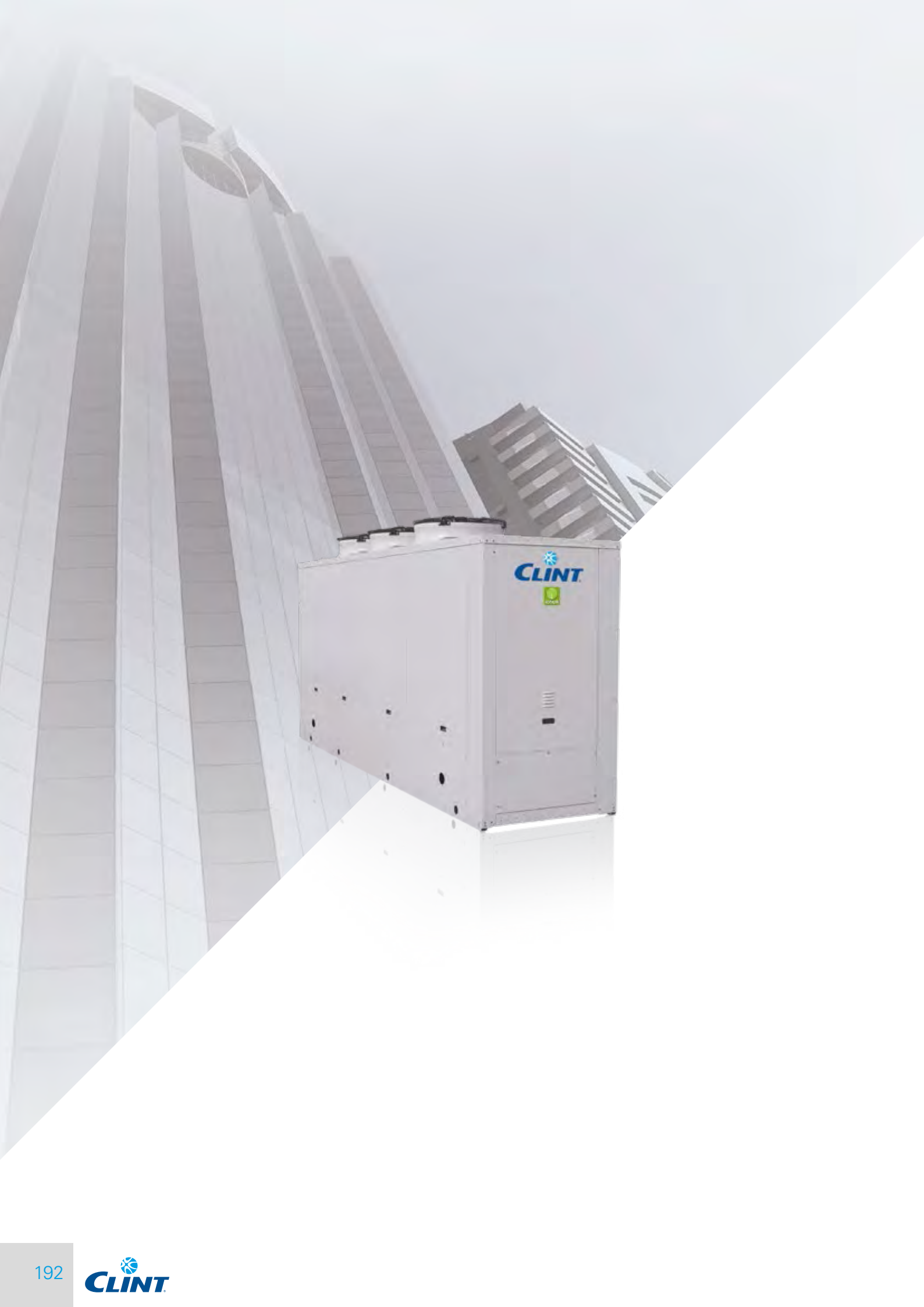
RTA/K/EC/ECO/REC-WH
393÷804



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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CHAPTER 6

CONDENSING UNITS

MHA/K 31÷151

AIR COOLED CONDENSING UNITS WITH AXIAL FANS AND SCROLL COMPRESSOR.

The condensing units of the MHA/K 31÷151 series, set up for **R410A** refrigerant, are designed for small and medium-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. They can also be used in combination with hydronic evaporating units, generally in air conditioning 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, complete the outstanding versatility and functionality of the series.

VERSIONS

MHA/K
Cooling only

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- 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 made of copper tubes and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses and compressor remote control switch.

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

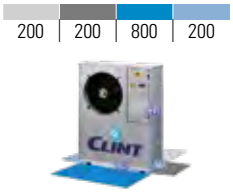
MHA/K 31÷151

MODEL			31	41	51	61	71	81	91	101	131	151
Cooling	Cooling capacity (1)	kW	9.2	10.8	13.2	15.8	19.1	21.2	26.4	30.9	36.6	45.3
	Absorbed power (1)	kW	2.9	3.7	4.1	5.1	6.2	7.1	8.6	9.2	11.5	14.2
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1	1
	Type		Scroll									
Condenser	Fan	n°	1	1	2	2	2	2	1	2	2	2
	Air flow	m³/s	0.76	0.76	1.61	1.53	1.53	1.53	2.25	4.61	4.61	4.61
Connections	Suction line	Ø mm	16	16	18	18	22	22	28	28	28	28
	Liquid line	Ø mm	10	10	12	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3+N/50							
	Max. running current	A	15	18	7	10	10	12	23	29	30	39
	Max. starting current	A	79	86	58	61	58	74	142	147	142	167
Sound pressure	STD version (2)	dB(A)	53	54	54	55	56	57	59	61	61	61
Weights	Transport weight	kg	90	92	109	111	113	115	218	232	252	266
	Operating weight	kg	91	93	111	114	116	118	221	235	256	271

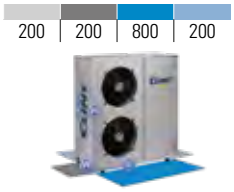
DIMENSIONS			31	41	51	61	71	81	91	101	131	151
L	STD	mm	870	870	1160	1160	1160	1160	1850	1850	1850	1850
W	STD	mm	320	320	500	500	500	500	1000	1000	1000	1000
H	STD	mm	1100	1100	1270	1270	1270	1270	1300	1300	1300	1300

CLEARANCE AREAS

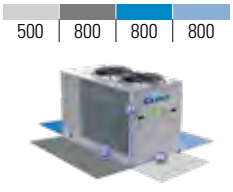
MHA/K 31÷41



MHA/K 51÷81



MHA/K 91÷151



NOTES

1 Evaporating temperature 5 °C, ambient air temperature 35 °C.
2 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

MHA/K 182÷604

AIR COOLED CONDENSING UNITS WITH AXIAL FANS AND SCROLL COMPRESSORS.

The condensing units of the MHA/K 182÷604 series, set up for **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. 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, complete the outstanding versatility and functionality of the series.

