



 **G.I. INDUSTRIAL**
HOLDING

PRODUCT GUIDE



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


CLINT
CLIMATIZZAZIONE INTEGRATA



COMPANY PROFILE

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



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 historical milestones

1976	Oldest acquired Company start-up	2002	KTK KLIMATECHNIK acquisition	2004	CLINT brand launch	2013	G.I. INDUSTRIAL ASIA HOLDING start-up	2016	GIMEK new plant start-up	2020	G.I. HOLDING Group: climatic chamber
2000	G.I. HOLDING Group start-up	2003	NOVAIR acquisition	2009	GIMEK acquisition MONTAIR acquisition	2015	G.I. MIDDLE EAST start-up	2017	New G.I. HOLDING Group headquarters and Manufacturing Plant	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*



COMPANY PROFILE

THE GROUP



A wide sales network.



Sales Offices



International Distributors
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.



COMPANY PROFILE

MANUFACTURING



RIVIGNANO TEOR ITALY 

RONCHIS ITALY  

BIATORBÁGY HUNGARY 

LATISANA ITALY 





**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.).**



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 be 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.



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 historical 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



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.



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

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).



- **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.

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.

COMPANY PROFILE

REFERENCES

Dedicated solutions for different applications.





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02



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>> 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

>> 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
 KOLUMNAN 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, Egypt
 ABU QUR FERTILIZERS Plant, Cairo, Egypt
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, Azerbaijan
 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, Slovenia

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



MOSE, Venice, Italy

>> HOSPITALS, HOTELS & RESTAURANTS.

GEMELLI Hospital, Rome, Italy
UMBERTO I General Hospital, Rome, Italy
Baggiovara Hospital, Baggiovara, Italy
DOMUS SESSORIANA Hotel, Rome, Italy
BAZA Hospital, Baza, Spain
VASTRA VAGEN 48 Hospital, Gavle, Sweden
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 HASTAHANESİ Hospital, Istanbul, Turkey
DEDEMAN Hotel, Bostancı, Turkey
OASIS Hospital, Dubai, U.A.E.
9 *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, Netherlands

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*



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PRODUCT RANGE

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).



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.



VECO 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



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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		Inverter Scroll		EC Inverter Axial		R410A
	Heating only		Scroll		Axial		R452B
	Cooling and Heating		Inverter Screw		EC Inverter Centrifugal		R454B
			Screw		Centrifugal		R454C
			Turbocor		EC Inverter Tangential		R290
							R134a
					Economizer		R513A
					Free-Cooling		R1234ze
					Domestic Hot Water		H2O
					Hybrid System Management		
					High efficiency in cooling		
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		

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

VECO
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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		Inverter Scroll		EC Inverter Axial		R410A
	Heating only		Scroll		Axial		R452B
	Cooling and Heating		Inverter Screw		EC Inverter Centrifugal		R454B
			Screw		Centrifugal		R454C
			Turbocor		EC Inverter Tangential		R290
					EC Inverter Plug-Fans		R1234a
					Solution		R134a
					Free-Cooling		R513A
					Domestic Hot Water		R1234ze
					Hybrid System Management		H2O
					High efficiency in cooling		
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		

CHAPTER 2

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



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**



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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		Inverter Scroll		EC Inverter Axial		R410A
	Heating only		Scroll		Axial		R452B
	Cooling and Heating		Inverter Screw		EC Inverter Centrifugal		R454B
			Screw		Centrifugal		R454C
			Turbocor		EC Inverter Tangential		R290
							R134a
							R513A
					Free-Cooling		R1234ze
					Domestic Hot Water		H2O
					Hybrid System Management		
					High efficiency in cooling		
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		

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



CHA/TTH 1301-1÷4904-1



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

MICROCHANNEL HFO R1234ze



CHA/TH/FC 1301-1÷4904-1



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

FREE COOLING ▶ HFO R1234ze



CHATTY 1301-1÷5004-1



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

MICROCHANNEL



CHA/TTV/EC 1301-1÷5004-1



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

FREE COOLING

LEGENDA

Version	Compressor	Fan	Exchanger	Solution	Refrigerant
 Cooling only	 Inverter Scroll	 EC Inverter Axial	 Plate	 Super silenced	 R410A
 Heating only	 Scroll	 Axial	 Shell and Tube	 Single skin	 R452B
 Cooling and Heating	 Inverter Screw	 EC Inverter Centrifugal	 Flooded Shell and Tube	 Double skin	 R454B
	 Screw	 Centrifugal	 Microchannel	 Mixing Box	 R454C
	 Turbocor	 EC Inverter Tangential		 Economizer	 R290
		 EC Inverter Plug-Fans		 Free-Cooling	 R134a
				 Economizer and Coil-Boost Thermodynamic Heat Recovery	
				 Economizer and Cross-flow Heat Recovery	 R513A
				 Economizer and Wheel Heat Recovery	 R1234ze
					 H ₂ O

CHAPTER 3

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



CWW/K/WP 31÷151

9,6-49 kW

13-60 kW

118 - 119



Water cooled reversible Heat Pumps with 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



Super silenced Remote air cooled Condensers with axial fans

1,5-18 m³/s

1,5-18 m³/s

130 - 131

Booster



CWW/Y/BH 81-P÷1204-P



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

-

37-550 kW

132 - 133

multi power



CWW/K 726-P÷1128-P



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

224-383 kW

290-484 kW

134 - 135



CWW/K 726÷1128



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

225-375 kW

291-474 kW

136 - 137

LEGENDA

Version	Compressor	Fan	Exchanger	Solution	Refrigerant
Cooling only	Inverter Scroll	EC Inverter Axial	Plate	Super silenced	R410A
Heating only	Scroll	Axial	Shell and Tube	Single skin	R452B
Cooling and Heating	Inverter Screw	EC Inverter Centrifugal	Flooded Shell and Tube	Double skin	R454B
	Screw	Centrifugal	Microchannel	Mixing Box	R454C
	Turbocor	EC Inverter Tangential		Economizer	R290
		EC Inverter Plug-Fans		Free-Cooling	R134a
				Domestic Hot Water	R513A
				Hybrid System Management	R1234ze
				High efficiency in cooling	H ₂ O
				High efficiency in heating	
				4-Pipe system	
				Web Monitoring	

CHAPTER 3

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



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



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/TTH 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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		EC Inverter Axial		Super silenced		R410A
	Heating only		Axial		Single skin		R452B
	Cooling and Heating		EC Inverter Centrifugal		Double skin		R454B
			Centrifugal		Mixing Box		R454C
			EC Inverter Tangential		Economizer		R290
					Economizer and Coil-Boost		R134a
					Thermodynamic Heat Recovery		R513A
					Economizer and Cross-flow Heat Recovery		R1234ze
					Economizer and Wheel Heat Recovery		H ₂ O
					4-Pipe system		
					Web Monitoring		

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



Remote hydronic modules

30-70 l

30-70 l

162 - 163



MR 1500÷2500



Remote hydronic modules with pump kit

1500-2500 l

1500-2500 l

164 - 165

LEGENDA

Version	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Inverter Scroll		EC Inverter Axial		Plate		R410A
	Scroll		Axial		Shell and Tube		R452B
	Inverter Screw		EC Inverter Centrifugal		Flooded Shell and Tube		R454B
	Screw		Centrifugal		Microchannel		R454C
	Turbocor		EC Inverter Tangential		Economizer		R290
			EC Inverter Plug-Fans		Free-Cooling		R134a
					Domestic Hot Water		R513A
					Hybrid System Management		R1234e
					High efficiency in cooling		H ₂ O
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		

CHAPTER 5

PACKAGED ROOFTOP UNITS



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](#)



RTA/K/EC/WP 182-R÷453-R



65-171 kW

63-162 kW

170 - 171

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

[EC INVERTER PLUG FANS](#) [COIL-BOOST HEAT RECOVERY](#)



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 ROOFTOP 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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		Inverter Scroll		EC Inverter Axial		R410A
	Heating only		Scroll		Axial		R452B
	Cooling and Heating		Inverter Screw		EC Inverter Centrifugal		R454B
			Screw		Centrifugal		R454C
			Turbocor		EC Inverter Tangential		R290
					EC Inverter Plug-Fans		R134a
					Free-Cooling		R513A
					Domestic Hot Water		R1234ze
					Hybrid System Management		H ₂ O
					High efficiency in cooling		
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		

CHAPTER 5

PACKAGED ROOFTOP 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



Air cooled condensing units with axial fans and Scroll compressor

9,2-45 kW

-

194 - 195



MHA/K 182÷604



Air cooled condensing units with axial fans and Scroll compressors

51-188 kW

-

196 - 197

LEGENDA

Version	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Cooling only		EC Inverter Axial		Super silenced		R410A
	Heating only		Axial		Single skin		R452B
	Cooling and Heating		EC Inverter Centrifugal		Double skin		R454B
			Centrifugal		Mixing Box		R454C
			EC Inverter Tangential		Economizer		R290
			EC Inverter Plug-Fans		Economizer and Coil-Boost		R134a
					Thermodynamic Heat Recovery		R513A
					Economizer and Cross-flow Heat Recovery		R1234ze
					Economizer and Wheel Heat Recovery		H ₂ O

CHAPTER 7

FAN COIL UNITS



VXM 123÷614



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

[EC INVERTER FANS](#)

1,4-8,4 kW

1,9-10 kW

200 - 201



VXI 123÷614



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

[EC INVERTER FANS](#)

1,4-8,4 kW

1,9-10 kW

202 - 203



NEW

SXM 113÷443



SLIM fan coil units with cabinet and EC Inverter tangential fans

[EC INVERTER FANS](#)

1,1-4,1 kW

1,3-4,3 kW

204 - 205



NEW

SXI 113÷443



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

[EC INVERTER FANS](#)

1,1-4,1 kW

1,3-4,3 kW

206 - 207

eurice®



HWW/EC 22÷42



Wall mounted fan coil units with EC Inverter tangential fan

[EC INVERTER FANS](#)

2,1-3,7 kW

2,7-4,9 kW

208 - 209



TXW 132÷284



Water cassette with 3-speed or EC Inverter centrifugal fan

[EC INVERTER FANS](#)

2,5-11 kW

3,0-11 kW

210 - 211

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	Compressor	Fan	Exchanger	Solution	Refrigerant		
	Inverter Scroll		EC Inverter Axial		Plate		R410A
	Scroll		Axial		Shell and Tube		R452B
	Inverter Screw		EC Inverter Centrifugal		Flooded Shell and Tube		R454B
	Screw		Centrifugal		Microchannel		R454C
	Turbocor		EC Inverter Tangential		Solution		R290
					Free-Cooling		R134a
					Domestic Hot Water		R513A
					Hybrid System Management		R1234e
					High efficiency in cooling		H ₂ O
					High efficiency in heating		
					4-Pipe system		
					Web Monitoring		



CHAPTER 1

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

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CHA/F/ML/WP 52÷92	46 - 47



COMPACT Line

INVERTER SCROLL

The units are compliant to the ErP Regulation.

VERSIONS

CHA/IG/A

Cooling only

CHA/IG/A/WP

Reversible Heat Pump

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

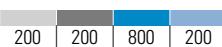
CR Remote control panel
IS Modbus RTU protocol, RS485 serial interface
RP Coils protection metallic guards

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

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

CLEARANCE AREAS

CHA/IG/A 51÷81



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.

Electrical board side



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 ($\cos\phi$ 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

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

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

CLEARANCE AREAS

CHA/ 52÷92

800	800	500	800
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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



CHAPTER 2

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

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CHA/IK/A 91÷151



INVERTER SCROLL

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

MODEL		91	101	131	151
Cooling STD versions	Cooling capacity (1)	kW	25.8	30.5	35.9
	Absorbed power (1)	kW	8.0	9.5	11.3
	EER (1)		3.22	3.21	3.18
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	25.7	30.4	35.8
	Absorbed power (1)	kW	8.1	9.6	11.4
	EER (1)		3.19	3.16	3.13
	SEER (2)		4.42	4.16	4.21
Heating STD versions	Energy Efficiency (2)	%	174	163	165
	Heating capacity (3)	kW	28.7	34.3	40.4
	Absorbed power (3)	kW	8.1	9.9	11.8
	COP (3)		3.54	3.46	3.42
Heating STD versions (EN14511)	Heating capacity (3)	kW	28.8	34.4	40.5
	Absorbed power (3)	kW	8.2	10.1	12.0
	COP (3)		3.51	3.42	3.37
	SCOP (4)		3.74	3.75	3.54
Compressor	Energy Efficiency (4)	%	147	147	139
	Energy Class (5)		A+	A+	A+
	SCOP (6)		2.95	2.96	2.93
	Energy Efficiency (6)	%	115	115	114
Evaporator	Energy Class (7)		A+	A+	A+
	Quantity	n°	1	1	1
	Water flow	l/s	1.23	1.46	1.71
	Pressure drops	kPa	20	29	31
Electrical characteristics	Water connections	"G	1 1/4"	1 1/4"	1 1/4"
	Power supply	V/Ph/Hz		400/3+N/50	
	Max. running current	A	21	24	27
	Max. starting current	A	11	14	15
Unit with pump	Pump available static pressure	kPa	140	115	150
	Water connections	"G	1 1/4"	1 1/4"	1 1/4"
Sound pressure	STD versions (8)	dB(A)	60	61	62
	Weights	kg	224	239	269
	Operating weight	kg	229	244	275
					289

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

CLEARANCE AREAS

CHA/IK/A 91÷151

500	800	800	800
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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



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

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
	Absorbed power (1)	kW	15.6	18.1	20.4	23.6	27.0	30.3	35.0	40.5	47.2
	EER (1)		3.20	3.19	3.22	3.17	3.18	3.22	3.20	3.21	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
	Absorbed power (1)	kW	15.8	18.4	20.7	23.9	27.5	30.7	35.4	41.1	47.8
	EER (1)		3.14	3.13	3.18	3.12	3.12	3.17	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
Cooling MC versions	Energy Efficiency (2)	%	173	179	173	173	174	174	177	173	173
	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152
	Absorbed power (1)	kW	15.4	17.9	20.2	23.4	26.7	30.0	34.7	40.1	46.7
Cooling MC versions (EN14511)	EER (1)		3.24	3.22	3.25	3.20	3.22	3.26	3.23	3.24	3.25
	Cooling capacity (1)	kW	49.8	57.5	65.6	74.6	85.6	97.5	112	130	152
	Absorbed power (1)	kW	15.6	18.2	20.5	23.7	27.2	30.4	35.1	40.7	47.3
Heating STD versions	EER (1)		3.18	3.17	3.21	3.14	3.15	3.20	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
	Energy Efficiency (2)	%	175	181	175	174	175	176	178	174	175
Heating STD versions (EN14511)	Heating capacity (3)	kW	53.7	62.2	71.0	80.7	92.6	105	121	140	164
	Absorbed power (3)	kW	16.2	18.7	21.2	24.5	28.0	31.4	36.4	41.8	49.0
	COP (3)		3.31	3.33	3.35	3.29	3.31	3.34	3.32	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
	Absorbed power (3)	kW	16.5	19.0	21.5	24.9	28.6	32.0	37.0	42.6	49.7
	COP (3)		3.26	3.28	3.31	3.25	3.25	3.29	3.28	3.30	3.31
Heating STD versions (EN14511)	SCOP (4)		3.47	3.43	3.42	3.58	3.60	3.46	3.52	3.49	3.44
	Energy Efficiency (4)	%	136	134	134	140	141	135	138	137	135
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2
	Capacity steps	n°									
Evaporator	Water flow	l/s	2.38	2.75	3.13	3.56	4.09	4.66	5.34	6.20	7.24
	Pressure drops	kPa	41	40	32	39	47	40	35	44	33
	Water connections	"G	1 1/2"	1 1/2"	2 1/2"	2 1/2"	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	47	47	56	56	68	74	91	91	115
	Max. starting current	A	130	130	177	177	191	241	232	232	247
Unit with pump	Pump available static pressure	kPa	140	135	140	125	135	180	180	165	150
	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"
	STD versions	Pa	70	60	100	80	75	80	80	80	65
ECH fan available static pressure	SSL versions	Pa	70	60	95	90	80	80	80	80	---
	MC versions	Pa	60	65	95	80	80	70	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
	STD versions with SL accessory (6)	dB(A)	61	63	64	64	65	66	66	67	66
	SSL versions (6)	dB(A)	58	61	61	61	62	62	62	62	---
Sound pressure	MC versions (6)	dB(A)	62	65	65	65	66	67	67	68	67
	MC versions with SL accessory (6)	dB(A)	60	62	63	63	64	65	65	66	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
	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	3550	3550	3550	4700	4700
	SSL-MC/SSL-WP/SSL	mm	2350	2350	3550	3550	4700	4700	---	---	---
W	STD-WP-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-MC-WP	mm	1950	2250	2250	2250	1950	2250	2250	2250	2250
	SSL-MC/SSL-WP/SSL	mm	1950	2250	2250	1950	2250	2250	---	---	---

CLEARANCE AREAS

CHA/IK/A 172-P-574-P

300 | 800 | 800 | 1800



NOTES

1 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.

2 Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.

3 Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.

4 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.

5 Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.

