PRODUCT GUIDE

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

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

KTK KLIMATECHNIK

.AIR EXPERIENCE

.OUR IDENTITY

CUSTOMIZED SOLUTIONS FOR 45 YEARS.

KTK KLIMATECHNIK, with its deep background of 45 years of experience, is a key worldwide brand of Air Conditioning and Process Cooling business, characterized by skilled know-how, flexibility and innovation.

The strong point of KTK KLIMATECHNIK is indeed the possibility to offer focused, custom responses to highly specific needs, especially in large systems.

Combining experience with advanced technology, innovative research and development solutions, KTK KLIMATECHNIK designs, manufactures and customizes a complete range of machines, especially dedicated to the industrial process and to the air conditioning of commercial and industrial environments.

.QUALITY
.INNOVATION
.ENVIRONMENT

.QUALITY

A FULLY CERTIFIED SYSTEM.

We believe in the Customer satisfaction and pursue this objective through the development of solutions to ensure the best performance over time and the maximum reliability of our products.The internationally recognized certifications can be summarized as follows:

- CE. It certifies that every unit leaving our production lines is built in accordance with the standards required by the European Union.
- P.E.D. Certification for pressurised fluids which guarantees the correct implementation of cooling and hydraulic circuits in units with compressors.
- UNI EN ISO 9001. 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.
- EUROVENT. Attesting the reliability of Company data on product performance, it is a guarantee of the actual quality of KTK KLIMATECHNIK products and their characteristics.

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

ErP SCOP

ErP SEER 2021

ErP SEPR 2021

TOTAL QUALITY: THE HEART OF OUR PHILOSOPHY.

The Company production, spreading over 4 European production plants, is divided between modern assembly lines and work islands.
In both cases, the whole production process is subject to thorough checks and controls, both at the end and 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: every- thing is checked to make sure it complies with 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.

CE

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

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.INNOVATION

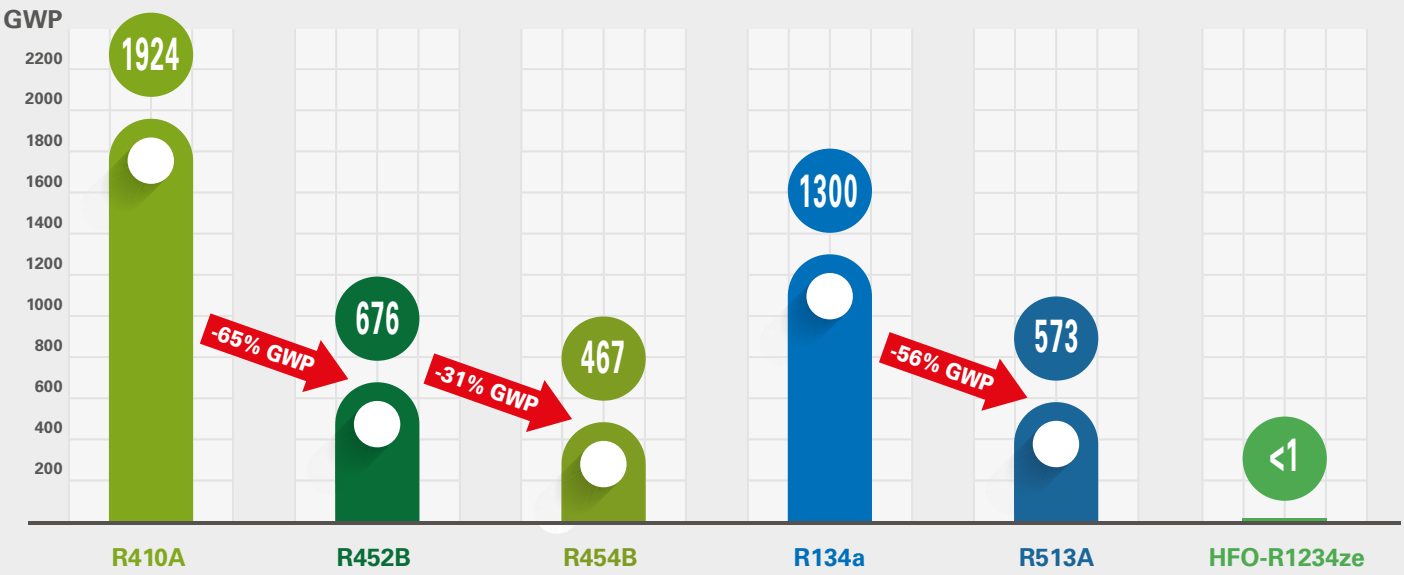
THE HIGHEST EFFICIENCY.

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, KTK KLIMATECHNIK offers its newest and widest high efficiency range characterized by A CLASS energy efficiency with the highest SEER/SEPR/SCOP, including models with Rotary, Scroll, Screw and Turbocor compressors.

.ENVIRONMENT

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

In a market more and more concerned with environmental issues, KTK KLIMATECHNIK is able to provide the widest offer of liquid Chillers operating with low GWP refrigerants. The latest generation refrigerant **HFO-R1234ze**, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market to meet even the strictest international environmental regulations. KTK KLIMATECHNIK provides two ranges of Aircooled or Watercooled liquid Chillers both with Turbocor or Screw compressors specially designed for HFO-R1234ze refrigerant.
Moreover, the units in the catalogue with traditional R410A and R134a refrigerants can be supplied, on request, with low GWP alternatives, respectively **R452B, R454B** and **R513A**.



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

.THE STRENGHT OF A GLOBAL GROUP

A MULTI-BRAND GROUP FOR THE WIDEST PRODUCT RANGE.

Created from the integration of industrial leading Companies operating from 45 years in various businesses of thermo-technical industry, G.I. INDUSTRIAL HOLDING is now a Global Group manufacturing and marketing a complete range of solutions for Comfort and Industrial Cooling: from Air Conditioning and Air Treatment of service and industrial environments, to Close Control systems, to Industrial Process Cooling. G.I. INDUSTRIAL HOLDING can claim a wide knowledge of the HVAC field due to its long history and Group structure, where each branch has a deep know-how and a focused specialization.

CLINT brand is focused on the segment of liquid Chillers, Packaged Roof Top units and Fan Coil units.

KTK KLIMATECHNIK is the European top level brand focused on applications for Industrial Process Cooling and special Air Conditioning systems.

MONTAIR is the trademark dedicated to cooling systems for Data Centres and Telecom Applications.

NOVAIR is a leading brand in the Air Treatment and Ventilation sectors.

.THE GROUP STRUCTURE

G.I. INDUSTRIAL HOLDING

The Company production is spread over 4 manufacturing plants in Italy and Hungary. The International markets are supported by 4 Sales Offices based in Italy, Russia, United Arab Emirates and Malaysia and a network of over 70 worldwide Distributors.

The new **G.I. HOLDING Headquarters** are located on a new facility in Latisana (Italy) with a 1.500 m² **Showroom** for exhibition of units manufactured on all the Group's plants and the **Cooling Academy**: a training room equipped for technical coaching of consultants, business professionals, engineers, designers and contractors, with rooms for units' functioning simulation.

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

Sales Offices:

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

Manufacturing facilities:

- Latisana - ITALY. Small & medium liquid Chillers Manufacturing Plant.
- Rivignano Teor - ITALY. Large liquid Chillers Manufacturing Plant.
- Piove di Sacco - ITALY. Close Control Business Unit and Manufacturing Plant.
- Biatorbágy - HUNGARY (GIMEK Zrt). Packaged Roof Top units, Air Handling Units, Dry-Coolers and Fan Coil units Manufacturing Plant.

G.I. INDUSTRIAL HOLDING

COMPANY PROFILE

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

Rivignano Teor – ITALY. Production Plant.

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

Biatorbágy – HUNGARY (GIMEK Zrt). Production Plant.

.EFFICIENCY AND PERFORMANCE TESTS
CLIMATIC CHAMBER

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

G.I. INDUSTRIAL HOLDING Climatic Chamber

.OUR REFERENCES

.REFERENCES
DEDICATED SOLUTIONS FOR DIFFERENT APPLICATIONS.

SHOPPING MALLS, BUSINESS CENTRES, SHOWROOMS & LEISURE

SCHULTHEISS QUARTIER Shopping Mall & Business Centre, Berlin, Germany
AXEL SPRINGER VERLAG Business Centre, Berlin, Germany
BÜROGEBÄUDE DB LISTER DREIECK Business Centre, Hannover, Germany
GALERIA KAUFHOF Shopping Mall, Hannover, Germany
KARSTADT OBERPOLLINGER Shopping Mall, Munchen, Germany
CITY GATE BREMEN Shopping Mall & Business Centre, Bremen, Germany
KEPLER-QUARTIER Residential & Business Centre, Mannheim, Germany
MÖMAX Furniture Shopping Mall, Mannheim, Germany
DASA Working World Exhibition, Dortmund, Germany
LEBERSTRAßE 20 Business Centre, Wien, Austria
MERCEDES WITTWAR KONRAD Car Showroom, Graz, Austria
IMPULSZENTRUM Business Centre, Graz, Austria
MACDUFF Aquarium, Macduff, UK
ARUNDEL Great Court, London, UK

OFFICE BUILDINGS & PLANTS

ROBERT BOSCH Automotive Components, Reutlingen & Salzgitter, Germany
DAIMLER MERCEDES-BENZ R&D Centre, Ulm, Germany
VOLKSWAGEN Emden Halle 18, Emden, Germany
MICHELIN Tires Plant, Karlsruhe, Germany
SAP Headquarters & Service Centre, Walldorf & St. Leon, Germany
SWR TELEVISION Broadcasting Centre, Baden-Baden, Germany
TÜV SÜD Quality Certification Institute, Mannheim, Germany
WMF Tableware, Geislingen, Germany
SWISS PRIME PACK Plastic Packaging, Niederuzwil, Switzerland
SWISSCOM Offices, Berna, Switzerland
ROLEX Headquarters, Genève, Switzerland
FUNDERMAX Furniture Plant, Wiener Neudorf, Austria
ROCHE DIAGNOSTICS Offices, Graz, Austria
LENZING FIBERS Chemical Company, Heiligenkreuz im Lafnitztal, Austria
CHAMBER OF LABOUR, Villach, Austria
BÖHLER WELDING, Kapfenberg, Austria
TONSTUDIO SUNSHINE MUSIC Recording Studio, Wien, Austria
HÜBL HAUSTECHNIK Building Design, Graz, Austria
LUNAR FREEZING & COLD STORAGE, Aberdeen, UK
ADIENT COMPONENTS, Rockenhausen, Germany

Discover all our references on:

www.ktk.it

SCHOOLS AND UNIVERSITIES

GEORG-AUGUST GÖTTINGEN University, Göttingen, Germany
KIT University - KARLSRUHER INSTITUT FÜR TECHNOLOGIE, Karlsruhe, Germany
AACHEN University - CENTRE FOR WIND POWER DRIVES, Aachen, Germany
ZURICH University, Zurich, Switzerland

HOSPITALS, HOTELS & RESIDENTIAL

KIT University Campus - KARLSRUHER INSTITUT FÜR TECHNOLOGIE Campus Nord, Eggenstein-Leopoldshafen, Germany
KLINIKUM LANDAU - Südliche Weinstraße Hospital, Landau, Germany
MOVENPICK REGENSDORF Hotel, Zurich, Switzerland
LAINZ Hospital, Wien, Austria
ST CHARLES Hospital, London, UK

INDUSTRIAL PROCESS COOLING, DATA CENTRES AND LABORATORIES

FUCHS LUBRITECH GmbH Chemical, Kaiserslautern, Germany
BISCHOF + KLEIN Plastic Packaging Company, Lengerich, Germany
ROTTENDORF Pharmaceutical, Ennigerloh, Germany
WAYAND Plastic Company, Idar-Oberstein, Germany
ZAG ZYKLOTRON Radioisotopes for Medicine and Engineering, Eggenstein-Leopoldshafen, Germany
EDELSTAHL ROSSWAG Steel Forging Components, Pfinztal, Germany
US AIR FORCE Military Air Base Data Centre, Ramstein, Germany
MGB MIGROS Datacenter, Herdern, Switzerland
TEOXANE Beauty Laboratories, Geneve, Switzerland
EGGER ÖSTERREICHER Wood Panels Plant, St. Johann in Tirol, Austria

.OUR PRODUCTS

PRODUCT RANGE

KTK KLIMATECHNIK offers a complete range of aircooled, watercooled and condenserless liquid Chillers and Heat Pumps especially dedicated to the industrial processes and customized air conditioning applications, with a wide capacity from 5 to 3900 kW. The offer also includes Packaged Roof Top units from 60 to 250 kW, Condensing units, Remote Condensers and Dry-Coolers.
A wide range of models is also available with the low GWP refrigerants R452B, R454B, R513A and HFO-R1234ze.

Junior line

Aircooled, watercooled and condenserless liquid Chillers for small and medium areas. Condensing units.

Top line

Aircooled, watercooled and condenserless liquid Chillers for wide areas.

System line

Remote Condensers, Dry-Coolers and remote Hydronic Modules.

Upper line

Packaged Roof Top units with single or double skin for medium and wide areas.

idroinverter

The IDROINVERTER liquid Chillers and Heat Pumps range is based on Inverter technology applied overall on compressors, pumps and fans. Units are capable to adapt their power and energy consumption to every need, for the highest efficiency at partial load.
The family includes both aircooled and watercooled models with a wide capacity range.
Models with R513A, R452B and R454B refrigerants are also available.

MAXI POWER

The MAXIPOWER aircooled, watercooled and condenserless liquid Chillers are equipped with latest generation Screw compressors. The high cooling capacity makes them suitable for comfort of wide areas and cooling of industrial processes.
The family also includes models with R513A or the innovative HFO-R1234ze refrigerant with GWP <1 (Global Warming Potential).

AQUA PLUS

The AQUAPLUS aircooled, watercooled and condenserless range of liquid Chillers and Heat Pumps is the best solution for medium areas in commercial and service buildings.
Compactness and easy installation are the key benefits of those units, which can also feature the additional AQUALOGIK technology, a built-in hydronic kit with variable speed circulating pump which makes the use of inertial tank superfluous.
Models with R452B and R454B refrigerants are also available.

TURBOLINE

The TURBOLINE aircooled and watercooled liquid Chillers, equipped with Turbocor Magnetic Levitation compressors, are at the top level in energy efficiency.
The units feature the highest EER and SEER/SEPR in the market and the lowest starting current, in addition to maximum reliability and extra silent operation.
The family also includes models with R513A or the innovative HFO-R1234ze refrigerant with GWP <1 (Global Warming Potential).

MIDYLINE

The dedicated Heat Pumps of the MIDYLINE series provide ambient heating, domestic hot water and air conditioning. Optimized for heating mode, the units can produce hot water up to 60 °C.
The range features AQUALOGIK technology, a built-in hydronic kit with variable speed circulating pump which makes the use of inertial tank superfluous.

AIRPLUS

The AIRPLUS single skin packaged Roof Top units feature Scroll compressors and EC Inverter Plug-Fans.
Units are also available with Free-Cooling technology with 2 or 3 dampers.

multi power

The MULTIPOWER liquid Chillers and Heat Pumps range is based on multi-Scroll technology. This ensures an high efficiency at partial load since the cooling power is split among the different compressors based on the actual need detected by the system. The family includes both aircooled and watercooled models with a wide capacity range, also with R452B and R454B refrigerants.

AIRMAXI

The AIRMAXI double skin packaged Roof Top units feature Scroll or Inverter Scroll compressors and EC Inverter Plug-Fans.
The wide range includes several sections for air mixing or Free-Cooling and the additional Heat Recovery with Cross-flow, Wheel or Thermodynamic Coil-Boost technology.

ENERGY POWER

The ENERGYPOWER aircooled liquid Chillers provide air conditioning, ambient heating and domestic hot water at the same time and with the same unit.
Those Multifunctional units for 4-Pipe systems are especially suitable for hotels, hospitals or multi-purpose buildings with service and residential users. Units feature Scroll or Screw compressors and are also available with R452B, R454B or R513A refrigerant.

Focus on ErP Regulations

EUROPEAN UNION Regulations (ErP – ECODESIGN)

→ ErP: UE 2016/2281

→ ErP: UE 813/2013

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

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

Products covered by the Regulation

Liquid Chillers

Comfort **Process**

Packaged Roof Top units

Cooling only **Heat Pumps**

Condensing units and condenserless units are excluded from ErP Regulation.

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

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

COMPANY PROFILE

CHAPTER 1 - JUNIOR LINE

CHAPTER 1 - JUNIOR LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 1 - JUNIOR LINE

JWA 081÷211 W/H/A

0 125 250

Aircooled liquid Chillers with axial fans,
Scroll compressor and shell and tube exchanger

idroinverter

JWA/ML/ST 11÷18 S/Z/P

0 125 250

A CLASS energy efficiency aircooled dedicated Heat Pumps with domestic hot water production, axial fans, Scroll compressor, plate exchanger and hydronic kit

MIDYLINE AQUA Logik

JWA/ML/ST 24÷40 S/Z/P

0 125 250

A CLASS energy efficiency aircooled dedicated Heat Pumps with domestic hot water production, axial fans, Scroll compressor, plate exchanger and hydronic kit

MIDYLINE AQUA Logik

JWA/ML/ST 052÷082 S/Z/P

0 125 250

A CLASS energy efficiency aircooled dedicated Heat Pumps with domestic hot water production, axial fans, Scroll compressors, plate exchanger and hydronic kit

MIDYLINE AQUA Logik

JWA/EP 051÷191 S/K/P

0 125 250

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

ENERGY POWER

JWH/WP 4÷40 S/K/P

0 125 250

Watercooled Heat Pumps with Rotary/Scroll compressor and plate exchangers

AQUA PLUS

JWH 051÷172 S/K/P

0 125 250

Watercooled liquid Chillers and Heat Pumps with Scroll compressors and plate exchangers

AQUA PLUS

CHAPTER 1 - JUNIOR LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 1 - JUNIOR LINE

CHAPTER 2 - TOP LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 2 - TOP LINE

CHAPTER 2 - TOP LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 2 - TOP LINE

CHAPTER 2 - TOP LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 3 - SYSTEM LINE

CHAPTER 3 - SYSTEM LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O

CHAPTER 4 - UPPER LINE

CHAPTER 4 - UPPER LINE

LEGENDA

Version
- Cooling only
- Heating only
- Cooling & Heating

Compressor
- Rotary
- Inverter Scroll
- Digital Scroll
- Scroll
- Inverter Screw
- Screw
- Turbocor
- Inverter Centrifugal
- Centrifugal

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

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

Solution
- Free-Cooling
- Domestic Hot Water
- AquaLogik
- A Class Cooling
- A Class Heating

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

Refrigerant
- R410A
- R452B
- R454B
- R407C
- R134A
- R513A
- R1234ze
- H_2O


aithoinverter
KTK
KLIMATECHNIK
A
CLASS
R410A

JUNIOR LINE

Aircooled, Watercooled & Condenserless liquid Chillers and Heat Pumps for small and medium areas. Condensing units.