VERSIONS

MHA/K
Cooling only

MHA/K/SSL
Super silenced cooling only

FEATURES

- Structure with supporting frame, made of galvanised sheet metal with additional protection provided by polyester powder coating.
- 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
RE	Adjustable minimum/maximum voltage and phase control relay
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
ECH	EC Inverter fans with high available static pressure
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
MN	High and low pressure gauges

LOOSE ACCESSORIES

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	16.8	19.0	22.1	25.3	29.1	34.6	37.6	44.2	51.7	63.2
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	41	44	52	56	64	75	82	93	110	131
	Max. starting current	A	164	166	175	188	231	199	214	261	242	298
Sound pressure	STD version (2)	dB(A)	61	61	64	64	65	66	68	68	69	70
	With SL accessory (2)	dB(A)	59	59	62	62	63	64	66	66	67	68
	SSL version (2)	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 AREAS

MHA/K 182÷604

NOTES

1 Evaporating temperature 5 °C, ambient air temperature 35 °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 versions are specified on technical brochure.

Electrical board side

CHAPTER 7

FAN COIL UNITS

VXM 123÷614

EC INVERTER FANS

FAN COIL UNITS WITH CABINET AND 6-SPEED OR EC INVERTER CENTRIFUGAL FANS

The hydronic Fan Coil units with cabinet, VXM 123÷614, feature an exclusive and compact design combined with the highest efficiency and noiseless operation.
When part of a hydronic system equipped with a liquid chiller, the unit generates cool air silently and with instantaneous reaction. While, during the winter, if combined with a thermal system, it provides warm air, making possible to meet home or business heating needs. An easily removable and cleanable air filter absorbs and retains dust in suspension, keeping the air quality at a suitable level and allowing the execution of continuous cleaning cycles, which are particularly important to guarantee suitable hygiene standards, especially in highly frequented rooms. All installation needs are considered, from the possibility of horizontal and vertical installations, with front, bottom or rear intake to a wide range of accessories, also for 4-Pipe systems, which includes a complete control panel collection, that can be installed on-board or in the room.
The units equipped with EC Inverter motor modulate the air flow, adapting the performances instant to instant to the actual needs of the room to be conditioned, assuring a total comfort with greater energy savings.

VERSIONS

VXM/VP
Vertical unit with bottom inlet and vertical delivery

VXM/VE
Horizontal unit with rear inlet and horizontal delivery

VXM/VP/EC
Vertical unit with EC inverter fans, bottom inlet and vertical delivery

VXM/VE/EC
Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery

VXM/VH
Vertical unit with front inlet and vertical delivery

VXM/VO
Horizontal unit with bottom inlet and horizontal delivery

VXM/VH/EC
Vertical unit with EC Inverter fans, front inlet and vertical delivery

VXM/VO/EC
Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Cabinet made of thick steel-sheet (similar to colour RAL 9003/9010 white), galvanized and highly resistant to abrasion. Load-bearing structure made of galvanized steel-sheet with internal thermal-acoustic insulation. Air delivery grill by fixed fins made of ABS, adjustable on two positions, equipped with small sliding side doors for easily access to the internal control panel.
- Air filter easy to remove and to wash, made of a metal frame holding filtering section.
- Condensate drain pan provided with natural condensation drain and thermal insulation.
- Heat exchanger coil made of copper pipes and aluminium fins, water connections provided with anti-torsion system, manual air vent and water drain valves.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to the 6-Speed electric motor with 3 speeds connected in the standard configuration.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to the EC Inverter electronic motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Standard water connections on the left side in front of the unit. Reversible on site.

ACCESSORIES

FACTORY FITTED ACCESSORIES

LX	Coil water connections on the left side
RX	Coil water connections on the right side
WS	Hot water coil for 4-Pipe system
EH1	Supplementary electrical heater
EH2	Supplementary electrical heater enhanced
BC	Universal connecting terminal
UCB	Universal regulation card with Modbus RTU protocol
SNA	Air temperature sensor for UCB
SNW2	Summer/winter water temperature probe for UCB
SNW3	Minimum water temperature probe for UCB

LOOSE ACCESSORIES

Z	Couple of feet
MP1	Condensate drain pump for vertical versions
MP2	Condensate drain pump for horizontal versions
C1	Auxiliary condensate drain pan for vertical versions
C2	Auxiliary condensate drain pan for horizontal versions
PP	Rear panel
TP	Bottom closure
SG	Manual damper with grid
SMG	On/Off motorized damper with grid
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V25	3-Way On/Off valves with 2 shut-off (ball) for 2-Pipe system
V25M	3-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V26	2-Way on/off valves with 2 shut-off (ball) for 2-Pipe system
V26M	2-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V43	3-Way On/Off valves for 4-Pipe system
V43M	3-Way modulating valves for 4-Pipe system
V45	3-Way On/Off valves with 4 shut-off (ball) for 4-Pipe system
V45M	3-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
V42	2-Way On/Off valves for 4-Pipe system
V42M	2-Way modulating valves for 4-Pipe system
V46	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
V46M	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
TA1	Wall mounted electronic ambient thermostat for AC versions
VR1	Wall mounted electronic speed control panel for AC versions
DR1	Wall-mounted manual electronic control panel for AC versions
DR2	Wall mounted automatic electronic control panel for AC versions
DRH1	Wall mounted configurable electronic control panel for AC versions
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
VB1	On board electronic speed control panel for AC versions
DB1	On board manual electronic control panel for AC versions
DB2	On board automatic electronic control panel for AC versions
DBH1	On board configurable electronic control panel for AC versions
DBH2	On board configurable electronic control panel for AC/EC versions
DBH3	On board configurable electronic control panel for EC versions
DBE1	On board electromechanic control panel for AC versions
DBE3	On board electromechanic control panel with TMB3 for AC versions
DBE4	On board electromechanic control panel with TMB4 for AC versions
IRC	Digital wall control panel for UCB
MC4	Multicontrol connection card for AC version
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