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

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

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

Electrical board side



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

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
	Absorbed power (1)	kW	16.0	18.5	20.9	24.2	27.6	31.0	35.8	41.5	48.3
	EER (1)		3.19	3.19	3.22	3.17	3.18	3.23	3.21	3.20	3.23
Cooling (EN14511)	Cooling capacity (1)	kW	51.0	58.9	67.1	76.4	87.6	99.7	115	133	156
	Absorbed power (1)	kW	16.3	18.8	21.2	24.6	28.1	31.5	36.3	42.2	48.9
	EER (1)		3.13	3.14	3.17	3.11	3.12	3.17	3.16	3.14	3.18
	SEER (2)		4.17	4.21	4.20	4.19	4.19	4.22	4.25	4.16	4.18
Heating (EN14511)	Energy Efficiency (2)	%	164	165	165	165	165	166	167	163	163
	Energy Efficiency (3)	%	131	130	129	134	135	131	132	131	130
	Heating capacity (4)	kW	55.6	64.3	73.1	83.4	95.7	109	124	144	169
	Absorbed power (4)	kW	17.2	19.8	22.4	25.9	29.5	33.2	38.3	44.2	51.7
Heating	COP (4)		3.24	3.25	3.27	3.22	3.25	3.30	3.24	3.26	3.27
	SCOP (3)		3.36	3.32	3.31	3.43	3.45	3.35	3.37	3.34	3.32
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-
Compressor	Heating capacity (4)	kW	55.4	64.1	72.9	83.1	95.3	109	124	144	169
	Absorbed power (4)	kW	16.8	19.4	22.0	25.4	28.8	32.5	37.7	43.4	51.0
	COP (4)		3.30	3.30	3.31	3.27	3.31	3.35	3.29	3.32	3.31
Evaporator	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2
	Capacity steps	n°			2			3			4
Electrical characteristics	Water flow	l/s	2.44	2.82	3.20	3.65	4.19	4.77	5.48	6.34	7.44
	Pressure drops	kPa	43	42	33	41	49	42	37	46	35
	Water connections	"G	1 1/2"	1 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Unit with tank and pump	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	41	44	55	60	67	79	90	101	120
	Max. starting current	A	164	166	179	192	235	202	222	268	252
ECH fan available static pressure	Pump available static pressure	kPa	140	135	135	120	130	180	175	160	160
	Tank water volume	l	400	400	400	400	400	400	400	400	600
ECH fan available static pressure	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"
	STD versions	Pa	70	60	100	80	75	80	80	80	75
Sound pressure	SSL versions	Pa	70	60	95	90	80	80	80	80	---
	STD versions (6)	dB(A)	63	64	66	66	67	67	67	68	68
Weights	With SL accessory (6)	dB(A)	61	62	64	64	65	65	65	66	66
	Transport weight (7)	kg	574	606	625	679	728	836	973	1015	1305
	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	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	3550	3550	4700	4700	---	---	---
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1950	2250	2250	2250	1950	2250	2250	2250	2250
	SSL	mm	1950	2250	2250	1950	2250	2250	2250	---	---

CLEARANCE AREAS

CHA/K/AF 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

- 1 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
- 2 Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
- 3 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



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
	Absorbed power (1)	kW	15.2	17.8	21.0	24.5	27.4	32.1	36.0	41.8	49.9
	EER (1)		3.13	3.09	3.02	2.98	3.05	2.99	3.06	3.04	2.95
Cooling (EN14511)	Cooling capacity (1)	kW	47.5	54.7	63.3	72.7	83.2	95.6	110	127	147
	Absorbed power (1)	kW	15.5	18.1	21.3	24.9	27.8	32.7	36.6	42.5	50.6
	EER (1)		3.07	3.03	2.97	2.92	3.00	2.92	3.00	2.98	3.01
	SEER (2)		4.06	4.08	3.92	3.93	4.01	3.88	3.90	4.01	3.99
	Energy Efficiency (2)	%	159	160	154	154	157	152	153	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	4.27
Heating	Energy Efficiency with EC or ECH accessory (2)	%	166	166	167	166	168	167	167	169	171
	Heating capacity (3)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154
	Absorbed power (3)	kW	16.6	18.9	22.6	24.9	28.3	33.9	37.0	42.3	50.3
	COP (3)		3.26	3.27	3.16	3.22	3.19	3.13	3.24	3.19	3.06
Heating (EN14511)	Heating capacity (3)	kW	54.4	62.1	71.7	80.7	90.8	106	120	135	154
	Absorbed power (3)	kW	17.0	19.4	23.1	25.5	28.9	34.7	37.8	43.2	51.3
	COP (3)		3.19	3.20	3.10	3.16	3.14	3.06	3.18	3.13	3.01
	SCOP (4)		3.33	3.30	3.31	3.38	3.39	3.38	3.30	3.35	3.34
Compressor	Energy Efficiency (4)	%	130	129	129	132	133	132	129	131	127
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-
Evaporator	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2
	Capacity steps	n°			2			3			4
Electrical characteristics	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.57	5.24	6.05	7.01
	Pressure drops	kPa	45	48	43	48	43	58	46	53	48
	Water connections	"G	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Unit with tank and pump	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	41	44	52	56	64	75	82	93	110
	Max. starting current	A	164	166	175	188	231	199	214	261	242
ECH fan available static pressure	Pump available static pressure	kPa	140	130	130	115	140	165	170	155	150
	Tank water volume	l	400	400	400	400	400	400	400	600	600
	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"
Sound pressure	STD versions	Pa	90	80	100	100	100	80	95	75	60
	SSL versions	Pa	85	85	75	75	70	50	70	60	60
Weights	STD versions (6)	dB(A)	61	61	64	64	65	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	65	65	65	65
Weights	Transport weight (7)	kg	595	624	663	682	791	878	927	1036	1135
	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	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL	mm	1950	1950	1950	1950	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K 182-P÷604-P

300	800	800	1800
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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.



FREE COOLING

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

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
	Absorbed power (1)	kW	18.1	20.3	23.3	26.1	29.3	36.8	42.2	48.4	54.4
	EER (1)		2.91	2.93	2.92	2.94	2.92	2.69	2.70	2.69	2.78
Cooling (EN14511)	Cooling capacity (1)	kW	52.0	58.8	67.3	75.9	84.9	98.2	113	129	150
	Absorbed power (1)	kW	18.8	21.0	24.1	26.9	30.1	37.7	43.5	49.9	55.7
	EER (1)		2.77	2.80	2.79	2.82	2.82	2.60	2.60	2.59	2.59
Free-Cooling cycle	SEPR (2)		5.11	5.13	5.12	5.14	5.12	5.11	5.09	5.08	5.15
	Air temperature (3)	°C	2.1	1.3	0.0	-2.4	-3.5	1.0	0.0	-1.1	-3.0
	Absorbed power (3)	kW	2	2	2	2	2	6	6	6	8
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	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
	Pressure drops	kPa	115	105	120	100	100	100	135	145	102
	Water connections	"G	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	35	41	48	54	65	76	85	102	113
	Max. starting current	A	130	140	144	169	209	173	201	246	229
Unit with tank and pump	Pump available static pressure	kPa	120	125	100	115	100	190	145	125	125
	Tank water volume	l	400	400	400	400	400	400	400	400	600
	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"
ECH fan available static pressure		Pa	110	110	110	105	105	60	60	60	65
	STD version (4)	dB(A)	63	63	63	63	64	65	66	66	67
	With SL accessory (4)	dB(A)	61	61	60	60	62	63	64	64	65
Weights	Transport weight (5)	kg	923	932	951	980	999	1308	1317	1350	1472
	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	4700	4700	4700	4700	4700
W	STD	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	2250	2250	2250	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/FC 182-P-604-P

300	800	800	1800
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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



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

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
	Absorbed power (1)	kW	16.6	18.8	21.5	25.3	28.6	31.6	37.5	43.7	50.7
	EER (1)		2.95	2.93	2.90	2.90	2.95	3.01	2.91	2.95	2.94
Cooling (EN14511)	Cooling capacity (1)	kW	48.9	54.9	62.2	73.0	84.1	95.0	109	129	149
	Absorbed power (1)	kW	16.7	19.0	21.9	25.8	29.0	32.0	38.0	44.2	51.4
	EER (1)		2.92	2.89	2.85	2.84	2.90	2.97	2.86	2.91	2.89
	SEER (2)		3.79	3.81	3.72	3.74	3.83	3.82	3.63	3.76	3.86
	Energy Efficiency (2)	%	149	149	146	147	150	150	142	147	151
Heating	Heating capacity (3)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156
	Absorbed power (3)	kW	17.8	19.6	22.8	25.7	29.1	33.4	38.1	44.2	51.1
	COP (3)		3.13	3.16	3.08	3.14	3.14	3.14	3.12	3.10	3.08
Heating (EN14511)	Heating capacity (3)	kW	55.8	62.1	70.5	81.1	91.7	105	119	137	156
	Absorbed power (3)	kW	18.0	19.9	23.4	26.4	29.7	34.0	38.9	44.9	52.0
	COP (3)		3.10	3.12	3.02	3.07	3.09	3.10	3.07	3.06	3.04
	SCOP (4)		3.28	3.23	3.21	3.24	3.29	3.29	3.21	3.29	3.25
	Energy Efficiency (4)	%	128	126	125	127	129	129	125	129	127
Compressor	Energy Class (5)	A+	A+	A+	A+	-	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2
Evaporator	Capacity steps	n°			2			3			4
	Water flow	l/s	2.34	2.62	2.98	3.49	4.02	4.54	5.19	6.15	7.10
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43
Electrical characteristics	Water connections	"G	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	3"	3"
	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	41	44	55	60	67	79	86	97	112
Unit with tank and pump	Max. starting current	A	164	166	179	192	235	202	218	264	244
	Pump available static pressure	kPa	160	150	125	110	140	185	170	170	155
	Tank water volume	l	470	470	470	470	470	470	470	470	660
ECH fan available static pressure	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"
	STD versions	Pa	90	80	100	100	100	80	95	75	60
Sound pressure	SSL versions	Pa	85	85	75	75	70	50	70	60	60
	STD versions (6)	dB(A)	61	61	64	64	65	67	67	67	67
Weights	With SL accessory (6)	dB(A)	59	59	62	62	63	65	65	65	65
	Transport weight (7)	kg	641	661	701	719	844	931	971	1112	1192
	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	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL	mm	1950	1950	1950	1950	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K 182÷604

300	800	800	1800
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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.

CRA/IK/A 51÷131



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

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
	Absorbed power (1)	kW	4.3	5.4	6.5	7.7	9.3	10.3
	EER (1)		2.88	2.91	2.92	2.91	2.77	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	12.4	15.7	19.0	22.3	25.8	30.4
	Absorbed power (1)	kW	3.9	5.1	6.2	7.4	8.4	9.4
	EER (1)		3.14	3.10	3.07	3.02	3.08	3.24
Heating	SEER (2)		4.32	4.30	4.23	4.33	4.32	4.10
	Energy Efficiency (2)	%	170	169	166	170	170	161
	Heating capacity (3)	kW	14.1	17.5	20.9	24.8	28.7	34.3
Heating (EN14511)	Absorbed power (3)	kW	4.5	5.4	6.4	7.5	9.4	10.7
	COP (3)		3.13	3.24	3.27	3.31	3.05	3.21
	Heating capacity (3)	kW	14.2	17.6	21.0	24.9	28.8	34.4
Evaporator	Absorbed power (3)	kW	4.2	5.1	6.1	7.2	8.5	9.8
	COP (3)		3.40	3.46	3.44	3.45	3.39	3.50
	SCOP (4)		3.58	3.57	3.68	3.70	3.91	4.08
Compressor	Energy Efficiency (4)	%	140	140	144	145	153	160
	Energy Class (5)	A+	A+	A+	A+	A++	A++	A+
	SCOP (6)		2.89	2.84	2.87	2.86	2.92	2.93
Sound pressure	Energy Efficiency (6)	%	113	111	112	111	114	113
	Energy Class (7)	A+	A+	A+	A+	A+	A+	A+
	Weights	Transport weight	kg	203	213	215	217	353
		Operating weight	kg	205	215	217	219	356

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



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

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
	Absorbed power (1)	kW	16.9	19.5	21.8	24.4	28.2	33.3	37.2	43.2	49.9
	COP (1)		3.30	3.26	3.28	3.34	3.34	3.27	3.33	3.29	3.27
Heating (EN14511)	Heating capacity (1)	kW	55.9	63.8	71.6	81.8	94.4	109	124	142	163
	Absorbed power (1)	kW	17.1	19.8	22.1	24.8	28.6	33.7	37.7	44.0	50.7
	COP (1)		3.26	3.22	3.23	3.30	3.30	3.24	3.29	3.22	3.29
	SCOP (2)		3.43	3.39	3.38	3.50	3.52	3.42	3.44	3.41	3.39
	Energy Efficiency (2)	%	134	132	132	137	138	134	135	133	132
Cooling	Cooling capacity (4)	kW	48.2	54.9	62.5	71.9	82.8	94.5	108	125	139
	Absorbed power (4)	kW	15.8	18.7	20.7	23.7	28.4	32.0	35.6	41.8	48.0
	EER (4)		3.05	2.94	3.02	3.03	2.92	2.95	3.03	2.99	2.90
Cooling (EN14511)	Cooling capacity (4)	kW	48.1	54.8	62.4	71.8	82.6	94.4	108	125	139
	Absorbed power (4)	kW	16.0	18.9	20.9	23.9	28.7	32.3	36.0	42.3	48.6
	EER (4)		3.01	2.90	2.98	3.00	2.88	2.93	3.00	2.95	2.85
	SEER (5)		3.95	3.84	3.96	3.97	3.92	3.86	3.97	4.02	3.87
	Energy Efficiency (5)	%	155	151	155	156	154	151	156	158	152
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	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
	Pressure drops	kPa	28	30	31	28	28	23	29	39	37
	Water connections	"G	1 1/2"	1 1/2"	1 1/2"	2 1/2"	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	41	44	55	60	67	79	86	101	116
	Max. starting current	A	164	166	179	192	235	202	218	268	248
Unit with tank and pump	Pump available static pressure	kPa	155	150	140	135	155	200	190	170	165
	Tank water volume	l	400	400	400	400	400	400	400	400	600
ECH fan available static pressure	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"
	STD versions	Pa	70	60	100	100	100	95	60	65	60
Sound pressure	SSL versions	Pa	70	60	65	60	60	95	60	60	60
	STD versions (6)	dB(A)	62	62	65	65	65	67	68	68	70
Weights	With SL accessory (6)	dB(A)	60	60	63	63	63	65	66	66	68
	Transport weight (7)	kg	635	644	693	760	807	926	1076	1126	1235
	Operating weight (7)	kg	640	650	700	770	820	940	1090	1140	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
	SSL	mm	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD-SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL	mm	1950	1950	1950	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/A/WP 182-P-604-P

300 | 800 | 800 | 1800



NOTES

1 Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.

2 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.

3 Seasonal energy efficiency class of heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.

4 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.

5 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



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 R454C

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 ($\cos\phi$ 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

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

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

CLEARANCE AREAS

CHA/ 102-P-504-P

300	800	800	1800
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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



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

R290

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 ($\cos\phi$ 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

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
	Absorbed power (1)	kW	14.7	17.3	21.4	24.3	29.4	34.7	43.1
	COP (1)		3.25	3.46	3.33	3.37	3.25	3.43	3.29
	Heating capacity (2)	kW	48.8	61.4	73.4	84.5	97.5	122	147
	Absorbed power (2)	kW	12.7	14.9	18.5	21.1	25.6	30.0	37.5
	COP (2)		3.85	4.12	3.96	4.00	3.81	4.07	3.91
	Heating capacity (3)	kW	46.9	58.1	68.7	78.7	93.7	116	137
	Absorbed power (3)	kW	17.0	19.9	24.4	27.6	34.2	40.0	49.4
	COP (3)		2.75	2.92	2.81	2.86	2.74	2.89	2.77
Heating (EN14511)	Heating capacity (1)	kW	47.9	60.0	71.4	82.0	95.7	119	142
	Absorbed power (1)	kW	14.9	17.6	21.8	24.7	29.6	35.0	43.4
	COP (1)		3.21	3.41	3.28	3.32	3.23	3.41	3.28
	Heating capacity (2)	kW	49.0	61.5	73.6	84.8	97.7	122	147
	Absorbed power (2)	kW	12.9	15.2	18.9	21.6	25.8	30.2	37.8
	COP (2)		3.79	4.05	3.89	3.93	3.78	4.04	3.88
	Heating capacity (3)	kW	47.0	58.1	68.8	78.8	93.7	116	137
	Absorbed power (3)	kW	17.1	19.9	24.5	27.7	34.3	40.0	49.5
	COP (3)		2.75	2.92	2.80	2.85	2.74	2.89	2.77
Cooling	SCOP (4)		3.32	3.58	3.31	3.41	3.36	3.71	3.46
	Energy Efficiency (4)	%	130	140	129	133	131	145	135
	SCOP (5)		2.99	3.15	2.94	3.03	3.03	3.28	3.07
	Energy Efficiency (5)	%	116	123	115	118	118	128	122
	Cooling capacity (6)	kW	40.1	47.2	58.5	65.8	79.9	93.6	117
	Absorbed power (6)	kW	16.2	19.5	23.2	25.9	32.3	38.8	46.4
	EER (6)		2.48	2.42	2.52	2.54	2.47	2.41	2.52
	Cooling capacity (7)	kW	54.1	63.4	79.3	89.3	104	122	153
	Absorbed power (7)	kW	17.6	21.4	25.4	28.3	34.6	42.1	50.2
Cooling (EN14511)	EER (7)		3.08	2.96	3.13	3.15	3.01	2.90	3.05
	Cooling capacity (6)	kW	40.0	47.1	58.4	65.7	79.8	93.5	117
	Absorbed power (6)	kW	16.3	19.7	23.4	26.1	32.4	39.0	46.7
	EER (6)		2.45	2.40	2.49	2.51	2.46	2.40	2.50
	Cooling capacity (7)	kW	53.9	63.2	78.9	89.0	104	122	153
	Absorbed power (7)	kW	17.9	21.9	26.0	28.9	34.9	42.4	50.8
	EER (7)		3.01	2.89	3.04	3.08	2.98	2.87	3.00
	SEER (8)		3.33	3.28	3.34	3.34	3.60	3.52	3.58
	Energy Efficiency (8)	%	130	128	131	131	141	138	140
Compressor	Quantity	n°	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	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
	Pressure drops (1)	kPa	40.1	43.2	42.8	45.5	16.0	18.2	27.2
	Water connections	"G	2"	2"	2"	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
	Max. starting current	A	172	174	177	228	215	223	240
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	86	86
	SL version (9)	dB(A)	80	80	82	82	82	82	84
Weights	Transport weight	kg	806	835	884	913	1517	1573	1690
	Operating weight	kg	810	840	890	920	1530	1590	1710
									1766

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
W	STD/SL	mm	1350	1350	1350	1350	1350	1350	1350
H	STD/SL	mm	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHV/P/WP 152-P-504-P

1000 | 1500 | 1000 | 1500



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



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**

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 ($\cos\phi$ 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

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++	-	-	-	-	-
Cooling	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++	-	-	-	-	-
	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
	Quantity	n°	2	2	2	2	4	4	4	4
	Compressor	Refrigerant circuits	n°	1	1	1	1	2	2	2
Evaporator	Capacity steps	n°			2			4		
	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
Electrical characteristics	Water connections	"G	2"	2"	2"	2"	2"1/2	2"1/2	2"1/2	2"1/2
	Power supply	V/Ph/Hz				400/3/50				
Hydraulic circuit (Unit with pump)	Max. running current	A	41	47	58	69	81	93	115	138
	Max. starting current	A	169	172	172	222	209	218	229	291
	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
		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
W	STD	mm	1350	1350	1350	1350	1350	1350	1350
H	STD	mm	2200	2200	2200	2200	2200	2200	2200

CLEARANCE AREAS

CHV/P/HE/WP 152-P÷504-P

1000 | 1500 | 1000 | 1500



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



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



MICROCHANNEL
HFO R1234ze

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
	Absorbed power (1)	kW	67.0	80.0	103	126	154
	EER (1)		3.18	3.25	3.13	3.19	3.16
Cooling MC version (EN14511)	Cooling capacity (1)	kW	213	260	322	402	487
	Absorbed power (1)	kW	67.4	80.5	104	127	155
	EER (1)		3.16	3.23	3.10	3.17	3.14
Cooling CuAl version	SEER (2)		4.51	4.56	4.48	4.61	4.71
	Energy Efficiency (2)	%	177	179	176	181	185
	Cooling capacity (1)	kW	212	258	318	399	485
Cooling CuAl version (EN14511)	Absorbed power (1)	kW	68.4	81.5	105	128	156
	EER (1)		3.09	3.16	3.01	3.11	3.10
	SEER (2)		4.43	4.48	4.40	4.53	4.65
Compressor	Energy Efficiency (2)	%	174	176	173	178	183
	Quantity	n°	2+2	2+2	2+2	2+2	3+3
	Refrigerant circuits	n°	2	2	2	2	2
Evaporator	Capacity steps	n°		4			6
	Unitary absorbed power	kW	15.3	17.8	23.5	28.6	23.2
	Water flow	l/s	10.15	12.39	15.35	19.16	23.21
Electrical characteristics	Pressure drops	kPa	17	18	18	19	21
	Water connections	DN	100	100	100	150	150
	Power supply	V/Ph/Hz			400/3/50		
Unit with pump	Max. running current	A	175	146	183	232	275
	Max. starting current	A	373	442	504	651	643
	Pump available static pressure	kPa	129	118	119	110	140
ECH fan available static pressure	Water connections	DN	100	100	100	150	150
	MC version	Pa	70	75	75	75	70
	MC version (3)	dB(A)	71	73	74	76	75
Sound pressure	MC version with SL accessory (3)	dB(A)	68	70	71	73	72
	MC/SSL version (3)	dB(A)	62	64	66	67	66
Weights MC versions	Transport weight	kg	2376	3049	3240	3998	5035
	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
	MC/SSL-CuAl/SSL	mm	4500	5850	5850	7200
W	MC-CuAl-MC/SSL-CuAl/SSL	mm	2250	2250	2250	2250
H	MC-CuAl-MC/SSL-CuAl/SSL	mm	2550	2550	2550	2550

CLEARANCE AREAS

CHV/H/HE 804-P÷1806-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. Weights of SSL versions are specified on technical brochure.