JWA 7÷20 S/IK/P/A

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

The JWA 7÷20 S/IK/P/A series is the winning choice for ideal comfort in residential and commercial environments. The range, in A CLASS energy efficiency, features Inverter technology on the compressor, for a high efficiency at partial loads. The range excels for its compact sizes, quietness and optimised water circuit, on a peraluman structure. Particular design features enable immediate and effective use, easy installation and lasting reliability. These extremely compact and high-tech units offer you ideal comfort in all seasons.
The unit features high efficiency integrated circulator with EC Inverter brushless electronic motor.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

FROM 6.0 KW TO 22 KW.

VERSION

JWA
Cooling only
JWA/WP
Reversible Heat Pump

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES:	
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards
FP	Coils protection metallic guards with filter

TECHNICAL DATA - JWA 7÷20 S/IK/P/A

MODEL			7	9	11	14	16	18	20
Cooling	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.7	19.0	22.4
	Absorbed power (1)	kW	1.8	2.4	3.0	3.8	4.9	6.0	7.2
	EER (1)		3.33	3.17	3.10	3.26	3.20	3.17	3.11
Cooling (EN14511)	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.6	18.9	22.5
	Absorbed power (1)	kW	1.8	2.4	3.0	3.8	4.9	6.0	7.2
	EER (1)		3.33	3.17	3.10	3.26	3.18	3.15	3.13
	SEER (2)		4.12	4.11	4.10	4.68	4.74	4.71	4.72
	Energy Efficiency (2)	%	162	161	161	184	187	185	186
Heating	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8
	Absorbed power (3)	kW	1.9	2.5	3.2	4.0	4.9	5.9	7.0
	COP (3)		3.53	3.52	3.41	3.53	3.57	3.54	3.54
Heating (EN14511)	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8
	Absorbed power (3)	kW	1.9	2.5	3.2	4.0	4.9	5.9	7.0
	COP (3)		3.53	3.52	3.41	3.53	3.57	3.54	3.54
	SCOP (4)		3.49	3.34	3.45	3.42	3.56	3.60	3.85
	Energy Efficiency (4)	%	136	131	135	134	139	141	151
	Energy Class (5)		A+	A+	A+	A+	A+	A+	A++
Compressor	Quantity	n°	1	1	1	1	1	1	1
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50			
	Max. running current	A	16	16	16	13	13	15	18
	Max. starting current	A	10	10	10	8	8	9	10
Water circuit	Water flow	l/s	0.29	0.36	0.44	0.59	0.75	0.91	1.07
	Pump available static pressure	kPa	53	56	52	76	82	70	60
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure (6)		dB(A)	51	52	55	57	58	59	60
Weights	Transport weight	Kg	101	113	123	195	197	199	201
	Operating weight	Kg	126	138	148	245	247	249	251

DIMENSIONS

MODEL			7	9	11	14	16	18	20
L	STD	mm	870	870	870	1160	1160	1160	1160
W	STD	mm	320	320	320	500	500	500	500
H	STD	mm	1100	1100	1100	1270	1270	1270	1270

CLEARANCE AREA

JWA 7÷11 S/IK/P/A

200 | 200 | 800 | 200

JWA 14÷20 S/IK/P/A

200 | 200 | 800 | 200

Electrical board side

NOTES

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

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

JWA 24÷40 S/IK/P/A

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

idroinverter

The liquid Chillers and Heat Pumps of the JWA 24÷40 S/IK/P/A series, with R410A refrigerant, are designed to satisfy the needs of small and medium domestic and service sector environments.
With a peraluman structure corrosion-resistant over time, these units can be combined with Fan Coil units or with intermediate heat exchangers for process cooling applications.
All units feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coil, available on the dedicated version, ensures an even higher efficiency (high EER), having a better heat exchange than traditional coils.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (JWA 24÷40 S/IG/P/A)** or **R454B (JWA 24÷40 S/IL/P/A)** refrigerant.

FROM 26 KW TO 42 KW.

VERSION

JWA
Cooling only
JWA/MC
Cooling only with MICROCHANNEL condensing coil
JWA/WP
Reversible Heat Pump

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 24÷40 S/IK/P/A

MODEL			24	27	34	40
Cooling STD versions	Cooling capacity (1)	kW	25.8	30.5	35.9	42.3
	Absorbed power (1)	kW	8.0	9.5	11.3	13.4
	EER (1)		3.23	3.21	3.18	3.16
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	25.6	30.3	35.7	42.1
	Absorbed power (1)	kW	8.1	9.7	11.5	13.6
	EER (1)		3.16	3.12	3.10	3.10
	SEER (2)		4.42	4.16	4.21	4.22
	Energy Efficiency (2)	%	174	163	165	166
Cooling MC versions	Cooling capacity (1)	kW	25.8	30.5	35.9	42.3
	Absorbed power (1)	kW	7.9	9.4	11.2	13.3
	EER (1)		3.27	3.24	3.21	3.18
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	25.6	30.3	35.7	42.1
	Absorbed power (1)	kW	8.0	9.6	11.4	13.5
	EER (1)		3.20	3.16	3.13	3.12
	SEER (2)		4.48	4.21	4.26	4.27
	Energy Efficiency (2)	%	176	165	167	168
Heating STD versions	Heating capacity (3)	kW	28.7	34.3	40.4	48.0
	Absorbed power (3)	kW	8.1	9.9	11.8	14.0
	COP (3)		3.54	3.46	3.42	3.43
Heating STD versions (EN14511)	Heating capacity (3)	kW	28.9	34.5	40.7	48.3
	Absorbed power (3)	kW	8.3	10.1	12.0	14.3
	COP (3)		3.48	3.42	3.39	3.38
	SCOP (4)		3.34	3.23	3.33	3.41
	Energy Efficiency (4)	%	131	126	130	133
	Energy Class (5)		A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1
Evaporator	Water flow	l/s	1.23	1.46	1.72	2.02
	Pressure drops	kPa	20	29	31	31
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	21	24	27	34
	Max. starting current	A	11	14	15	18
Unit with pump	Pump available static pressure	kPa	140	115	150	105
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Sound pressure	STD versions (6)	dB(A)	60	61	62	62
	MC versions (6)	dB(A)	59	60	61	61
Weights	Transport weight	Kg	224	239	269	283
	Operating weight	Kg	229	244	275	289

DIMENSIONS

MODEL			24	27	34	40
L	STD/MC	mm	1850	1850	1850	1850
W	STD/MC	mm	1000	1000	1000	1000
H	STD/MC	mm	1300	1300	1300	1300

CLEARANCE AREA

JWA 24÷40 S/IK/P/A

500	800	800	800

Electrical board side

NOTES

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

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

JWA/FC 24÷40 S/K/P

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

The liquid Chillers of the JWA/FC 24÷40 S/K/P series, with R410A refrigerant, offer innovative technology to meet the needs of systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.

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

FROM 28 KW TO 43 KW.

VERSION

JWA/FC
Cooling only

JWA/FC/SP
Cooling only with tank and pump

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/FC 24÷40 S/K/P

MODEL			24	27	34	40
Cooling	Cooling capacity (1)	kW	27.9	31.4	37.3	42.8
	Absorbed power (1)	kW	9.5	11.0	13.9	15.6
	EER (1)		2.94	2.85	2.68	2.74
Cooling (EN14511)	Cooling capacity (1)	kW	27.5	30.9	36.7	42.1
	Absorbed power (1)	kW	9.9	11.5	14.5	16.3
	EER (1)		2.78	2.69	2.53	2.58
	SEPR (2)		5.61	5.62	5.21	5.22
Free-Cooling cycle	Air temperature (3)	°C	-1.7	-2.7	0.5	-1.2
	Absorbed power (3)	kW	0.98	0.98	1.96	1.96
Compressor	Quantity	n°	1	1	1	1
Water circuit	Water flow	l/s	1.55	1.74	2.07	2.37
	Pressure drops	kPa	117	142	132	141
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	20	22	29	32
	Max. starting current	A	144	144	162	201
Unit SP version	Water flow	l/s	1.55	1.74	2.07	2.37
	Pump available static pressure	kPa	109	152	150	129
	Tank water volume	l	100	100	100	100
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	60	61	61	61
Weights	Transport weight (5)	Kg	415	430	470	485
	Operating weight (5)	Kg	437	452	499	515

DIMENSIONS

MODEL			24	27	34	40
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	900	900	900	900
H	STD/SP	mm	1840	1840	1840	1840

CLEARANCE AREA

JWA/FC 24÷40 S/K/P

500	800	800	800

Electrical board side

NOTES

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

JWR 7÷34 S/IK/P/A

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

idroinverter

The A CLASS indoor liquid Chillers of the JWR 7÷34 S/IK/P/A series, with R410A refrigerant and EC Inverter Plug-Fans, are designed for small and medium domestic or service sector systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units can be combined with Fan Coil units or with intermediate heat exchangers for process cooling applications.
These units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation and a significant useful head of the fan.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
The Heat Pump version is designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, models 24÷34 can be supplied with **R452B (JWR 24÷34 S/IG/P/A)** or **R454B (JWR 24÷34 S/IL/P/A)** refrigerant.

FROM 6.0 KW TO 36 KW.

VERSION

JWR
Cooling only
JWR/WP
Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame.
- DC INVERTER Scroll compressor with internal overheat protection and crankcase heater.
- High efficiency reverse blade EC INVERTER PLUG-FAN, with electronic speed control.
- Condenser made of copper tubes and aluminium finned coil, complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Electronic expansion valve.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door lock device, fuses, compressor (7÷20) and pump remote control switch.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

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

LOOSE ACCESSORIES:	
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coils protection metallic guards
FP	Coils protection metallic guards with filter
AG	Rubber shock absorbers

TECHNICAL DATA - JWR 7÷34 S/IK/P/A

MODEL			7	9	11	14	16	18	20	24	27	34
Cooling	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.7	19.0	22.4	25.8	30.5	35.9
	Absorbed power (1)	kW	1.9	2.5	3.1	4.3	5.4	6.5	7.7	9.3	10.3	12.1
	EER (1)		3.16	3.04	3.00	2.88	2.91	2.92	2.91	2.77	2.96	2.97
Cooling (EN14511)	Cooling capacity (1)	kW	6.0	7.6	9.3	12.4	15.6	18.9	22.5	25.6	30.3	35.7
	Absorbed power (1)	kW	1.9	2.5	3.1	4.3	5.4	6.5	7.7	9.4	10.5	12.3
	EER (1)		3.16	3.04	3.00	2.88	2.89	2.91	2.92	2.72	2.89	2.90
	SEER (2)		4.12	4.11	4.10	4.32	4.30	4.23	4.33	4.32	4.10	4.12
	Energy Efficiency (2)	%	162	161	161	170	169	166	170	170	161	162
Heating	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8	28.7	34.3	40.4
	Absorbed power (3)	kW	2.0	2.6	3.3	4.5	5.4	6.4	7.5	9.4	10.7	12.6
	COP (3)		3.35	3.38	3.30	3.13	3.24	3.27	3.31	3.05	3.21	3.21
Heating (EN14511)	Heating capacity (3)	kW	6.7	8.8	10.9	14.1	17.5	20.9	24.8	28.9	34.5	40.7
	Absorbed power (3)	kW	2.0	2.6	3.3	4.5	5.4	6.4	7.5	9.6	10.9	12.8
	COP (3)		3.35	3.38	3.30	3.13	3.24	3.27	3.31	3.01	3.17	3.18
	SCOP (4)		3.38	3.27	3.41	3.30	3.43	3.49	3.77	3.21	3.23	3.22
	Energy Efficiency (4)	%	132	128	133	129	134	137	148	125	126	126
	Energy Class (5)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Compressor	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.29	0.36	0.44	0.59	0.75	0.91	1.07	1.23	1.46	1.72
	Pressure drops	kPa	18	14	18	25	20	29	30	20	29	31
	Water connections	"G	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Fan available static pressure		Pa	80	80	80	115	115	115	115	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50						
	Max. running current	A	17	17	17	14	14	16	19	22	22	25
	Max. starting current	A	11	11	11	9	9	10	11	12	12	13
Unit with pump	Pump available static pressure	kPa	53	56	52	76	82	70	60	140	115	150
	Water connections	"G	1"	1"	1"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"	1 ¼"
Sound pressure (6)		dB(A)	52	53	54	58	58	59	60	62	63	63
Weights	Transport weight	Kg	131	136	143	203	213	215	217	353	359	374
	Operating weight	Kg	132	137	144	205	215	217	219	356	362	377

DIMENSIONS

MODEL			7	9	11	14	16	18	20	24	27	34
L	STD	mm	900	900	900	900	900	900	900	1500	1500	1500
W	STD	mm	550	550	550	690	690	690	690	800	800	800
H	STD	mm	1500	1500	1500	1750	1750	1750	1750	1600	1600	1600

CLEARANCE AREA

JWR 7÷11 S/IK/P/A

100 | 800 | 800 | 800

JWR 14÷20 S/IK/P/A

100 | 800 | 800 | 1000

JWR 24÷34 S/IK/P/A

1200 | 800 | 800 | 100

Electrical board side

NOTES

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

JWA 051÷172 S/IK/P/A

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

idroinverter

FROM 50 KW TO 179 KW.

The A CLASS energy efficiency liquid Chillers and Heat Pumps of JWA 051÷172 S/IK/P/A series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients. They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
They are equipped with axial fans, Inverter Scroll compressors and plate exchanger, even in the super silent version. All units feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. Furthermore, Inverter control is also available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (JWA 051÷172 S/IG/P/A)** or **R454B (JWA 051÷172 S/IL/P/A)** refrigerant.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coil or aluminium MICROCHANNEL coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 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
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
FN	Antifreeze heater for pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 051÷172 S/IK/P/A

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling STD versions	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152	179
	Absorbed power (1)	kW	15.6	18.1	20.4	23.6	27.0	30.3	35.0	40.5	47.2	55.6
	EER (1)		3.20	3.19	3.22	3.17	3.18	3.22	3.20	3.21	3.22	3.22
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	49.6	57.4	65.4	74.4	85.4	97.2	112	129	151	178
	Absorbed power (1)	kW	15.9	18.4	20.7	24.0	27.5	30.8	35.6	41.1	47.8	56.2
	EER (1)		3.12	3.12	3.16	3.10	3.11	3.16	3.15	3.14	3.16	3.17
	SEER (2)		4.41	4.55	4.41	4.39	4.42	4.43	4.49	4.39	4.40	4.34
	Energy Efficiency (2)	%	173	179	173	173	174	174	177	173	173	171
Cooling MC versions	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152	179
	Absorbed power (1)	kW	15.4	17.9	20.2	23.4	26.7	30.0	34.7	40.1	46.7	55.0
	EER (1)		3.24	3.22	3.25	3.20	3.22	3.26	3.23	3.24	3.25	3.25
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	49.6	57.4	65.4	74.4	85.4	97.2	112	129	151	178
	Absorbed power (1)	kW	15.7	18.2	20.5	23.8	27.2	30.5	35.2	40.7	47.3	55.6
	EER (1)		3.16	3.15	3.19	3.13	3.14	3.19	3.18	3.17	3.19	3.20
	SEER (2)		4.45	4.60	4.45	4.43	4.46	4.47	4.53	4.43	4.44	4.38
	Energy Efficiency (2)	%	175	181	175	174	175	176	178	174	175	172
Heating STD versions	Heating capacity (3)	kW	53.7	62.2	71.0	80.7	92.6	105	121	140	164	193
	Absorbed power (3)	kW	16.2	18.7	21.2	24.5	28.0	31.4	36.4	41.8	49.0	57.7
	COP (3)		3.31	3.33	3.35	3.29	3.31	3.34	3.32	3.35	3.35	3.34
Heating STD versions (EN14511)	Heating capacity (3)	kW	54.1	62.6	71.4	81.2	93.2	106	122	141	165	194
	Absorbed power (3)	kW	16.6	19.2	21.6	25.1	28.8	32.2	37.2	43.0	50.0	58.8
	COP (3)		3.26	3.26	3.31	3.24	3.24	3.30	3.28	3.27	3.30	3.30
	SCOP (4)		3.47	3.43	3.42	3.58	3.6	3.46	3.52	3.49	3.44	3.43
	Energy Efficiency (4)	%	136	134	134	140	141	135	138	137	135	134
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.38	2.76	3.14	3.57	4.10	4.67	5.35	6.21	7.26	8.55
	Pressure drops	kPa	41	40	32	39	47	40	35	44	33	30
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	45	45	54	54	63	69	89	89	112	129
	Max. starting current	A	128	128	176	176	187	237	230	230	245	297
Unit with pump	Pump available static pressure	kPa	140	135	140	125	130	180	175	160	160	145
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL versions	Pa	70	60	95	90	80	80	80	80	---	---
	MC versions	Pa	60	65	95	80	80	75	75	75	75	75
	MC/SSL versions	Pa	60	65	95	80	80	75	75	75	---	---
Sound pressure	STD versions (6)	dB(A)	63	65	66	66	67	68	68	69	68	68
	STD versions with SL accessory (6)	dB(A)	61	62	64	64	65	66	66	67	66	66
	SSL versions (6)	dB(A)	58	60	61	61	62	62	62	63	---	---
	MC versions (6)	dB(A)	62	64	65	65	66	67	67	68	67	67
	MC versions with SL accessory (6)	dB(A)	60	61	63	63	64	65	65	66	65	65
	MC/SSL versions (6)	dB(A)	57	59	60	60	61	61	61	62	---	---
Weights	Transport weight	Kg	614	688	747	756	765	857	1086	1095	1449	1494
	Operating weight	Kg	620	695	755	765	775	870	1100	1110	1470	1520

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD-MC	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL-MC/SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-MC	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL-MC/SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

JWA 051÷172 S/IK/P/A

300	800	800	1800

Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
3. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
4. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
5. 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.

JWA 051÷172 S/K/P/AF

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

The liquid Chillers and Heat Pumps of the JWA 051÷172 S/K/P/AF series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency. They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (JWA 051÷172 S/G/P/AF)** or **R454B (JWA 051÷172 S/L/P/AF)** refrigerant.