VXM 123÷614

MODEL			123	124	233	234	343	344	463	464	573	574	613	614
Cooling	Total cooling capacity (1),(2)	kW	1.36	1.60	2.04	2.41	3.20	3.70	4.65	5.20	5.82	6.30	7.50	8.44
	Sensible cooling capacity (1),(2)	kW	1.22	1.38	1.76	2.00	2.51	2.90	3.95	4.41	4.92	5.24	6.60	7.20
	Water flow (1),(2)	l/h	233	275	350	414	549	635	798	892	999	1081	1287	1448
	Pressure drops (1),(2)	kPa	2	15	4	22	10	12	25	18	40	33	20	15
Heating	Heating capacity (3),(2)	kW	1.89	1.97	2.81	2.94	3.75	4.26	5.93	6.47	7.57	7.79	9.88	10.45
	Water flow (3),(2)	l/h	329	342	490	513	653	741	1032	1128	1319	1357	1721	1821
	Pressure drops (3),(2)	kPa	2	16	6	25	11	13	31	22	41	39	21	16
Rows	Quantity	n°	3	3	3	3	3	3	3	3	3	3	3	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	368	389	472	498	676	713	966	1019	1104	1166	1740	1836
	Med	m³/h	261	276	365	385	509	538	720	760	851	899	1547	1633
	Min	m³/h	186	197	239	252	346	365	477	504	537	567	1381	1457
Air flow (EC version)	Max	m³/h	368	389	472	498	676	713	966	1019	1104	1166	1740	1836
	Min	m³/h	186	197	239	252	346	365	477	504	537	567	1381	1457
Additional coil	Heating capacity (4),(2)	kW	1.60	1.65	2.29	2.39	3.39	3.59	4.59	4.79	5.65	5.79	7.98	8.18
	Water flow (4),(2)	l/h	140	144	201	210	297	315	402	420	495	507	700	717
	Pressure drops (4),(2)	kPa	10	11	13	14	23	25	10	11	13	14	23	24
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
	Rows	n°	1	1	1	1	1	1	1	1	1	1	1	1
EH1 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60											
	Absorbed power	kW	0.7	0.7	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
EH2 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60											
	Absorbed power	kW	1.0	1.0	1.5	1.5	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60											
	Max absorbed power	kW	0.05	0.05	0.07	0.07	0.07	0.07	0.13	0.13	0.15	0.15	0.21	0.21
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50-60											
	Max absorbed power	kW	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.17	0.17
Sound pressure	Max (5)	dB(A)	44	46	48	49	45	45	51	53	54	56	59	60
	Med (5)	dB(A)	35	37	41	42	38	38	45	45	48	49	57	58
	Min (5)	dB(A)	28	28	33	33	28	28	36	36	37	37	53	54
Sound pressure (EC version)	Max (5)	dB(A)	44	46	48	49	45	45	51	53	54	56	59	60
	Min (5)	dB(A)	28	30	31	32	30	30	34	35	34	36	52	52
Weights	Transport weight	kg	16	16	19	20	25	26	29	30	33	35	37	41
	Operating weight	kg	14	14	16	17	23	24	26	28	30	32	34	38

DIMENSIONS			123	124	233	234	343	344	463	464	573	574	613	614
L	STD/EC	mm	670	670	870	870	1070	1070	1270	1270	1470	1470	1670	1670
W	STD/EC	mm	220	220	220	220	220	220	220	220	220	220	220	220
H	STD/EC	mm	470	470	470	470	470	470	470	470	470	470	470	470
D	STD/EC (1)	mm	90	90	90	90	90	90	90	90	90	90	90	90

CLEARANCE AREAS

VXM/VP 123÷614

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 45/40 °C,
4 Ambient air temperature 20 °C d.b., water temperature 65/55 °C.
5 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.

Electrical board side

VXI 123÷614

EC INVERTER FANS

FAN COIL UNITS FOR BUILT-IN INSTALLATIONS WITH 6-SPEED OR EC INVERTER CENTRIFUGAL FANS

The VXI 123-614 water terminals are designed to meet all installation requirements, whether vertical or horizontal recessed, with front, rear or bottom intake, in domestic or tertiary environments such as offices, hotels, restaurants, gyms and shops.
When part of a hydronic system equipped with a Liquid Chiller, the unit generates cool air silently and with instantaneous reaction. While, during the winter, if combined with a thermal system, it provides warm air, making possible to meet home or business heating needs. An easily removable and cleanable air filter absorbs and retains dust in suspension keeping the air quality at a suitable level and allowing the execution of continuous cleaning cycles, which are particularly important to guarantee suitable hygiene standards, especially in highly frequented rooms. The product range is completed with a wide range of accessories, also for 4-Pipe systems, which includes a complete control panel collection, that can be installed on-board or in the room.
The units equipped with EC Inverter motor modulate the air flow, adapting the performances instant to instant to the actual needs of the room to be conditioned, assuring a total comfort with greater energy savings.

VERSIONS

VXI/IV
Vertical unit with bottom inlet and vertical delivery
VXI/IO
Horizontal unit with rear inlet and horizontal delivery
VXI/IV/EC
Vertical unit with EC Inverter fans, bottom inlet and vertical delivery
VXI/IO/EC
Horizontal unit with EC Inverter fans, rear inlet and horizontal delivery
VXI/IF
Vertical unit with front inlet and vertical delivery
VXI/II
Horizontal unit with bottom inlet and horizontal delivery
VXI/IF/EC
Vertical unit with EC Inverter fans, front inlet and vertical delivery
VXI/II/EC
Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Load-bearing structure made of galvanized steel-sheet, with internal thermal-acoustic insulation.
- Air filter easy to remove and to wash, made of a metal frame holding filtering section.
- Condensate drain pan provided with natural condensation drain and thermal insulation.
- Heat exchanger coil made of copper pipes and aluminium fins, water connections provided with anti-torsion system, manual air vent and water drain valves.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to the 6-Speed electric motor with 3 speeds connected in the standard configuration.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to the EC Inverter electronic motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Universal connecting terminal (mounted)
- Standard water connections on the left side in front of the unit. Reversible on site.

ACCESSORIES

FACTORY FITTED ACCESSORIES

LX	Coil water connections on the left side
RX	Coil water connections on the right side
WS	Hot water coil for 4-Pipe system
EH1	Supplementary electrical heater
EH2	Supplementary electrical heater enhanced
BCN1	Connecting terminal for FTN. Suitable for AC versions
BCN2	Connecting terminal for FTN. Suitable for EC versions
FTN	Dummy frame for built-in version
UCB	Universal regulation card with Modbus RTU protocol
SNA	Air temperature sensor for UCB
SNW2	Summer/winter water temperature probe for UCB
SNW3	Minimum water temperature probe for UCB

LOOSE ACCESSORIES

MP1	Condensate drain pump for vertical versions
MP2	Condensate drain pump for horizontal versions
C1	Auxiliary condensate drain pan for vertical versions
C2	Auxiliary condensate drain pan for horizontal versions
S	Manual damper
SMF	On/Off motorized damper
P3M	Delivery plenum with circular connections
P3A	Intake plenum with circular connections
PM	Supply plenum
PR	Intake plenum
P9M	90-degree delivery plenum
P9A	90-degree intake plenum
GMS	Air delivery grille
GAF	Air intake grill
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V25	3-Way On/Off valves with 2 shut-off (ball) for 2-Pipe system
V25M	3-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V26	2-Way on/off valves with 2 shut-off (ball) for 2-Pipe system
V26M	2-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V43	3-Way On/Off valves for 4-Pipe system
V43M	3-Way modulating valves for 4-Pipe system
V45	3-Way On/Off valves with 4 shut-off (ball) for 4-Pipe system
V45M	3-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
V42	2-Way On/Off valves for 4-Pipe system
V42M	2-Way modulating valves for 4-Pipe system
V46	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
V46M	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system
PHN	Aesthetic panel for FTN
TA1	Wall mounted electronic ambient thermostat for AC versions
VR1	Wall mounted electronic speed control panel for AC versions
DR1	Wall-mounted manual electronic control panel for AC versions
DR2	Wall mounted automatic electronic control panel for AC versions
DRH1	Wall mounted configurable electronic control panel for AC versions
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
IRC	Digital wall control panel for UCB
MC4	Multicontrol connection card for AC version
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