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



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 silencing
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

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
	Absorbed power (1)	kW	64.9	78.0	100	121	150
	EER (1)		3.44	3.46	3.37	3.43	3.35
Cooling MC version (EN14511)	Cooling capacity (1)	kW	223	270	337	415	503
	Absorbed power (1)	kW	65.4	78.5	101	122	151
	EER (1)		3.41	3.43	3.34	3.40	3.33
Cooling CuAl version	SEER (2)		5.40	5.41	5.21	5.33	5.46
	Energy Efficiency (2)	%	213	213	205	210	213
	Cooling capacity (1)	kW	222	268	333	412	501
Cooling CuAl version (EN14511)	Absorbed power (1)	kW	66.5	79.5	103	123	152
	EER (1)		3.34	3.36	3.24	3.35	3.30
	SEER (2)		5.23	5.24	5.08	5.15	5.40
Compressor	Energy Efficiency (2)	%	206	207	200	203	213
	Quantity	n°	2+2	2+2	2+2	2+2	3+3
	Refrigerant circuits	n°	2	2	2	2	2
Evaporator	Capacity steps	n°		4			6
	Unitary absorbed power	kW	14.0	16.5	22.0	26.6	22.0
	Water flow	l/s	10.63	12.87	16.06	19.78	23.98
Electrical characteristics	Pressure drops	kPa	19	19	20	20	22
	Water connections	DN	100	100	100	150	150
	Power supply	V/Ph/Hz			400/3/50		
ECH fan available static pressure	Max. running current	A	179	227	275	338	412
	Max. starting current	A	377	445	507	653	644
	MC version	Pa	60	65	65	60	60
Sound pressure	MC version (3)	dB(A)	70	72	74	75	76
	MC version with SL accessory (3)	dB(A)	68	69	71	72	73
Weights MC versions	Transport weight	kg	3016	3699	3890	4598	5665
	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
W	MC-CuAl	mm	2250	2250	2250	2250	2250
H	MC-CuAl	mm	2550	2550	2550	2550	2550

CLEARANCE AREAS

CHV/H/XE 804-P÷2406-P

500	1800	1000	1800
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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.

CHA/IK/A 674-P÷2356-P



**multi
POWER**

**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 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

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
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	163
	EER (1)		3.21	3.21	3.19	3.22	3.20	3.19	3.17	3.18	3.16
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514
	Absorbed power (1)	kW	62	74	91	99	110	121	134	145	164
	EER (1)		3.15	3.15	3.14	3.18	3.16	3.16	3.14	3.15	3.13
	SEER (2)		4.39	4.40	4.44	4.45	4.41	4.55	4.67	4.70	4.68
	Energy Efficiency (2)	%	173	173	175	175	173	179	184	185	184
Cooling MC versions	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515
	Absorbed power (1)	kW	60	72	89	97	108	119	132	143	161
	EER (1)		3.27	3.25	3.22	3.26	3.23	3.22	3.20	3.20	3.20
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	162
	EER (1)		3.20	3.19	3.18	3.21	3.19	3.18	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
	Energy Efficiency (2)	%	175	175	177	177	175	181	186	187	186
Heating STD versions	Heating capacity (3)	kW	212	253	311	343	379	417	458	497	559
	Absorbed power (3)	kW	63	75	93	102	112	124	137	148	169
	COP (3)		3.37	3.37	3.34	3.36	3.38	3.36	3.34	3.36	3.31
Heating STD versions (EN14511)	Heating capacity (3)	kW	213	254	312	344	380	418	459	499	561
	Absorbed power (3)	kW	65	77	95	104	115	127	140	151	172
	COP (3)		3.28	3.30	3.28	3.31	3.30	3.29	3.28	3.30	3.26
	SCOP (4)		3.67	3.57	3.60	3.52	3.61	3.52	3.53	3.48	3.54
	Energy Efficiency (4)	%	144	140	141	138	141	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
	Refrigerant circuits	n°	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
	Pressure drops	kPa	38	36	35	37	40	32	33	36	32
	Water connections	DN	80	80	80	80	80	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
	Max. starting current	A	305	334	407	424	386	428	415	534	617
Unit with pump	Pump available static pressure	kPa	160	140	170	185	170	165	145	185	175
	Water connections	DN	100	100	100	100	100	150	150	150	150
Sound pressure	STD versions (5)	dB(A)	71	73	75	74	74	74	75	75	76
	STD versions with SL accessory (5)	dB(A)	68	69	71	71	71	71	72	72	73
	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	75	76
	MC versions with SL accessory (5)	dB(A)	67	68	70	70	70	70	71	71	72
	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
	Operating weight	kg	2270	2410	2550	2830	2890	3230	3300	3710	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	6200	6200
	SSL-MC/SSL	mm	5000	5000	5000	6200	6200	6200	7200	7200
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD-SSL-MC-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHA/IK/A 674-P÷2356-P

500 | 1800 | 1000 | 1800



NOTES

1 Chilled water from 12 to 7 °C, ambient air temperature 35 °C.

2 Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.

3 Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.

4 Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 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.



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.



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 silencing
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

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
	EER (1)		3.18	3.19	3.22	3.27	3.16	3.13
Cooling (EN14511)	Cooling capacity (1)	kW	197	220	245	271	300	329
	EER (1)		3.13	3.14	3.18	3.22	3.11	3.10
	SEER (2)		4.18	4.19	4.23	4.24	4.20	4.21
Heating	Energy Efficiency (2)	%	164	165	166	167	165	165
	Heating capacity (3)	kW	214	239	266	295	326	360
Heating (EN14511)	COP (3)		3.29	3.27	3.28	3.35	3.28	3.28
	Heating capacity (3)	kW	214	239	266	295	326	360
	COP (3)		3.24	3.22	3.24	3.30	3.23	3.24
	SCOP (4)		3.35	3.42	3.35	3.34	3.37	3.35
	Energy Efficiency (4)	%	131	134	131	131	132	131
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4
	Refrigerant circuits	n°	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
	Pressure drops	kPa	45	49	44	42	50	39
	Water connections	DN	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
	Max. starting current	A	289	311	354	370	371	422
Unit with pump	Pump available static pressure	kPa	155	135	200	180	180	180
	Water connections	DN	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	72	73	74	74	74	74
	With SL accessory (5)	dB(A)	69	70	71	71	71	72
	SSL version (5)	dB(A)	65	66	67	68	67	68
Weights	Transport weight	kg	1854	2171	2289	2317	2437	2680
	Operating weight	kg	1870	2190	2310	2340	2460	2710

MODEL		13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
Cooling	Cooling capacity (1)	kW	396	435	485	538	609
	EER (1)		3.19	3.17	3.15	3.18	3.17
Cooling (EN14511)	Cooling capacity (1)	kW	396	435	485	538	609
	EER (1)		3.15	3.13	3.12	3.15	3.14
	SEER (2)		4.48	4.56	4.59	4.57	4.56
Heating	Energy Efficiency (2)	%	176	179	181	180	181
	Heating capacity (3)	kW	431	473	526	586	663
	COP (3)		3.34	3.31	3.25	3.33	3.28
Heating (EN14511)	Heating capacity (3)	kW	432	474	527	587	664
	COP (3)		3.29	3.26	3.21	3.29	3.25
	SCOP (4)		3.36	3.32	3.36	3.31	3.33
	Energy Efficiency (4)	%	131	130	131	129	130
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6
	Refrigerant circuits	n°	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
	Pressure drops	kPa	49	49	33	41	34
	Water connections	DN	80	80	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50		
	Max. running current	A	291	329	374	397	462
	Max. starting current	A	423	497	541	564	650
Unit with pump	Pump available static pressure	kPa	145	125	180	165	160
	Water connections	DN	100	100	100	100	150
Sound pressure	STD version (5)	dB(A)	76	76	75	76	77
	With SL accessory (5)	dB(A)	73	73	72	73	74
	SSL version (5)	dB(A)	69	69	69	70	---
Weights	Transport weight	kg	2869	3004	3512	3642	4420
	Operating weight	kg	2900	3040	3560	3690	4480

DIMENSIONS		726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P
L	STD	mm	4000	4000	4000	5000	5000	5000
	SSL	mm	5000	5000	5000	6200	6200	6200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	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
	SSL	mm	6200	6200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100

CLEARANCE AREAS

CHA/K/AF 726-P-24012-P

500 | 1800 | 1000 | 1800



NOTES

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

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

CHA/K 726-P÷36012-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 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 silencing
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

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 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
Cooling (EN14511)	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	73	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 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
Cooling (EN14511)	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	5000
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	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

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.

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

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

IAS	Remote set-point, 4-20mA signal
IDL	Remote signal for second set-point activation
MN	Demand limit from digital input
	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		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
	Absorbed power (1)	kW	76	87	88	98	108	123	132	147
	EER (1)		2.74	2.71	2.99	2.96	3.04	2.97	3.04	3.00
Cooling (EN14511)	Cooling capacity (1)	kW	206	234	260	287	325	362	398	438
	Absorbed power (1)	kW	78	89	91	101	111	126	135	150
	EER (1)		2.64	2.63	2.86	2.84	2.93	2.87	2.95	2.87
Free-Cooling cycle	SEPR (2)		5.04	5.03	5.02	5.05	5.01	5.06	5.02	5.51
	Air temperature (3)	°C	-2.0	-2.8	-2.5	-0.2	-2.7	-3.5	-1.0	-2.0
	Absorbed power (3)	kW	7.0	7.0	10.5	10.5	14.0	14.0	14.0	17.5
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	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
	Pressure drops	kPa	102	126	165	124	112	106	115	120
	Water connections	DN	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
	Max. starting current	A	276	299	354	367	365	417	433	500
Unit with pump	Pump available static pressure	kPa	150	115	70	100	95	80	105	115
	Water connections	DN	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	70	70	71	73	73	73	74	75
	With SL accessory (4)	dB(A)	68	67	68	70	70	70	71	71
Weights	Transport weight	kg	2175	2185	2360	2435	2990	3020	3220	3510
	Operating weight	kg	2310	2320	2500	2630	3190	3220	3470	3770
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
Free-Cooling cycle	SEPR (2)		5.52	5.54	5.56	5.58	5.55	5.53	5.52	5.51
	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.



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

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.

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 silencing
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

MODEL		726	786	826	906	1048	1128	1208	13010	15010
Cooling	Cooling capacity (1)	kW	200	224	248	270	302	328	367	404
	EER (1)		2.86	2.80	2.88	2.78	2.88	2.85	3.03	2.97
	Cooling capacity (1)	kW	199	223	247	269	301	326	365	403
	EER (1)		2.80	2.75	2.84	2.74	2.84	2.79	2.97	2.94
	SEER (2)		3.80	3.83	3.96	3.99	3.85	3.96	4.07	4.27
Cooling (EN14511)	Energy Efficiency (2)	%	149	150	155	157	151	155	160	168
	SEER with EC or ECH accessory (2)		4.13	4.11	4.17	4.22	4.15	4.23	4.34	4.56
	Energy Efficiency with EC or ECH accessory (2)	%	162	161	164	166	163	166	171	179
Heating	Heating capacity (3)	kW	229	252	280	304	336	362	401	442
	COP (3)		3.09	3.04	3.08	2.87	3.08	2.94	3.08	3.05
	Heating capacity (3)	kW	229	252	280	305	336	363	402	443
Heating (EN14511)	COP (3)		3.09	3.04	3.08	2.86	3.07	2.93	3.07	3.04
	SCOP (4)		3.22	3.20	3.21	3.22	3.21	3.22	3.23	3.21
	Energy Efficiency (4)	%	126	125	125	126	125	126	125	125
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5
	Capacity steps	n°			6				8	
	Water flow	l/s	9.44	10.58	11.71	12.75	14.26	15.49	17.33	19.08
Evaporator	Pressure drops	kPa	45	42	45	50	48	56	55	45
	Water connections	DN	100	100	100	100	100	100	100	125
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50				
	Max. running current	A	152	166	179	191	216	233	250	274
	Max. starting current	A	276	299	347	359	349	401	418	407
Unit with pump	Pump available static pressure	kPa	150	140	195	170	180	165	150	140
	Water connections	DN	100	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	70	70	70	72	72	72	73	72
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	70	69
	SSL version (5)	dB(A)	64	64	64	66	65	65	67	66
Weights	Transport weight	kg	1703	1723	1813	2003	2253	2532	2642	2691
	Operating weight	kg	1750	1770	1860	2050	2310	2600	2710	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 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
Cooling (EN14511)	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 capacity (3)	kW	582	627	699	792	879	982	1101	1223
Heating (EN14511)	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				
	Water flow	l/s	24.08	26.02	28.99	32.30	36.17	40.71	45.38	50.15
Evaporator	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	4000	4000	4000	5000
	SSL	mm	2800	2800	2800	4000	4000	4000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200

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

CLEARANCE AREAS

CHA/K 726÷36012

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.

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



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

LOOSE ACCESSORIES

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

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
Cooling	Energy Efficiency (2)	%	133	136	133	133	134	133	133
	Cooling capacity (3)	kW	195	217	239	259	294	322	339
Cooling (EN14511)	EER (3)		2.91	2.89	3.06	3.05	2.94	3.01	3.00
	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
	STD version (5)	dB(A)	72	71	71	72	72	73	74
Sound pressure	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
Cooling	Energy Efficiency (2)	%	133	132	133	131	132	136
	Cooling capacity (3)	kW	359	421	475	512	597	671
Cooling (EN14511)	EER (3)		2.83	2.92	2.93	2.98	2.88	2.78
	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
Compressor	Energy Efficiency (4)	%	171	174	175	179	179	179
	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
	STD version (5)	dB(A)	74	76	76	76	76	78
Sound pressure	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	5000	5000
	SSL	mm	4000	4000	5000	5000	5000	5000
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	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



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.

Electrical board side

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 ($\cos\phi > 0,95$)
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 +

GY

heating side gaskets for glycol > 30%

FNC

Double circulating pump cooling side +

FGC

heating side gaskets for glycol > 30%

FMC

Antifreeze heater for pipes cooling side

FNH

Antifreeze heater for single pump and pipes cooling side

FGH

Antifreeze heater for double pump and pipes cooling side

FMH

Antifreeze heater for pipes heating side

FNH

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

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
	Absorbed power (1)	kW	16.8	19.3	21.9	24.4	27.9	33.0	37.9	40.9	46.5
	EER (1)		2.89	2.90	2.89	2.96	2.93	2.88	2.90	2.98	2.88
Cooling only (EN14511)	Cooling capacity (1)	kW	48.5	55.7	63.0	72.0	81.5	94.8	110	122	134
	Absorbed power (1)	kW	17.0	19.6	22.3	24.8	28.4	33.6	38.4	41.6	47.2
	EER (1)		2.85	2.85	2.83	2.90	2.88	2.82	2.86	2.93	2.83
	SEER (2)		4.17	4.18	4.17	4.20	4.19	4.17	4.15	4.15	4.14
Heating only	Energy Efficiency (2)	%	164	164	164	165	165	164	163	163	164
	Heating capacity (3)	kW	52.2	59.7	67.0	75.5	86.0	105	122	134	142
	Absorbed power (3)	kW	16.0	18.7	21.2	23.4	26.5	31.6	36.4	40.2	42.8
Heating only (EN14511)	COP (3)		3.26	3.19	3.16	3.23	3.25	3.32	3.35	3.33	3.32
	SCOP (4)		3.49	3.46	3.36	3.36	3.38	3.54	3.55	3.64	3.73
	Energy Efficiency (4)	%	137	135	131	131	132	139	139	143	146
	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
	Heating capacity (6)	kW	64.9	73.9	82.5	94.1	109	127	145	161	181
	Absorbed power (6)	kW	15.3	17.4	19.6	22.3	25.2	29.0	33.3	37.1	40.7
Cooling + Heating (EN14511)	TER (6)		7.48	7.49	7.42	7.44	7.61	7.76	7.73	7.68	7.88
	Cooling capacity (6)	kW	49.5	56.4	62.7	71.6	83.0	97.7	112	124	140
	Heating capacity (6)	kW	65.0	74.0	82.7	94.3	109	127	146	162	181
	Absorbed power (6)	kW	15.7	17.9	20.2	23.0	26.0	30.0	34.4	38.4	42.1
Electrical characteristics	TER (6)		7.30	7.28	7.19	7.21	7.37	7.49	7.49	7.42	7.61
	Water flow	l/s	2.32	2.66	3.01	3.44	3.90	4.53	5.24	5.81	6.39
	Pressure drops	kPa	35	40	51	48	50	55	42	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"	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
	Pressure drops	kPa	32	36	39	43	41	41	42	48	49
	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"	3"
Electrical characteristics	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	41	44	55	60	67	77	87	94	102
	Max. starting current	A	164	166	179	192	235	265	274	307	315
Unit with pump - cooling side	Pump available static pressure	kPa	145	135	115	110	130	105	100	155	150
	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"	3"
Unit with pump - heating side	Pump available static pressure	kPa	145	135	115	110	130	105	100	155	150
	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"	3"
ECH fan available static pressure	STD version	Pa	95	100	95	95	95	100	60	50	60
	SSL version	Pa	70	85	70	70	70	90	50	50	60
	STD version (7)	dB(A)	63	64	64	65	65	67	68	68	70
Sound pressure	With SL accessory (7)	dB(A)	61	62	62	63	63	65	66	66	68
	SSL version (7)	dB(A)	58	59	59	60	60	61	63	63	65
Weight STD versions	Transport weight	kg	754	763	817	911	934	1027	1072	1300	1308
	Operating weight	kg	765	775	830	925	950	1045	1095	1325	1335
											1492
											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	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	3550	3550	3550	4700	
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1950	1950	1950	2250	2250	2250	2250	2250	2250

CLEARANCE AREAS

CHA/K/EP 182-P-602-P

300	800	800	1800
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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**.