FROM 51 KW TO 183 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 051÷172 S/K/P/AF

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	51.1	59.1	67.2	76.6	87.9	100	115	133	156	183
	Absorbed power (1)	kW	16.0	18.5	20.9	24.2	27.6	31.0	35.8	41.5	48.3	56.9
	EER (1)		3.19	3.19	3.22	3.17	3.18	3.23	3.21	3.20	3.23	3.22
Cooling (EN14511)	Cooling capacity (1)	kW	50.8	58.7	66.9	76.2	87.4	99.5	114	132	155	182
	Absorbed power (1)	kW	16.3	18.9	21.2	24.6	28.1	31.5	36.3	42.2	48.9	57.5
	EER (1)		3.12	3.11	3.16	3.10	3.11	3.16	3.14	3.13	3.17	3.17
	SEER (2)		4.17	4.21	4.20	4.19	4.19	4.22	4.25	4.16	4.16	4.18
	Energy Efficiency (2)	%	164	165	165	165	165	166	167	163	163	164
Heating	Heating capacity (3)	kW	55.4	64.1	72.9	83.1	95.3	109	124	144	169	198
	Absorbed power (3)	kW	16.8	19.4	22.0	25.4	28.8	32.5	37.7	43.4	51.0	59.7
	COP (3)		3.30	3.30	3.31	3.27	3.31	3.35	3.29	3.32	3.31	3.32
Heating (EN14511)	Heating capacity (3)	kW	55.8	64.5	73.3	83.6	95.9	110	125	145	170	199
	Absorbed power (3)	kW	17.3	19.9	22.5	26.1	29.7	33.4	38.6	44.7	52.1	61.2
	COP (3)		3.23	3.24	3.26	3.20	3.23	3.29	3.24	3.24	3.26	3.25
	SCOP (4)		3.36	3.32	3.31	3.43	3.45	3.35	3.37	3.34	3.33	3.32
	Energy Efficiency (4)	%	131	130	129	134	135	131	132	131	130	130
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
	Pressure drops	kPa	43	42	33	41	49	42	37	46	35	31
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	44	51	57	68	73	85	102	113	136
	Max. starting current	A	132	142	148	172	212	169	200	246	229	280
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	42	48	54	60	71	78	90	106	118	140
	Max. starting current	A	135	145	152	176	215	173	204	250	233	284
Unit with tank and pump	Pump available static pressure	kPa	140	135	130	125	160	175	160	140	130	140
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.44	2.82	3.21	3.66	4.20	4.78	5.49	6.35	7.45	8.74
	Pump available static pressure	kPa	140	135	130	125	160	150	145	130	120	105
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL versions	Pa	70	60	95	90	80	80	80	80	---	---
	ST versions	Pa	70	60	100	80	75	80	80	80	75	65
	SSL/ST versions	Pa	70	60	95	90	80	80	80	80	---	---
Sound pressure	STD and ST versions (6)	dB(A)	63	63	66	66	66	66	67	68	68	68
	With SL accessory (6)	dB(A)	61	61	64	64	64	64	65	66	66	66
	SSL and SSL/ST versions (6)	dB(A)	58	58	61	61	61	61	61	61	---	---
Weights	Transport weight (7)	Kg	574	606	625	679	728	836	973	1015	1305	1367
	Operating weight (7)	Kg	570	650	700	710	720	850	990	1000	1380	1420
Weights (ST versions)	Transport weight	Kg	589	621	640	694	743	856	993	1035	1325	1387
	Operating weight	Kg	593	625	645	700	749	863	1002	1044	1340	1407

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD-ST	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL-SSL/ST	mm	2350	2350	2350	3550	3550	3550	4700	4700	--	--
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL-SSL/ST	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

JWA 051÷172 S/K/P/AF

300	800	800	1800

NOTES

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

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

Electrical board side

JWA/WP 051÷172 S/K/P/A

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

The reversible Heat Pumps of the JWA/WP 051÷172 S/K/P/A series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency. They are used, combined with terminal units, for the heating or air conditioning of the rooms and are supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (JWA/WP 051÷172 S/G/P/A)** or **R454B (JWA/WP 051÷172 S/L/P/A)** refrigerant.

FROM 56 KW TO 197 KW.

VERSION

JWA/WP
Reversible Heat Pump
JWA/WP/SSL
Super silenced reversible Heat Pump
JWA/WP/ST
Reversible Heat Pump with AQUALOGIK technology
JWA/WP/SSL/ST
Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/WP 051÷172 S/K/P/A

MODEL			051	061	071	081	091	101	111	131	152	172
Heating	Heating capacity (1)	kW	55.7	63.6	71.4	81.6	94.2	109	124	142	163	197
	Absorbed power (1)	kW	16.9	19.5	21.8	24.4	28.2	33.3	37.2	43.2	49.9	59.0
	COP (1)		3.30	3.26	3.28	3.34	3.34	3.27	3.33	3.29	3.27	3.34
Heating (EN14511)	Heating capacity (1)	kW	56.0	63.9	71.7	81.9	94.6	109	124	143	164	198
	Absorbed power (1)	kW	17.1	19.8	22.2	24.8	28.6	33.7	37.8	44.1	50.9	60.2
	COP (1)		3.27	3.23	3.23	3.30	3.31	3.23	3.28	3.24	3.22	3.29
	SCOP (2)		3.43	3.39	3.38	3.50	3.52	3.42	3.44	3.41	3.40	3.39
	Energy Efficiency (2)	%	134	133	132	137	138	134	135	133	133	133
	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
Cooling	Cooling capacity (4)	kW	48.2	54.9	62.5	71.9	82.3	94.5	108	125	139	161
	Absorbed power (4)	kW	15.8	18.7	20.7	23.7	28.5	32.0	35.6	41.8	48.0	56.7
	EER (4)		3.05	2.94	3.02	3.03	2.89	2.95	3.03	2.99	2.90	2.84
Cooling (EN14511)	Cooling capacity (4)	kW	48.0	54.6	62.2	71.6	82.0	94.2	108	124	138	160
	Absorbed power (4)	kW	16.0	19.0	21.0	24.0	28.8	32.3	36.0	42.4	48.6	57.4
	EER (4)		3.00	2.87	2.96	2.98	2.85	2.92	3.00	2.92	2.84	2.79
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pressure drops	kPa	28	30	31	28	28	23	29	39	38	37
	Water connections	"G	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	72	81	102	109	132
	Max. starting current	A	130	140	144	169	209	169	197	246	225	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	77	86	106	114	136
	Max. starting current	A	133	143	148	173	212	173	201	250	229	280
Unit with tank and pump	Pump available static pressure	kPa	155	150	140	135	150	195	185	165	160	150
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pump available static pressure	kPa	155	145	140	135	125	165	150	135	130	120
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	70	60	100	100	100	95	60	65	60	65
	SSL versions	Pa	70	60	65	60	60	95	60	60	60	60
	ST versions	Pa	70	60	100	100	100	95	60	65	60	65
	SSL/ST versions	Pa	70	60	65	60	60	95	60	60	60	60
Sound pressure	STD and ST versions (5)	dB(A)	62	62	65	65	65	66	68	68	69	70
	With SL accessory (5)	dB(A)	60	60	63	63	63	64	66	66	67	68
	SSL and SSL/ST versions (5)	dB(A)	58	58	61	61	60	60	63	63	64	66
Weights	Transport weight (6)	Kg	635	644	693	760	807	926	1076	1126	1235	1414
	Operating weight (6)	Kg	640	650	700	770	820	940	1090	1140	1250	1430
Weights (ST versions)	Transport weight	Kg	650	659	708	775	822	946	1096	1146	1255	1434
	Operating weight	Kg	655	665	715	785	830	960	1110	1160	1270	1450

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

JWA/WP 051÷172 S/K/P/A

300	800	800	1800

NOTES

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

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

Electrical board side

JWA 051÷172 S/K/P

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

The liquid Chillers and Heat Pumps of the JWA 051÷172 S/K/P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and plate exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

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

On request, units can be supplied with **R452B (JWA 051÷172 S/G/P)** or **R454B (JWA 051÷172 S/L/P)** refrigerant.

FROM 48 KW TO 178 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 051÷172 S/K/P

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178
	Absorbed power (1)	kW	16.1	18.8	21.8	25.0	28.3	31.6	37.9	43.3	50.1	58.2
	EER (1)		2.96	2.92	2.91	2.92	2.95	3.03	2.90	2.93	2.93	3.06
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	95.3	110	126	147	177
	Absorbed power (1)	kW	16.4	19.2	22.2	25.4	28.7	32.3	38.5	43.9	50.9	59.2
	EER (1)		2.88	2.84	2.84	2.85	2.89	2.95	2.85	2.87	2.88	2.99
	SEER (2)		3.93	3.95	3.99	3.96	3.95	3.93	3.92	3.98	3.91	3.92
	Energy Efficiency (2)	%	154	155	157	155	155	154	154	156	153	154
	SEER with EC or ECH accessory (2)		4.11	4.11	4.14	4.11	4.16	4.13	4.12	4.18	4.21	4.27
	Energy Efficiency with EC or ECH accessory (2)	%	161	161	163	161	163	162	162	164	165	168
Heating	Heating capacity (3)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (3)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4
	COP (3)		3.13	3.15	3.09	3.16	3.14	3.16	3.12	3.08	3.06	3.10
Heating (EN14511)	Heating capacity (3)	kW	54.5	62.3	71.9	80.9	90.9	107	121	136	155	188
	Absorbed power (3)	kW	17.8	20.2	23.7	26.1	29.5	34.6	39.5	45.1	51.8	62.0
	COP (3)		3.06	3.08	3.03	3.10	3.08	3.09	3.06	3.02	2.99	3.03
	SCOP (4)		3.23	3.20	3.21	3.28	3.29	3.28	3.20	3.25	3.24	3.25
	Energy Efficiency (4)	%	126	125	125	128	129	128	125	127	127	127
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pressure drops	kPa	45	48	43	48	43	58	46	53	48	48
	Water connections	"G	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Unit with tank and pump	Pump available static pressure	kPa	140	130	130	115	135	160	165	150	145	130
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pump available static pressure	kPa	135	130	125	115	110	130	135	120	115	100
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL versions	Pa	85	85	75	75	70	50	70	60	60	---
	ST versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL/ST versions	Pa	90	90	80	80	85	50	70	55	50	---
Sound pressure	STD and ST versions (6)	dB(A)	61	61	64	64	65	66	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	64	65	65	65	65
	SSL and SSL/ST versions (6)	dB(A)	57	57	60	60	61	62	63	63	63	---
Weights	Transport weight (7)	Kg	595	624	663	682	791	878	927	1036	1135	1374
	Operating weight (7)	Kg	600	630	670	690	800	890	940	1050	1150	1390
Weights (ST versions)	Transport weight	Kg	610	639	678	697	806	898	947	1056	1155	1394
	Operating weight	Kg	615	645	685	705	815	910	960	1070	1170	1410

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

JWA 051÷172 S/K/P

300	800	800	1800

NOTES

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

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

Electrical board side

JWA/FC 051÷172 S/K/P

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

The liquid Chillers of the JWA/FC 051÷172 S/K/P series, with R410A refrigerant, offer innovative technology for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for ducted installation.**

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

On request, units can be supplied with **R452B (JWA/FC 051÷172 S/G/P)** or **R454B (JWA/FC 051÷172 S/L/P)** refrigerant.

FROM 53 KW TO 174 KW.

VERSION

JWA/FC
Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil combined with FREE-COOLING coil.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/FC 051÷172 S/K/P

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	52.7	59.5	68.1	76.7	85.7	99.1	114	130	151	174
	Absorbed power (1)	kW	18.1	20.3	23.3	26.1	29.3	36.8	42.2	48.4	54.4	64.9
	EER (1)		2.91	2.93	2.92	2.94	2.92	2.69	2.70	2.69	2.78	2.68
Cooling (EN14511)	Cooling capacity (1)	kW	52.0	58.8	67.3	75.9	84.9	98.2	113	129	150	172
	Absorbed power (1)	kW	18.8	21.0	24.1	26.9	30.1	37.7	43.5	49.9	55.7	66.4
	EER (1)		2.77	2.80	2.79	2.82	2.82	2.60	2.60	2.59	2.69	2.59
	SEPR (2)		5.11	5.13	5.12	5.14	5.12	5.11	5.09	5.08	5.15	5.14
Free-Cooling cycle	Air temperature (3)	°C	2.1	1.3	0.0	-2.4	-3.5	1.0	0.0	-1.1	-3.0	-4.8
	Absorbed power (3)	kW	2	2	2	2	2	6	6	6	8	8
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Water circuit	Water flow	l/s	2.72	3.07	3.52	3.96	4.43	5.09	5.88	6.70	7.78	8.93
	Pressure drops	kPa	115	105	120	100	100	100	135	145	102	106
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	76	85	102	113	136
	Max. starting current	A	130	140	144	169	209	173	201	246	229	280
Unit with tank and pump	Pump available static pressure	kPa	120	125	100	115	100	190	145	125	150	125
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure		Pa	110	110	110	105	105	60	60	60	65	65
Sound pressure	STD version (4)	dB(A)	63	63	63	63	64	65	66	66	67	67
	With SL accessory (4)	dB(A)	61	61	60	60	62	63	64	64	65	65
Weights	Transport weight (5)	Kg	923	932	951	980	999	1308	1317	1350	1472	1510
	Operating weight (5)	Kg	970	980	1000	1030	1050	1390	1400	1435	1560	1600

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD	mm	3550	3550	3550	3550	3550	4700	4700	4700	4700	4700
W	STD	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	2220	2220	2220	2220	2220	2235	2235	2235	2235	2235

CLEARANCE AREA

JWA/FC 051÷172 S/K/P

300	800	800	1800

NOTES

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

Electrical board side

JWA 051÷172 S/K

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

The liquid Chillers and Heat Pumps of the JWA 051÷172 S/K series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.
Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, with tank and pump or with AQUALOGIK technology.
The AQUALOGIK smart control system optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.
A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

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

On request, units can be supplied with **R452B (JWA 051÷172 S/G)** or **R454B (JWA 051÷172 S/L)** refrigerant.

FROM 49 KW TO 179 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- On ST versions water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- On ST versions Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, an high/low pressure transducer on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system (with AQUALOGIK technology on ST versions).

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 051÷172 S/K

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	16.6	18.8	21.5	25.3	28.6	31.6	37.5	43.7	50.7	58.8
	EER (1)		2.95	2.93	2.90	2.90	2.95	3.01	2.91	2.95	2.94	3.04
Cooling (EN14511)	Cooling capacity (1)	kW	48.8	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	16.8	19.1	21.9	25.8	29.0	32.1	38.1	44.3	51.4	59.5
	EER (1)		2.90	2.86	2.83	2.82	2.89	2.95	2.83	2.89	2.88	2.99
	SEER (2)		3.95	3.97	3.91	3.92	3.98	3.98	3.86	3.98	4.01	4.02
	Energy Efficiency (2)	%	155	156	153	154	156	156	151	156	157	158
	SEER with EC or ECH accessory (2)		4.14	4.14	4.13	4.10	4.16	4.13	4.10	4.20	4.21	4.27
	Energy Efficiency with EC or ECH accessory (2)	%	163	163	162	161	163	162	161	165	165	168
Heating	Heating capacity (3)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (3)	kW	17.8	19.6	22.8	25.7	29.1	33.4	38.1	44.2	51.1	61.0
	COP (3)		3.13	3.16	3.08	3.14	3.14	3.14	3.12	3.10	3.05	3.08
Heating (EN14511)	Heating capacity (3)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (3)	kW	18.0	20.0	23.5	26.6	29.8	34.2	39.1	45.1	52.3	62.3
	COP (3)		3.11	3.11	3.01	3.06	3.08	3.10	3.07	3.06	3.00	3.03
	SCOP (4)		3.28	3.23	3.21	3.24	3.29	3.29	3.21	3.29	3.25	3.25
	Energy Efficiency (4)	%	128	126	125	127	129	129	125	129	127	127
	Energy Class (5)		A+	A+	A+	A+	-	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43	38
	Water connections	"G	1 ½"	1 ½"	2"	2"	2 ½"	2 ½"	2 ½"	3"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
Electrical characteristics (ST versions)	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
Unit with tank and pump	Pump available static pressure	kPa	160	150	125	110	140	180	170	170	150	140
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Unit ST versions	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pump available static pressure	kPa	160	150	120	105	110	145	135	140	120	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	STD versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL versions	Pa	85	85	75	75	70	50	70	60	60	---
	ST versions	Pa	90	80	100	100	100	80	95	75	60	60
	SSL/ST versions	Pa	90	90	80	80	85	50	70	55	50	---
Sound pressure	STD and ST versions (6)	dB(A)	61	61	64	64	65	66	67	67	67	67
	With SL accessory (6)	dB(A)	59	59	62	62	63	64	65	65	65	65
	SSL and SSL/ST versions (6)	dB(A)	57	57	60	60	61	62	63	63	63	---
Weights	Transport weight (7)	Kg	641	661	701	719	844	931	971	1112	1192	1428
	Operating weight (7)	Kg	660	680	720	740	870	960	1000	1150	1230	1470
Weights (ST versions)	Transport weight	Kg	655	675	715	735	860	950	990	1130	1210	1450
	Operating weight	Kg	660	690	730	750	875	970	1010	1150	1230	1470

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD-ST	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL-SSL/ST	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD-SSL-ST-SSL/ST	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD-SSL-ST-SSL/ST	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

JWA 051÷172 S/K

300	800	800	1800

NOTES

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

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

Electrical board side

NEW

JWA 081÷211 VV/H/P/A

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

idroinverter

The JWA 081÷211 VV/H/P/A units in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operation 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).

FROM 79 KW TO 208 KW.

VERSION

JWA
Cooling only
JWA/MC
Cooling only with MICROCHANNEL condensing coils
JWA/SSL
Super silenced cooling only
JWA/MC/SSL
Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 081÷211 VV/H/P/A

MODEL			081	101	131	171	211
Cooling STD version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.9	32.3	39.7	49.6	66.6
	EER (1)		3.29	3.13	3.27	3.29	3.12
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.9	32.4	39.8	49.8	66.9
	EER (1)		3.28	3.12	3.27	3.27	3.11
	SEER (2)		4.09	3.95	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	155	154	159	158
	SEER with EC or ECH accessory (2)		4.68	4.42	4.47	4.52	4.47
	Energy Efficiency with EC or ECH accessory (2)	%	184	174	176	178	176
Cooling MC version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.5	31.8	39.1	48.9	65.9
	EER (1)		3.34	3.18	3.32	3.33	3.16
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.5	31.9	39.2	49.1	66.2
	EER (1)		3.34	3.17	3.32	3.32	3.14
	SEER (2)		4.10	3.97	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	156	154	159	158
	SEER with EC or ECH accessory (2)		4.69	4.43	4.48	4.53	4.48
	Energy Efficiency with EC or ECH accessory (2)	%	185	174	176	178	176
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.83	6.21	7.79	9.94
	Pressure drops	kPa	9	11	11	12	12
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	145	205	190	180	150
	Tank water volume	l	600	600	600	600	600
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1281	1441	1888	1998	2189
	Operating weight (4)	Kg	1300	1480	1930	2050	2260

DIMENSIONS

MODEL			081	101	131	171	211
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

CLEARANCE AREA

JWA 081÷211 VV/H/P/A

300	800	800	1800

Electrical board side

NOTES

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

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

NEW

JWA/FC 081÷171 VV/H/P

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

idroinverter

The liquid Chillers of the JWA/FC 081÷171 VV/H/P series, with **HFO-R1234ze** refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressor. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

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

FROM 82 KW TO 170 KW.