VXI 123÷614

MODEL			123	124	233	234	343	344	463	464	573	574	613	614
Cooling	Total cooling capacity (1),(2)	kW	1.36	1.60	2.04	2.41	3.20	3.70	4.65	5.20	5.82	6.30	7.50	8.44
	Sensible cooling capacity (1),(2)	kW	1.22	1.38	1.76	2.00	2.51	2.90	3.95	4.41	4.92	5.24	6.60	7.20
	Water flow (1),(2)	l/h	233	275	350	414	549	635	798	892	999	1081	1287	1448
	Pressure drops (1),(2)	kPa	2	15	4	22	10	12	25	18	40	33	20	15
Heating	Heating capacity (3),(2)	kW	1.89	1.97	2.81	2.94	3.75	4.26	5.93	6.47	7.57	7.79	9.88	10.45
	Water flow (3),(2)	l/h	329	342	490	513	653	741	1032	1128	1319	1357	1721	1821
	Pressure drops (3),(2)	kPa	2	16	6	25	11	13	31	22	41	39	21	16
Rows	Quantity	n°	3	3	3	3	3	3	3	3	3	3	3	3
Water connections	In / Out	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
Air flow	Max	m³/h	368	389	472	498	676	713	966	1019	1104	1166	1740	1836
	Med	m³/h	261	276	365	385	509	538	720	760	851	899	1547	1633
	Min	m³/h	186	197	239	252	346	365	477	504	537	567	1381	1457
Air flow (EC version)	Max	m³/h	368	389	472	498	676	713	966	1019	1104	1166	1740	1836
	Min	m³/h	186	197	239	252	346	365	477	504	537	567	1381	1457
Additional coil	Heating capacity (4),(2)	kW	1.60	1.65	2.29	2.39	3.39	3.59	4.59	4.79	5.65	5.79	7.98	8.18
	Water flow (4),(2)	l/h	140	144	201	210	297	315	402	420	495	507	700	717
	Pressure drops (4),(2)	kPa	10	11	13	14	23	25	10	11	13	14	23	24
	Water connections (In / Out)	"G	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"	½"
	Rows	n°	1	1	1	1	1	1	1	1	1	1	1	1
EH1 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60											
	Absorbed power	kW	0.7	0.7	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
EH2 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60											
	Absorbed power	kW	1.0	1.0	1.5	1.5	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60											
	Max absorbed power	kW	0.05	0.05	0.07	0.07	0.07	0.07	0.13	0.13	0.15	0.15	0.21	0.21
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50-60											
	Max absorbed power	kW	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.17	0.17
Sound pressure	Max (5)	dB(A)	44	46	48	49	45	45	51	53	54	56	59	60
	Med (5)	dB(A)	35	37	41	42	38	38	45	45	48	49	57	58
	Min (5)	dB(A)	28	28	33	33	28	28	36	36	37	37	53	54
Sound pressure (EC version)	Max (5)	dB(A)	44	46	48	49	45	45	51	53	54	56	59	60
	Min (5)	dB(A)	28	30	31	32	30	30	34	35	34	36	52	52
Weights	Transport weight	kg	13	13	16	17	22	23	26	27	30	31	34	37
	Operating weight	kg	11	11	14	14	20	21	23	24	27	28	30	33

DIMENSIONS			123	124	233	234	343	344	463	464	573	574	613	614
L	STD/EC	mm	450	450	650	650	850	850	1050	1050	1250	1250	1450	1450
W	STD/EC	mm	215	215	215	215	215	215	215	215	215	215	215	215
H	STD/EC	mm	450	450	450	450	450	450	450	450	450	450	450	450

CLEARANCE AREAS

VXI/IV 123÷614

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 45/40 °C,
4 Ambient air temperature 20 °C d.b., water temperature 65/55 °C.
5 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.

Electrical board side

SXM 113÷443

NEW

Airly EC INVERTER FANS

SLIM FAN COIL UNITS WITH CABINET AND EC INVERTER TANGENTIAL FANS.

The hydronic Fan Coil units with cabinet, SXM 113÷443, feature an exclusive and compact design combined with the highest efficiency and noiseless operation.
Part of an hydronic system equipped with a liquid Chiller, they generate cool air silently and with instantaneous reaction. During the winter, if combined with a thermal system, they provide warm air, making it possible to meet heating needs. A filter, easily removable and washable, absorbs and holds suspended dust, allowing constant cleaning cycles and maintaining an adequate air quality, in accordance with hygiene standards, especially in high occupancy locations.
The units, equipped with EC Inverter motor, modulate the air flow adapting the performances instant to instant to the actual needs of the room to be conditioned, thus assuring a total comfort with greater energy savings.

VERSIONS

SXM/VH/EC
Vertical unit with EC Inverter fans, front inlet and vertical delivery

FEATURES

- Cabinet made of painted aluminum characterized by a depth of only 13 cm (similar to colour RAL 9003 white); load-bearing structure made of galvanized steel-sheet, with internal thermal-acoustic insulation. Air delivery grill by fixed fins, equipped with small sliding side doors for easily access to the internal control panel (similar to colour RAL 7045 grey). Feet made of painted steel-sheet (similar to colour RAL 7045 grey).
- Condensate drain pan provided with natural condensation drain and thermal insulation.
- Heat exchanger coil made of copper pipes and aluminium fins, water connections provided with anti-torsion system, manual air vent and water drain valves.
- Fan section provided with tangential fan in plastic material with aximmetric blades directly coupled to the EC Inverter electronic motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Easily removable and washable air filter, with a fine mesh structure made of honeycomb polypropylene net.
- Standard water connections on the left side in front of the unit.

ACCESSORIES

LOOSE ACCESSORIES

Z	Couple of feet
C1	Auxiliary condensate drain pan for vertical versions
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V25	3-Way On/Off valves with 2 shut-off (ball) for 2-Pipe system
V25M	3-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V26	2-Way on/off valves with 2 shut-off (ball) for 2-Pipe system
V26M	2-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
DBH4	On board configurable electronic control panel for AC/EC versions
SBH1	On board Wi-Fi configurable electronic control panel
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

SXM 113÷443

MODEL			113	223	333	443
Max cooling	Total cooling capacity (1)	kW	1.13	2.27	3.25	4.09
	Sensible cooling capacity (1)	kW	0.85	1.68	2.40	2.96
	Water flow (1)	l/h	194	389	558	702
	Pressure drops (1)	kPa	21.5	15.2	15.0	27.5
Heating Max	Heating capacity (2)	kW	1.25	2.37	3.42	4.30
	Water flow (2)	l/h	218	413	595	748
	Pressure drops (2)	kPa	21.0	14.3	13.7	24.1
Cooling Med	Total cooling capacity (1)	kW	0.65	1.27	1.78	2.35
	Sensible cooling capacity (1)	kW	0.48	0.93	1.30	1.69
	Water flow (1)	l/h	111	218	305	404
	Pressure drops (1)	kPa	8.0	5.5	5.2	10.3
Heating Med	Heating capacity (2)	kW	0.68	1.26	1.77	2.36
	Water flow (2)	l/h	119	220	308	412
	Pressure drops (2)	kPa	7.0	4.6	4.2	8.1
Cooling Min	Total cooling capacity (1)	kW	0.36	0.72	0.99	1.34
	Sensible cooling capacity (1)	kW	0.26	0.52	0.71	0.94
	Water flow (1)	l/h	62	124	170	229
	Pressure drops (1)	kPa	2.9	2.1	1.9	3.9
Heating Min	Heating capacity (2)	kW	0.37	0.68	0.94	1.28
	Water flow (2)	l/h	64	119	165	224
	Pressure drops (2)	kPa	2.3	1.5	1.4	2.7
Rows	Quantity	n°	3	3	3	3
Water volume		dm³	0.60	1.10	1.58	2.07
Water connections	In / Out	"G	1/2" F	1/2" F	1/2" F	1/2" F
Input voltage	Max	V	10	10	10	10
	Med	V	4.6	4.6	4.6	4.6
	Min	V	2	2	2	2
Air flow	Max	m³/h	195	352	514	620
	Med	m³/h	100	177	252	326
	Min	m³/h	52	94	132	174
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60			
	Max absorbed power	kW	0.01	0.02	0.02	0.03
	Absorbed power Med	kW	0.01	0.01	0.01	0.01
	Absorbed power Min	kW	0.00	0.00	0.00	0.00
Sound pressure	Max (3)	dB(A)	42	44	45	46
	Med (3)	dB(A)	25	27	28	29
	Min (3)	dB(A)	22	23	24	25
Weights	Transport weight	kg	18	21	26	29
	Operating weight	kg	16	19	23	26