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
IAV
IDL
CP
GDS
MN

Remote signal for second set-point activation
Remote set-point, 0-10V signal
Demand limit from digital input
Potential free contacts
Leak detector
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		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)	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	73	74	74	74	76	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	5000	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

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	TS	Touch Screen Interface
RE	Adjustable minimum/maximum voltage and phase control relay	IS	Modbus RTU protocol, RS485 serial interface
PFC1	Power factor correction condensers ($\cos\phi$ 0,95)	IST	Modbus TCP/IP protocol, Ethernet port
SL	Unit silencement	ISB	BACnet MSTP protocol, RS485 serial interface
DSV	Double relief safety valve with changeover switch on the high pressure side for each refrigerant circuit	ISBT	BACnet IP protocol, Ethernet port
DSVHL	Double relief safety valve with changeover switch on the high and on the low pressure side of each refrigerant circuit	ISB1	BACnet MSTP protocol, RS485 serial interface, BTL certified.
BT	Low water temperature kit	ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
ECH	EC Inverter fans with high available static pressure	ISS	SNMP protocol, Ethernet port
PUC	Single circulating pump cooling side	IAV	Remote set-point, 0-10V signal
PUIC	Inverter single circulating pump cooling side	IAA	Remote set-point, 4-20mA signal
PDC	Double circulating pump cooling side	IAS	Remote signal for second set-point activation
PDIC	Inverter double circulating pump cooling side	IDL	Demand limit from digital input
GS	Single circulating pump gasket for glycol >30%	CP	Potential free contacts
GD	Double circulating pump gaskets for glycol >30%	GDS	Leak detector
FI	Antifreeze heater for evaporator and condenser	MN	High and low pressure gauges
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		
		LOOSE ACCESSORIES	
		CR	Remote control panel
		RP	Coils protection metallic guards
		AG	Rubber shock absorbers
		AM	Spring shock absorbers
		FL	Flow switch

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
	Absorbed power (1)	kW	88	99	115	132	152	176	208	256	313
	EER (1)		3.15	3.15	3.19	3.21	3.19	3.21	3.24	3.21	3.13
Cooling only (EN14511)	Cooling capacity (1)	kW	277	311	365	422	483	563	675	821	977
	Absorbed power (1)	kW	89	101	117	134	154	178	211	259	317
	EER (1)		3.11	3.10	3.13	3.16	3.15	3.17	3.20	3.17	3.08
	SEER (2)		4.73	4.73	4.73	4.75	4.74	4.75	4.78	4.75	4.72
Heating only	Energy Efficiency (2)	%	186	186	186	187	187	187	188	187	186
	Heating capacity (3)	kW	283	320	375	431	490	572	672	838	990
	Absorbed power (3)	kW	85	90	106	121	138	158	188	229	269
Heating only (EN14511)	COP (3)		3.32	3.55	3.54	3.57	3.56	3.63	3.57	3.66	3.68
	Heating capacity (3)	kW	283	321	376	432	491	573	673	839	991
	Absorbed power (3)	kW	86	91	107	122	139	159	190	231	271
	COP (3)		3.30	3.52	3.52	3.54	3.54	3.60	3.55	3.64	3.66
Cooling + Heating (EN14511)	SCOP (4)		3.52	3.78	3.76	3.76	3.75	4.12	4.06	4.14	4.35
	Energy Efficiency (4)	%	138	148	148	147	147	162	159	162	171
	Cooling capacity (5)	kW	276	318	370	429	492	575	686	834	996
	Heating capacity (5)	kW	359	405	469	544	622	727	865	1054	1261
Cooling + Heating (EN14511)	Absorbed power (5)	kW	83	87	99	115	130	152	179	220	265
	TER (5)		7.65	8.31	8.47	8.46	8.57	8.57	8.66	8.58	8.52
	Cooling capacity (5)	kW	275	317	369	428	491	574	685	833	995
	Heating capacity (5)	kW	359	405	469	544	622	727	865	1054	1261
Compressor	Absorbed power (5)	kW	84	88	101	117	132	154	182	223	269
	TER (5)		7.55	8.17	8.32	8.32	8.43	8.43	8.53	8.45	8.38
	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
Evaporator - cooling side	Capacity steps	n°						Stepless			
	Water flow	l/s	13.25	14.87	17.44	20.16	23.07	26.88	32.22	39.18	46.61
	Pressure drops	kPa	33	40	51	48	48	46	48	47	52
Condenser - heating side	Water connections	DN	100	100	125	125	125	150	150	150	200
	Water flow	l/s	13.69	15.48	18.14	20.86	23.71	27.68	32.52	40.55	47.91
	Pressure drops	kPa	21	23	20	18	17	20	18	20	20
Electrical characteristics	Water connections	DN	100	100	125	125	125	150	150	150	200
	Power supply	V/Ph/Hz					400/3/50				
	Max. running current	A	237	237	269	301	309	393	445	580	664
Unit with pump	Max. starting current	A	152	164	193	210	238	270	319	402	462
	Pump available static pressure	kPa	186	161	182	150	175	165	143	171	136
Sound pressure	Water connections	DN	100	100	125	125	125	150	150	150	200
	STD version (6)	dB(A)	77	77	77	78	78	78	79	80	81
	With SL accessory (6)	dB(A)	73	73	74	75	74	75	76	76	77
Weight STD versions	SSL version (6)	dB(A)	67	67	68	69	69	70	70	72	72
	Transport weight	kg	4430	4575	5160	5817	6337	7345	8645	9835	10235
	Operating weight	kg	4630	4780	5580	6290	6790	7910	9360	10620	11140
500 1800 1000 1800											

DIMENSIONS	1352	1402	1602	1802	1952	2302	2702	3302	3902	4402	
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL	mm	2360	2360	2360	2360	2750	2750	2750	2750	2750

CLEARANCE AREAS

CHA/Y/EP 1352÷4402



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.



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

MODEL		351-P	601-P	801-P	901-P	1221-P
Cooling STD version	Cooling capacity (1)	kW	78.6	101	130	163
	Absorbed power (1)	kW	23.9	32.3	39.7	49.6
	EER (1)		3.29	3.13	3.27	3.29
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163
	Absorbed power (1)	kW	23.9	32.4	39.8	49.8
	EER (1)		3.28	3.12	3.27	3.27
	SEER (2)		4.09	3.95	3.93	4.06
	Energy Efficiency (2)	%	161	155	154	159
	SEER with EC or ECH accessory (2)		4.68	4.42	4.47	4.52
Cooling MC version	Energy Efficiency with EC or ECH accessory (2)	%	184	174	176	178
	Cooling capacity (1)	kW	78.6	101	130	163
	Absorbed power (1)	kW	23.5	31.8	39.1	48.9
Cooling MC version (EN14511)	EER (1)		3.34	3.18	3.32	3.33
	SEER (2)		4.10	3.97	3.93	4.06
	Energy Efficiency (2)	%	161	156	154	159
	SEER with EC or ECH accessory (2)		4.69	4.43	4.48	4.53
	Energy Efficiency with EC or ECH accessory (2)	%	185	174	176	178
	Quantity	n°	1	1	1	1
Compressor	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°			Stepless	
Evaporator	Water flow	l/s	3.76	4.83	6.21	7.79
	Pressure drops	kPa	9	11	11	12
	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	101	99.6	133	152
	Max. starting current	A	180	190	279	328
Unit with tank and pump	Pump available static pressure	kPa	145	205	190	180
	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	STD versions	Pa	110	110	110	110
	SSL versions	Pa	110	110	110	110
	MC versions	Pa	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75
	With SL accessory (3)	dB(A)	71	71	72	72
	SSL version (3)	dB(A)	66	66	67	68
Weights	Transport weight (4)	kg	1281	1441	1888	1998
	Operating weight (4)	kg	1300	1480	1930	2050
						2189
						2260

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

CHA/H/FC 351-P÷901-P



MAXI POWER **INVERTER SCREW COMPRESSOR**
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 silencing
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

MODEL		351-P	601-P	801-P	901-P
Cooling	Cooling capacity (1)	kW	81.7	110	140
	Absorbed power (1)	kW	26.8	36.3	44.1
	EER (1)		3.05	3.03	3.17
Cooling (EN14511)	Cooling capacity (1)	kW	81.5	110	140
	Absorbed power (1)	kW	27.1	36.5	44.8
	EER (1)		3.01	3.01	3.13
	SEPR (2)		6.86	7.33	6.89
Free-Cooling cycle	Air temperature (3)	°C	1	-2	0
	Absorbed power (3)	kW	6	6	8
Compressor	Quantity	n°	1	1	1
	Refrigerant circuits	n°	1	1	1
	Capacity steps	n°		Stepless	
Water circuit	Water flow	l/s	4.44	6.20	7.60
	Pressure drops	kPa	36	108	80
	Water connections	"G	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
	Max. starting current	A	184	200	285
Unit with tank and pump	Pump available static pressure	kPa	180	110	125
	Tank water volume	l	600	600	600
	Water connections	"G	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
	With SL accessory (4)	dB(A)	71	71	72
Weights	Transport weight (5)	kg	1503	1677	2093
	Operating weight (5)	kg	1550	1760	2180
					2320

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

CHA/H/A 351÷1221



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

MODEL		351	601	801	901	1221
Cooling STD version	Cooling capacity (1)	kW	78.7	99.0	129	165
	Absorbed power (1)	kW	23.6	30.8	39.0	48.9
	EER (1)		3.33	3.21	3.31	3.37
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164
	Absorbed power (1)	kW	23.4	31.0	39.3	49.6
	EER (1)		3.37	3.19	3.28	3.31
	SEER (2)		4.15	4.02	3.97	4.15
	Energy Efficiency (2)	%	163	158	156	163
	SEER with EC or ECH accessory (2)		4.73	4.53	4.53	4.63
Cooling MC version	Energy Efficiency with EC or ECH accessory (2)	%	186	178	178	182
	Cooling capacity (1)	kW	78.7	99.0	129	165
	Absorbed power (1)	kW	23.2	30.3	38.4	48.2
Cooling MC version (EN14511)	EER (1)		3.39	3.27	3.36	3.42
	SEER (2)		78.8	98.9	129	164
	Absorbed power (1)	kW	23.0	30.5	38.7	48.9
	EER (1)		3.43	3.24	3.33	3.35
	SEER (2)		4.16	4.03	3.97	4.15
	Energy Efficiency (2)	%	163	158	156	160
Compressor	SEER with EC or ECH accessory (2)		4.74	4.54	4.54	4.64
	Energy Efficiency with EC or ECH accessory (2)	%	187	179	179	183
	Quantity	n°	1	1	1	1
Evaporator	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°			Stepless	
Electrical characteristics	Water flow	l/s	3.76	4.73	6.16	7.88
	Pressure drops	kPa	21	20	23	44
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Unit with tank and pump	Power supply	V/Ph/Hz		400/3/50		
	Max. running current	A	101	100	133	152
	Max. starting current	A	180	190	279	328
	Pump available static pressure	kPa	140	200	180	150
ECH fan available static pressure	Tank water volume	l	660	660	660	660
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD versions	Pa	110	110	110	110
	SSL versions	Pa	110	110	110	110
Sound pressure	MC versions	Pa	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110
	STD version (3)	dB(A)	74	74	75	75
	With SL accessory (3)	dB(A)	71	71	72	72
Weights	SSL version (3)	dB(A)	66	66	67	68
	Transport weight (4)	kg	1361	1465	2005	2073
	Operating weight (4)	kg	1380	1490	2040	2120

DIMENSIONS	351	601	801	901	1221
L STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700
W STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100
H STD-SSL-MC-MC/SSL	mm	2250	2250	2250	2250

CLEARANCE AREAS

CHA/H/A 351÷1221

300	800	800	1800
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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.

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

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	3.25	3.27	3.20	3.24	3.21	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	3.22	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	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	84	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	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
W	SSL	mm	5000	5550	5550	6700	6700	8900	8900	8900	10050	11100	12250	13400	-	-
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200

CLEARANCE AREAS

CHA/H/A 1002÷6002



Electrical board side

NOTES

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

CHA/H/FC 1002÷4802



MAXI POWER **INVERTER SCREW** **FREE COOLING** **HFO R1234ze**

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
Web Monitoring - Wireless remote monitoring (GPRS/EDGE/4G/TCP-IP)

WM

Modbus RTU protocol, RS485 serial interface

IS

Modbus TCP/IP protocol, Ethernet port

IST

BACnet MSTP protocol, RS485 serial interface

ISB

BACnet IP protocol, Ethernet port

ISBT

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

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
	Absorbed power (1)	kW	67	87	107	125	142	158	187	205	239	271	338
	EER (1)		3.46	3.41	3.27	3.23	3.13	3.28	3.23	3.34	3.35	3.29	3.16
Cooling (EN14511)	Cooling capacity (1)	kW	231	295	346	401	440	516	600	678	796	885	1035
	Absorbed power (1)	kW	68	89	111	128	146	161	191	211	244	277	347
	EER (1)		3.40	3.31	3.12	3.13	3.01	3.20	3.14	3.21	3.26	3.19	3.03
Free-Cooling cycle	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
	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
	Absorbed power (3)	kW	10.8	10.8	14.4	14.4	14.4	18.0	21.6	21.6	25.2	28.8	32.4
Compressor	Quantity	n°	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
	Capacity steps	n°											
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
	Pressure drops	kPa	77	96	143	118	132	77	104	124	98	108	138
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz											
	Max. running current	A	211	275	327	355	413	467	520	605	670	731	764
	Max. starting current	A	299	417	496	586	642	723	791	904	947	1091	1244
Unit with tank and pump	Pump available static pressure	kPa	148	114	117	137	158	193	146	106	162	132	112
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	3000	-	-	-
Sound pressure	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200
	STD version (4)	dB(A)	75	76	76	77	77	78	78	78	80	81	82
Weights	With SL accessory (4)	dB(A)	72	73	73	74	74	75	75	77	78	79	79
	Transport weight (5)	kg	3150	3420	4020	4410	4560	5440	6800	7280	8420	8900	10690
	Operating weight (5)	kg	3390	3720	4400	4850	5040	6010	7420	7980	9420	10000	11890

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
W STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H STD	mm	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREAS

CHA/H/FC 1002-4802

500	1800	1000	1800
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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 aluminium 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	ISBT1	BACnet IP protocol, Ethernet port, BTL certified.
GS	Single circulating pump gasket for glycol >30%	ISS	SNMP protocol, Ethernet port
GD	Double circulating pump gaskets for glycol >30%	IAV	Remote set-point, 0-10V signal
FE	Antifreeze heater for evaporator	IAA	Remote set-point, 4-20mA signal
FX	Antifreeze heater for evaporator and pipes	IAS	Remote signal for second set-point activation
FB	Antifreeze heater for evaporator/tank	IDL	Demand limit from digital input
FQ	Antifreeze heater on evaporator/tank and pipes	CP	Potential free contacts
FZ	Antifreeze heater for evaporator, single pump and pipes	MN	High and low pressure gauges
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.		

LOOSE ACCESSORIES

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

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
Cooling MC versions	Energy Efficiency with EC or ECH accessory (2)	%	180	183	179	186	187	188	183	191	191	185	187	185	186
	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
Cooling MC versions (EN14511)	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
	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	---	---	---
	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
Compressor	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	200	200	200	250	250	250	250
Electrical characteristics	Power supply	V/Ph/Hz													400/3/50
	Pump available static pressure	kPa	145	150	170	155	185	175	175	160	130	90	140	95	180
Unit with tank and pump	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	3000	3000	3000	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	68	68	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
Weights	MC/SSL versions (5)	dB(A)	65	65	65	64	65	66	67	67	67	67	67	67	67
	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	
	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	13400	---	---	
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	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	2100	2500	---	---
H	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	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.

CHA/Y/FC 1202-B÷6002-B



MAXI POWER
INVERTER SCREW
FREE COOLING

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
VWM	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

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
	Absorbed power (1)	kW	83	97	114	148	157	184
	EER (1)		2.61	2.66	2.76	2.53	2.66	2.57
Cooling (EN14511)	Cooling capacity (1)	kW	215	255	311	371	413	469
	Absorbed power (1)	kW	85	100	118	152	162	188
	EER (1)		2.53	2.55	2.64	2.44	2.55	2.49
Free-Cooling cycle	SEPR with EC or ECH accessory (2)		5.00	5.04	5.03	5.03	5.30	5.20
	SEPR with EC or ECH accessory and ID (2)		5.35	5.39	5.38	5.38	5.64	5.57
	Air temperature (3)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0
Compressor	Absorbed power (3)	kW	8	12	12	12	12	20
	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2
Water circuit	Capacity steps	n°				Stepless		
	Water flow	l/s	11.22	13.34	16.29	19.38	21.61	24.45
	Pressure drops	kPa	125	170	180	168	191	115
Electrical characteristics	Water connections	DN	100	100	100	125	125	150
	Power supply	V/Ph/Hz				400/3/50		
	Max. running current	A	194	201	237	261	293	337
Unit with tank and pump	Max. starting current	A	256	263	281	337	353	405
	Pump available static pressure	kPa	125	105	130	105	100	140
	Tank water volume	l	1100	1100	1100	1100	1100	2000
Sound pressure	Water connections	DN	100	100	100	125	125	150
	STD version (4)	dB(A)	75	75	76	76	77	77
	With SL accessory (4)	dB(A)	72	72	73	73	74	74
Weights	Transport weight (5)	kg	3250	3320	3620	3805	4180	4510
	Operating weight (5)	kg	3450	3520	3870	4060	4530	4850
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
Free-Cooling cycle	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
	Air temperature (3)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9
Compressor	Absorbed power (3)	kW	20	22	22	25	29	36
	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2
Water circuit	Capacity steps	n°				Stepless		
	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
Electrical characteristics	Water connections	DN	150	150	200	200	200	200
	Power supply	V/Ph/Hz				400/3/50		
	Max. running current	A	437	565	649	713	720	896
Unit with tank and pump	Max. starting current	A	526	770	812	848	855	1688
	Pump available static pressure	kPa	115	130	140	170	120	115
	Tank water volume	l	2000	2000	2000	---	---	---
Sound pressure	Water connections	DN	150	150	200	200	200	200
	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	11100	13400
W	STD	mm	2200	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
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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.