VERSION

JWA/FC
Cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/FC 081÷171 VV/H/P

MODEL			081	101	131	171
Cooling	Cooling capacity (1)	kW	81.7	110	140	170
	Absorbed power (1)	kW	26.8	36.3	44.1	53.5
	EER (1)		3.05	3.03	3.17	3.18
Cooling (EN14511)	Cooling capacity (1)	kW	81.5	110	140	171
	Absorbed power (1)	kW	27.1	36.5	44.8	53.8
	EER (1)		3.01	3.01	3.13	3.18
	SEPR (2)		6.86	7.33	6.89	6.58
Free-Cooling cycle	Air temperature (3)	°C	1	-2	0	-3
	Absorbed power (3)	kW	6	6	8	8
Compressor	Quantity	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Water circuit	Water flow	l/s	4.44	6.20	7.60	8.53
	Pressure drops	kPa	36	108	80	113
	Water connections	DN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	105	109	137	156
	Max. starting current	A	184	200	285	334
Unit with tank and pump	Pump available static pressure	kPa	180	110	125	80
	Tank water volume	l	400	400	400	400
	Water connections	DN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure		Pa	110	110	110	105
Sound pressure	STD version (4)	dB(A)	74	74	75	75
	With SL accessory (4)	dB(A)	71	71	72	72
Weights	Transport weight (5)	Kg	1503	1677	2093	2222
	Operating weight (5)	Kg	1550	1760	2180	2320

DIMENSIONS

MODEL			081	101	131	171
L	STD	mm	3550	4700	4700	4700
W	STD	mm	1100	1100	1100	1100
H	STD	mm	2200	2200	2200	2200

CLEARANCE AREA

JWA/FC 081÷171 VV/H/P

300	800	800	1800

NOTES

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

Electrical board side

NEW

JWA 081÷211 VV/H/A

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

idroinverter

The JWA 081÷211 VV/H/A units in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operation 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).

FROM 79 KW TO 211 KW.

VERSION

JWA
Cooling only
JWA/MC
Cooling only with MICROCHANNEL condensing coils
JWA/SSL
Super silenced cooling only
JWA/MC/SSL
Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA 081÷211 VV/H/A

MODEL			081	101	131	171	211
Cooling STD version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.6	30.8	39.0	48.9	66.7
	EER (1)		3.33	3.21	3.31	3.37	3.16
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.4	31.0	39.3	49.6	67.3
	EER (1)		3.37	3.19	3.28	3.31	3.14
	SEER (2)		4.17	3.99	3.99	4.08	3.99
	Energy Efficiency (2)	%	164	157	157	160	157
	SEER with EC or ECH accessory (2)		4.73	4.53	4.53	4.63	4.53
	Energy Efficiency with EC or ECH accessory (2)	%	186	178	178	182	178
Cooling MC version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.2	30.3	38.4	48.2	66.0
	EER (1)		3.39	3.27	3.36	3.42	3.20
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.0	30.5	38.7	48.9	66.6
	EER (1)		3.43	3.24	3.33	3.35	3.17
	SEER (2)		4.18	4.00	4.00	4.09	4.00
	Energy Efficiency (2)	%	164	157	157	161	157
	SEER with EC or ECH accessory (2)		4.74	4.54	4.54	4.64	4.54
	Energy Efficiency with EC or ECH accessory (2)	%	187	179	179	183	179
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.73	6.16	7.88	10.08
	Pressure drops	kPa	21	20	23	44	31
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				
	Max. running current	A	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	140	200	180	150	130
	Tank water volume	l	660	660	660	660	660
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1361	1465	2005	2073	2367
	Operating weight (4)	Kg	1380	1490	2040	2120	2420

DIMENSIONS

MODEL			081	101	131	171	211
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

CLEARANCE AREA

JWA 081÷211 VV/H/A

300	800	800	1800

Electrical board side

NOTES

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

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

JWA/ML/ST 11÷18 S/Z/P

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

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

The units are compliant to the ErP Regulation.

FROM 11 KW TO 23 KW.

VERSION

JWA/ML/ST

Heat pump with AQUALOGIK technology

JWA/ML/WP/ST

Reversible heat pump with AQUALOGIK technology

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
EH	Supplementary electrical heater
KC	Gas burner integration kit
TX	Coil with pre-coated fins

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

TECHNICAL DATA - JWA/ML/ST 11÷18 S/Z/P

MODEL			11*	14*	11**	14**	18
Heating	Heating capacity (1)	kW	11.5	16.0	11.5	16.0	22.5
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.59	3.48	3.59	3.48	3.46
	Heating capacity (2)	kW	11.3	15.8	11.3	15.8	22.4
	Absorbed power (2)	kW	2.7	3.8	2.7	3.8	5.4
	COP (2)		4.19	4.16	4.19	4.16	4.15
Heating (EN14511)	Heating capacity (1)	kW	11.9	16.4	11.9	16.4	23.0
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.72	3.57	3.72	3.57	3.54
	SCOP (3)		4.71	4.95	4.71	4.95	5.12
	Energy Efficiency (3)	%	185	195	185	195	202
	Energy Class (4)		A++	A++	A++	A++	A+
Cooling	Cooling capacity (5)	kW	7.3	10.5	7.3	10.5	16.0
	Absorbed power (5)	kW	2.5	3.6	2.5	3.6	5.2
	EER (6)		2.92	2.92	2.92	2.92	3.08
	Cooling capacity (6)	kW	10.8	15.5	10.8	15.5	21.2
	Absorbed power (6)	kW	2.7	4.0	2.7	4.0	6.1
	EER (6)		4.00	3.88	4.00	3.88	3.48
Cooling (EN14511)	Cooling capacity (5)	kW	7.0	10.2	7.0	10.2	15.6
	Absorbed power (5)	kW	2.8	3.9	2.8	3.9	5.6
	EER (5)		2.50	2.62	2.50	2.62	2.79
Compressor	Quantity	n°	1	1	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	230/1/50				
	Heating capacity	kW	4/6	4/6	4/6	4/6	4/6
	Absorbed current	A	18/26	18/26	18/26	18/26	18/26
	Steps	n°	2	2	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3+N/50		
	Max. running current	A	26	35	13	15	19
	Max. starting current	A	102	165	45	69	106
Water circuit	Water flow	l/s	0.54	0.75	0.54	0.75	1.07
	Pump available static pressure	kPa	231	185	231	185	156
	Water connections	"G	1"	1"	1"	1"	1"
Sound pressure (7)		dB(A)	52	52	52	52	52
Weights	Transport weight	Kg	205	208	205	208	210
	Operating weight	Kg	209	212	209	212	214

DIMENSIONS

MODEL			11*	14*	11**	14**	18
L	STD	mm	1160	1160	1160	1160	1160
W	STD	mm	500	500	500	500	500
H	STD	mm	1270	1270	1270	1270	1270

CLEARANCE AREA

JWA/ML/ST 11÷18 S/Z/P

200	200	800	200

Electrical board side

NOTES

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

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

JWA/ML/ST 24÷40 S/Z/P

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

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

The units are compliant to the ErP Regulation.

FROM 30 KW TO 53 KW.

VERSION

JWA/ML/ST
Heat pump with AQUALOGIK technology

JWA/ML/WP/ST
Reversible heat pump with AQUALOGIK technology

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/ML/ST 24÷40 S/Z/P

MODEL			24	27	40
Heating	Heating capacity (1)	kW	30.7	40.2	52.6
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.84	3.69	3.87
	Heating capacity (2)	kW	29.8	40.0	50.2
	Absorbed power (2)	kW	6.7	9.2	11.4
	COP (2)		4.45	4.35	4.40
Heating (EN14511)	Heating capacity (1)	kW	31.4	41.1	53.5
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.93	3.77	3.93
	SCOP (3)		4.42	4.32	4.27
	Energy Efficiency (3)	%	174	170	168
	Energy Class (4)		A++	A++	A++
Cooling	Cooling capacity (5)	kW	20.4	28.9	37.3
	Absorbed power (5)	kW	6.6	9.3	11.7
	EER (5)		3.09	3.11	3.19
	Cooling capacity (6)	kW	27.6	39.3	47.8
	Absorbed power (6)	kW	7.7	10.7	12.8
	EER (6)		3.58	3.67	3.73
Cooling (EN14511)	Cooling capacity (5)	kW	19.8	28.2	36.5
	Absorbed power (5)	kW	7.2	10.0	12.5
	EER (5)		2.75	2.82	2.92
Compressor	Quantity	n°	1	1	1
Supplementary electrical heater	Power supply	V/Ph/Hz	400/3/50		
	Heating capacity	kW	6/10	6/10	6/10
	Absorbed current	A	26/43	26/43	26/43
	Steps	n°	2	2	2
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50		
	Max. running current	A	28	36	42
	Max. starting current	A	109	139	179
Water circuit	Water flow	l/s	1.47	1.92	2.51
	Pump available static pressure	kPa	230	227	195
	Water connections	"G	2"	2"	2"
Sound pressure (7)		dB(A)	61	62	64
Weights	Transport weight	Kg	220	235	265
	Operating weight	Kg	224	239	269

DIMENSIONS

MODEL			24	27	40
L	STD	mm	1850	1850	1850
W	STD	mm	1000	1000	1000
H	STD	mm	1300	1300	1300

CLEARANCE AREA

JWA/ML/ST 24÷40 S/Z/P

500	800	800	800

Electrical board side

NOTES

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

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

JWA/ML/ST 052÷082 S/Z/P

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

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

The units are compliant to the ErP Regulation.

FROM 56 KW TO 114 KW.

VERSION

JWA/ML/ST
Heat pump with AQUALOGIK technology

JWA/ML/WP/ST
Reversible heat pump with AQUALOGIK technology

JWA/ML/SSL/ST
Super silenced Heat Pump with AQUALOGIK technology

JWA/ML/WP/SSL/ST
Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/ML/ST 052÷082 S/Z/P

MODEL			052	062	072	082
Heating	Heating capacity (1)	kW	57.2	78.3	92.7	114
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.51	3.76	3.61	3.38
	Heating capacity (2)	kW	55.7	74.4	91.1	112
	Absorbed power (2)	kW	13.7	17.4	21.5	27.1
	COP (2)		4.07	4.28	4.24	4.13
Heating (EN14511)	Heating capacity (1)	kW	58.0	79.2	93.6	116
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.56	3.81	3.64	3.43
	SCOP (3)		4.92	5.52	5.11	4.80
	Energy Efficiency (3)	%	194	218	201	189
	Energy Class (4)		A++	A++	A++	A++
Cooling	Cooling capacity (5)	kW	44.3	60.4	78.6	101
	Absorbed power (5)	kW	16.4	23.6	34.8	39.1
	EER (5)		2.70	2.56	2.26	2.58
	Cooling capacity (6)	kW	60.3	81.8	101	130
	Absorbed power (6)	kW	18.7	27.5	37.6	42.2
	EER (6)		3.22	2.97	2.69	3.08
Cooling (EN14511)	Cooling capacity (5)	kW	43.6	59.6	77.7	99.7
	Absorbed power (5)	kW	17.1	24.4	35.7	40.4
	EER (5)		2.55	2.44	2.18	2.47
Compressor	Quantity	n°	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2
	Capacity steps	n°	2			
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	44	56	68	84
	Max. starting current	A	125	159	205	246
Water circuit	Water flow	l/s	2.73	3.74	4.43	5.46
	Pump available static pressure	kPa	165	145	130	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"
ECH fan available static pressure	ST versions	Pa	90	80	100	100
	SSL/ST versions	Pa	90	90	80	85
Sound pressure	STD version (7)	dB(A)	60	61	62	64
	With SL accessory (7)	dB(A)	58	59	60	62
	SSL version (7)	dB(A)	56	57	58	60
Weights	Transport weight	Kg	746	837	856	913
	Operating weight	Kg	755	855	875	935

DIMENSIONS

MODEL			052	062	072	082
L	STD	mm	2350	2350	2350	2350
	SSL	mm	2350	2350	2350	3550
W	STD/SSL	mm	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220
	SSL	mm	2220	2220	2220	2220

CLEARANCE AREA

JWA/ML/ST 052÷082 S/Z/P

300	800	800	1800

Electrical board side

NOTES

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

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

JWA/EP 051÷191 S/K/P

AIRCOOLED 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 JWA/EP 051÷191 S/K/P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER/COP/TER and SEER/SCOP energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (JWA/EP 051÷191 S/G/P)** or **R454B (JWA/EP 051÷191 S/L/P)** refrigerant.

FROM 49 KW TO 190 KW.

VERSION

JWA/EP
Multifunctional unit
JWA/EP/SSL
Super silenced multifunctional unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWA/EP 051÷191 S/K/P

MODEL			051	061	071	081	091	101	111	121	141	171	191
Cooling only	Cooling capacity (1)	kW	48.6	55.9	63.2	72.2	81.8	92.7	105	118	134	159	190
	Absorbed power (1)	kW	16.8	19.3	21.9	24.4	27.9	32.5	38.0	42.3	46.5	57.4	68.5
	EER (1)		2.89	2.90	2.89	2.96	2.93	2.85	2.76	2.79	2.88	2.77	2.77
Cooling only (EN14511)	Cooling capacity (1)	kW	48.3	55.5	62.8	71.7	81.3	92.2	105	117	133	158	189
	Absorbed power (1)	kW	17.1	19.6	22.3	24.9	28.4	33.1	38.5	42.9	47.2	58.3	69.5
	EER (1)		2.82	2.83	2.82	2.88	2.86	2.79	2.73	2.73	2.82	2.71	2.72
	SEER (2)		4.17	4.18	4.17	4.20	4.19	4.16	4.14	4.14	4.17	4.13	4.13
	Energy Efficiency (2)	%	164	164	164	165	165	163	163	163	164	162	162
Heating only	Heating capacity (3)	kW	52.2	59.7	67.0	75.5	86.0	98.4	111	127	142	171	203
	Absorbed power (3)	kW	16.0	18.7	21.2	23.4	26.5	30.0	35.1	39.5	42.8	52.5	61.2
	COP (3)		3.26	3.19	3.16	3.23	3.25	3.28	3.16	3.22	3.32	3.26	3.32
Heating only (EN14511)	Heating capacity (3)	kW	52.5	60.0	67.4	75.9	86.4	98.8	112	128	143	172	204
	Absorbed power (3)	kW	16.3	19.0	21.6	23.9	27.0	30.5	35.7	40.3	43.9	53.7	62.7
	COP (3)		3.22	3.16	3.12	3.18	3.20	3.24	3.14	3.18	3.26	3.20	3.25
	SCOP (4)		3.49	3.46	3.36	3.36	3.38	3.93	3.58	3.53	3.73	3.73	3.75
	Energy Efficiency (4)	%	137	135	131	131	132	154	140	138	146	146	147
	Energy Class (5)		A+	A+	A+	A+	–	–	–	–	–	–	–
Cooling + Heating	Cooling capacity (6)	kW	49.6	56.5	62.9	71.8	83.3	94.0	110	126	140	168	203
	Heating capacity (6)	kW	64.9	73.9	82.5	94.1	109	123	143	163	181	217	261
	Absorbed power (6)	kW	15.3	17.4	19.6	22.3	25.2	29.4	32.6	37.2	40.7	49.0	58.4
	TER (6)		7.48	7.49	7.42	7.44	7.63	7.38	7.76	7.77	7.89	7.86	7.95
Cooling + Heating (EN14511)	Cooling capacity (6)	kW	49.3	56.2	62.5	71.3	82.8	93.4	109	125	139	167	202
	Heating capacity (6)	kW	65.2	74.3	82.9	94.6	110	124	144	164	182	218	262
	Absorbed power (6)	kW	15.6	17.7	20.0	22.8	25.7	30.0	33.1	37.8	41.4	49.8	59.3
	TER (6)		7.34	7.37	7.27	7.28	7.50	7.25	7.64	7.65	7.75	7.73	7.82
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3		2	3	
Evaporator - cooling side	Water flow	l/s	2.32	2.67	3.02	3.45	3.91	4.43	5.02	5.64	6.40	7.60	9.08
	Pressure drops	kPa	35	41	53	50	49	51	38	46	50	52	52
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Condenser - heating side	Water flow	l/s	2.49	2.85	3.20	3.61	4.11	4.70	5.30	6.07	6.78	8.17	9.70
	Pressure drops	kPa	31	35	38	42	40	35	34	42	48	43	45
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	40	46	54	59	66	77	84	95	100	128	151
	Max. starting current	A	164	166	178	191	234	201	217	263	314	304	359
Unit with pump - cooling side	Pump available static pressure	kPa	150	140	120	115	130	115	115	95	150	135	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Unit with pump - heating side	Pump available static pressure	kPa	150	140	130	120	135	125	115	160	150	135	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
ECH fan available static pressure	STD version	Pa	95	100	95	95	95	100	60	50	60	50	50
	SSL version	Pa	70	85	70	70	70	90	50	50	60	50	50
Sound pressure	STD version (7)	dB(A)	63	64	64	65	65	66	68	68	69	70	70
	With SL accessory (7)	dB(A)	61	62	62	63	63	64	66	66	67	68	68
	SSL version (7)	dB(A)	58	59	59	60	60	61	63	63	64	65	65
Weights	Transport weight	Kg	750	760	815	905	925	1030	1055	1085	1295	1500	1545
	Operating weight	Kg	765	775	830	925	950	1060	1085	1115	1335	1545	1595

DIMENSIONS

MODEL			051	061	071	081	091	101	111	121	141	171	191
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	3550	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

JWA/EP 051÷191 S/K/P

300	800	800	1800

NOTES

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

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

Electrical board side

JWH/WP 4÷40 S/K/P

HEAT PUMPS WITH ROTARY/SCROLL COMPRESSOR AND PLATE EXCHANGERS.

The JWH/WP 4÷40 S/K/P Heat Pumps, with R410A refrigerant, are designed for small and medium domestic or industrial systems which require medium-low power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while making installation and maintenance operations easier.
These units can be combined with Fan Coil units or with intermediate heat exchangers for process cooling applications.
Equipped with prepainted plate structure, Rotary/Scroll compressor and plate exchangers, these units have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency, even in tank and pump version.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

The units are compliant to the ErP Regulation.

FROM 5 KW TO 49 KW.