DIMENSIONS			113	223	333	443
L	STD	mm	650	850	1050	1250
W	STD	mm	129	129	129	129
H	STD	mm	572	572	572	572
D	STD (1)	mm	110	110	110	110

CLEARANCE AREAS

SXM/VH/EC 113÷443

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 45/40 °C,
3 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.
N.B. Maximum inlet water temperature 90 °C.

Electrical board side

SXI 113÷443

NEW

Airly EC INVERTER FANS

SLIM FAN COIL UNITS FOR BUILT-IN INSTALLATION WITH EC INVERTER TANGENTIAL FANS.

The SXI 113÷443 water terminals are designed to meet all installation requirements, whether vertical or horizontal recessed, in domestic or tertiary environments such as offices, hotels, restaurants, gyms and shops.
When part of a hydronic system equipped with a liquid Chiller, the unit generates cool air silently and with instantaneous reaction. While, during the winter, if combined with a thermal system, it provides warm air, making possible to meet home or business heating needs. An easily removable and cleanable air filter absorbs and retains dust in suspension keeping the air quality at a suitable level and allowing the execution of continuous cleaning cycles, which are particularly important to guarantee suitable hygiene standards, especially in highly frequented rooms.
The units, equipped with EC Inverter motor, modulate the air flow adapting the performances instant to instant to the actual needs of the room to be conditioned, thus assuring a total comfort with greater energy savings.

VERSIONS

SXI/IF/EC
Vertical unit with EC Inverter fans, front inlet and vertical delivery

SXI/II/EC
Horizontal unit with EC Inverter fans, bottom inlet and horizontal delivery

FEATURES

- Load-bearing structure made of galvanized steel-sheet, with internal thermal-acoustic insulation characterised by a thickness of only 13 cm.
- Easily removable and washable air filter, with a fine mesh structure made of honeycomb polypropylene net.
- Condensate drain pan provided with natural condensation drain and thermal insulation.
- Heat exchanger coil made of copper pipes and aluminium fins, water connections provided with anti-torsion system, manual air vent and water drain valves.
- Fan section provided with tangential fan in plastic material with aximmetric blades directly coupled to the EC Inverter electronic motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Standard water connections on the left side in front of the unit.

ACCESSORIES

LOOSE ACCESSORIES

C1	Auxiliary condensate drain pan for vertical versions
PM	Supply plenum
P9A	90-degree intake plenum
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V25	3-Way On/Off valves with 2 shut-off (ball) for 2-Pipe system
V25M	3-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V26	2-Way on/off valves with 2 shut-off (ball) for 2-Pipe system
V26M	2-Way modulating valves with 2 shut-off (ball) for 2-Pipe system
FTN	Dummy frame for built-in version
PHN	Aesthetic panel for FTN
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

SXI 113÷443

MODEL			113	223	333	443
Max cooling	Total cooling capacity (1)	kW	1.13	2.27	3.25	4.09
	Sensible cooling capacity (1)	kW	0.85	1.68	2.40	2.96
	Water flow (1)	l/h	194	389	558	702
	Pressure drops (1)	kPa	21.5	15.2	15.0	27.5
Heating Max	Heating capacity (2)	kW	1.25	2.37	3.42	4.30
	Water flow (2)	l/h	218	413	595	748
	Pressure drops (2)	kPa	21.0	14.3	13.7	24.1
Cooling Med	Total cooling capacity (1)	kW	0.65	1.27	1.78	2.35
	Sensible cooling capacity (1)	kW	0.48	0.93	1.30	1.69
	Water flow (1)	l/h	111	218	305	404
	Pressure drops (1)	kPa	8.0	5.5	5.2	10.3
Heating Med	Heating capacity (2)	kW	0.68	1.26	1.77	2.36
	Water flow (2)	l/h	119	220	308	412
	Pressure drops (2)	kPa	7.0	4.6	4.2	8.1
Cooling Min	Total cooling capacity (1)	kW	0.36	0.72	0.99	1.34
	Sensible cooling capacity (1)	kW	0.26	0.52	0.71	0.94
	Water flow (1)	l/h	62	124	170	229
	Pressure drops (1)	kPa	2.9	2.1	1.9	3.9
Heating Min	Heating capacity (2)	kW	0.37	0.68	0.94	1.28
	Water flow (2)	l/h	64	119	165	224
	Pressure drops (2)	kPa	2.3	1.5	1.4	2.7
Rows	Quantity	n°	3	3	3	3
Water volume		dm³	0.60	1.10	1.58	2.07
Water connections	In / Out	"G	1/2" F	1/2" F	1/2" F	1/2" F
Input voltage	Max	V	10	10	10	10
	Med	V	4.6	4.6	4.6	4.6
	Min	V	2	2	2	2
Air flow	Max	m³/h	195	352	514	620
	Med	m³/h	100	177	252	326
	Min	m³/h	52	94	132	174
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60			
	Max absorbed power	kW	0.01	0.02	0.02	0.03
	Absorbed power Med	kW	0.01	0.01	0.01	0.01
	Absorbed power Min	kW	0.00	0.00	0.00	0.00
Sound pressure	Max (3)	dB(A)	42	44	45	46
	Med (3)	dB(A)	25	27	28	29
	Min (3)	dB(A)	22	23	24	25
Weights	Transport weight	kg	13	15	19	21
	Operating weight	kg	11	13	16	18

DIMENSIONS			113	223	333	443
L	STD	mm	520	720	920	1120
W	STD	mm	125	125	125	125
H	STD	mm	527	527	527	527

CLEARANCE AREAS

SXI/IF/EC 113÷443

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 45/40 °C,
3 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.
N.B. Maximum inlet water temperature 90 °C.

Electrical board side

HWW/EC 22÷42

eurìce® EC INVERTER FANS

WALL MOUNTED FAN COIL UNITS WITH EC INVERTER TANGENTIAL FAN.

These hydronic Fan Coil units 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 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.
It 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.