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

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
	Absorbed power (1)	kW	76	94	154	191	228	280
	EER (1)		3.45	3.56	3.40	3.51	3.41	3.57
Cooling STD version (EN14511)	Cooling capacity (1)	kW	261	334	522	668	774	997
	Absorbed power (1)	kW	77	95	156	193	231	283
	EER (1)		3.39	3.52	3.35	3.46	3.35	3.52
Cooling MC version	SEER (2)		5.50	5.73	5.52	5.70	5.60	5.88
	Energy Efficiency (2)	%	217	226	218	225	221	232
	Cooling capacity (1)	kW	262	335	524	670	777	1000
Cooling MC version (EN14511)	Absorbed power (1)	kW	72	89	145	181	216	264
	EER (1)		3.64	3.76	3.59	3.70	3.60	3.79
	SEER (2)		5.55	5.79	5.58	5.76	5.65	5.94
Compressor	Energy Efficiency (2)	%	219	229	220	227	223	235
	Quantity	n°	1	1	2	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1
Evaporator	Capacity steps	n°				Stepless		
	Water flow	l/s	12.52	16.01	25.04	32.01	37.12	47.78
	Water connections	DN	100	100	125	125	150	150
Electrical characteristics	Pressure drops	kPa	40	47	47	50	40	43
	Power supply	V/Ph/Hz				400/3/50		
	Max. running current	A	173	173	339	347	505	520
Unit with pump	Max. starting current	A	25	25	191	199	357	372
	Pump available static pressure	kPa	140	120	110	125	105	120
	Water connections	DN	100	100	150	150	150	200
Sound pressure	STD version (3)	dB(A)	70	70	71	71	71	72
	MC version (3)	dB(A)	69	69	70	70	70	71
Weights	Transport weight	kg	2610	3000	4050	4460	6050	6820
	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
W	STD/MC	mm	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2500	2500

CLEARANCE AREAS

CHA/TTH 1301-1÷4904-1

500	1800	1000	1800
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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.



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 unequalled SEPR values, with minimum water content, and an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode.

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

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
	Absorbed power (1)	kW	75	95	160	193	242	283
	EER (1)		3.72	3.66	3.46	3.62	3.46	3.58
Cooling (EN14511)	Cooling capacity (1)	kW	277	345	551	694	831	1031
	Absorbed power (1)	kW	77	98	163	198	248	292
	EER (1)		3.60	3.52	3.38	3.51	3.35	3.53
Free-Cooling cycle	SEPR (2)		7.35	7.30	7.13	7.25	7.42	7.43
	Air temperature (3)	°C	3.0	2.5	1.5	-1.0	0.0	0.5
	Absorbed power (3)	kW	10.8	14.4	21.6	21.6	25.2	32.4
Compressor	Quantity	n°	1	1	2	2	3	4
	Refrigerant circuits	n°	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
	Pressure drops	kPa	88	103	78	94	101	142
	Water connections	DN	100	100	125	125	150	150
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50			
	Max. running current	A	173	181	347	347	505	520
	Max. starting current	A	25	33	199	199	357	372
Unit with pump	Pump available static pressure	kPa	140	125	110	180	150	160
	Water connections	DN	100	100	150	150	150	200
Sound pressure	STD version (4)	dB(A)	69	70	71	71	71	72
Weights	Transport weight	kg	3620	3730	5560	5640	7890	8910
	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
W	STD	mm	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2750	2750

CLEARANCE AREAS

CHA/TTH/FC 1301-1-4904-1

500	1800	1000	1800
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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



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

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
	Absorbed power (1)	kW	73	81	97	116	145
	EER (1)		3.40	3.48	3.45	3.47	3.51
Cooling STD version (EN14511)	Cooling capacity (1)	kW	247	281	334	402	507
	Absorbed power (1)	kW	74	82	98	117	147
	EER (1)		3.32	3.43	3.40	3.42	3.46
Cooling MC version	SEER (2)		4.88	5.06	5.07	5.18	5.14
	Energy Efficiency (2)	%	192	199	200	204	203
	Cooling capacity (1)	kW	248	282	335	403	509
Cooling MC version (EN14511)	Absorbed power (1)	kW	64	73	86	106	132
	EER (1)		3.88	3.86	3.90	3.80	3.86
	Energy Efficiency (2)	%	194	201	202	206	205
Compressor	Quantity	n°	1	1	1	1	2
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°			Stepless		
Evaporator	Water flow	l/s	11.85	13.47	16.01	19.25	24.32
	Pressure drops	kPa	64	40	40	35	44
	Water connections	DN	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50		
	Max. running current	A	168	168	168	262	329
	Max. starting current	A	25	25	25	33	186
Unit with pump	Pump available static pressure	kPa	150	200	195	165	175
	Water connections	DN	100	100	100	125	125
Sound pressure	STD version (3)	dB(A)	69	69	69	69	70
	MC version (3)	dB(A)	68	68	68	68	69
Weights	Transport weight	kg	2440	2440	2770	2790	3685
	Operating weight	kg	2510	2510	2900	2920	3825

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

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

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

CLEARANCE AREAS

CHA/TY 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.

CHA/TTY/FC 1301-1÷5004-1



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

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

MODEL		1301-1	1401-1	1701-1	2201-1	2602-1	3302-1
Cooling	Cooling capacity (1)	kW	246	281	333	400	495
	Absorbed power (1)	kW	71	80	94	116	143
	EER (1)		3.46	3.51	3.54	3.45	3.46
Cooling (EN14511)	Cooling capacity (1)	kW	244	279	331	397	491
	Absorbed power (1)	kW	73	82	96	119	147
	EER (1)		3.34	3.40	3.45	3.34	3.34
Free-Cooling cycle	SEPR (2)		7.29	7.38	7.07	7.02	7.19
	Air temperature (3)	°C	-2.5	0.5	-2.9	0.0	-2.8
	Absorbed power (3)	kW	10.8	10.8	10.8	14.4	18.0
Compressor	Quantity	n°	1	1	1	1	2
	Refrigerant circuits	n°	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
	Pressure drops	kPa	92	97	88	105	115
	Water connections	DN	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50		
	Max. running current	A	168	168	168	262	329
	Max. starting current	A	25	25	25	33	186
Unit with pump	Pump available static pressure	kPa	135	125	115	110	150
	Water connections	DN	100	100	100	125	125
Sound pressure	STD version (4)	dB(A)	68	68	69	69	70
Weights	Transport weight	kg	3040	3200	3600	3700	4620
	Operating weight	kg	3180	3360	3810	3930	4850
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
Free-Cooling cycle	SEPR (2)		7.04	7.23	7.04	7.23	7.22
	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			NOTES					
CHA/TTY/FC 1301-1÷2602-1			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.
500	1800	1000	4	Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.				



Electrical board side



CHAPTER 3

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

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CWW/K/WP 31÷151



WATER COOLED REVERSIBLE HEAT PUMPS WITH SCROLL COMPRESSOR AND PLATE EXCHANGERS.

The CWW/K/WP 31÷151 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.

The units are compliant to the ErP Regulation.

VERSIONS

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

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

MODEL		31	41	51	61	71	81	91	101	131	151
Heating	Heating capacity (1)	kW	12.5	14.9	17.5	20.8	24.3	28.4	33.8	39.8	47.0
	Absorbed power (1)	kW	3.0	3.5	4.3	5.4	6.1	7.0	8.2	10.1	11.7
	COP (1)		4.17	4.26	4.07	3.85	3.98	4.06	4.12	3.94	4.02
Heating (EN14511)	Heating capacity (1)	kW	11.9	13.7	17.1	19.7	22.5	26.3	31.8	37.9	44.5
	Absorbed power (1)	kW	3.7	3.9	4.5	5.6	6.3	7.2	8.9	10.8	12.4
	COP (1)		3.25	3.56	3.81	3.50	3.59	3.67	3.56	3.50	3.58
	SCOP (2)		4.31	4.38	4.34	3.95	4.05	4.05	4.31	3.94	4.18
Cooling	Energy Efficiency (2)	%	164	167	166	150	154	154	164	150	159
	Energy Class (3)		A++	A++	A++	A+	A++	A++	A+	A++	A++
	Cooling capacity (4)	kW	9.6	11.6	14.3	17.1	20.0	23.0	27.7	33.6	39.7
Cooling (EN14511)	Absorbed power (4)	kW	2.3	2.9	3.4	4.1	4.8	5.5	6.8	7.9	9.3
	EER (4)		4.17	4.00	4.21	4.17	4.17	4.18	4.07	4.25	4.27
	Cooling capacity (4)	kW	9.5	11.5	14.2	17.0	19.8	22.8	27.5	33.3	39.4
Compressor	Absorbed power (4)	kW	2.5	3.2	3.7	4.4	5.2	6.0	7.4	8.7	10.1
	EER (4)		3.78	3.58	3.80	3.86	3.79	3.79	3.72	3.83	3.92
	Compressor Type						Scroll				
Evaporator	Water flow	l/s	0.46	0.55	0.68	0.82	0.96	1.10	1.32	1.61	1.90
	Pressure drops	kPa	30	45	42	29	40	47	48	60	49
	Water connections	"G	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
	Pressure drops	kPa	8	10	5	8	10	13	20	21	22
	Water connections	"G	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
	Max. starting current	A	75	86	50	71	74	74	142	142	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
	Pump available static pressure	kPa	50	35	128	131	100	93	187	160	131
	Tank water volume	l	50	50	50	50	50	50	100	100	100
Sound pressure	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"
	STD/SP version (5)	dB(A)	41	43	43	44	45	47	49	49	50
Weights	Transport weight (6)	kg	96	99	102	106	108	110	209	218	224
	Operating weight (6)	kg	97	100	104	108	110	112	212	221	227
											243

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

CLEARANCE AREAS

CWW/K/WP 31÷151

CWW/K/WP/SP 31÷151

200 | 500 | 800 | 500

500 | 800 | 800 | 800



NOTES

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

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



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

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
	Absorbed power (1)	kW	12.8	14.3	16.6	18.7	21.8	25.7	28.5	32.8	37.7
	EER (1)		4.33	4.37	4.34	4.41	4.46	4.36	4.56	4.54	4.51
Cooling (EN14511)	Cooling capacity (1)	kW	55.0	62.1	71.6	82.0	96.7	111	129	148	169
	Absorbed power (1)	kW	13.6	15.3	17.6	19.9	22.9	27.3	29.9	34.3	39.3
	EER (1)		4.04	4.06	4.06	4.13	4.22	4.08	4.33	4.32	4.26
	SEER (2)		5.28	5.21	5.22	5.21	5.64	5.20	5.72	6.17	5.78
Heating	Energy Efficiency (2)	%	203	200	201	200	218	200	221	239	223
	Heating capacity (3)	kW	72.5	80.1	93.3	105	121	140	159	180	205
	Absorbed power (3)	kW	18.0	20.0	23.2	25.7	28.8	33.2	38.4	42.7	51.7
Heating (EN14511)	COP (3)		4.03	4.01	4.02	4.09	4.20	4.22	4.14	4.22	3.97
	COP (3)		3.98	3.94	4.01	4.04	4.14	4.15	4.13	4.21	3.96
	SCOP (4)		4.29	4.03	4.77	5.15	5.11	5.05	5.37	5.31	4.76
	Energy Efficiency (4)	%	164	153	183	198	196	194	207	204	182
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	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
	Pressure drops	kPa	54	48	49	51	44	57	53	59	49
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	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
	Pressure drops	kPa	47	51	52	43	46	54	36	39	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	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
Unit with tank and pump	Max. starting current	A	128	137	139	164	204	161	189	234	213
	Pump available static pressure	kPa	100	100	90	130	115	120	105	75	110
	Tank water volume	l	300	300	300	300	300	300	300	300	300
Sound pressure	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
	STD version (5)	dB(A)	59	59	60	60	62	61	61	63	64
Weights	With SL accessory (5)	dB(A)	56	56	57	57	59	58	58	60	61
	Transport weight (6)	kg	384	393	411	423	453	622	658	681	767
	Operating weight (6)	kg	390	400	420	435	470	640	680	705	790
											803

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

CLEARANCE AREAS

CWW/K 182-P-604-P

0	300	800	300
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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



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

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

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

CLEARANCE AREAS

CWW/K 182-604

500 | 500 | 800 | 1500



NOTES

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

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



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
	Absorbed power (1)	kW	3.3	3.7	3.3	5.2	6.0	7.1	7.8	9.3	10.9
Heating	Heating capacity (2)	kW	10.7	13.2	15.5	18.5	22.0	25.9	30.4	36.4	43.0
	Absorbed power (2)	kW	3.0	4.2	4.5	5.5	6.5	7.7	8.3	10.1	11.7
Compressor	Type						Scroll				
	Quantity	n°	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
	Pressure drops	kPa	20	25	35	28	35	39	40	45	40
Connections	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	1"	1"
	Delivery line	Ø mm	12	12	16	16	16	16	22	22	22
Connections	Liquid line	Ø mm	10	10	12	12	12	12	12	12	16
	Power supply	V/Ph/Hz	230/1/50				400/3+N/50				
Electrical characteristics	Max. running current	A	16	22	9	11	14	15	18	20	23
	Max. starting current	A	75	86	50	71	74	74	142	142	147
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
	Pump available static pressure	kPa	70	60	180	170	140	110	215	130	155
Unit SP versions	Tank water volume	l	50	50	50	50	50	50	100	100	100
	Water connections	"G	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
	Transport weight (4)	kg	84	87	86	89	91	93	183	189	195
Weights	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
	SP	mm	550	550	550	550	550	550	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREAS

MEA/K 31÷151

200 | 500 | 800 | 500



MEA/K/SP 31÷151

500 | 800 | 800 | 800



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



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.



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
	Absorbed power (1)	kW	15.4	17.3	19.0	21.6	25.8	29.4	32.9	38.7	43.5
Heating	Heating capacity (2)	kW	59.5	65.8	74.3	84.7	96.5	107	122	148	157
	Absorbed power (2)	kW	18.0	20.0	22.3	24.7	27.8	32.8	37.2	41.1	50.8
Compressor	Quantity	n°	2	2	2	2	2	3	3	4	4
	Refrigerant circuits	n°	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
	Pressure drops	kPa	47	42	41	42	40	48	44	51	41
	Water connections	"G	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Connections	Delivery line	Ø mm	28	28	28	28	28	28	28	2 x 28	2 x 28
	Liquid line	Ø mm	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
Unit with tank and pump	Max. starting current	A	128	137	139	164	204	161	189	234	213
	Pump available static pressure	kPa	105	110	100	135	120	130	120	110	120
Sound pressure	Tank water volume	l	300	300	300	300	300	300	300	300	300
	Expansion vessel	l	12	12	12	12	12	12	12	12	12
Weights	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"
	STD version (3)	dB(A)	59	59	60	60	62	61	61	63	64
	With SL accessory (3)	dB(A)	56	56	57	57	59	58	58	60	61
	Transport weight (4)	kg	347	357	376	386	397	562	581	595	669
	Transport weight (5)	kg	567	577	596	606	617	782	811	825	899
	Operating weight (4)	kg	350	360	380	390	405	570	590	605	720
	Operating weight (5)	kg	870	880	900	910	925	1090	1120	1135	1210

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
W	UNIT	mm	680	680	680	680	680	680	680	680	680
	UNIT + SPU/SPD	mm	680	680	680	680	680	680	680	680	680
H	UNIT	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520
	UNIT + SPU/SPD	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREAS

MEA/K 182-P÷604-P

0	300	800	300
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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

CLINT

**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, terminals 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	m ³ /s	1.38	1.43	2.23	2.07	2.83	4.58	4.38	4.17
	Quantity	n°	1	1	1	1	1	1	1	2
Connections	In	Ø mm	22	22	22	28	28	28	35	35
	Out	Ø mm	18	18	18	18	22	22	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	1.26
	Absorbed current	A	0.97	0.63	1.45	1.45	1.25	3.20	3.20	2.50
Sound pressure	STD version (1)	dB(A)	43	42	53	53	48	60	60	50
Weights	Transport weight	kg	102	102	102	108	183	183	196	206

MODEL		6122	6123	6124	6125	6131	6132	8221	8222
Fan	Air flow	m ³ /s	5.41	9.15	8.76	8.34	13.73	13.14	19.50
	Quantity	n°	2	2	2	2	3	3	4
Connections	In	Ø mm	42	35	42	42	54	2 X 35	2 X 35
	Out	Ø mm	35	28	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	7.20
	Absorbed current	A	2.50	6.40	6.40	6.40	9.60	9.60	11.60
Sound pressure	STD version (1)	dB(A)	50	62	62	62	64	64	57
Weights	Transport weight	kg	230	206	230	253	352	373	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

**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	71	81	91	101	131	151			
RCA/K/EC/SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123			
MEA/K	71	81	91	101	131	151			
RCA/K/VX/SSL	1x6111	1x6112	1x6113	1x6121	1x6122	1x6123			
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/SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	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/SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	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/SSL	1x6124	1x6131	1x6132	1x6133	1x6141	1x8121	1x8131	1x8132	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/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	m ³ /s	1.45	1.74	1.61	3.14	2.90	3.48	3.34
	Quantity	n°	1	1	1	1	2	2	3
Connections	In	Ø mm	28	28	35	28	35	35	42
	Out	Ø mm	22	22	28	22	28	28	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
	Absorbed current	A	0.27	0.55	0.55	2.20	0.54	1.10	1.10
Sound pressure	SSL version (1)	dB(A)	37	43	43	54	39	45	41
Weights	Transport weight	kg	183	183	206	183	206	230	352

MODEL		6132	6133	6141	8121	8131	8132	8221	8222
Fan	Air flow	m ³ /s	5.22	5.02	6.95	7.30	12.27	11.56	17.90
	Quantity	n°	3	3	4	2	3	3	4
Connections	In	Ø mm	42	54	35	42	42	54	2 X 35
	Out	Ø mm	35	35	28	35	35	42	2 x 28
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
	Absorbed current	A	1.65	1.65	2.20	4.44	6.66	6.66	8.80
Sound pressure	SSL version (1)	dB(A)	47	47	48	51	53	53	50
Weights	Transport weight	kg	352	373	470	503	629	677	642

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

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

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



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

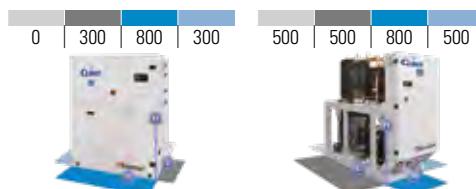
MODEL		262-P	302-P	402-P	522-P	602-P	804-P	1044-P	1204-P
Heating	Heating capacity (1)	kW	126	147	192	238	293	368	459
	Absorbed power (1)	kW	29.6	34.9	46.5	57.7	70.3	92.8	114
	COP (1)		4.26	4.21	4.13	4.12	4.17	3.97	4.03
Heating (EN14511)	Heating capacity (1)	kW	126	147	192	238	293	368	459
	Absorbed power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

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
W	STD	mm	680	680	680	680	800	800	800
H	STD	mm	1520	1520	1520	1520	1900	1900	1900

CLEARANCE AREAS

CWW/Y/BH 81-P-602-P

CWW/Y/BH 804-P-1204-P



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.