VERSION

JWH/WP
Reversible Heat Pump
JWH/WP/SP
Reversible Heat Pump with tank and pump

FEATURES

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

ACCESSORIES

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

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

TECHNICAL DATA - JWH/WP 4÷40 S/K/P

MODEL			4	5	7	8	9	11	14
Cooling	Cooling capacity (1)	kW	4.6	5.8	7.1	8.3	9.6	11.6	14.3
	Absorbed power (1)	kW	1.1	1.4	1.8	2.0	2.3	2.9	3.4
	EER (1)		4.18	4.14	3.94	4.15	4.17	4.00	4.21
Cooling (EN14511)	Cooling capacity (1)	kW	4.6	5.7	7.0	8.2	9.5	11.5	14.2
	Absorbed power (1)	kW	1.2	1.5	2.0	2.2	2.5	3.2	3.7
	EER (1)		3.83	3.70	3.47	3.80	3.78	3.58	3.80
Heating	Heating capacity (2)	kW	5.9	7.2	8.8	10.4	12.5	14.9	17.5
	Absorbed power (2)	kW	1.4	1.7	2.2	2.5	3.0	3.5	4.3
	COP (2)		4.21	4.24	4.00	4.16	4.17	4.26	4.07
Heating (EN14511)	Heating capacity (2)	kW	5.1	6.7	8.4	9.8	11.9	13.7	17.1
	Absorbed power (2)	kW	1.5	1.8	2.5	2.8	3.7	3.9	4.5
	COP (2)		3.38	3.64	3.31	3.51	3.25	3.56	3.81
	SCOP (3)		4.20	4.15	3.85	4.18	4.31	4.38	4.34
	Energy Efficiency (3)	%	160	158	146	159	164	167	166
	Energy Class (4)		A++	A++	A+	A++	A++	A++	A++
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.22	0.28	0.34	0.40	0.46	0.55	0.68
	Pressure drops	kPa	21	30	44	26	30	45	42
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.07	0.09	0.11	0.12	0.14	0.17	0.21
	Pressure drops	kPa	3	4	5	6	8	10	5
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit SP versions	Water flow	l/s	0.22	0.28	0.34	0.40	0.46	0.55	0.68
	Pump available static pressure	kPa	40	33	38	55	50	35	128
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (5)	dB(A)	39	39	39	39	41	43	43
Weights	Transport weight (6)	Kg	77	78	80	84	87	90	93
	Operating weight (6)	Kg	78	79	81	85	88	91	95

MODEL			16	18	20	24	27	34	40
Cooling	Cooling capacity (1)	kW	17.1	20.0	23.0	27.7	33.6	39.7	49.2
	Absorbed power (1)	kW	4.1	4.8	5.5	6.8	7.9	9.3	11.5
	EER (1)		4.17	4.17	4.18	4.07	4.25	4.27	4.28
Cooling (EN14511)	Cooling capacity (1)	kW	17.0	19.8	22.8	27.5	33.3	39.4	48.8
	Absorbed power (1)	kW	4.4	5.2	6.0	7.4	8.7	10.1	12.1
	EER (1)		3.86	3.79	3.79	3.72	3.83	3.92	4.03
Heating	Heating capacity (2)	kW	20.8	24.3	28.4	33.8	39.8	47.0	59.5
	Absorbed power (2)	kW	5.4	6.1	7.0	8.2	10.1	11.7	14.4
	COP (2)		3.85	3.98	4.06	4.12	3.94	4.02	4.13
Heating (EN14511)	Heating capacity (2)	kW	19.7	22.5	26.3	31.8	37.9	44.5	56.4
	Absorbed power (2)	kW	5.6	6.3	7.2	8.9	10.8	12.4	15.2
	COP (2)		3.50	3.59	3.67	3.56	3.50	3.58	3.71
	SCOP (3)		3.95	4.05	4.05	4.31	3.94	4.18	4.28
	Energy Efficiency (3)	%	150	154	154	164	150	159	163
	Energy Class (4)		A+	A++	A++	A++	A+	A++	A++
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pressure drops	kPa	29	40	47	48	60	49	54
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Condenser	Water flow	l/s	0.25	0.30	0.34	0.41	0.50	0.58	0.73
	Pressure drops	kPa	8	10	13	20	21	22	22
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit SP versions	Water flow	l/s	0.82	0.96	1.10	1.32	1.61	1.90	2.35
	Pump available static pressure	kPa	131	100	93	187	160	131	155
	Tank water volume	l	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (5)	dB(A)	44	45	47	49	49	50	50
Weights	Transport weight (6)	Kg	96	98	100	190	198	204	218
	Operating weight (6)	Kg	98	100	102	193	201	207	221

DIMENSIONS

MODEL			4	5	7	8	9	11	14	16	18	20	24	27	34	40
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

JWH/WP 4÷40 S/K/P

500 | 800 | 800 | 800

JWH/WP/SP 24÷40 S/K/P

500 | 800 | 800 | 800

Electrical board side

NOTES

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

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

JWH 051÷172 S/K/P

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

The JWH 051÷172 S/K/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 JWH (051÷172 S/G/P)** or **R454B (JWH 051÷172 S/L/P)** refrigerant.

FROM 55 KW TO 195 KW.

VERSION

JWH
Cooling only
JWH/WP
Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWH 051÷172 S/K/P

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	55.4	62.5	72.1	82.5	97.2	112	130	149	170	195
	Absorbed power (1)	kW	12.8	14.3	16.6	18.7	21.8	25.7	28.5	32.8	37.7	43.7
	EER (1)		4.33	4.37	4.34	4.41	4.46	4.36	4.56	4.54	4.51	4.46
Cooling (EN14511)	Cooling capacity (1)	kW	55.0	62.1	71.6	82.0	96.7	111	129	148	169	194
	Absorbed power (1)	kW	13.6	15.3	17.6	19.9	22.9	27.3	29.9	34.3	39.3	45.6
	EER (1)		4.04	4.06	4.06	4.13	4.22	4.08	4.33	4.32	4.31	4.26
	SEER (2)		5.28	5.21	5.22	5.21	5.64	5.20	5.72	6.17	5.78	6.16
	Energy Efficiency (2)	%	203	200	201	200	218	200	221	239	223	238
Heating	Heating capacity (3)	kW	72.5	80.1	93.3	105	121	140	159	180	205	237
	Absorbed power (3)	kW	18.0	20.0	23.2	25.7	28.8	33.2	38.4	42.7	51.7	56.7
	COP		4.03	4.01	4.02	4.09	4.20	4.22	4.14	4.22	3.97	4.18
Heating (EN14511)	Heating capacity (3)	kW	72.8	80.6	93.4	105	122	141	159	180	205	237
	Absorbed power (3)	kW	18.3	20.5	23.3	26.1	29.4	33.9	38.5	42.8	51.8	56.9
	COP (3)		3.98	3.94	4.01	4.04	4.14	4.15	4.13	4.21	3.96	4.17
	SCOP (4)		4.29	4.03	4.77	5.15	5.11	5.05	5.37	5.31	4.76	4.76
	Energy Efficiency (4)	%	164	153	183	198	196	194	207	204	182	182
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.65	2.99	3.44	3.94	4.64	5.38	6.23	7.14	8.12	9.33
	Pressure drops	kPa	54	48	49	51	44	57	53	59	49	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Condenser	Water flow	l/s	3.26	3.67	4.24	4.84	5.69	6.60	7.59	8.71	9.92	11.41
	Pressure drops	kPa	47	51	52	43	46	54	36	39	43	48
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	100	100	90	130	115	120	105	75	110	65
	Tank water volume	l	300	300	300	300	300	300	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (5)	dB(A)	59	59	60	60	62	61	61	63	64	64
	With SL accessory (5)	dB(A)	56	56	57	57	59	58	58	60	61	61
Weights	Transport weight (6)	Kg	384	393	411	423	453	622	658	681	767	803
	Operating weight (6)	Kg	390	400	420	435	470	640	680	705	790	830

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
UNIT + SPU/SPD	L	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREA

JWH 051÷172 S/K/P

0	300	800	300

NOTES

1. Chilled water from 12 to 7 °C, water temperature at the condenser from 30 to 35 °C.
2. Seasonal energy efficiency of cooling at medium 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

JWH 051÷172 S/K

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

AQUA PLUS

The JWH 051÷172 S/K 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 (JWH 051÷172 S/G)** or **R454B (JWH 051÷172 S/L)** refrigerant.

FROM 57 KW TO 196 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWH 051÷172 S/K

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	57.0	62.6	70.9	82.9	98.3	111	129	151	172	196
	Absorbed power (1)	kW	13.2	14.3	16.4	18.9	22.0	25.7	28.2	33.1	38.2	44.1
	EER (1)		4.32	4.38	4.32	4.39	4.47	4.32	4.57	4.56	4.50	4.44
Cooling (EN14511)	Cooling capacity (1)	kW	56.7	62.2	70.4	82.2	97.6	110	128	150	171	195
	Absorbed power (1)	kW	13.7	14.9	17.2	19.9	23.1	26.9	29.4	34.5	39.7	45.7
	EER (1)		4.14	4.17	4.10	4.14	4.23	4.10	4.36	4.36	4.31	4.27
	SEER (2)		5.21	5.22	5.21	5.22	5.71	5.22	5.74	6.21	5.83	6.19
	Energy Efficiency (2)	%	200	201	200	201	220	201	222	240	225	240
Heating	Heating capacity (3)	kW	74.6	80.3	91.7	106	122	139	158	182	208	238
	Absorbed power (3)	kW	18.6	20.0	22.9	26.0	29.1	33.2	38.0	43.1	52.3	57.3
	COP		4.01	4.02	4.00	4.08	4.19	4.19	4.16	4.22	3.98	4.15
Heating (EN14511)	Heating capacity (3)	kW	75.1	80.9	92.5	106	123	140	159	183	210	239
	Absorbed power (3)	kW	19.3	20.9	24.0	27.1	30.6	34.8	39.6	44.8	54.4	59.4
	COP (3)		3.89	3.88	3.86	3.92	4.03	4.03	4.02	4.08	3.85	4.03
	SCOP (4)		4.16	4.39	4.39	4.53	4.62	4.57	4.85	4.64	4.72	4.84
	Energy Efficiency (4)	%	158	168	168	173	177	175	186	178	181	186
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.72	2.99	3.39	3.96	4.70	5.30	6.16	7.21	8.22	9.36
	Pressure drops	kPa	32	42	55	74	62	55	57	49	63	49
	Water connections	"G	1 ½"	1 ½"	2"	2"	2"	2 ½"	2 ½"	3"	3"	3"
Condenser	Water flow	l/s	3.35	3.67	4.17	4.86	5.75	6.53	7.51	8.80	10.04	11.47
	Pressure drops	kPa	15	17	18	20	27	33	23	30	20	27
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	150	145	130	140	110	165	165	140	135	105
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
	Water connections	"G	2"	2"	2"	2"	2"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (5)	dB(A)	59	59	61	60	62	62	63	65	65	65
	With SL accessory (5)	dB(A)	56	56	58	57	58	59	60	62	62	62
	SSL version (5)	dB(A)	54	54	56	56	57	57	59	60	60	60
Weights	Transport weight (6)	Kg	465	470	478	488	504	590	606	657	840	856
	Operating weight (6)	Kg	495	500	510	520	540	630	650	710	900	920

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD/SSL	mm	2100	2100	2300	2100	2700	2400	2400	2400	2400	2600
W	STD/SSL	mm	830	830	830	830	830	830	830	830	830	830
H	STD/SSL	mm	1300	1300	1300	1300	1300	1300	1300	1300	1450	1450

CLEARANCE AREA

JWH 051÷172 S/K

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

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

Electrical board side

JEE 4÷40 S/K/P

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

The liquid Chillers and Heat Pumps for remote condensation of the JEE 4÷40 S/K/P series, with R410A refrigerant, are designed for domestic or service sector systems which require medium power, space-saving units and quiet operation. Combined with remote condenser, these units are ideal for indoor installation and, equipped with a self-contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier. Equipped with prepainted plate structure, Rotary/Scroll compressor and plate exchanger, these units have cooling and hydraulic circuits designed for quick installation and high energy efficiency, even in the version with tank and pump.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

FROM 4 KW TO 42 KW.

VERSION

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

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JEE 4÷40 S/K/P

MODEL			4	5	7	8	9	11	14
Cooling	Cooling capacity (1)	kW	4.0	5.1	6.2	7.3	8.5	10.1	12.1
	Absorbed power (1)	kW	1.4	1.8	2.1	3.0	3.3	3.7	3.3
Heating	Heating capacity (2)	kW	5.1	6.4	8.2	9.4	10.7	13.2	15.5
	Absorbed power (2)	kW	1.5	1.9	2.4	2.7	3.0	4.2	4.5
Compressor	Type		Rotary				Scroll		
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.19	0.24	0.30	0.35	0.41	0.48	0.58
	Pressure drops	kPa	15	15	20	18	20	25	35
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	12	12	12	12	12	12	16
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	8	10	13	14	16	22	9
	Max. starting current	A	37	43	62	62	75	86	50
Unit SP versions	Water flow	l/s	0.19	0.24	0.30	0.35	0.41	0.48	0.58
	Pump available static pressure	kPa	50	45	75	70	70	60	180
	Tank water volume	l	50	50	50	50	50	50	50
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	39	39	39	39	41	43	43
Weights	Transport weight (4)	Kg	74	75	77	81	84	87	86
	Operating weight (4)	Kg	75	76	78	82	85	88	88

MODEL			16	18	20	24	27	34	40
Cooling	Cooling capacity (1)	kW	14.5	17.0	20.0	24.1	28.8	33.9	41.5
	Absorbed power (1)	kW	5.2	6.0	7.1	7.8	9.3	10.9	13.3
Heating	Heating capacity (2)	kW	18.5	22.0	25.9	30.4	36.4	43.0	53.2
	Absorbed power (2)	kW	5.5	6.5	7.7	8.3	10.1	11.7	14.2
Compressor	Type		Scroll						
	Quantity	n°	1	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pressure drops	kPa	28	35	39	40	45	40	40
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Connections	Delivery line	Ø mm	16	16	16	22	22	22	22
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	11	14	15	18	20	23	29
	Max. starting current	A	71	74	74	142	142	147	197
Unit SP versions	Water flow	l/s	0.69	0.81	0.96	1.15	1.38	1.62	1.98
	Pump available static pressure	kPa	170	140	110	215	130	155	235
	Tank water volume	l	50	50	50	100	100	100	100
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	44	45	47	49	49	50	50
Weights	Transport weight (4)	Kg	89	91	93	183	189	195	206
	Operating weight (4)	Kg	91	93	95	186	192	198	209

DIMENSIONS

MODEL			4	5	7	8	9	11	14	16	18	20	24	27	34	40
L	STD	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
	SP	mm	550	550	550	550	550	550	550	550	550	550	1100	1100	1100	1100
W	STD/SP	mm	550	550	550	550	550	550	550	550	550	550	550	550	550	550
H	STD/SP	mm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

CLEARANCE AREA

JEE 4÷40 S/K/P

500 | 800 | 800 | 800

JEE/SP 24÷40 S/K/P

500 | 800 | 800 | 800

Electrical board side

NOTES

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

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

JEE 051÷172 S/K/P

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

JEE 051÷172 S/K/P series liquid Chillers and Heat Pumps for remote condensation, with R410A refrigerant, are designed to meet the needs of residential or industrial-type systems requiring high power together with space-saving and quiet operation. These units are ideal for indoor installation and, equipped with a self-contained structure, minimise overall dimensions while also facilitating installation and maintenance operations. Equipped with polyester plate powder painting structure, Scroll compressors and plate 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.

FROM 51 KW TO 176 KW.

VERSION

JEE
Cooling only
JEE/WP
Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit on the refrigerant side and one on the water side in 051÷131 models; with two independent circuits on the refrigerant side and one on the water side in 152÷172 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JEE 051÷172 S/K/P

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	50.8	57.1	64.3	73.6	87.1	98.8	114	134	149	176
	Absorbed power (1)	kW	15.4	17.3	19.0	21.6	25.8	29.4	32.9	38.7	43.5	51.5
Heating	Heating capacity (2)	kW	59.5	65.8	74.3	84.7	96.5	107	122	148	157	194
	Absorbed power (2)	kW	18.0	20.0	22.3	24.7	27.8	32.8	37.2	41.1	50.8	56.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.43	2.73	3.07	3.52	4.16	4.72	5.42	6.41	7.10	8.41
	Pressure drops	kPa	47	42	41	42	40	48	44	51	41	40
	Water connections	"G	1 ¼"	1 ¼"	1 ¼"	1 ¼"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Connections	Delivery line	Ø mm	28	28	28	28	28	28	28	28	2 x 28	2 x 28
	Liquid line	Ø mm	22	22	22	22	22	22	22	22	2 x 22	2 x 22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	33	39	43	49	60	64	73	90	98	120
	Max. starting current	A	128	137	139	164	204	161	189	234	213	264
Unit with tank and pump	Pump available static pressure	kPa	105	110	100	135	120	130	120	110	120	100
	Tank water volume	l	300	300	300	300	300	300	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (3)	dB(A)	59	59	60	60	62	61	61	63	64	64
	With SL accessory (3)	dB(A)	56	56	57	57	59	58	58	60	61	61
Weights	Transport weight (4)	Kg	347	357	376	386	397	562	581	595	669	708
	Operating weight (4)	Kg	350	360	380	390	405	570	590	605	680	720

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
UNIT	L	mm	1200	1200	1200	1200	1200	2285	2285	2285	2285	2285
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520
UNIT + SPU/SPD	L	mm	2310	2310	2310	2310	2310	3395	3395	3395	3395	3395
	W	mm	680	680	680	680	680	680	680	680	680	680
	H	mm	1520	1520	1520	1520	1520	1520	1520	1520	1520	1520

CLEARANCE AREA

JEE 051÷172 S/K/P

0	300	800	300

NOTES

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

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

Electrical board side

NEW

JWH 081÷171 VV/H/P/A

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

idroinverter

The liquid Chillers of the JWH 081÷171 VV/H/P/A series, with A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
Equipped with latest generation Screw compressor and plate exchangers, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one compressor is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The units are compliant to the ErP 2021 Regulation.

FROM 86 KW TO 189 KW.

VERSION

JWH
Cooling only
JWH/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JWH 081÷171 VV/H/P/A

MODEL			081	101	131	171
Cooling	Cooling capacity (1)	kW	86.4	115	152	189
	Absorbed power (1)	kW	16.8	21.7	28.9	35.2
	EER (1)		5.14	5.3O	5.26	5.37
Cooling (EN14511)	Cooling capacity (1)	kW	86.3	115	152	189
	Absorbed power (1)	kW	17.0	22.0	29.3	36.0
	EER (1)		5.08	5.23	5.19	5.25
	SEER (2)		5.51	5.49	5.55	5.60
	Energy Efficiency (2)	%	212	212	214	216
Compressor	Quantity	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Evaporator	Water flow	l/s	4.13	5.49	7.26	9.03
	Pressure drops	kPa	13	14	13	15
	Water connections	"G	2 ½"	2 ½"	3"	3"
Condenser	Water flow	l/s	4.93	6.52	8.60	10.66
	Pressure drops	kPa	12	11	12	19
	Water connections	"G	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	93	92	122	141
	Max. starting current	A	172	183	268	317
Unit with tank and pump	Pump available static pressure	kPa	165	125	125	80
	Tank water volume	l	300	300	300	300
	Water connections	"G	2 ½"	2 ½"	3"	3"
Sound pressure	STD version (3)	dB(A)	74	75	75	76
	SSL version (3)	dB(A)	70	71	71	72
Weights	Transport weight (4)	Kg	922	1189	1390	1506
	Operating weight (4)	Kg	960	1280	1490	1610

DIMENSIONS

MODEL			081	101	131	171
L	UNIT	mm	2800	2800	2800	2800
	UNIT + SPU/SPD	mm	3910	3910	3910	3910
W	UNIT	mm	730	730	730	730
	UNIT + SPU/SPD	mm	730	730	730	730
H	UNIT	mm	1620	1620	1620	1620
	UNIT + SPU/SPD	mm	1620	1620	1620	1620

CLEARANCE AREA

JWH 081÷171 VV/H/P/A

0	300	800	300

NOTES

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

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

Electrical board side

JCA 4÷40 S/K

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND ROTARY/SCROLL COMPRESSOR.