VERSIONS

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 (similar to colour RAL 9010 white).
- 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

DRC	Wall mounted automatic electronic control panel

HWW/EC 22÷42

MODEL			22	23	32	42
Cooling	Total cooling capacity (1)	kW	2.07	2.49	3.02	3.74
	Sensible cooling capacity (1)	kW	1.52	1.81	2.22	2.74
	Water flow (1)	l/h	355	427	525	642
	Pressure drops	kPa	22	28	39	38
Heating	Heating capacity (2)	kW	2.70	3.21	3.93	4.87
	Water flow (2)	l/h	355	427	525	642
	Pressure drops	kPa	18	23	32	29
Water connections	In / Out	"G	½"	½"	½"	½"
Air flow	Max	m³/h	500	500	645	788
	Med	m³/h	370	370	445	740
	Min	m³/h	290	290	370	570
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			
	Max absorbed power	kW	0.01	0.01	0.02	0.03
Sound pressure	Max (3)	dB(A)	37	37	43	46
	Med (3)	dB(A)	30	30	34	40
	Min (3)	dB(A)	26	26	29	34
Weights	Transport weight	kg	14	15	15	16
	Operating weight	kg	12	13	13	14

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 AREAS

HWW/EC 22÷62

NOTES

1 Ambient air temperature 27 °C d.b./19 °C w.b., water temperature 7/12 °C.
2 Ambient air temperature 20 °C b.s., water temperature 50/45 °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

TXW 132÷284

EC INVERTER FANS

WATER CASSETTE 3-SPEED OR EC INVERTER CENTRIFUGAL FAN.

The Water Cassettes TXW 132÷284 have been projected to be installed on false ceiling. The intuitive design makes installation and maintenance process easier, while guaranteeing the highest levels of energy efficiency and silence, both in domestic environments or in the services sector including offices, hotels, restaurants, gyms and shops.
When part of a hydronic system equipped with a Liquid Chiller, the Water Cassette generates cool air, while, during the winter, if combined with a thermal system, it provides warm air, making possible to meet home or business heating needs. The series, in addition to having a rich set of accessories to complete the unit, also has an attractive and modern intake grill cover panel, with neutral and well-balanced shapes that integrates perfectly in the surrounding environment as well as adjustable deflectors to distribute the air in the room in an ideal manner.
The units equipped with EC Inverter motor modulate the air flow, adapting the performances instant to instant to the actual needs of the room to be conditioned, assuring a total comfort with greater energy savings.

VERSIONS

TXW
Base unit for 2-Pipe system
TXW/EC
Unit with EC Inverter fan for 2-pipe system

TXW/WS
Base unit for 4-Pipe system
TXW/WS/EC
Unit with EC Inverter fan for 4-Pipe system

FEATURES

- Load-bearing structure made of extremely thick galvanized steel-sheet with internal thermo-acoustic insulation. External brackets on the four corners for easy fixing to the roof.
- Cover panel made of ABS, white RAL 9003 color, designed with the "Hook & Fix" coupling system. Central air intake grill with four manually adjustable air supply side flaps. Friction snap flaps, to ensure stable and uniform positioning.
- Predisposition with fresh air connection and with supply air connection.
- Air conveyor and condensate drain pan made by ABS to guarantee strength and long life. Condensate drain pan obtained in a single piece, equipped with a drain with cap for the total emptying in case of maintenance.
- Centrifugal type condensate pump, including no-return valve to avoid frequent on/off and a two-level floater for the control of the condensate level and for alarm activation.
- Heat exchanger coil made of copper pipes and hydrophilic aluminium fins for a better evacuation of the condensate, manual air vent and water drain valves.
- Air filter easy to remove and to wash, made of a metal frame holding filtering section.
- Centrifugal fan with wing profile blades and built-in 3-Speed electric motor.
- Centrifugal fan with wing profile blades and built-in EC inverter electric motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Universal connecting terminal (mounted)

ACCESSORIES

FACTORY FITTED ACCESSORIES

WS	Hot water coil for 4-Pipe system
EH	Supplementary electrical heater
UCB	Universal regulation card with Modbus RTU protocol
SNA	Air temperature sensor for UCB
SNW2	Summer/winter water temperature probe for UCB
SNW3	Minimum water temperature probe for UCB
IRT	Motherboard with IR receiver and remote control for AC versions

LOOSE ACCESSORIES

GR	Cover panel with grill
C	Auxiliary condensate drain pan
SFA	Air renewal flange
SFD	Duct connection flange
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V43	3-Way On/Off valves for 4-Pipe system
V43M	3-Way modulating valves for 4-Pipe system
V42	2-Way On/Off valves for 4-Pipe system
V42M	2-Way modulating valves for 4-Pipe system
TA1	Wall mounted electronic ambient thermostat for AC versions
VR1	Wall mounted electronic speed control panel for AC versions
DR1	Wall-mounted manual electronic control panel for AC versions
DR2	Wall mounted automatic electronic control panel for AC versions
DRH1	Wall mounted configurable electronic control panel for AC versions
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
IRC	Digital wall control panel for UCB
MC4	Multicontrol connection card for AC version
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