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
RT	Total heat recovery
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet 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

MODEL		726-P	786-P	826-P	906-P	1048-P	1128-P
Cooling	Cooling capacity (1)	kW	224	250	274	308	345
	Absorbed power (1)	kW	52	57	63	70	78
	EER (1)		4.31	4.39	4.35	4.40	4.42
Cooling (EN14511)	Cooling capacity (1)	kW	223	249	273	307	343
	EER (1)		4.08	4.16	4.11	4.17	4.20
	SEER (2)		5.27	5.52	5.56	5.87	5.61
Heating	Energy Efficiency (2)	%	203	213	214	227	216
	Heating capacity (3)	kW	290	320	349	394	437
	Absorbed power (3)	kW	66	74	80	88	101
Heating (EN14511)	COP (3)		4.39	4.32	4.36	4.48	4.33
	Heating capacity (3)	kW	291	321	350	396	438
	COP (3)		4.31	4.14	4.30	4.41	4.29
Compressor	SCOP (4)		5	5	5	6	6
	Energy Efficiency (4)	%	201	206	212	212	223
	Quantity	n°	3+3	3+3	3+3	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2
	Capacity steps	n°			6		8
	Water flow	l/s	10.70	11.94	13.09	14.72	16.48
Evaporator	Pressure drops	kPa	54	51	56	56	60
	Water connections	DN	80	80	80	80	80
	Water flow	l/s	13.19	14.67	16.10	18.06	20.21
Condenser	Pressure drops	kPa	70	74	81	76	67
	Water connections	DN	80	80	80	80	80
	Power supply	V/Ph/Hz			400/3/50		
Electrical characteristics	Max. running current	A	136	151	163	176	201
	Max. starting current	A	261	284	331	344	334
Sound pressure	STD version (5)	dB(A)	68	70	71	71	72
	With SL accessory (5)	dB(A)	65	66	67	67	68
	SSL version (5)	dB(A)	61	62	63	63	64
Weights	Transport weight	kg	1047	1103	1123	1159	1352
	Operating weight	kg	1080	1140	1160	1200	1400
							1422

DIMENSIONS	726-P	786-P	826-P	906-P	1048-P	1128-P
L	STD/SSL	mm	2500	2500	2500	3000
W	STD/SSL	mm	800	800	800	800
H	STD/SSL	mm	1900	1900	1900	1900

CLEARANCE AREAS

CWW/K 726-P-1128-P

500	500	800	500
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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.

CWW/K 726÷1128



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

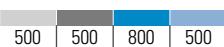
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MODEL		726	786	826	906	1048	1128
Cooling	Cooling capacity (1)	kW	225	248	271	302	343
	Absorbed power (1)	kW	53	57	64	72	79
	EER (1)		4.25	4.35	4.23	4.19	4.34
Cooling (EN14511)	Cooling capacity (1)	kW	225	248	271	302	343
	EER (1)		4.25	4.35	4.23	4.19	4.34
	SEER (2)		5.31	5.52	5.52	5.67	5.58
Heating	Energy Efficiency (2)	%	204	213	213	219	215
	Heating capacity (3)	kW	291	317	345	386	434
	Absorbed power (3)	kW	67	74	81	91	102
Heating (EN14511)	COP (3)		4.34	4.28	4.26	4.24	4.25
	Heating capacity (3)	kW	293	319	346	387	436
	COP (3)		4.25	4.14	4.17	4.16	4.15
Compressor	SCOP (4)		5	5	5	5	5
	Energy Efficiency (4)	%	189	200	197	191	202
	Quantity	n°	3+3	3+3	3+3	3+3	4+4
	Refrigerant circuits	n°	2	2	2	2	2
	Capacity steps	n°			6		8
	Water flow	l/s	10.75	11.85	12.95	14.43	16.39
Evaporator	Pressure drops	kPa	38	38	24	27	31
	Water connections	DN	125	125	150	150	150
	Water flow	l/s	13.28	14.57	16.01	17.87	20.16
Condenser	Pressure drops	kPa	31	28	31	36	35
	Water connections	DN	65	65	65	65	65
	Power supply	V/Ph/Hz			400/3/50		
Electrical characteristics	Max. running current	A	136	151	163	176	201
	Max. starting current	A	261	284	331	344	334
Sound pressure	STD version (5)	dB(A)	68	69	70	71	71
	With SL accessory (5)	dB(A)	64	65	67	67	67
	SSL version (5)	dB(A)	60	61	63	63	64
Weights	Transport weight	kg	1370	1399	1544	1554	1819
	Operating weight	kg	1470	1500	1680	1690	1950
							2024
							2230

DIMENSIONS	726	786	826	906	1048	1128
L STD/SSL	mm	3000	3000	3000	3000	3000
W STD/SSL	mm	800	800	800	1350	1350
H STD/SSL	mm	1900	1900	1900	1900	1900

CLEARANCE AREAS

CWW/K 726÷1128



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.



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.



MAXI POWER *INVERTER SCREW* *HFO R1234ze*

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

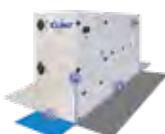
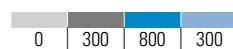
CR	Remote control panel
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
AG	Rubber shock absorbers
AG1	Rubber shock absorbers for SPU and SPD modules
AM	Spring shock absorbers
AM1	Spring shock absorbers for SPU and SPD modules

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

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

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

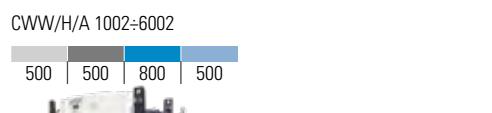
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MODEL		1002	1202	1402	1602	1802	2202	2502
Cooling	Cooling capacity (1)	kW	234	310	375	437	488	558
	Absorbed power (1)	kW	44	57	66	80	89	100
	EER (1)		5.32	5.44	5.68	5.46	5.48	5.58
Cooling (EN14511)	Cooling capacity (1)	kW	233	309	373	436	487	557
	Absorbed power (1)	kW	45	59	68	83	92	103
	EER (1)		5.18	5.23	5.46	5.27	5.32	5.39
	SEER (2)		5.68	5.84	5.93	5.88	5.90	5.91
	Energy Efficiency (2)	%	253	260	264	262	264	266
	SEER with ID accessory (2)		6.53	6.71	6.81	6.76	6.79	6.80
Compressor	Energy Efficiency with ID accessory (2)	%	253	260	264	262	264	266
	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	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
	Pressure drops	kPa	36	37	42	39	32	31
	Water connections	DN	125	150	150	150	200	200
Condenser	Water flow	l/s	13.28	17.53	21.07	24.70	27.57	31.44
	Pressure drops	kPa	17	28	34	36	36	32
	Water connections	DN	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
	Max. starting current	A	199	257	318	373	420	504
Sound pressure	STD version (3)	dB(A)	76	76	76	76	76	76
	SSL version (3)	dB(A)	72	72	72	72	72	72
Weights	Transport weight	kg	2140	2445	2640	2860	3090	3230
	Operating weight	kg	2300	2660	2840	3100	3420	3550

MODEL		2802	3302	3602	4602	4802	5402	6002
Cooling	Cooling capacity (1)	kW	736	868	980	1160	1278	1475
	Absorbed power (1)	kW	131	154	174	222	242	275
	EER (1)		5.62	5.64	5.63	5.23	5.28	5.36
Cooling (EN14511)	Cooling capacity (1)	kW	734	866	977	1157	1274	1469
	Absorbed power (1)	kW	135	159	180	229	250	285
	EER (1)		5.42	5.45	5.44	5.06	5.10	5.16
	SEER (2)		6.02	6.11	6.07	6.14	6.21	6.33
	Energy Efficiency (2)	%	269	273	271	274	278	283
	SEER with ID accessory (2)		6.92	7.02	6.98	7.06	7.14	7.28
Compressor	Energy Efficiency with ID accessory (2)	%	269	273	271	274	278	283
	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	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
	Pressure drops	kPa	45	39	38	39	49	57
	Water connections	DN	200	200	250	250	250	250
Condenser	Water flow	l/s	41.42	48.83	55.14	66.03	72.62	83.61
	Pressure drops	kPa	34	37	37	37	37	35
	Water connections	DN	100	100	100	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50		
	Max. running current	A	436	489	549	701	761	873
	Max. starting current	A	576	692	782	1144	1174	1372
Sound pressure	STD version (3)	dB(A)	77	78	79	80	80	81
	SSL version (3)	dB(A)	73	74	75	76	76	78
	Transport weight	kg	4560	5205	5670	6950	7080	9060
Weights	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
	SSL	mm	3700	3700	3700	3900	3900	3900
W	STD	mm	1000	1100	1100	1150	1200	1200
	SSL	mm	1200	1250	1250	1350	1350	1400
H	STD	mm	1800	1800	1900	1950	2000	2050
	SSL	mm	1800	1950	2050	2100	2150	2300
DIMENSIONS		2802	3302	3602	4602	4802	5402	6002
L	STD	mm	4900	4900	4900	5300	5300	5550
	SSL	mm	4900	4900	4900	5300	5300	5550
W	STD	mm	1200	1300	1300	1400	1400	2000
	SSL	mm	1400	1450	1450	1550	1550	2150
H	STD	mm	2150	2250	2300	2450	2450	2550
	SSL	mm	2300	2400	2450	2600	2650	2700

CLEARANCE AREAS		NOTES						
CWW/H/A 1002-6002		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

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

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
	Absorbed power (1)	kW	46.2	58.1	65.4	78.1	85.0	101	121
	EER (1)		5.41	5.28	5.49	5.47	5.87	5.66	5.58
Cooling (EN14511)	Cooling capacity (1)	kW	250	307	359	427	499	571	674
	Absorbed power (1)	kW	47.6	60.0	67.7	80.7	88.4	104	125
	EER (1)		5.25	5.12	5.30	5.29	5.64	5.49	5.39
Compressor	SEER (2)		6.35	6.55	6.71	6.68	6.87	6.98	6.87
	Energy Efficiency (2)	%	246	254	260	259	267	267	271
	Quantity	n°	2	2	2	2	2	2	2
Evaporator	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°					Stepless		
	Water flow	l/s	11.94	14.67	17.15	20.40	23.84	27.33	32.25
Condenser	Pressure drops	kPa	43	37	40	39	34	38	52
	Water connections	DN	125	150	150	150	200	200	200
	Water flow	l/s	14.15	17.44	20.28	24.13	27.90	32.15	38.03
Electrical characteristics	Pressure drops	kPa	19	27	32	35	37	37	40
	Water connections	DN	80	80	80	80	80	100	100
	Power supply	V/Ph/Hz				400/3/50			
Sound pressure	Max. running current	A	184	182	210	240	278	306	392
	Max. starting current	A	200	218	245	282	347	383	471
	STD version (3)	dB(A)	75	75	75	75	76	76	76
Weights	SSL version (3)	dB(A)	71	71	71	71	72	72	72
	Transport weight	kg	1983	2254	2423	2625	2943	3039	3715
	Operating weight	kg	2140	2460	2620	2860	3260	3350	4110
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
	Absorbed power (1)	kW	157	182	205	235	255	293	355
	EER (1)		5.74	5.71	5.77	5.71	5.87	5.67	5.36
Cooling (EN14511)	Cooling capacity (1)	kW	901	1039	1182	1341	1496	1661	1901
	Absorbed power (1)	kW	163	188	212	243	265	301	366
	EER (1)		5.53	5.53	5.58	5.52	5.65	5.52	5.19
Compressor	SEER (2)		6.99	7.07	7.23	7.21	7.29	7.22	7.12
	Energy Efficiency (2)	%	272	275	281	280	284	281	277
	Quantity	n°	2	2	2	2	2	2	2
Evaporator	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°					Stepless		
	Water flow	l/s	43.05	49.69	56.52	64.12	71.52	79.41	90.87
Condenser	Pressure drops	kPa	43	44	42	52	59	40	50
	Water connections	DN	200	250	250	250	250	250	300
	Water flow	l/s	50.55	58.38	66.32	75.35	83.71	93.41	108
Electrical characteristics	Pressure drops	kPa	39	41	37	40	35	32	42
	Water connections	DN	100	100	125	125	125	125	125
	Power supply	V/Ph/Hz			400/3/50				
Sound pressure	Max. running current	A	528	590	672	770	730	804	1296
	Max. starting current	A	564	653	784	893	912	992	1583
	STD version (3)	dB(A)	77	77	77	78	79	81	82
Weights	SSL version (3)	dB(A)	73	73	73	74	75	75	78
	Transport weight	kg	4862	5259	6070	6315	7843	8263	9713
	Operating weight	kg	5520	6040	6820	7110	8790	9250	10700

DIMENSIONS		1002-T	1202-T	1402-T	1602-T	1802-T	2202-T	2502-T	2802-T
L	STD/SSL	mm	3700	3700	3700	3900	3900	3900	4900
	SSL	mm	1000	1100	1100	1150	1200	1200	1200
W	STD	mm	1200	1250	1250	1350	1350	1400	1400
	SSL	mm	1800	1950	2050	2100	2150	2200	2300
H	STD	mm	1800	1950	2050	2100	2150	2200	2300
	SSL	mm	1800	1950	2050	2100	2150	2200	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
	SSL	mm	1300	1300	1400	1400	2000	2000	2000
W	STD	mm	1450	1450	1550	1550	2150	2150	2150
	SSL	mm	2400	2450	2600	2600	2650	2700	2700
H	STD	mm	2400	2450	2600	2600	2650	2700	2700
	SSL	mm	2400	2450	2600	2600	2700	2700	2700

CLEARANCE AREAS

CWW/Y/A 1002-T÷7202-T

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.

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

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
Compressor	Energy Efficiency with ID accessory (2)	%	241	243	243	254	254	253	254	255	254
	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	4.65	
	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
Compressor	Energy Efficiency with ID accessory (2)	%	259	259	262	265	276	276	273	273	273
	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	2200	2200	2200	2200	2200

CLEARANCE AREAS

CWW/Y 1302-B÷9002-B

500 | 500 | 800 | 500

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	
	Refrigerant circuits	n°	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	77	78	
	SSL version (2)	dB(A)	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	
	Refrigerant circuits	n°	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	
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	
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	4300
W	STD	mm	800	800	800	800	800	1080	1080	1080
	SSL	mm	800	800	800	800	800	1080	1080	1080
H	STD	mm	1700	1700	1700	1700	1700	2100	2100	2100
	SSL	mm	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
W	STD	mm	1080	1080	1080	1080	1080	1400	1400	1400
	SSL	mm	1080	1080	1080	1080	1080	1450	1450	1500
H	STD	mm	2100	2100	2100	2100	2100	2100	2200	2200
	SSL	mm	2100	2100	2100	2100	2100	2200	2300	2300

CLEARANCE AREAS		NOTES								
MEA/Y 1302-B:9002-B		<p>1 Chilled water from 12 to 7 °C, condensing temperature 50 °C.</p> <p>2 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.</p> <p>N.B. Weights of SSL version are specified on technical brochure.</p>								

500 | 500 | 800 | 500



Electrical board side



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, terminals 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		

RCA/Y 8141÷9282

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

MODEL		8271	8281	8282	9271	9272	9281	9282
Fan	Air flow	m ³ /s	75.2	86.0	79.6	96.7	102	111
	Quantity	n°	14	16	16	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
	Out	Ø mm	2 x 54	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	25.2	28.8	28.8	34.3	34.3	39.2
	Absorbed current	A	54.6	62.4	62.4	72.8	72.8	115
Sound pressure	STD version (1)	dB(A)	61	62	62	66	66	72
Weights	Transport weight	kg	2349	2681	2907	4851	4567	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	2262	2262	2262	2262
	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

**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 Inverter 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, terminals 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/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/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/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	1x9271	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/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	1x9271	1x9281	2x9281		

MODEL			8231	8232	8241	8242	8251	8261	8271	8281	9261	9271	9281
Fan	Air flow	m ³ /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
Sound pressure	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
	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	-	-	-	-
	VX/SSL	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	SSL	mm	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.



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

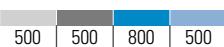
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MODEL		1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
Cooling	Cooling capacity (1)	kW	321	639	958	1279	1601
	Absorbed power (1)	kW	54	108	162	216	271
	EER (1)		5.94	5.92	5.91	5.92	5.91
Cooling (EN14511)	Cooling capacity (1)	kW	320	637	955	1276	1595
	Absorbed power (1)	kW	56	110	165	220	277
	EER (1)		5.71	5.79	5.79	5.80	5.76
	SEER (2)		8.55	8.67	8.83	9.53	9.75
Compressor	Energy Efficiency (2)	%	334	339	345	373	382
	Quantity	n°	1	2	3	4	5
	Refrigerant circuits	n°	1	1	1	1	1
Evaporator	Capacity steps	n°			Stepless		
	Water flow	l/s	15.34	30.53	45.77	61.11	76.49
	Pressure drops	kPa	45	46	45	34	52
	Water connections	DN	100	125	150	150	200
Condenser	Water flow	l/s	17.93	35.69	53.51	71.43	89.44
	Pressure drops	kPa	49	50	49	50	55
	Water connections	DN	100	125	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50		
	Max. running current	A	150	300	450	600	750
Sound pressure	Max. starting current	A	5	155	305	455	605
	STD version (3)	dB(A)	72	74	76	76	78
Weights	Transport weight	kg	1798	2837	3924	6408	7741
	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
W	STD	mm	1100	1150	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2150

CLEARANCE AREAS

CWW/TTH 1701-1÷6606-1



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.