The condensing units and reversible condensing units of the JCA 4÷40 S/K series, with R410A refrigerant, are designed for small and medium-sized domestic or industrial systems.
With a peraluman structure, these outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air conditioning applications. They are equipped with Rotary/Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

FROM 4.5 KW TO 46 KW.

VERSION

JCA
Cooling only
JCA/WP
Reversible Heat Pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only (4÷20).
- R410A refrigerant.
- Electrical board includes: main switch with door lock device, fuses and compressor remote control switch.
- Microprocessor control and regulation system (WP only).

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES:	
RP	Coils protection metallic guards
FP	Coils protection metallic guards with filter
AG	Rubber shock absorbers

TECHNICAL DATA - JCA 4÷40 S/K

MODEL			4	5	7	8	9	11	14
Cooling	Cooling capacity (1)	kW	4.5	5.6	6.8	8.0	9.2	10.8	13.2
	Absorbed power (1)	kW	1.4	1.8	2.1	2.5	2.9	3.7	4.1
Heating	Heating capacity (2)	kW	4.8	5.9	7.3	8.4	9.7	11.3	13.7
	Absorbed power (2)	kW	1.5	1.9	2.3	2.6	3.0	3.8	4.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	7	9	11	11	15	18	7
	Max. starting current	A	37	43	62	62	79	86	58
Sound pressure (3)		dB(A)	49	50	49	51	53	54	54
Weights	Transport weight	Kg	81	83	83	87	90	92	109
	Operating weight	Kg	82	84	84	88	91	93	111

MODEL			16	18	20	24	27	34	40
Cooling	Cooling capacity (1)	kW	15.8	19.1	21.2	26.4	30.9	36.6	45.9
	Absorbed power (1)	kW	5.1	6.2	7.1	8.6	9.2	11.5	14.2
Heating	Heating capacity (2)	kW	16.8	19.9	22.0	27.4	33.2	40.9	51.9
	Absorbed power (2)	kW	5.3	6.4	7.3	8.8	9.8	11.9	15.2
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Scroll						
Connections	Suction line	Ø mm	18	22	22	28	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12	16
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50						
	Max. running current	A	10	10	12	23	29	30	39
	Max. starting current	A	61	58	74	142	147	142	167
Sound pressure (3)		dB(A)	54	55	56	59	61	61	61
Weights	Transport weight	Kg	111	113	115	218	232	252	266
	Operating weight	Kg	114	116	118	221	235	256	271

DIMENSIONS

MODEL			4	5	7	8	9	11	14	16	18	20	24	27	34	40
L	STD	mm	870	870	870	870	870	870	1160	1160	1160	1160	1850	1850	1850	1850
W	STD	mm	320	320	320	320	320	320	500	500	500	500	1000	1000	1000	1000
H	STD	mm	1100	1100	1100	1100	1100	1100	1270	1270	1270	1270	1300	1300	1300	1300

CLEARANCE AREA

JCA 4÷11 S/K

200 | 200 | 800 | 200

JCA 14÷20 S/K

200 | 200 | 800 | 200

JCA 24÷40 S/K

500 | 800 | 800 | 800

Electrical board side

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

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

JCA 051÷172 S/K

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH AXIAL FANS AND SCROLL COMPRESSORS.

The condensing units and reversible condensing units of the JCA 051÷172 S/K series, with R410A refrigerant, are designed to satisfy the needs of medium and large-sized domestic or industrial systems.
These outdoor units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications. They are equipped with Scroll compressors and axial fans, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

FROM 51 KW TO 188 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
EC	EC Inverter fans
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JCA 051÷172 S/K

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	50.6	58.6	66.9	77.2	88.4	102	117	134	156	188
	Absorbed power (1)	kW	17.4	19.7	22.5	25.8	29.5	34.2	39.2	45.6	53.2	63.2
Heating	Heating capacity (2)	kW	55.5	63.5	73.6	83.9	94.5	109	125	142	162	193
	Absorbed power (2)	kW	14.7	16.0	19.1	21.7	24.4	27.9	32.7	36.6	41.7	49.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	1x42	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22	2x22
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	40	43	52	56	65	75	85	98	111	132
	Max. starting current	A	163	165	175	188	232	199	218	265	243	299
Sound pressure	STD version (3)	dB(A)	61	61	64	64	65	66	68	68	69	70
	With SL accessory (3)	dB(A)	59	59	62	62	63	64	66	66	67	68
	SSL version (3)	dB(A)	57	57	60	60	61	62	63	63	64	---
Weights	Transport weight	Kg	550	575	615	625	670	770	800	830	980	1090
	Operating weight	Kg	560	585	625	635	680	785	815	845	1005	1120

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

JCA 051÷172 S/K

300	800	800	1800

Electrical board side

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

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

JCR 4÷34 S/K

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND ROTARY/SCROLL COMPRESSOR FOR INDOOR DUCTED INSTALLATION.

The indoor condensing units and reversible condensing units of the JCR 4÷34 S/K series, with R410A refrigerant, are intended to satisfy the needs of small and medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
With a prepainted plate structure, these units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units, generally in air-conditioning applications. They are equipped with Rotary/Scroll compressors and radial fans, with appreciable useful head, and they enable immediate and efficient use thanks to particular technical and design adjustments. A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

FROM 4.5 KW TO 37 KW.

VERSION

JCR
Cooling only
JCR/WP
Reversible Heat Pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Double inlet radial fan statically and dynamically balanced directly driven by a electric motor (4÷20) or belt driven connected to a three-phase electric motor (24÷34).
- Condenser in copper tubes and aluminium finned coil, complete with drain pan for WP version only.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuse and compressor remote control switch.
- Microprocessor control and regulation system (WP only).

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve

LOOSE ACCESSORIES:	
RP	Coils protection metallic guards
FP	Coils protection metallic guards with filter
AG	Rubber shock absorbers

TECHNICAL DATA - JCR 4÷34 S/K

MODEL			4	5	7	8	9	11	14
Cooling	Cooling capacity (1)	kW	4.5	5.6	6.8	8.0	9.2	10.8	13.2
	Absorbed power (1)	kW	1.5	1.9	2.2	2.6	3.0	3.8	4.9
Heating	Heating capacity (2)	kW	4.8	5.9	7.3	8.4	9.7	11.3	13.7
	Absorbed power (2)	kW	1.6	2.0	2.4	2.7	3.1	3.9	5.0
Compressor	Quantity	n°	1	1	1	1	1	1	1
	Type		Rotary				Scroll		
Connections	Suction line	Ø mm	16	16	16	16	16	16	18
	Liquid line	Ø mm	10	10	10	10	10	10	12
Available static pressure		Pa	90	90	80	80	80	80	115
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50
	Max. running current	A	10	12	13	14	17	21	11
	Max. starting current	A	40	46	65	65	82	89	61
Sound pressure (3)		dB(A)	51	51	51	52	53	54	59
Weights	Transport weight	Kg	120	121	123	126	131	133	190
	Operating weight	Kg	121	122	124	127	132	134	192

MODEL			16	18	20	24	27	34
Cooling	Cooling capacity (1)	kW	15.8	19.1	21.2	26.4	30.9	36.6
	Absorbed power (1)	kW	5.9	7.0	7.9	10.3	10.4	13.5
Heating	Heating capacity (2)	kW	16.8	19.9	22.0	27.4	33.2	40.9
	Absorbed power (2)	kW	6.1	7.2	8.1	10.5	11.0	13.9
Compressor	Quantity	n°	1	1	1	1	1	1
	Type		Scroll					
Connections	Suction line	Ø mm	18	22	22	28	28	28
	Liquid line	Ø mm	12	12	12	12	12	12
Available static pressure		Pa	115	115	115	150	150	160
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50					
	Max. running current	A	14	14	15	27	33	36
	Max. starting current	A	64	61	77	146	151	148
Sound pressure (3)		dB(A)	59	60	60	62	62	64
Weights	Transport weight	Kg	200	202	204	313	319	334
	Operating weight	Kg	203	205	207	316	322	338

DIMENSIONS

MODEL			4	5	7	8	9	11	14	16	18	20	24	27	34
L	STD	mm	900	900	900	900	900	900	900	900	900	900	1500	1500	1500
W	STD	mm	550	550	550	550	550	550	690	690	690	690	800	800	800
H	STD	mm	1425	1425	1425	1425	1425	1425	1725	1725	1725	1725	1425	1425	1425

CLEARANCE AREA

JCR 4÷11 S/K

100 | 800 | 800 | 800

JCR 14÷20 S/K

100 | 800 | 800 | 1000

JCR 24÷34 S/K

1200 | 800 | 800 | 100

Electrical board side

NOTE

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

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

JCR 051÷172 S/K

AIRCOOLED CONDENSING UNITS AND REVERSIBLE CONDENSING UNITS WITH RADIAL FANS AND SCROLL COMPRESSORS.

The indoor condensing units and reversible condensing units of the JCR 051÷172 S/K series, with R410A refrigerant, are designed to satisfy the needs of medium-sized domestic or industrial systems with particular difficulty in positioning units outside the building.
These units are combined with evaporators in split system air conditioning installations, allowing the rooms to be cooled and dehumidified or to be heated. They can also be used in combination with hydronic evaporating units in both air conditioning and industrial process cooling applications.
They are equipped with Scroll compressors and radial fans even in a high ESP version, and they enable immediate and efficient use thanks to particular technical and design adjustments.
A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.

FROM 51 KW TO 188 KW.

VERSION

JCR
Cooling only
JCR/AP
Cooling only with high ESP fans
JCR/WP
Reversible Heat Pump
JCR/WP/AP
Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser made of copper tubes and aluminium finned coil.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
RL	Liquid receiver
VS	Solenoid valve
BP	Hot gas by-pass valve
FF	Dryer filter and sight glass
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - JCR 051÷172 S/K

MODEL			051	061	071	081	091	101	111	131	152	172
Cooling	Cooling capacity (1)	kW	50.6	58.6	66.9	77.2	88.4	102	117	134	156	188
	Absorbed power (1)	kW	18.3	21.4	24.9	28.2	31.9	36.6	43.2	49.6	58.2	69.2
Heating	Heating capacity (2)	kW	55.5	63.5	73.6	83.9	94.5	109	125	142	162	193
	Absorbed power (2)	kW	15.6	17.7	21.5	24.1	26.8	30.3	36.7	40.6	46.7	55.5
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Connections	Suction line	Ø mm	1x35	1x35	1x35	1x35	1x35	1x42	1x42	1x42	2x35	2x35
	Liquid line	Ø mm	1x22	1x22	1x22	1x22	1x22	1x28	1x28	1x28	2x22	2x22
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	43	48	57	61	70	80	94	107	122	146
	Max. starting current	A	166	169	180	193	237	204	227	275	255	313
Sound pressure	STD version (3)	dB(A)	70	70	70	70	71	73	74	74	75	76
	STD version with SL accessory (3)	dB(A)	68	68	68	68	69	71	72	72	73	74
	High ESP version (3)	dB(A)	71	71	71	71	72	74	---	---	76	---
	High ESP version with SL accessory (3)	dB(A)	69	69	69	69	70	72	---	---	74	---
Weights	Transport weight	Kg	595	600	670	680	725	825	865	895	1080	1185
	Operating weight	Kg	605	610	680	690	735	840	880	910	1105	1215

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	1705	1705	1705	1705	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

JCR 051÷172 S/K

300	800	800	1800

NOTES

1. Average evaporating temperature 5 °C, ambient air temperature 35 °C.
2. Average condensing temperature 40 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

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

Electrical board side


KTK
KLIMATECHNIK
TURBOLINE

TOP LINE

Aircooled, Watercooled & Condenserless liquid Chillers and Heat Pumps for wide areas.

TWA 202÷702 S/IK/P/A

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

The A CLASS energy efficiency liquid Chillers and Heat Pumps of the TWA 202÷702 S/IK/P/A series, with R410A refrigerant, are designed to satisfy the needs of medium and wide-sized service sector or industrial ambients.
They are used, combined with Fan Coil units, for the air conditioning or heating of the rooms or to remove the heat developed during industrial processes.
All units feature A CLASS energy efficiency and are equipped with Inverter control on Scroll compressor for a better efficiency at partial loads (SEER/SCOP). The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. Furthermore, Inverter control is also available on circulating pumps and fans (EC Inverter) for a further efficiency improvement.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (TWA 202÷702 S/IG/P/A)** or **R454B (TWA 202÷702 S/IL/P/A)** refrigerant.

FROM 196 KW TO 668 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 302÷702 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
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
EW	External water connections
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
FN	Antifreeze heater for pipes
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 202÷702 S/IK/P/A

MODEL			202	242	302	332	372	402	442	482	542	702
Cooling STD versions	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515	668
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	163	211
	EER (1)		3.21	3.21	3.19	3.22	3.20	3.19	3.17	3.18	3.16	3.17
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514	666
	Absorbed power (1)	kW	62	74	91	99	110	121	134	145	164	213
	EER (1)		3.15	3.15	3.14	3.18	3.16	3.16	3.14	3.15	3.13	3.13
	SEER (2)		4.39	4.40	4.44	4.45	4.41	4.55	4.67	4.70	4.68	4.67
	Energy Efficiency (2)	%	173	173	175	175	173	179	184	185	184	184
Cooling MC versions	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515	668
	Absorbed power (1)	kW	60	72	89	97	108	119	132	143	161	209
	EER (1)		3.27	3.25	3.22	3.26	3.23	3.22	3.20	3.20	3.20	3.20
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514	666
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	162	211
	EER (1)		3.20	3.19	3.18	3.21	3.19	3.18	3.17	3.17	3.17	3.16
	SEER (2)		4.44	4.45	4.49	4.50	4.46	4.60	4.73	4.76	4.74	4.73
	Energy Efficiency (2)	%	175	175	177	177	175	181	186	187	187	186
Heating STD versions	Heating capacity (3)	kW	212	253	311	343	379	417	458	497	559	724
	Absorbed power (3)	kW	63	75	93	102	112	124	137	148	169	218
	COP (3)		3.37	3.37	3.34	3.36	3.38	3.36	3.34	3.36	3.31	3.32
Heating STD versions (EN14511)	Heating capacity (3)	kW	213	254	312	344	380	418	459	499	561	726
	Absorbed power (3)	kW	65	77	95	104	115	127	140	151	172	223
	COP (3)		3.28	3.30	3.28	3.31	3.30	3.29	3.28	3.30	3.26	3.26
	SCOP (4)		3.67	3.57	3.60	3.52	3.61	3.52	3.53	3.48	3.54	3.53
	Energy Efficiency (4)	%	144	140	141	138	141	138	138	136	139	138
Compressor	Quantity	n°	2+2	2+2	2+2	2+2	2+2	3+3	3+3	3+3	3+3	3+3
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	9.36	11.18	13.71	15.10	16.67	18.30	20.16	21.88	24.61	31.92
	Pressure drops	kPa	38	36	35	37	40	32	33	36	32	37
	Water connections	DN	80	80	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	137	156	194	211	173	250	202	320	355	460
	Max. starting current	A	305	334	407	424	386	428	415	534	617	800
Unit with pump	Pump available static pressure	kPa	160	140	170	185	170	165	145	185	175	145
	Water connections	DN	100	100	100	100	100	150	150	150	150	150
Sound pressure	STD versions (5)	dB(A)	71	73	75	74	74	74	75	75	76	77
	STD versions with SL accessory (5)	dB(A)	68	69	71	71	71	71	72	72	73	74
	SSL versions (5)	dB(A)	65	66	68	67	68	68	69	70	71	---
	MC versions (5)	dB(A)	70	72	74	73	73	73	74	74	75	76
	MC versions with SL accessory (5)	dB(A)	67	68	70	70	70	70	71	71	72	73
	MC/SSL versions (5)	dB(A)	64	65	67	66	67	67	68	69	70	---
Weights	Transport weight	Kg	2251	2384	2511	2791	2851	3186	3248	3658	3836	4392
	Operating weight	Kg	2270	2410	2550	2830	2890	3230	3300	3710	3900	4470

DIMENSIONS

MODEL			202	242	302	332	372	402	442	482	542	702
L	STD-MC	mm	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200
	SSL-MC/SSL	mm	5000	5000	5000	6200	6200	6200	6200	7200	7200	---
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD-SSL-MC-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA 202÷702 S/IK/P/A

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA 212÷682 S/K/P/AF

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

The TWA 212÷682 S/K/P/AF liquid Chillers and Heat Pumps are characterized by A CLASS energy efficiency. The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
The Heat Pump versions are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (TWA 212÷682 S/G/P/AF)** or **R454B (TWA 212÷682 S/L/P/AF)** refrigerant.