TXW 132÷284

MODEL			132	142	153	163	174	184	253	263	274	284
Cooling 2-Pipe unit	Total cooling capacity (1)	kW	2.51	3.03	4.23	4.71	5.29	5.89	8.04	8.94	10.04	11.19
	Sensible cooling capacity (1)	kW	2.03	2.53	3.23	3.66	3.74	4.23	6.14	6.94	7.10	8.10
	Water flow (1)	l/h	431	520	726	808	908	1011	1380	1534	1723	1920
	Pressure drops (1)	kPa	7	10	12	15	16	20	16	19	20	23
Heating 2-Pipe unit	Heating capacity (2)	kW	2.99	3.69	4.79	5.30	5.29	5.89	9.13	9.88	10.08	11.17
	Water flow (2)	l/h	521	643	834	923	921	1025	1590	1721	1755	1947
	Pressure drops (2)	kPa	8	12	13	17	14	17	17	17	20	20
Cooling 4-Pipe unit	Total cooling capacity (1)	kW	2.51	3.03	3.76	4.18	5.29	5.89	7.13	7.94	10.04	11.19
	Sensible cooling capacity (1)	kW	2.03	2.53	3.00	3.39	3.74	4.23	5.70	6.45	7.10	8.10
	Water flow (1)	l/h	431	520	645	717	908	1011	1224	1362	1723	1920
	Pressure drops (1)	kPa	7	10	12	15	16	20	16	19	20	23
Heating 4-Pipe unit	Heating capacity (3)	kW	3.49	4.29	4.59	5.19	4.59	5.19	8.78	9.98	8.78	9.98
	Water flow (3)	l/h	306	376	402	455	402	455	770	875	770	875
	Pressure drops (3)	kPa	12	19	22	28	22	28	25	30	25	30
Cooling 2-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	3.03	---	4.71	---	5.89	---	8.94	---	11.19
	Sensible cooling capacity (1)	kW	---	2.53	---	3.66	---	4.23	---	6.94	---	8.10
	Water flow (1)	l/h	---	520	---	808	---	1011	---	1534	---	1920
	Pressure drops (1)	kPa	---	10	---	15	---	20	---	19	---	23
Heating 2-Pipe unit (EC version)	Heating capacity (2)	kW	---	3.69	---	5.30	---	5.89	---	9.88	---	11.17
	Water flow (2)	l/h	---	643	---	923	---	1025	---	1721	---	1947
	Pressure drops (2)	kPa	---	12	---	17	---	17	---	17	---	20
Cooling 4-Pipe unit (EC version)	Total cooling capacity (1)	kW	---	---	---	4.18	---	5.89	---	7.94	---	11.19
	Sensible cooling capacity (1)	kW	---	---	---	3.39	---	4.23	---	6.45	---	8.10
	Water flow (1)	l/h	---	---	---	717	---	1011	---	1362	---	1920
	Pressure drops (1)	kPa	---	---	---	15	---	20	---	19	---	23
Heating 4-Pipe unit (EC version)	Heating capacity (2)	kW	---	---	---	5.19	---	5.19	---	9.98	---	9.98
	Water flow (2)	l/h	---	---	---	455	---	455	---	875	---	875
	Pressure drops (2)	kPa	---	---	---	28	---	28	---	30	---	30
Water connections	2-Pipe (In / Out)	"G	3/4"	3/4"	3/4"	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"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Air flow	Max	m³/h	580	652	772	868	772	868	1544	1737	1544	1737
	Med	m³/h	404	454	644	724	644	724	1288	1449	1288	1449
	Min	m³/h	280	315	424	477	424	477	848	954	848	954
Air flow (EC version)	Max	m³/h	---	652	---	868	---	868	---	1737	---	1737
	Min	m³/h	---	272	---	260	---	260	---	495	---	495
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60									
	Max absorbed power	kW	0.05	0.05	0.09	0.09	0.09	0.09	0.18	0.18	0.18	0.18
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	---	230/1/50-60	---	230/1/50-60	---	230/1/50-60	---	230/1/50-60	---	230/1/50-60
	Max absorbed power	kW	---	0.07	---	0.07	---	0.07	---	0.15	---	0.15
Sound pressure	Max (4)	dB(A)	42	42	48	48	48	48	51	51	51	51
	Med (4)	dB(A)	32	32	44	44	44	44	47	47	47	47
	Min (4)	dB(A)	26	26	33	33	33	33	36	36	36	36
Sound pressure (EC version)	Max (4)	dB(A)	---	42	---	48	---	48	---	51	---	51
	Min (4)	dB(A)	---	27	---	26	---	26	---	29	---	29
Weights 2-Pipe	Body transport weight	kg	20	20	21	21	22	22	40	40	42	42
	Body operating weight	kg	17	17	18	18	19	19	35	35	37	37
	Grille transport weight	kg	2	2	2	2	2	2	5	5	5	5
Weights 4-Pipe	Body transport weight	kg	21	21	21	21	22	22	41	41	43	43
	Body operating weight	kg	18	18	18	18	19	19	36	36	38	38
	Grille transport weight	kg	2	2	2	2	2	2	5	5	5	5

DIMENSIONS			132	142	153	163	174	184	253	263	274	284
L	BODY	mm	570	570	570	570	570	570	1160	1160	1160	1160
	PANEL	mm	630	630	630	630	630	630	1225	1225	1225	1225
W	BODY	mm	570	570	570	570	570	570	570	570	570	570
	PANEL	mm	630	630	630	630	630	630	630	630	630	630
H	BODY	mm	250	250	250	250	250	250	250	250	250	250
	PANEL	mm	30	30	30	30	30	30	30	30	30	30

CLEARANCE AREAS

TXW 132÷184

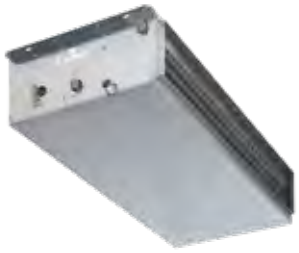
TXW 253÷284

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 45/40 °C,
3 Ambient air temperature 20 °C d.b., water temperature 65/55 °C.
4 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Maximum inlet water temperature 75 °C.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.

Electrical board side

DWX 183÷364



EC INVERTER FANS

SINGLE OR DOUBLE SKIN DUCTABLE FAN COIL UNITS WITH 5-SPEED OR EC INVERTER CENTRIFUGAL FANS.

The Ductable Fan Coil units, DWX 183÷364 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. Units are built with self-supporting panels ensuring the highest levels of energy efficiency and silence.
When part of a hydronic system equipped with a Liquid Chiller, the unit generates cool air with instantaneous reaction. While, during the winter, if combined with a thermal system, it provides warm air, making possible to meet home or business heating needs. A wide range of accessories are available to complete the series, units are available for 2-Pipe and 4-Pipe systems, in two versions, single or double skin panel with self-threading screws to ensure minimum installation time, and easy inspection and maintenance.
The units equipped with EC Inverter motor modulate the air flow, adapting the performances instant to instant to the actual needs of the room to be conditioned, assuring a total comfort with greater energy savings.

VERSIONS

DWX
Single panel base unit
DWX/EC
Single panel unit with EC Inverter fans

DWX/GP
Double-panel base unit
DWX/GP/EC
Double panel unit with EC inverter fans

FEATURES

- Single panel units are made of extremely thick galvanized steel-sheet resistant to rust, corrosion and chemical agents, with internal thermal-acoustic insulation. Internal thermal-acoustic insulation. Self-supporting and removable panels provided with holes for ceiling/wall mounting directly through the main casing.
- Double-panel units are provided with 20mm thick panels made of internal galvanized stell-sheet and external pre-painted steel white RAL 9002 colour with glass fiber insulation. Self-supporting and removable panels provided with holes for ceiling/wall mounting directly through the main casing.
- Double inclination condensate drain pan optimised for condensate drainage, provided with natural drain pipe (on the same side of coil connections) with external thermal insulation.
- Heat exchanger coil made of copper pipes and aluminium fins, water connections provided with anti-torsion system, manual air vent and water drain valves.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to a 5-Speed electric motor, with 3 speeds connected in the standard configuration.
- Fan section provided with centrifugal fans with double air inlet and last generation plastic blades, directly coupled to the EC Inverter electronic motor. Modulating regulation with 0-10Vdc signal with control panels provided as accessory or with independent regulation system.
- Universal connecting terminal (mounted).
- Standard water connections on right side based on air flow direction. Reversible on site.