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

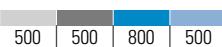
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MODEL		1701-1	2202-1	3303-1	4404-1	5505-1	6606-1
Cooling	Cooling capacity (1)	kW	301	603	899	1203	1499
	Absorbed power (1)	kW	71	142	212	283	354
	EER (1)		4.24	4.25	4.24	4.25	4.25
Cooling (EN14511)	Cooling capacity (1)	kW	300	601	896	1200	1494
	Absorbed power (1)	kW	72	144	215	286	359
	EER (1)		4.17	4.17	4.17	4.20	4.16
	SEER (2)		8.55	8.67	8.83	9.53	9.75
Compressor	Energy Efficiency (2)	%	334	339	345	373	382
	Quantity	n°	1	2	3	4	5
	Refrigerant circuits	n°	1	1	1	1	1
Evaporator	Capacity steps	n°			Stepless		
	Water flow	l/s	14.38	28.81	42.95	57.48	71.62
	Pressure drops	kPa	41	42	41	30	47
	Water connections	DN	100	125	150	150	200
Condenser	Water flow	l/s	19.4	38.8	58.0	77.7	96.7
	Pressure drops	kPa	55	56	55	56	62
	Water connections	DN	100	125	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50		
	Max. running current	A	150	300	450	600	750
	Max. starting current	A	5	155	305	455	605
Sound pressure	STD version (3)	dB(A)	72	74	76	76	78
Weights	Transport weight	kg	1849	2919	4065	6587	7942
	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
W	STD	mm	1100	1150	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2150

CLEARANCE AREAS

CWW/TTH/DR 1701-1-6606-1



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.



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

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
	Absorbed power (1)	kW	55	71	85	110	121	141	166	170	213
	EER (1)		5.80	5.93	6.11	5.84	5.88	5.94	5.80	6.12	5.92
Cooling (EN14511)	Cooling capacity (1)	kW	318	420	517	640	710	835	958	1036	1255
	Absorbed power (1)	kW	55	72	87	112	123	143	167	174	216
	EER (1)		5.78	5.83	5.94	5.71	5.77	5.84	5.74	5.95	5.81
Compressor	SEER (2)		8.15	8.45	8.83	8.66	8.79	8.40	8.40	8.78	9.13
	Energy Efficiency (2)	%	318	330	345	338	344	328	328	343	357
	Quantity	n°	1	1	1	2	2	3	2	3	2
Evaporator	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°						Stepless			
	Water flow	l/s	15.24	20.11	24.80	30.67	34.02	40.04	45.96	49.69	60.20
Condenser	Pressure drops	kPa	46	48	50	49	42	53	57	53	45
	Water connections	DN	100	100	100	125	125	125	150	150	150
	Water flow	l/s	17.87	23.51	28.86	35.93	39.80	46.77	53.89	57.81	70.38
Electrical characteristics	Pressure drops	kPa	46	45	37	45	38	46	47	48	47
	Water connections	DN	100	100	125	125	125	125	150	150	150
	Power supply	V/Ph/Hz					400/3/50				
Sound pressure	Max. running current	A	145	231	187	290	462	462	435	374	693
	Max. starting current	A	2	2	2	147	233	233	292	189	464
	STD version (3)	dB(A)	72	74	74	75	76	77	76	76	77
Weights	Transport weight	kg	1795	2060	2360	2870	3225	3325	3715	3540	4235
	Operating weight	kg	1920	2230	2580	3120	3560	3660	4070	3940	4720
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
	Absorbed power (1)	kW	238	257	281	295	306	341	396	411	511
	EER (1)		6.00	6.08	5.96	6.06	6.35	6.10	6.02	6.33	6.34
Cooling (EN14511)	Cooling capacity (1)	kW	1423	1559	1671	1783	1939	2075	2376	2592	3234
	Absorbed power (1)	kW	242	260	286	298	311	346	401	419	522
	EER (1)		5.88	6.00	5.84	5.98	6.23	6.00	5.93	6.19	6.20
Compressor	SEER (2)		9.01	8.81	9.24	9.52	9.58	9.58	9.20	9.22	9.50
	Energy Efficiency (2)	%	352	344	362	373	375	375	360	361	373
	Quantity	n°	3	3	4	3	3	4	4	4	6
Evaporator	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°						Stepless			
	Water flow	l/s	68.18	74.68	80.08	85.38	92.88	99.38	114	124	155
Condenser	Pressure drops	kPa	45	54	48	28	36	36	37	48	62
	Water connections	DN	200	200	200	200	200	200	250	250	300
	Water flow	l/s	79.55	86.96	93.50	99.47	108	116	133	144	179
Electrical characteristics	Pressure drops	kPa	42	49	35	36	45	46	36	46	52
	Water connections	DN	200	200	200	200	200	250	250	250	300
	Power supply	V/Ph/Hz				400/3/50					
Sound pressure	Max. running current	A	561	561	924	630	630	748	840	840	1050
	Max. starting current	A	376	376	695	422	422	563	632	632	842
	STD version (3)	dB(A)	78	78	79	78	78	78	79	80	80
Weights	Transport weight	kg	4725	4825	7355	7730	7880	8350	9330	9430	14440
	Operating weight	kg	5310	5410	8190	8760	8910	9400	10520	10620	16590

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	3450	3450
W STD	mm	1100	1150	1150	1150	1250	1250	1700	1300	1800
H STD	mm	1800	1850	1950	1950	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	4750	4750	5750	6750
W STD	mm	1800	1800	1750	1800	1800	1800	1800	1950	2100
H STD	mm	2100	2100	2100	2150	2150	2200	2200	2350	2400

CLEARANCE AREAS	NOTES
CWW/TTY 1601-1÷14406-1	
500 500 800 500	
	

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.



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)
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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

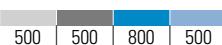
CR	Remote control panel
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

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
	Absorbed power (1)	kW	70	92	141	186	211	277
	EER (1)		4.26	4.29	4.24	4.26	4.24	4.26
Cooling (EN14511)	Cooling capacity (1)	kW	297	394	596	789	891	1180
	Absorbed power (1)	kW	71	94	144	189	214	282
	EER (1)		4.18	4.19	4.14	4.17	4.16	4.20
	SEER (2)		8.15	8.45	8.66	8.40	8.40	8.67
Compressor	Energy Efficiency (2)	%	318	330	338	328	328	339
	Quantity	n°	1	1	2	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1
Evaporator	Capacity steps	n°				Stepless		
	Water flow	l/s	14.24	18.87	28.57	37.84	42.71	56.62
	Pressure drops	kPa	44	45	48	50	54	56
	Water connections	DN	100	100	125	125	150	150
Condenser	Water flow	l/s	19.20	25.40	38.55	51.02	57.64	76.26
	Pressure drops	kPa	58	52	57	53	59	52
	Water connections	DN	100	100	125	125	150	150
Electrical characteristics	Power supply	V/Ph/Hz			400/3/50			
	Max. running current	A	145	231	290	462	435	693
	Max. starting current	A	2	2	147	233	292	464
Sound pressure	STD version (3)	dB(A)	72	74	75	76	76	78
Weights	Transport weight	kg	1840	2115	2955	3430	3855	4415
	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	3450	4500
W	STD	mm	1100	1150	1150	1250	1700	1750
H	STD	mm	1800	1850	1950	2000	2050	2100

CLEARANCE AREAS

CWW/TTY/DR 1601-1÷6204-1



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.



CHAPTER 4

HYDRONIC MODULES

UNIT	Page
MR 30÷70	162 - 163
MR 1500÷2500	164 - 165

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30 L TO 70 L

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.

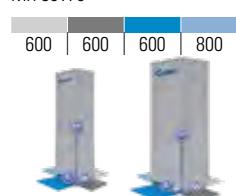
MR 30-70

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
W	STD	mm	320
H	STD	mm	1100

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 antifreeze 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
Operating weight	STD+PD5	kg	1055	990
	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
Nominal absorbed power	STD+PD4	kg	2328	3380
	STD+PD5	kg	2557	3492
	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
Max. running current	PD4	kW	30	30
	PD5	kW	44	44
	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
W	STD	mm	2260
H	STD	mm	1780

CLEARANCE AREAS

MR 1500÷2500

800	800	800	800
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Electrical board side



CHAPTER 5

PACKAGED ROOFTOP UNITS

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

The single skin packaged RoofTop 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 efficiency ePM1 50% (F7)
FT8	Plate filters efficiency 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 (CO ₂)
SQV	Air quality probe (CO ₂ +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.

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

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

CLEARANCE AREAS

RTQ/IK/EC 101÷181

1500	1000	1000	1000
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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



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

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

The single skin packaged RoofTop 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 efficiency ePM10 75% (M6)
FT7	Plate filters efficiency ePM1 50% (F7)
FT8	Plate filters efficiency 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

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

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

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
	Absorbed power (1),(2)	kW	18.6	21.7	25.2	28.1	31.0	38.1	42.6
Heating (EN14511)	SCOP with ECA accessory (3)		3.24	3.26	3.26	3.30	3.30	3.26	3.28
	Energy Efficiency with ECA Accessory (3)	%	127	127	127	129	129	127	128
Cooling	Cooling capacity (4)	kW	64.9	73.8	85.6	96.8	111	128	147
	Absorbed power (4),(2)	kW	20.9	24.2	27.2	30.0	35.4	41.1	45.9
Cooling (EN14511)	SEER with ECA accessory (5)		3.53	3.54	3.54	3.58	3.55	3.57	3.63
	Energy Efficiency with ECA Accessory (5)	%	138	139	139	140	139	140	142
Air treatment section	Air flow	m³/h	9000	10000	12000	12950	15950	15950	20950
	Available static pressure	Pa	200	200	200	200	200	200	200
	Fan	n°	1	1	1	1	2	2	2
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/h	7200	7950	9600	10400	12750	12750	16950
	Available static pressure	Pa	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1
Condensing section	Compressor	n°	2	2	2	2	2	3	3
	Refrigerant circuits	n°	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
	Air pressure drops	Pa	16	19	26	30	43	43	68
	Water flow (6)	l/s	1.56	1.64	1.79	1.89	2.03	2.03	2.46
	Water pressure drops	kPa	12	14	15	17	18	18	24
	Water connections	"G	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
	Max absorbed current	A	30	39	39	39	59	59	69
	Steps	n°	2	2	2	2	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50			
	Max. running current	A	44	48	57	61	70	85	97
	Max. starting current	A	168	170	180	193	237	208	229
Sound pressure	STD version (7)	dB(A)	67	68	71	73	73	71	74
	With SL accessory (7)	dB(A)	64	65	68	70	70	68	71
Weights	Transport weight	kg	1280	1315	1370	1380	1475	1570	1920
	Operating weight	kg	1265	1300	1355	1365	1460	1555	1900
	Transport weight MS version	kg	1320	1350	1395	1415	1515	1610	1940
	Operating weight MS version	kg	1305	1335	1380	1400	1500	1595	1920
	Transport weight ECO version	kg	1370	1400	1445	1465	1565	1660	1990
	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	3930	3930
W	STD/MS/ECO	mm	2200	2200	2200	2200	2200	2200	2200
H	STD/MS/ECO	mm	2395	2395	2395	2395	2395	2400	2400

CLEARANCE AREAS

RTA/K/EC/WP 182-R÷453-R

1000	1800	1000	1000
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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



AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	136
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	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				
	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
Hot water coil	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	45
	Water connections	"G	1½	1½	1½	1½	1½	2"	2"	2"	2"	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
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	79
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	138	139	190	190	203	253	245	245	272	327
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70
Weights	Transport weight	kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400
	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	6800
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	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.



AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	136
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	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				
	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
Hot water coil	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	79
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	138	139	190	190	203	253	245	245	272	327
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70
Weights	Transport weight	kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520
	Operating weight	kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500
												3465

DIMENSIONS		172	192	212	232	272	302	352	372	484	574	724
L	STD	mm	3880	3880	4040	4040	4040	4500	5220	5220	5220	7250
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/IK/EC/MS 172-302

RTA/IK/EC/MS 352-724

800 | 1700 | 800 | 1700

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.



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

DOUBLE SKIN PACKAGED ROOFTOP 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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	136
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70
Weights	Transport weight	kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370
	Operating weight	kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335
												4190

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
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/IK/EC/ECO 172-302

RTA/IK/EC/ECO 352-724

800 | 1700 | 800 | 1700

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.



AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 silencing
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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

MODEL		172	192	212	232	272	302	352	372	484	574	724
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	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
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	136
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70
Weights	Transport weight	kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590
	Operating weight	kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555
												4390

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
W STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/IK/EC/ECO/REC-FX
172÷302RTA/IK/EC/ECO/REC-FX
352÷724

800 | 1700 | 800 | 1700

1000 | 1700 | 1000 | 1700



Electrical board side

NOTES

1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.

2 Excluded the power absorbed by fans of air treatment section.

3 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.

4 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.

5 Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.

6 Inlet air temperature 20 °C, water temperature 70/60 °C.

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

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



AIRMAXI INVERTER SCROLL
EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 silencing
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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	136
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	147	148	199	199	220	270	262	262	291	361
Sound pressure	STD version (7)	dB(A)	68	69	68	69	70	72	74	74	73	73
	With SL accessory (7)	dB(A)	65	66	65	66	67	69	71	71	70	70
Weights	Transport weight	kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590
	Operating weight	kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555
												4390

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
W STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/IK/EC/ECO/REC-WH
172÷302RTA/IK/EC/ECO/REC-WH
352÷724

800 | 1700 | 800 | 1700

1000 | 1700 | 1000 | 1700



Electrical board side

NOTES

1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.

2 Excluded the power absorbed by fans of air treatment section.

3 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.

4 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.

5 Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.

6 Inlet air temperature 20 °C, water temperature 70/60 °C.

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

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

RTA/K/EC 182÷804



DOUBLE SKIN PACKAGED ROOFTOP 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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	127
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	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	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	79
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	157	172	161	186	226	183	215	261	257	309
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69
Weights	Transport weight	kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400
	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	6800
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/K/EC 182-363

RTA/K/EC 393-804

800 | 1700 | 800 | 1700

1000 | 1700 | 1000 | 1700



Electrical board side

NOTES

- 1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.
- 2 Excluded the power absorbed by fans of air treatment section.
- 3 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.
- 4 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.
- 5 Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.
- 6 Inlet air temperature 20 °C, water temperature 70/60 °C.
- 7 Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP versions are specified on technical brochure.

RTA/K/EC/MS 182÷804



AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	127
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	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	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	45
	Water connections	"G	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	79
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	157	172	161	186	226	183	215	261	257	309
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69
Weights	Transport weight	kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520
	Operating weight	kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500
												3465

DIMENSIONS		182	202	242	262	302	363	393	453	524	604	804
L	STD	mm	3880	3880	4040	4040	4040	4500	5220	5220	5220	7250
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/K/EC/MS 182-363

RTA/K/EC/MS 393-804

800 | 1700 | 800 | 1700

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.



AIRMAXI EC INVERTER PLUG FANS
COIL-BOOST HEAT RECOVERY

DOUBLE SKIN PACKAGED ROOFTOP 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 silencing
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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	127
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69
Weights	Transport weight	kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370
	Operating weight	kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335
												4190

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
W STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/K/EC/ECO 182-363

RTA/K/EC/ECO 393-804

800 | 1700 | 800 | 1700

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.



AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 silencing
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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	127
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1½	1½	1½	1½	1½	2"	2"	2"	2½"	2½"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69
Weights	Transport weight	kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590
	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
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510

CLEARANCE AREAS

RTA/K/EC/ECO/REC-FX
182÷363RTA/K/EC/ECO/REC-FX
393÷804

800 | 1700 | 800 | 1700

1000 | 1700 | 1000 | 1700



Electrical board side

NOTES

1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.

2 Excluded the power absorbed by fans of air treatment section.

3 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.

4 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.

5 Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.

6 Inlet air temperature 20 °C, water temperature 70/60 °C.

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

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



AIRMAXI EC INVERTER PLUG FANS

DOUBLE SKIN PACKAGED ROOFTOP 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 silencing
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 efficiency ePM10 70% (M6)
FT/M7	Soft bag filters efficiency ePM2.5 70% (F7)
FT/M8	Soft bag filters efficiency ePM1 70% (F8)
FT/R6	Rigid bag filters efficiency ePM10 70% (M6)
FT/R7	Rigid bag filters efficiency ePM1 50% (F7)
FT/R8	Rigid bag filters efficiency 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

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
	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
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204
	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
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	127
Air treatment section	Air flow	m³/h	9600	11850	14550	14550	17400	19750	22750	22750	29500	35200
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4
	Filter	Tipo	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
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4
Condensing section	Compressor	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	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35
	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
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57
	Water connections	"G	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2"	2"	2"	2 1/2"	2 1/2"
Electrical heater	Power supply	V/Ph/Hz						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48
	Max absorbed current	A	22	30	39	39	39	59	59	59	59	69
	Steps	n°	2	2	2	2	2	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
	Max. starting current	A	166	181	170	195	243	200	232	278	276	343
Sound pressure	STD version (7)	dB(A)	68	69	68	68	69	71	72	72	72	72
	With SL accessory (7)	dB(A)	65	66	65	65	66	68	69	69	69	69
Weights	Transport weight	kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590
	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
W STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREAS

RTA/K/EC/ECO/REC-WH
182-363RTA/K/EC/ECO/REC-WH
393-804

800 | 1700 | 800 | 1700

1000 | 1700 | 1000 | 1700



Electrical board side

NOTES

1 Evaporator inlet air temperature 27 °C d.b./19 °C w.b.; ambient air temperature 35 °C.

2 Excluded the power absorbed by fans of air treatment section.

3 Seasonal energy efficiency of cooling. According to EU Regulation n. 2016/2281.

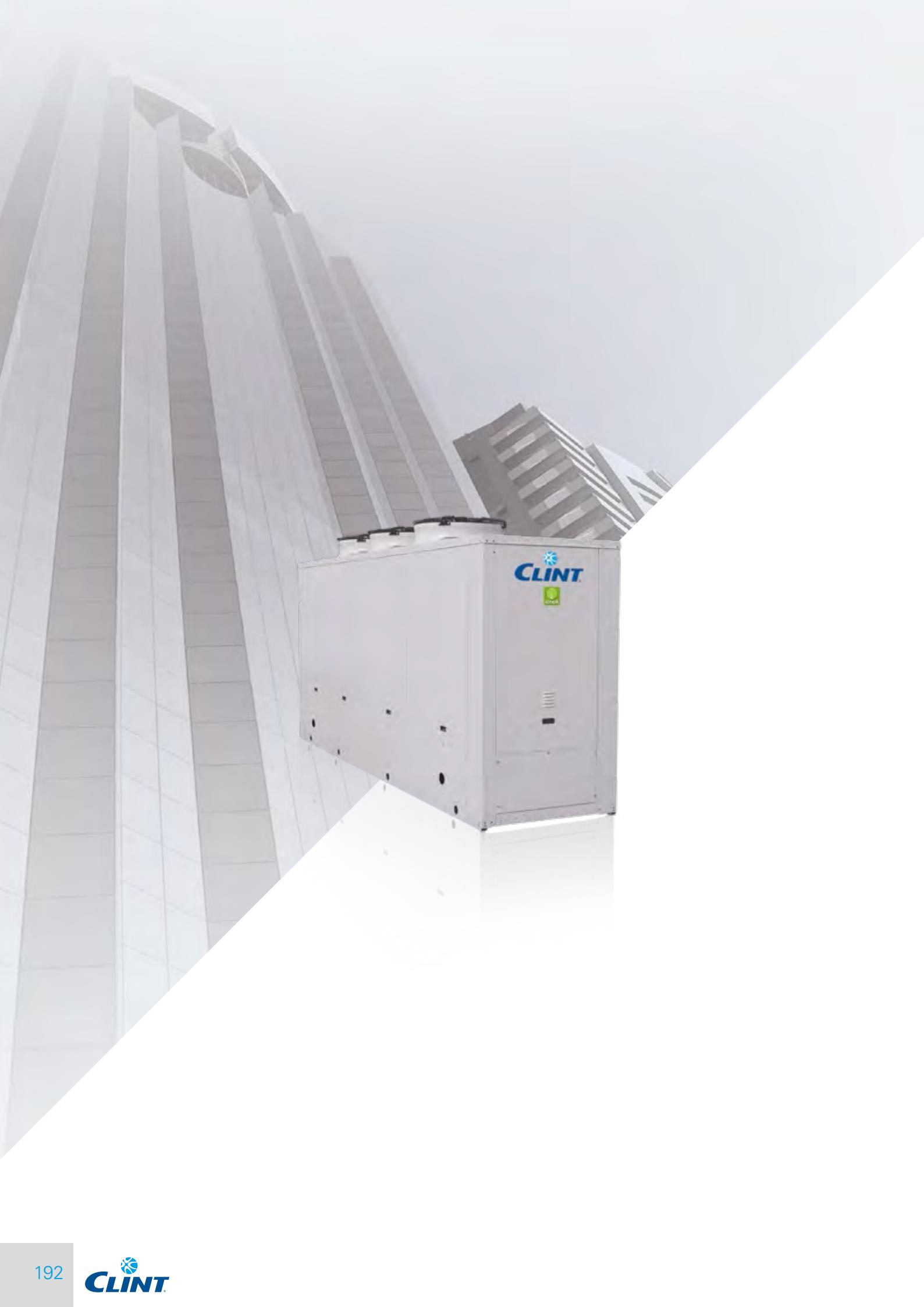
4 Condenser inlet air temperature 20 °C, ambient air temperature 7 °C d.b./6 °C w.b.