FROM 197 KW TO 692 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 302÷682 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 212÷682 S/K/P/AF

MODEL			212	222	242	272	302	342	362
Cooling	Cooling capacity (1)	kW	197	220	245	271	300	329	361
	Absorbed power (1)	kW	62	69	76	83	95	105	111
	EER (1)		3.18	3.19	3.22	3.27	3.16	3.13	3.25
Cooling (EN14511)	Cooling capacity (1)	kW	196	219	244	270	299	328	360
	Absorbed power (1)	kW	63	70	77	84	96	105	112
	EER (1)		3.11	3.13	3.17	3.21	3.11	3.12	3.21
	SEER (2)		4.18	4.19	4.23	4.24	4.20	4.20	4.21
	Energy Efficiency (2)	%	164	165	166	167	165	165	165
Heating	Heating capacity (3)	kW	214	239	266	295	325	359	391
	Absorbed power (3)	kW	65	73	81	88	99	109	119
	COP (3)		3.29	3.27	3.28	3.35	3.28	3.29	3.29
Heating (EN14511)	Heating capacity (3)	kW	215	240	267	296	327	360	393
	Absorbed power (3)	kW	67	75	83	90	102	112	122
	COP (3)		3.21	3.20	3.22	3.29	3.21	3.21	3.22
	SCOP (4)		3.35	3.42	3.35	3.34	3.37	3.34	3.35
	Energy Efficiency (4)	%	131	134	131	131	132	131	131
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	6				8		
Evaporator	Water flow	l/s	9.41	10.51	11.71	12.95	14.33	15.72	17.25
	Pressure drops	kPa	45	49	44	42	50	39	46
	Water connections	DN	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	152	166	187	199	224	241	258
	Max. starting current	A	276	299	354	367	357	409	426
Unit with pump	Pump available static pressure	kPa	155	135	205	185	180	185	170
	Water connections	DN	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	72	73	74	74	74	74	74
	With SL accessory (5)	dB(A)	69	70	71	71	71	71	72
	SSL version (5)	dB(A)	66	66	67	68	67	68	68
Weights	Transport weight	Kg	1854	2171	2289	2317	2437	2680	2690
	Operating weight	Kg	1870	2190	2310	2340	2460	2710	2720

MODEL			412	442	482	562	622	682
Cooling	Cooling capacity (1)	kW	396	435	485	538	609	692
	Absorbed power (1)	kW	124	137	154	169	192	220
	EER (1)		3.19	3.18	3.15	3.18	3.17	3.15
Cooling (EN14511)	Cooling capacity (1)	kW	394	433	484	536	607	690
	Absorbed power (1)	kW	126	139	155	171	194	222
	EER (1)		3.13	3.12	3.12	3.13	3.13	3.11
	SEER (2)		4.48	4.56	4.59	4.57	4.56	4.60
	Energy Efficiency (2)	%	176	179	181	180	179	181
Heating	Heating capacity (3)	kW	431	473	526	586	663	754
	Absorbed power (3)	kW	129	143	162	176	202	231
	COP (3)		3.34	3.31	3.25	3.33	3.28	3.26
Heating (EN14511)	Heating capacity (3)	kW	433	475	528	588	665	756
	Absorbed power (3)	kW	133	147	165	181	206	236
	COP (3)		3.26	3.23	3.20	3.25	3.23	3.20
	SCOP (4)		3.36	3.32	3.36	3.31	3.33	3.43
	Energy Efficiency (4)	%	131	130	131	129	130	134
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	8		10			
Evaporator	Water flow	l/s	18.92	20.78	23.17	25.70	29.10	33.06
	Pressure drops	kPa	49	49	33	41	34	32
	Water connections	DN	80	80	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	274	324	358	391	446	500
	Max. starting current	A	407	492	525	558	623	678
Unit with pump	Pump available static pressure	kPa	155	125	185	170	160	145
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (5)	dB(A)	76	76	75	76	77	77
	With SL accessory (5)	dB(A)	73	73	72	73	74	74
	SSL version (5)	dB(A)	69	69	69	70	---	---
Weights	Transport weight	Kg	2869	3004	3512	3642	4420	4458
	Operating weight	Kg	2900	3040	3560	3690	4480	4520

DIMENSIONS

MODEL			212	222	242	272	302	342	362	412	442	482	562	622	682
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	5000	5000	5000	5000	6200	6200	6200	6200	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA 212÷682 S/K/P/AF

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/WP 212÷682 S/K/P/A

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

The TWA/WP 212÷682 S/K/P/A reversible Heat Pumps are characterized by A CLASS energy efficiency. The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
Units are designed for **hot water production up to 55 °C.**

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (TWA/WP 212÷682 S/G/P/A)** or **R454B (TWA/WP 212÷682 S/L/P/A)** refrigerant.

FROM 227 KW TO 762 KW.

VERSION

TWA/WP
Reversible Heat Pump
TWA/WP/SSL
Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 302÷682 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Functioning in heating mode with outside air temperature down to -15 °C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/WP 212÷682 S/K/P/A

MODEL			212	222	242	272	302	342	362
Heating	Heating capacity (1)	kW	227	256	272	294	342	369	389
	Absorbed power (1)	kW	66	75	81	85	102	106	112
	COP (1)		3.44	3.41	3.36	3.46	3.35	3.48	3.47
Heating (EN14511)	Heating capacity (1)	kW	228	257	273	295	343	370	390
	Absorbed power (1)	kW	68	77	83	87	105	108	115
	COP (1)		3.35	3.34	3.29	3.39	3.27	3.43	3.39
	SCOP (2)		3.40	3.47	3.40	3.39	3.42	3.39	3.40
	Energy Efficiency (2)	%	133	136	133	133	134	133	133
Cooling	Cooling capacity (3)	kW	194	217	239	259	294	322	339
	Absorbed power (3)	kW	68	75	78	85	100	107	113
	EER (3)		2.85	2.89	3.06	3.05	2.94	3.01	3.00
Cooling (EN14511)	Cooling capacity (3)	kW	193	216	238	258	293	321	338
	Absorbed power (3)	kW	69	76	79	86	101	108	114
	EER (3)		2.80	2.84	3.01	3.00	2.90	2.97	2.96
	SEER (4)		4.05	4.06	4.10	4.11	4.07	4.07	4.08
	Energy Efficiency (4)	%	159	159	161	161	160	160	160
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	6				8		
Evaporator	Water flow	l/s	9.27	10.37	11.42	12.37	14.05	15.38	16.20
	Pressure drops	kPa	44	55	42	38	49	37	41
	Water connections	DN	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	152	166	187	199	224	241	258
	Max. starting current	A	276	299	354	367	357	409	426
Unit with pump	Pump available static pressure	kPa	155	130	205	190	180	185	175
	Water connections	DN	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	72	71	71	72	72	73	74
	With SL accessory (5)	dB(A)	69	68	68	69	69	70	71
	SSL version (5)	dB(A)	65	65	65	66	66	67	67
Weights	Transport weight	Kg	1954	2291	2409	2437	2567	2820	2830
	Operating weight	Kg	1970	2310	2430	2460	2590	2850	2860

MODEL			412	442	482	562	622	682
Heating	Heating capacity (1)	kW	420	476	532	566	677	762
	Absorbed power (1)	kW	125	141	157	169	202	226
	COP (1)		3.36	3.38	3.39	3.35	3.35	3.37
Heating (EN14511)	Heating capacity (1)	kW	422	478	533	568	679	764
	Absorbed power (1)	kW	128	144	160	172	206	230
	COP (1)		3.30	3.32	3.33	3.30	3.30	3.32
	SCOP (2)		3.41	3.37	3.41	3.36	3.38	3.48
	Energy Efficiency (2)	%	133	132	133	131	132	136
Cooling	Cooling capacity (3)	kW	359	421	475	512	597	671
	Absorbed power (3)	kW	127	144	162	172	207	241
	EER (3)		2.83	2.92	2.93	2.98	2.88	2.78
Cooling (EN14511)	Cooling capacity (3)	kW	358	419	474	510	595	669
	Absorbed power (3)	kW	128	146	163	174	209	243
	EER (3)		2.80	2.87	2.91	2.93	2.85	2.75
	SEER (4)		4.35	4.42	4.45	4.55	4.55	4.55
	Energy Efficiency (4)	%	171	174	175	179	179	179
Compressor	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	8		10			
Evaporator	Water flow	l/s	17.15	20.11	22.69	24.46	28.52	32.06
	Pressure drops	kPa	46	46	32	37	33	30
	Water connections	DN	80	80	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	274	324	358	391	446	500
	Max. starting current	A	407	492	525	558	623	678
Unit with pump	Pump available static pressure	kPa	160	130	185	175	160	145
	Water connections	DN	100	100	100	100	150	150
Sound pressure	STD version (5)	dB(A)	74	76	76	76	76	77
	With SL accessory (5)	dB(A)	71	73	73	73	73	74
	SSL version (5)	dB(A)	67	68	69	70	---	---
Weights	Transport weight	Kg	3019	3164	3702	3832	4660	4698
	Operating weight	Kg	3050	3200	3750	3880	4720	4770

DIMENSIONS

MODEL			212	222	242	272	302	342	362	412	442	482	562	622	682
L	STD	mm	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	4000	4000	5000	5000	5000	5000	5000	5000	6200	6200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA/WP 212÷682 S/K/P/A

500	1800	1000	1800

Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
4. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
4. 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.

TWA 212÷1102 S/K/P

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

The liquid Chillers and Heat Pumps of the TWA 212÷1102 S/K/P series, with R410A refrigerant, are designed for large-sized service sector or industrial ambients.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump models 212÷412 are compliant to the ErP Regulation; models 442÷1102 are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (TWA 212÷1102 S/G/P)** or **R454B (TWA 212÷1102 S/L/P)** refrigerant.

FROM 199 KW TO 1051 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the Heat Pump units it is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 302÷1102 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 212÷1102 S/K/P

MODEL			212	222	242	272	302	342	362	412	442
Cooling	Cooling capacity (1)	kW	199	226	251	276	304	335	367	403	444
	Absorbed power (1)	kW	69	80	85	94	104	113	122	132	155
	EER (1)		2.88	2.83	2.95	2.94	2.92	2.96	3.01	3.05	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	198	225	250	275	303	334	365	402	442
	Absorbed power (1)	kW	70	81	86	95	105	115	124	134	157
	EER (1)		2.84	2.78	2.89	2.89	2.87	2.91	2.95	3.00	2.81
	SEER (2)		3.82	3.86	3.99	4.00	3.87	3.96	4.09	4.28	4.33
	Energy Efficiency (2)	%	150	151	157	157	152	155	161	168	170
	SEER with EC or ECH accessory (2)		4.13	4.11	4.17	4.22	4.15	4.23	4.34	4.55	4.56
	Energy Efficiency with EC or ECH accessory (2)	%	162	161	164	166	163	166	171	179	179
Heating	Heating capacity (3)	kW	228	255	283	310	338	369	401	441	510
	Absorbed power (3)	kW	73	83	90	103	108	121	132	141	164
	COP (3)		3.12	3.07	3.14	3.01	3.13	3.05	3.04	3.13	3.11
Heating (EN14511)	Heating capacity (3)	kW	228	255	283	311	338	370	402	442	511
	Absorbed power (3)	kW	73	83	90	103	108	122	133	142	165
	COP (3)		3.12	3.07	3.14	3.01	3.12	3.04	3.03	3.12	3.10
	SCOP (4)		3.20	3.21	3.22	3.21	3.22	3.21	3.22	3.21	3.22
	Energy Efficiency (4)	%	125	125	126	125	126	125	126	125	126
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.51	10.80	11.99	13.19	14.52	16.01	17.53	19.25	21.21
	Pressure drops	kPa	40	51	62	54	50	49	59	47	59
	Water connections	DN	80	80	80	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	155	130	175	160	180	170	145	140	110
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	70	70	70	72	72	72	73	73	72
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	69	70	69
	SSL version (5)	dB(A)	64	64	64	66	65	65	67	66	66
Weights	Transport weight	Kg	1654	1674	1763	1961	2199	2457	2566	2610	3179
	Operating weight	Kg	1670	1690	1780	1980	2220	2480	2590	2640	3210

MODEL			482	562	622	682	762	862	962	1102
Cooling	Cooling capacity (1)	kW	495	546	602	671	751	845	942	1051
	Absorbed power (1)	kW	170	184	211	243	275	303	336	365
	EER (1)		2.91	2.97	2.85	2.76	2.73	2.79	2.80	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	493	544	599	669	749	842	939	1047
	Absorbed power (1)	kW	172	186	214	246	277	306	339	369
	EER (1)		2.87	2.92	2.81	2.72	2.70	2.75	2.77	2.84
	SEER (2)		4.30	4.32	4.39	4.32	4.34	4.33	4.34	4.33
	Energy Efficiency (2)	%	169	170	173	170	171	170	171	170
	SEER with EC or ECH accessory (2)		4.55	4.55	4.55	4.56	4.55	4.56	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	179	179	179	179	179	179	179	179
Heating	Heating capacity (3)	kW	564	620	684	776	861	962	1078	1210
	Absorbed power (3)	kW	182	202	223	249	282	312	349	383
	COP (3)		3.10	3.07	3.07	3.12	3.05	3.08	3.09	3.16
Heating (EN14511)	Heating capacity (3)	kW	565	621	685	777	862	963	1079	1211
	Absorbed power (3)	kW	183	203	224	250	283	313	350	384
	COP (3)		3.09	3.07	3.06	3.11	3.05	3.08	3.08	3.15
	SCOP (4)		3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
	Energy Efficiency (4)	%	125	125	125	125	125	125	125	125
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	23.65	26.09	28.76	32.06	35.88	40.37	45.01	50.21
	Pressure drops	kPa	49	60	58	49	41	51	42	52
	Water connections	DN	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	165	145	135	125	165	140	130	100
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (5)	dB(A)	73	75	76	76	76	76	76	77
	With SL accessory (5)	dB(A)	70	72	73	73	73	73	73	74
	SSL version (5)	dB(A)	67	69	70	70	69	70	---	---
Weights	Transport weight	Kg	3294	3463	3517	3682	4200	4518	4918	5044
	Operating weight	Kg	3330	3500	3560	3730	4260	4580	4990	5120

DIMENSIONS

MODEL			212	222	242	272	302	342	362	412	442	482	562	622	682	762	862	962	1102
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA 212÷1102 S/K/P

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/FC 212÷1102 S/K/P

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

The liquid Chillers of the TWA/FC 212÷1102 S/K/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. TWA/FC 212÷1102 S/K/P allows the reduction of inrush currents generated, the elimination of inertial accumulation tanks and an excellent silent functioning, as the fans adjust their speed to the actual load of the system, providing great benefits especially at night.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

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

On request, units can be supplied with **R452B (TWA/FC 212÷1102 S/G/P)** or **R454B (TWA/FC 212÷1102 S/L/P)** refrigerant.

FROM 208 KW TO 1102 KW.

VERSION

TWA/FC
Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 302÷1102 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to –20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/FC 212÷1102 S/K/P

MODEL			212	222	242	272	302	342	362	412	442
Cooling	Cooling capacity (1)	kW	208	236	263	290	328	365	401	441	483
	Absorbed power (1)	kW	76	87	88	98	108	123	132	147	163
	EER (1)		2.74	2.71	2.99	2.96	3.04	2.97	3.04	3.00	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	206	234	260	287	325	362	398	438	479
	Absorbed power (1)	kW	78	89	91	101	111	126	135	150	167
	EER (1)		2.64	2.63	2.86	2.84	2.93	2.87	2.95	2.92	2.87
	SEPR (2)		3.80	3.83	3.96	3.99	3.85	3.96	4.07	4.27	4.31
	Energy Efficiency (2)	%	149	150	155	157	151	155	160	168	169
Free-Cooling cycle	Air temperature (3)	°C	-2.0	-2.8	-2.5	-0.2	-2.7	-3.5	-1.0	-2.0	-1.0
	Absorbed power (3)	kW	7.0	7.0	10.5	10.5	14.0	14.0	14.0	14.0	17.5
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4							6	
Water circuit	Water flow	l/s	11.02	12.38	13.87	15.31	17.32	19.34	21.21	23.33	25.52
	Pressure drops	kPa	102	126	165	124	112	106	115	100	120
	Water connections	DN	100	100	100	100	100	100	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	187	199	232	249	266	282	332
	Max. starting current	A	276	299	354	367	365	417	433	415	500
Unit with pump	Pump available static pressure	kPa	150	115	70	100	95	80	105	115	85
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	70	70	71	73	73	73	74	75	74
	With SL accessory (4)	dB(A)	68	67	68	70	70	70	71	72	71
Weights	Transport weight	Kg	2175	2185	2360	2435	2990	3020	3220	3510	3920
	Operating weight	Kg	2310	2320	2500	2630	3190	3220	3470	3770	4250

MODEL			482	562	622	682	762	862	962	1102
Cooling	Cooling capacity (1)	kW	536	590	665	738	827	920	1014	1102
	Absorbed power (1)	kW	179	199	230	266	305	340	368	412
	EER (1)		2.99	2.96	2.89	2.77	2.71	2.71	2.76	2.67
Cooling (EN14511)	Cooling capacity (1)	kW	532	585	659	731	818	911	1004	1102
	Absorbed power (1)	kW	183	204	236	273	314	349	378	412
	EER (1)		2.91	2.87	2.79	2.68	2.61	2.61	2.66	2.67
	SEPR (2)		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
Free-Cooling cycle	Air temperature (3)	°C	-2.2	-2.7	-3.0	-3.5	-2.5	-0.1	0.1	-0.4
	Absorbed power (3)	kW	17.5	17.5	17.5	21.0	24.5	28.0	31.5	31.5
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	8							
Water circuit	Water flow	l/s	28.28	31.09	35.11	38.89	43.64	48.52	53.51	58.13
	Pressure drops	kPa	121	132	148	152	172	151	162	173
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	365	391	438	500	561	622	699	769
	Max. starting current	A	533	558	615	678	774	835	961	1031
Unit with pump	Pump available static pressure	kPa	110	90	60	160	125	125	90	110
	Water connections	DN	125	125	125	150	150	150	150	150
Sound pressure	STD version (4)	dB(A)	74	76	78	78	79	78	78	79
	With SL accessory (4)	dB(A)	71	74	75	75	75	75	75	76
Weights	Transport weight	Kg	4180	4220	5060	5240	5830	6880	7410	7530
	Operating weight	Kg	4520	4560	5460	5650	6320	7600	8220	8340

DIMENSIONS

MODEL			212	222	242	272	302	342	362	412	442	482	562	622	682	762	862	962	1102
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	6200	7200	7200	8400	9600	10600	10600
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360

CLEARANCE AREA

TWA/FC 212÷1102 S/K/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 process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

TWA 212÷1102 S/K

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

The liquid Chillers and Heat Pumps of the TWA 212÷1102 S/K series, with R410A refrigerant, are designed for large-sized service sector or industrial ambients.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

Cooling only units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).
Heat pump models 212÷412 are compliant to the ErP Regulation; models 442÷1102 are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (TWA 212÷1102 S/G)** or **R454B (TWA 212÷1102 S/L)** refrigerant.