ACCESSORIES

FACTORY FITTED ACCESSORIES

RX	Coil water connections on the right side
LX	Coil water connections on the left side
WS	Hot water coil for 4-Pipe system
EH1	Supplementary electrical heater
EH2	Supplementary electrical heater enhanced
AFL1	Flat air filter
AFL2	Air filtering section with flat filter
AFL3	Air filtering section with undulated filter
AFP1	Flat air filter for GP versions
AFP2	Air filtering section with flat filter for GP versions
AFP3	Air filtering section with undulated filter for GP versions
UCB	Universal regulation card with Modbus RTU protocol
SNA	Air temperature sensor for UCB
SNW2	Summer/winter water temperature probe for UCB
SNW3	Minimum water temperature probe for UCB

LOOSE ACCESSORIES

C	Auxiliary condensate drain pan
MP	Condensate drain pump
PLM	Panel with air delivery grille
PLR	Panel with air intake grille
PPM	Panel with air delivery grille for GP versions
PPR	Panel with air intake grille for GP versions
P3LM	Delivery plenum with circular connections
P3LA	Intake plenum with circular connections
P9LM	90-degree delivery plenum
P9LA	90-degree intake plenum
P3PM	Delivery plenum with circular connections for GP versions
P3PA	Intake plenum with circular connections for GP versions
P9PM	90-degree delivery plenum for GP versions
P9PA	90-degree intake plenum for GP versions
SSM	Air supply labyrinth noise level silencer section
SSR	Air intake labyrinth noise level silencer section
SPM	Labyrinth silencing section in delivery for GP versions
SPR	Labyrinth silencing section in intake for GP versions
MBL	Manual damper with closing 0-33%-100-67%
MBLS	Damper with on/off servo-motor
MBP	Manual damper with closing 0-33%-100-67% for GP versions
MBPS	Damper with on/off servo-motor for GP versions
V23	3-Way on/off valves for 2-Pipe system
V23M	3-Way modulating valves for 2-Pipe system
V22	2-Way On/Off valves for 2-Pipe system
V22M	2-Way modulating valves for 2-pipe system
V43	3-Way On/Off valves for 4-Pipe system
V43M	3-Way modulating valves for 4-Pipe system
V42	2-Way On/Off valves for 4-Pipe system
V42M	2-Way modulating valves for 4-Pipe system
TA1	Wall mounted electronic ambient thermostat for AC versions
VR1	Wall mounted electronic speed control panel for AC versions
DR1	Wall-mounted manual electronic control panel for AC versions
DR2	Wall mounted automatic electronic control panel for AC versions
DRH1	Wall mounted configurable electronic control panel for AC versions
DRH2	Wall mounted configurable electronic control panel for AC/EC versions
SRH1	Wall mounted Wi-Fi configurable electronic control panel
IRC	Digital wall control panel for UCB
MC4	Multicontrol connection card for AC version
SNW4	Water temperature probe
TMB3	Minimun hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

DWX 183÷364

MODEL			183	193	194	263	283	284	343	363	364
Cooling	Total cooling capacity (1),(2)	kW	6.00	6.70	8.45	9.36	10.81	14.40	14.73	18.24	21.90
	Sensible cooling capacity (1),(2)	kW	5.09	5.87	6.17	8.12	9.53	10.38	12.06	14.53	16.38
	Water flow (1),(2)	l/h	1030	1150	1450	1606	1855	2471	2527	3130	3758
	Pressure drops (1),(2)	kPa	29	33	34	20	25	28	29	33	35
Heating	Heating capacity (3),(2)	kW	6.21	6.99	8.19	9.68	11.28	14.23	16.25	20.28	22.88
	Water flow (3),(2)	l/h	1081	1218	1427	1686	1966	2478	2831	3532	3936
	Pressure drops (3),(2)	kPa	27	31	28	18	24	24	31	36	33
Rows	Quantity	n°	3	3	4	3	3	4	3	3	4
Water connections	In / Out	"G	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Additional coil	Heating capacity (4),(2)	kW	5.88	6.39	---	9.51	10.69	---	15.37	16.21	---
	Water flow (4),(2)	l/h	515	560	---	834	937	---	1348	1421	---
	Pressure drops (4),(2)	kPa	13	16	---	15	18	---	38	42	---
	Rows	n°	1	1	---	1	1	---	1	1	---
	Water connections (In / Out)	"G	1/2"	1/2"	---	1/2"	1/2"	---	1/2"	1/2"	---
Air flow	Max	m³/h	1160	1210	1200	2000	2230	2180	3490	3570	3510
	Med	m³/h	925	1085	1070	1445	1880	1855	3035	3340	3260
	Min	m³/h	670	770	760	1020	1200	1190	2260	2710	2660
Air flow (EC version)	Max	m³/h	1160	1210	1200	2000	2230	2180	3490	3570	3510
	Min	m³/h	560	550	550	885	880	870	1325	1300	1300
Available static pressure	Max	Pa	80	61	63	98	70	69	67	56	55
	Med	Pa	50	50	50	50	50	50	50	50	50
	Min	Pa	18	27	28	22	25	20	32	32	31
Available static pressure (EC version)	Max	Pa	80	61	63	98	70	69	67	56	55
	Min	Pa	29	30	22	41	37	33	32	30	17
EH1 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60								
	Absorbed power	kW	2	2	2	2	2	2	2	2	2
	Max absorbed current	A	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
EH2 Electrical heater	Power supply	V/Ph/Hz	230/1/50-60								
	Absorbed power	kW	4	4	4	4	4	4	4	4	4
	Max absorbed current	A	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50-60								
	Max absorbed power	kW	0.27	0.27	0.27	0.57	0.57	0.57	0.84	0.84	0.84
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	230/1/50-60								
	Max absorbed power	kW	0.18	0.18	0.18	0.40	0.40	0.40	0.55	0.55	0.55
Sound pressure intake side	Max (5)	dB(A)	54	54	53	56	56	55	56	56	55
	Med (5)	dB(A)	50	52	51	53	55	54	53	55	54
	Min (5)	dB(A)	40	46	45	40	48	47	41	49	48
Sound pressure supply side	Max (5)	dB(A)	54	54	53	53	53	52	53	53	52
	Med (5)	dB(A)	50	52	51	48	51	50	50	52	51
	Min (5)	dB(A)	39	46	45	34	42	41	37	45	44
Sound pressure intake side (EC version)	Max (5)	dB(A)	54	54	53	56	56	55	56	56	55
	Min (5)	dB(A)	35	34	33	35	31	32	32	30	30
Sound pressure supply side (EC version)	Max (5)	dB(A)	54	54	53	53	53	52	53	53	52
	Min (5)	dB(A)	35	34	33	32	31	30	30	29	28
Weights	Transport weight	kg	43	44	46	60	62	66	78	81	84
	Operating weight	kg	37	38	40	52	54	57	68	70	73
Weight (GP version)	Transport weight	kg	60	61	63	82	84	87	105	107	110
	Operating weight	kg	52	53	55	71	73	76	91	93	96

DIMENSIONS			183	193	194	263	283	284	343	363	364
L	STD	mm	800	800	800	1200	1200	1200	1600	1600	1600
	GP	mm	840	840	840	1240	1240	1240	1640	1640	1640
W	STD	mm	605	605	605	605	605	605	605	605	605
	GP	mm	625	625	625	625	625	625	625	625	625
H	STD	mm	275	275	275	275	275	275	275	275	275
	GP	mm	315	315	315	315	315	315	315	315	315

CLEARANCE AREAS

DWX 183÷364

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 45/40 °C,
4 Ambient air temperature 20 °C d.b., water temperature 65/55 °C.
5 Sound pressure level measured at 1 m from the unit with reverberation time 0,5 s.
N.B. Maximum inlet water temperature 90 °C.
N.B. Inhibited ethylene glycol can be added to the water.
N.B. Maximum operating pressure 1500 kPa.

Electrical board side

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