5 Seasonal energy efficiency of heating with average climatic conditions. According to EU Regulation n. 2016/2281.

6 Inlet air temperature 20 °C, water temperature 70/60 °C.

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

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



CHAPTER 6

CONDENSING UNITS

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MHA/K 31÷151	194 - 195
MHA/K 182÷604	196 - 197

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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
	Absorbed power (1)	kW	2.9	3.7	4.1	5.1	6.2	7.1	8.6	9.2	11.5
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1
	Type						Scroll				
Condenser	Fan	n°	1	1	2	2	2	1	2	2	2
	Air flow	m ³ /s	0.76	0.76	1.61	1.53	1.53	2.25	4.61	4.61	4.61
Connections	Suction line	Ø mm	16	16	18	18	22	28	28	28	28
	Liquid line	Ø mm	10	10	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	23	29	30	39
	Max. starting current	A	79	86	58	61	58	142	147	142	167
Sound pressure	STD version (2)	dB(A)	53	54	54	55	56	59	61	61	61
Weights	Transport weight	kg	90	92	109	111	113	115	218	232	252
	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
W STD	mm	320	320	500	500	500	500	1000	1000	1000
H STD	mm	1100	1100	1270	1270	1270	1270	1300	1300	1300

CLEARANCE AREAS

MHA/K 31÷41

200	200	800	200
-----	-----	-----	-----



MHA/K 51÷81

200	200	800	200
-----	-----	-----	-----



MHA/K 91÷151

500	800	800	800
-----	-----	-----	-----



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
	Absorbed power (1)	kW	16.8	19.0	22.1	25.3	29.1	34.6	37.6	44.2	51.7
Compressor	Quantity	n°	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	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
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50					
	Max. running current	A	41	44	52	56	64	75	82	93	110
	Max. starting current	A	164	166	175	188	231	199	214	261	242
Sound pressure	STD version (2)	dB(A)	61	61	64	64	65	66	68	69	70
	With SL accessory (2)	dB(A)	59	59	62	62	63	64	66	66	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
	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	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220

CLEARANCE AREAS

MHA/K 182÷604

300	800	800	1800
-----	-----	-----	------



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

UNIT	Page
VXM 123÷614	200 - 201
VXI 123÷614	202 - 203
SXM 113÷443	204 - 205
SXI 113÷443	206 - 207
HWW/EC 22÷42	208 - 209
TXW 132÷284	210 - 211
DWX 183÷364	212 - 213



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	DB2	On board automatic electronic control panel for AC versions
V22M	2-Way modulating valves for 2-pipe system	DBH1	On board configurable electronic control panel for AC versions
V26	2-Way on/off valves with 2 shut-off (ball) for 2-Pipe system	DBH2	On board configurable electronic control panel for AC/EC versions
V26M	2-Way modulating valves with 2 shut-off (ball) for 2-Pipe system	DBH3	On board configurable electronic control panel for EC versions
V43	3-Way On/Off valves for 4-Pipe system	DBE1	On board electromechanic control panel for AC versions
V43M	3-Way modulating valves for 4-Pipe system	DBE3	On board electromechanic control panel with TMB3 for AC versions
V45	3-Way On/Off valves with 4 shut-off (ball) for 4-Pipe system	DBE4	On board electromechanic control panel with TMB4 for AC versions
V45M	3-Way modulating valves with 4 shut-off (ball) for 4-Pipe system	IRC	Digital wall control panel for UCB
V42	2-Way On/Off valves for 4-Pipe system	MC4	Multicontrol connection card for AC version
V42M	2-Way modulating valves for 4-Pipe system	SNW4	Water temperature probe
V46	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system	TMB3	Minimun hot water temperature thermostat 32°C
V46M	2-Way modulating valves with 4 shut-off (ball) for 4-Pipe system	TMB4	Minimum hot water temperature thermostat 42°C
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		

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	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
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	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Rows	n°	1	1	1	1	1	1	1	1	1	1	1	1	1
EH1 Electrical heater	Power supply	V/Ph/Hz												
	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												
	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												
	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												
	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



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/I0

Horizontal unit with rear inlet and horizontal delivery

VXI/IV/EC

Vertical unit with EC Inverter fans, bottom inlet and vertical delivery

VXI/I0/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

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

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

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
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

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	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
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	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Rows	n°	1	1	1	1	1	1	1	1	1	1	1	1	1
EH1 Electrical heater	Power supply	V/Ph/Hz												
	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												
	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												
	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												
	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

1,1 KW TO 4,1 KW

SXM 113÷443



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.



 **Airly** *EC INVERTER FANS*

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

MODEL		113	223	333	443
Max cooling	Total cooling capacity (1)	kW	1.13	2.27	3.25
	Sensible cooling capacity (1)	kW	0.85	1.68	2.40
	Water flow (1)	l/h	194	389	558
	Pressure drops (1)	kPa	21.5	15.2	15.0
Heating Max	Heating capacity (2)	kW	1.25	2.37	3.42
	Water flow (2)	l/h	218	413	595
	Pressure drops (2)	kPa	21.0	14.3	13.7
Cooling Med	Total cooling capacity (1)	kW	0.65	1.27	1.78
	Sensible cooling capacity (1)	kW	0.48	0.93	1.30
	Water flow (1)	l/h	111	218	305
	Pressure drops (1)	kPa	8.0	5.5	5.2
Heating Med	Heating capacity (2)	kW	0.68	1.26	1.77
	Water flow (2)	l/h	119	220	308
	Pressure drops (2)	kPa	7.0	4.6	4.2
Cooling Min	Total cooling capacity (1)	kW	0.36	0.72	0.99
	Sensible cooling capacity (1)	kW	0.26	0.52	0.71
	Water flow (1)	l/h	62	124	170
	Pressure drops (1)	kPa	2.9	2.1	1.9
Heating Min	Heating capacity (2)	kW	0.37	0.68	0.94
	Water flow (2)	l/h	64	119	165
	Pressure drops (2)	kPa	2.3	1.5	1.4
Rows	Quantity	n°	3	3	3
Water volume		dm³	0.60	1.10	1.58
Water connections	In / Out	"G	1/2" F	1/2" F	1/2" F
Input voltage	Max	V	10	10	10
	Med	V	4.6	4.6	4.6
	Min	V	2	2	2
Air flow	Max	m³/h	195	352	514
	Med	m³/h	100	177	252
	Min	m³/h	52	94	132
Electrical characteristics	Power supply	V/Ph/Hz		230/1/50-60	
	Max absorbed power	kW	0.01	0.02	0.02
	Absorbed power Med	kW	0.01	0.01	0.01
	Absorbed power Min	kW	0.00	0.00	0.00
Sound pressure	Max (3)	dB(A)	42	44	45
	Med (3)	dB(A)	25	27	28
	Min (3)	dB(A)	22	23	24
Weights	Transport weight	kg	18	21	26
	Operating weight	kg	16	19	23
					26

DIMENSIONS		113	223	333	443
L	STD	mm	650	850	1050
W	STD	mm	129	129	129
H	STD	mm	572	572	572
D	STD (1)	mm	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.

1,1 KW TO 4,1 KW

SXI 113÷443



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.



 **Airly** *EC INVERTER FANS*

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	Minimum hot water temperature thermostat 32°C
TMB4	Minimum hot water temperature thermostat 42°C

MODEL		113	223	333	443
Max cooling	Total cooling capacity (1)	kW	1.13	2.27	3.25
	Sensible cooling capacity (1)	kW	0.85	1.68	2.40
	Water flow (1)	l/h	194	389	558
	Pressure drops (1)	kPa	21.5	15.2	15.0
Heating Max	Heating capacity (2)	kW	1.25	2.37	3.42
	Water flow (2)	l/h	218	413	595
	Pressure drops (2)	kPa	21.0	14.3	13.7
Cooling Med	Total cooling capacity (1)	kW	0.65	1.27	1.78
	Sensible cooling capacity (1)	kW	0.48	0.93	1.30
	Water flow (1)	l/h	111	218	305
	Pressure drops (1)	kPa	8.0	5.5	5.2
Heating Med	Heating capacity (2)	kW	0.68	1.26	1.77
	Water flow (2)	l/h	119	220	308
	Pressure drops (2)	kPa	7.0	4.6	4.2
Cooling Min	Total cooling capacity (1)	kW	0.36	0.72	0.99
	Sensible cooling capacity (1)	kW	0.26	0.52	0.71
	Water flow (1)	l/h	62	124	170
	Pressure drops (1)	kPa	2.9	2.1	1.9
Heating Min	Heating capacity (2)	kW	0.37	0.68	0.94
	Water flow (2)	l/h	64	119	165
	Pressure drops (2)	kPa	2.3	1.5	1.4
Rows	Quantity	n°	3	3	3
Water volume		dm³	0.60	1.10	1.58
Water connections	In / Out	"G	1/2" F	1/2" F	1/2" F
Input voltage	Max	V	10	10	10
	Med	V	4.6	4.6	4.6
	Min	V	2	2	2
Air flow	Max	m³/h	195	352	514
	Med	m³/h	100	177	252
	Min	m³/h	52	94	132
Electrical characteristics	Power supply	V/Ph/Hz		230/1/50-60	
	Max absorbed power	kW	0.01	0.02	0.02
	Absorbed power Med	kW	0.01	0.01	0.01
	Absorbed power Min	kW	0.00	0.00	0.00
Sound pressure	Max (3)	dB(A)	42	44	45
	Med (3)	dB(A)	25	27	28
	Min (3)	dB(A)	22	23	24
Weights	Transport weight	kg	13	15	19
	Operating weight	kg	11	13	16
					18

DIMENSIONS		113	223	333	443
L	STD	mm	520	720	920
W	STD	mm	125	125	125
H	STD	mm	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.

2,1 KW TO 3,7 KW

HWW/EC 22÷42



WALL MOUNTED FAN COIL UNITS WITH EC INVERTER TANGENTIAL FAN.



eurice® *EC INVERTER FANS*

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

MODEL		22	23	32	42
Cooling	Total cooling capacity (1)	kW	2.07	2.49	3.02
	Sensible cooling capacity (1)	kW	1.52	1.81	2.22
	Water flow (1)	l/h	355	427	525
	Pressure drops	kPa	22	28	39
Heating	Heating capacity (2)	kW	2.70	3.21	3.93
	Water flow (2)	l/h	355	427	525
	Pressure drops	kPa	18	23	32
	Water connections	In / Out	"G	1/2"	1/2"
Air flow	Max	m³/h	500	500	645
	Med	m³/h	370	370	445
	Min	m³/h	290	290	370
Electrical characteristics	Power supply	V/Ph/Hz		230/1/50	
	Max absorbed power	kW	0.01	0.01	0.02
Sound pressure	Max (3)	dB(A)	37	37	43
	Med (3)	dB(A)	30	30	34
	Min (3)	dB(A)	26	26	29
Weights	Transport weight	kg	14	15	15
	Operating weight	kg	12	13	13

DIMENSIONS		22	23	32	42
L	STD	mm	875	875	875
W	STD	mm	220	220	220
H	STD	mm	300	300	300

CLEARANCE AREAS

HWW/EC 22-42



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.

2,5 KW TO 11 KW
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

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	Minimun hot water temperature thermostat 42°C

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

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
	Sensible cooling capacity (1)	kW	2.03	2.53	3.23	3.66	3.74	4.23	6.14	6.94	7.10
	Water flow (1)	l/h	431	520	726	808	908	1011	1380	1534	1723
	Pressure drops (1)	kPa	7	10	12	15	16	20	16	19	20
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
	Water flow (2)	l/h	521	643	834	923	921	1025	1590	1721	1755
	Pressure drops (2)	kPa	8	12	13	17	14	17	17	20	20
	Total cooling capacity (1)	kW	2.51	3.03	3.76	4.18	5.29	5.89	7.13	7.94	10.04
Cooling 4-Pipe unit	Sensible cooling capacity (1)	kW	2.03	2.53	3.00	3.39	3.74	4.23	5.70	6.45	7.10
	Water flow (1)	l/h	431	520	645	717	908	1011	1224	1362	1723
	Pressure drops (1)	kPa	7	10	12	15	16	20	16	19	20
	Heating capacity (3)	kW	3.49	4.29	4.59	5.19	4.59	5.19	8.78	9.98	8.78
Heating 4-Pipe unit	Water flow (3)	l/h	306	376	402	455	402	455	770	875	770
	Pressure drops (3)	kPa	12	19	22	28	22	28	25	30	25
	Total cooling capacity (1)	kW	---	3.03	---	4.71	---	5.89	---	8.94	---
	Sensible cooling capacity (1)	kW	---	2.53	---	3.66	---	4.23	---	6.94	---
Cooling 2-Pipe unit (EC version)	Water flow (1)	l/h	---	520	---	808	---	1011	---	1534	---
	Pressure drops (1)	kPa	---	10	---	15	---	20	---	19	---
	Heating capacity (2)	kW	---	3.69	---	5.30	---	5.89	---	9.88	---
	Water flow (2)	l/h	---	643	---	923	---	1025	---	1721	---
Cooling 4-Pipe unit (EC version)	Pressure drops (2)	kPa	---	12	---	17	---	17	---	17	---
	Total cooling capacity (1)	kW	---	---	---	4.18	---	5.89	---	7.94	---
	Sensible cooling capacity (1)	kW	---	---	---	3.39	---	4.23	---	6.45	---
	Water flow (1)	l/h	---	---	---	717	---	1011	---	1362	---
Heating 2-Pipe unit (EC version)	Pressure drops (1)	kPa	---	---	---	15	---	20	---	19	---
	Heating capacity (2)	kW	---	---	---	5.19	---	5.19	---	9.98	---
	Water flow (2)	l/h	---	---	---	455	---	455	---	875	---
	Pressure drops (2)	kPa	---	---	---	28	---	28	---	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"
	4-Pipe (In / Out)	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Air flow	Max	m ³ /h	580	652	772	868	772	868	1544	1737	1544
	Med	m ³ /h	404	454	644	724	644	724	1288	1449	1288
	Min	m ³ /h	280	315	424	477	424	477	848	954	848
Air flow (EC version)	Max	m ³ /h	---	652	---	868	---	868	---	1737	---
	Min	m ³ /h	---	272	---	260	---	260	---	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
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	---
	Max absorbed power	kW	---	0.07	---	0.07	---	0.07	---	0.15	---
Sound pressure	Max (4)	dB(A)	42	42	48	48	48	48	51	51	51
	Med (4)	dB(A)	32	32	44	44	44	44	47	47	47
	Min (4)	dB(A)	26	26	33	33	33	33	36	36	36
Sound pressure (EC version)	Max (4)	dB(A)	---	42	---	48	---	48	---	51	---
	Min (4)	dB(A)	---	27	---	26	---	26	---	29	---
Weights 2-Pipe	Body transport weight	kg	20	20	21	21	22	22	40	40	42
	Body operating weight	kg	17	17	18	18	19	19	35	35	37
	Grille transport weight	kg	2	2	2	2	2	2	5	5	5
Weights 4-Pipe	Body transport weight	kg	21	21	21	21	22	22	41	41	43
	Body operating weight	kg	18	18	18	18	19	19	36	36	38
	Grille transport weight	kg	2	2	2	2	2	2	5	5	5

DIMENSIONS		132	142	153	163	174	184	253	263	274	284
L	BODY	mm	570	570	570	570	570	1160	1160	1160	1160
	PANEL	mm	630	630	630	630	630	1225	1225	1225	1225
W	BODY	mm	570	570	570	570	570	570	570	570	570
	PANEL	mm	630	630	630	630	630	630	630	630	630
H	BODY	mm	250	250	250	250	250	250	250	250	250
	PANEL	mm	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.



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 steel-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
APP1	Flat air filter for GP versions
APP2	Air filtering section with flat filter for GP versions
APP3	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	SRH1	Wall mounted Wi-Fi configurable electronic control panel
P9PM	90-degree delivery plenum for GP versions	IRC	Digital wall control panel for UCB
P9PA	90-degree intake plenum for GP versions	MC4	Multicontrol connection card for AC version
SSM	Air supply labyrinth noise level silencer section	SNW4	Water temperature probe
SSR	Air intake labyrinth noise level silencer section	TMB3	Minimum hot water temperature thermostat 32°C
SPM	Labyrinth silencing section in delivery for GP versions	TMB4	Minimum hot water temperature thermostat 42°C
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		

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
Rows	Pressure drops (3),(2)	kPa	27	31	28	18	24	24	31	36	33
	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"
	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	---
Additional coil	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
Available static pressure (EC version)	Min	Pa	18	27	28	22	25	20	32	32	31
	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	55	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	55	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	1600	1600	1600
	GP	mm	840	840	840	1240	1240	1640	1640	1640
W	STD	mm	605	605	605	605	605	605	605	605
	GP	mm	625	625	625	625	625	625	625	625
H	STD	mm	275	275	275	275	275	275	275	275
	GP	mm	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.



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