FROM 200 KW TO 1062 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of copper tubes and aluminium finned coils.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 302÷1102 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, thermal protection relays for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 212÷1102 S/K

MODEL			212	222	242	272	302	342	362	412	442
Cooling	Cooling capacity (1)	kW	200	224	248	270	302	328	367	404	445
	Absorbed power (1)	kW	70	80	86	97	105	115	121	136	158
	EER (1)		2.86	2.80	2.88	2.78	2.88	2.85	3.03	2.97	2.82
Cooling (EN14511)	Cooling capacity (1)	kW	199	223	247	269	301	326	365	403	444
	Absorbed power (1)	kW	71	81	87	98	106	117	123	137	159
	EER (1)		2.80	2.75	2.84	2.74	2.84	2.79	2.97	2.94	2.79
	SEER (2)		3.82	3.81	3.86	3.96	3.90	4.03	4.13	4.12	4.11
	Energy Efficiency (2)	%	150	149	151	155	153	158	162	162	161
	SEER with EC or ECH accessory (2)		4.13	4.11	4.17	4.22	4.15	4.23	4.34	4.56	4.56
	Energy Efficiency with EC or ECH accessory (2)	%	162	161	164	166	163	166	171	179	179
Heating	Heating capacity (3)	kW	229	252	280	304	336	362	401	442	512
	Absorbed power (3)	kW	74	83	91	106	109	123	130	145	167
	COP (3)		3.09	3.04	3.08	2.87	3.08	2.94	3.08	3.05	3.07
Heating (EN14511)	Heating capacity (3)	kW	229	252	280	305	336	363	402	443	513
	Absorbed power (3)	kW	74	83	91	107	109	124	131	146	168
	COP (3)		3.09	3.04	3.08	2.86	3.07	2.93	3.07	3.04	3.06
	SCOP (4)		3.22	3.20	3.21	3.22	3.21	3.22	3.23	3.21	3.20
	Energy Efficiency (4)	%	126	125	125	126	125	126	126	125	125
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.44	10.58	11.71	12.75	14.26	15.49	17.33	19.08	21.01
	Pressure drops	kPa	45	42	45	50	48	56	55	45	33
	Water connections	DN	100	100	100	100	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	150	140	195	170	180	165	150	140	135
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (5)	dB(A)	70	70	70	72	72	72	73	73	72
	With SL accessory (5)	dB(A)	67	67	67	69	69	69	69	70	69
	SSL version (5)	dB(A)	64	64	64	66	65	65	67	66	66
Weights	Transport weight	Kg	1703	1723	1813	2003	2253	2532	2642	2691	3283
	Operating weight	Kg	1750	1770	1860	2050	2310	2600	2710	2780	3380

MODEL			482	562	622	682	762	862	962	1102
Cooling	Cooling capacity (1)	kW	510	551	614	684	766	862	961	1062
	Absorbed power (1)	kW	174	186	214	250	281	307	340	369
	EER (1)		2.93	2.96	2.87	2.74	2.73	2.81	2.83	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	508	549	611	682	763	858	958	1058
	Absorbed power (1)	kW	176	188	217	252	284	311	343	373
	EER (1)		2.89	2.92	2.82	2.71	2.69	2.76	2.79	2.84
	SEER (2)		4.12	4.12	4.12	4.11	4.10	4.11	4.12	4.12
	SEER with EC or ECH accessory (2)	%	162	162	162	161	161	161	162	162
	Energy Efficiency with EC or ECH accessory (2)		4.55	4.55	4.55	4.56	4.55	4.56	4.55	4.55
	Energy Efficiency (2)	%	179	179	179	179	179	179	179	179
Heating	Heating capacity (3)	kW	581	626	698	791	878	981	1100	1222
	Absorbed power (3)	kW	186	204	226	257	288	316	353	388
	COP (3)		3.12	3.07	3.09	3.08	3.05	3.10	3.12	3.15
Heating (EN14511)	Heating capacity (3)	kW	582	627	699	792	879	982	1101	1223
	Absorbed power (3)	kW	187	205	227	258	289	317	354	389
	COP (3)		3.12	3.06	3.08	3.07	3.04	3.10	3.11	3.14
	SCOP (4)		3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
	Energy Efficiency (4)	%	125	125	125	125	125	125	125	125
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	24.08	26.02	28.99	32.30	36.17	40.71	45.38	50.15
	Pressure drops	kPa	43	54	59	46	55	62	47	52
	Water connections	DN	125	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
Unit with pump	Pump available static pressure	kPa	165	150	130	130	150	125	125	95
	Water connections	DN	100	100	150	150	150	150	150	150
Sound pressure	STD version (5)	dB(A)	73	75	76	76	76	76	76	77
	With SL accessory (5)	dB(A)	70	72	73	73	73	73	73	74
	SSL version (5)	dB(A)	67	69	70	70	69	70	---	---
Weights	Transport weight	Kg	3383	3565	3605	3840	4385	4705	5210	5330
	Operating weight	Kg	3480	3670	3720	3970	4540	4860	5470	5590

DIMENSIONS

MODEL			212	222	242	272	302	342	362	412	442	482	562	622	682	762	862	962	1102
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA 212÷1102 S/K

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA 202÷1352 VV/H/A

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

The TWA 202÷1352 VV/H/A units in A CLASS energy efficiency, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. The innovative heat exchangers, traditional or Microchannel, the Screw compressors and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on one or both Screw compressors, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressors and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operation 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 202÷362 are compliant to the ErP 2021 Regulation for process cooling application; the models 412÷1352 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).

FROM 197 KW TO 1353 KW.

VERSION

TWA
Cooling only
TWA/MC
Cooling only with MICROCHANNEL condensing coils
TWA/SSL
Super silenced cooling only
TWA/MC/SSL
Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 202÷1352 VV/H/A

MODEL			202	262	312	362	412	472	552
Cooling STD version	Cooling capacity (1)	kW	197	261	309	366	406	464	548
	Absorbed power (1)	kW	63	83	98	116	129	147	168
	EER (1)		3.13	3.14	3.15	3.16	3.15	3.16	3.26
Cooling STD version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547
	Absorbed power (1)	kW	63	84	99	117	130	149	169
	EER (1)		3.13	3.10	3.11	3.12	3.12	3.11	3.24
	SEER (2)		3.81	3.84	3.94	3.89	4.09	4.03	4.11
	Energy Efficiency (2)	%	149	151	155	153	161	158	161
	SEER with EC or ECH accessory (2)		4.17	4.20	4.39	4.26	4.55	4.55	4.57
	Energy Efficiency with EC or ECH accessory (2)	%	164	165	173	167	179	179	180
Cooling MC version	Cooling capacity (1)	kW	197	261	309	366	406	464	548
	Absorbed power (1)	kW	62	81	96	114	126	144	165
	EER (1)		3.18	3.22	3.22	3.21	3.22	3.22	3.32
Cooling MC version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547
	Absorbed power (1)	kW	62	82	97	115	127	146	166
	EER (1)		3.18	3.17	3.18	3.17	3.19	3.17	3.30
	SEER (2)		3.85	3.88	3.95	3.93	4.1	4.04	4.12
	Energy Efficiency (2)	%	151	152	155	154	161	159	162
	SEER with EC or ECH accessory (2)		4.22	4.25	4.43	4.30	4.55	4.55	4.61
	Energy Efficiency with EC or ECH accessory (2)	%	166	167	174	169	179	179	181
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°				Stepless			
Evaporator	Water flow	l/s	9.41	12.47	14.76	17.49	19.40	22.17	26.18
	Pressure drops	kPa	39	37	32	34	31	28	37
	Water connections	DN	125	125	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50			
	Max. running current	A	203	275	319	355	413	467	512
	Max. starting current	A	291	417	488	586	642	723	783
Unit with tank and pump	Pump available static pressure	kPa	155	185	180	155	140	180	160
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000
	Water connections	DN	100	100	100	100	125	125	150
Sound pressure	STD version (3)	dB(A)	75	76	76	77	77	78	78
	With SL accessory (3)	dB(A)	72	73	73	74	74	75	75
	SSL version (3)	dB(A)	67	68	68	69	69	70	70
Weights	Transport weight (4)	Kg	2700	3215	3540	4015	4120	4625	5165
	Operating weight (4)	Kg	2790	3300	3670	4180	4280	4820	5430

MODEL			612	722	812	982	1062	1232	1352
Cooling STD version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	189	223	249	300	333	379	422
	EER (1)		3.22	3.22	3.25	3.27	3.20	3.24	3.21
Cooling STD version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348
	Absorbed power (1)	kW	191	225	251	302	336	383	427
	EER (1)		3.17	3.17	3.21	3.24	3.16	3.20	3.16
	SEER (2)		4.15	4.16	4.13	4.15	4.13	4.16	4.18
	Energy Efficiency (2)	%	163	163	162	163	162	163	164
	SEER with EC or ECH accessory (2)		4.56	4.57	4.57	4.58	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	179	180	180	180	179	179	179
Cooling MC version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353
	Absorbed power (1)	kW	185	219	244	294	326	371	414
	EER (1)		3.29	3.27	3.32	3.33	3.26	3.31	3.27
Cooling MC version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348
	Absorbed power (1)	kW	187	221	246	296	329	375	418
	EER (1)		3.24	3.23	3.28	3.30	3.22	3.26	3.22
	SEER (2)		4.16	4.17	4.14	4.16	4.13	4.18	4.19
	Energy Efficiency (2)	%	163	164	163	163	162	164	165
	SEER with EC or ECH accessory (2)		4.60	4.61	4.61	4.62	4.55	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	181	181	181	182	179	179	179
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°				Stepless			
Evaporator	Water flow	l/s	29.05	34.26	38.65	46.82	50.84	58.67	64.64
	Pressure drops	kPa	33	40	42	30	38	47	54
	Water connections	DN	150	200	200	200	200	250	250
Electrical characteristics	Power supply	V/Ph/Hz				400/3/50			
	Max. running current	A	597	670	731	764	831	951	1039
	Max. starting current	A	896	947	1091	1206	1244	1450	1494
Unit with tank and pump	Pump available static pressure	kPa	145	160	140	120	170	180	155
	Tank water volume	l	3000	3000	3000	-	-	-	-
	Water connections	DN	150	150	150	-	-	-	-
Sound pressure	STD version (3)	dB(A)	78	80	81	82	82	84	84
	With SL accessory (3)	dB(A)	75	77	78	79	79	81	81
	SSL version (3)	dB(A)	70	72	73	74	74	76	76
Weights	Transport weight (4)	Kg	5260	6240	7460	8995	9435	11230	11560
	Operating weight (4)	Kg	5520	6570	7880	9500	9910	11800	12190

DIMENSIONS

MODEL			202	262	312	362	412	472	552	612	722	812	982	1062	1232	1352
L	STD	mm	4400	5000	5000	5550	5550	6700	6700	6700	8900	10050	11100	12250	13400	13400
	SSL	mm	5000	5550	5550	6700	6700	8900	8900	8900	10050	11100	12250	13400	-	-
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	2550
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	-	-

CLEARANCE AREA

TWA 202÷1352 VV/H/A

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/FC 202÷1062 VV/H

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

The liquid Chillers of the TWA/FC 202÷1062 VV/H series, with **HFO-R1234ze** refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

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

FROM 232 KW TO 1144 KW.

VERSION

TWA/FC
Cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/FC 202÷1062 VV/H

MODEL			202	262	312	362	412	472	552	612	722	812	982	1062
Cooling	Cooling capacity (1)	kW	232	297	350	404	444	519	604	684	801	891	1044	1144
	Absorbed power (1)	kW	67	87	107	125	142	158	187	205	239	271	338	362
	EER (1)		3.46	3.41	3.27	3.23	3.13	3.28	3.23	3.34	3.35	3.29	3.09	3.16
Cooling (EN14511)	Cooling capacity (1)	kW	231	295	346	401	440	516	600	678	796	885	1035	1132
	Absorbed power (1)	kW	68	89	111	128	146	161	191	211	244	277	347	374
	EER (1)		3.40	3.31	3.12	3.13	3.01	3.20	3.14	3.21	3.26	3.19	2.98	3.03
	SEPR with EC or ECH accessory (2)		5.59	5.57	5.52	5.63	5.5	5.67	5.63	5.66	5.71	5.74	5.50	5.50
Free-Cooling cycle	Air temperature (3)	°C	2.0	0.0	1.3	1.0	-0.5	-0.5	0.5	-1.0	-0.5	-0.5	-1.0	0.0
	Absorbed power (3)	kW	10.8	10.8	14.4	14.4	14.4	18.0	21.6	21.6	21.6	25.2	28.8	32.4
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless											
Water circuit	Water flow	l/s	11.6	14.9	17.5	20.2	22.2	25.9	30.2	34.2	40.1	44.6	52.2	57.2
	Pressure drops	kPa	77	96	143	118	132	77	104	124	98	108	138	169
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	211	275	327	355	413	467	520	605	670	731	764	831
	Max. starting current	A	299	417	496	586	642	723	791	904	947	1091	1206	1244
Unit with tank and pump	Pump available static pressure	kPa	148	114	117	137	158	193	146	106	162	132	112	111
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	2000	3000	-	-	-
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Sound pressure	STD version (4)	dB(A)	75	76	76	77	77	78	78	78	80	81	82	82
	With SL accessory (4)	dB(A)	72	73	73	74	74	75	75	75	77	78	79	79
Weights	Transport weight (5)	Kg	3150	3420	4020	4410	4560	5440	6800	7280	8420	8900	10690	11570
	Operating weight (5)	Kg	3390	3720	4400	4850	5040	6010	7420	7980	9420	10000	11890	12940

DIMENSIONS

MODEL			202	262	312	362	412	472	552	612	722	812	982	1062
L	STD	mm	4400	4400	5550	5550	5550	6700	10050	10050	10050	10050	12250	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

TWA/FC 202÷1062 VV/H

500	1800	1000	1800

Electrical board side

NOTES

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

NEW

TWA 332÷1822 VV/Y/A

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

The TWA 332÷1822 VV/Y/A units in A CLASS energy efficiency have extremely high efficiency levels due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination. The latest generation Screw compressors and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressors, on circulating pumps and EC Inverter on fans are also available for getting the highest efficiency at part load. The super silenced version, obtained through acoustic insulation on compressors and wider exchangers, is particularly suitable for installations where extremely quiet operation are essential for the ideal execution of the system.
The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.
Are available as option the new **EC Inverter fans with high available static pressure and efficiency**.
The Heat Pump versions are designed for **hot water production up to 55 °C.**

Cooling only models 322÷402 are compliant to the ErP 2021 Regulation. Cooling only models 462÷1822 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 322÷482 are compliant to the ErP Regulation; models 602÷1822 are compliant if provided with EC or ECH accessory (EC Inverter fans).

TWA 332÷1822 VV/J/A
On request, units can be supplied with **R513A** refrigerant.

FROM 263 KW TO 1533 KW.

VERSION

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

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 332÷1822 VV/Y/A

MODEL			332	352	402	462	482	602	742	912	1202	1342	1522	1702	1822
Cooling STD versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	82	96	114	131	146	179	219	256	305	352	380	440	480
	EER (1)		3.21	3.26	3.15	3.15	3.18	3.21	3.18	3.28	3.14	3.23	3.33	3.18	3.19
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	83	97	115	132	147	180	221	258	308	356	383	444	485
	EER (1)		3.16	3.22	3.11	3.12	3.15	3.18	3.14	3.24	3.10	3.18	3.3	3.15	3.16
	SEER (2)		4.13	4.25	4.22	4.14	4.18	4.19	4.11	4.25	4.3	4.23	4.24	4.17	4.22
	Energy Efficiency (2)	%	162	167	166	163	164	165	161	167	169	166	167	164	166
	SEER with EC or ECH accessory (2)		4.63	4.76	4.73	4.73	4.74	4.77	4.65	4.86	4.85	4.69	4.74	4.71	4.73
	Energy Efficiency with EC or ECH accessory (2)	%	182	187	186	186	187	188	183	191	191	185	187	185	186
Cooling MC versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	80	94	112	128	143	175	215	251	299	345	372	431	470
	EER (1)		3.29	3.33	3.21	3.23	3.24	3.28	3.24	3.34	3.21	3.29	3.4	3.24	3.26
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	81	95	113	129	144	176	217	253	302	349	375	435	475
	EER (1)		3.23	3.28	3.17	3.19	3.22	3.26	3.20	3.31	3.17	3.24	3.37	3.21	3.23
	SEER con EC/ECH (2)		4.14	4.26	4.23	4.15	4.19	4.19	4.12	4.25	4.31	4.25	4.24	4.17	4.23
	Energy Efficiency (2)	%	163	167	166	163	165	165	162	167	169	167	167	164	166
	SEER with EC or ECH accessory (2)		4.64	4.77	4.74	4.74	4.75	4.78	4.66	4.87	4.86	4.7	4.75	4.72	4.74
	Energy Efficiency with EC or ECH accessory (2)	%	183	188	187	187	187	188	183	192	191	185	187	186	187
Heating STD versions	Heating capacity (3)	kW	272	324	372	428	480	594	721	869	993	1176	---	---	---
	Absorbed power (3)	kW	81	95	113	130	144	177	217	253	302	348	---	---	---
	COP (3)		3.36	3.41	3.29	3.29	3.33	3.36	3.32	3.43	3.29	3.38	---	---	---
Heating STD versions (EN14511)	Heating capacity (3)	kW	273	325	373	430	482	596	723	872	996	1180	---	---	---
	Absorbed power (3)	kW	83	97	116	133	147	181	222	259	309	356	---	---	---
	COP (3)		3.29	3.34	3.23	3.23	3.27	3.29	3.26	3.36	3.22	3.31	---	---	---
	SCOP (4)		3.20	3.32	3.34	3.33	3.32	3.34	3.32	3.36	3.32	3.36	---	---	---
	Energy Efficiency (4)	%	125	130	131	130	130	131	130	131	130	131	---	---	---
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless												
Evaporator	Water flow	l/s	12.57	14.95	17.15	19.73	22.17	27.42	33.25	40.09	45.82	54.28	60.39	66.79	73.24
	Pressure drops	kPa	30	26	49	44	34	28	42	34	39	48	38	46	59
	Water connections	DN	125	125	150	150	150	150	150	200	200	200	250	250	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Max. running current	A	201	237	261	301	337	393	485	580	664	720	922	876	1002
	Max. starting current	A	263	281	337	361	405	504	596	785	827	855	1267	1261	1379
Unit with tank and pump	Pump available static pressure	kPa	130	150	155	140	175	160	165	145	120	160	140	95	180
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	---	---	---	---	---
	Water connections	DN	100	100	100	125	125	150	150	150	200	200	200	200	200
Sound pressure	STD versions (5)	dB(A)	76	76	76	76	77	76	77	77	77	78	79	79	80
	STD versions with SL accessory (5)	dB(A)	73	73	73	73	74	73	74	74	74	75	76	76	77
	SSL versions (5)	dB(A)	66	66	66	65	66	66	67	68	68	---	---	---	---
	MC versions (5)	dB(A)	75	75	75	75	76	75	76	76	76	77	78	78	79
	MC versions with SL accessory (5)	dB(A)	72	72	72	72	73	72	73	73	73	74	75	75	76
	MC/SSL versions (5)	dB(A)	65	65	65	64	65	65	66	67	67	---	---	---	---
Weights	Transport weight (6)	Kg	3562	3609	3708	4207	4782	5202	6496	7430	7484	8773	9640	10380	10800
	Operating weight (6)	Kg	3690	3740	3850	4390	5070	5540	6790	8070	8170	9230	10160	10890	11270

DIMENSIONS

MODEL			332	352	402	462	482	602	742	912	1202	1342	1522	1702	1822
L	STD-MC	mm	4400	4400	5000	5550	6200	6700	8900	11100	11100	11100	13400	13400	13400
	SSL-MC/SSL	mm	5550	5550	5550	6700	8900	8900	11100	11100	11100	13400	---	---	---
	WP	mm	5550	5550	5550	7750	7750	8900	10050	13400	13400	13400	---	---	---
	WP/SSL	mm	7750	7750	7750	8900	10050	10050	13400	13400	13400	---	---	---	---
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	WP-WP/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	---	---	---
H	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	---	---	---
	WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	---	---	---
	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	---	---	---	---

CLEARANCE AREA

TWA 332÷1822 VV/Y/A

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/FC 302÷1622 VV/Y

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

The liquid Chillers of the TWA/FC 302÷1622 VV/Y series, with R134a refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.
During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-Way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The models 302÷392 are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans). The models 452÷1622 are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans) and ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant **(TWA/FC 302÷1622 VV/J).**

FROM 217 KW TO 1460 KW.

VERSION

TWA/FC
Cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/FC 302÷1622 VV/Y

MODEL			302	322	342	392	452	492	592
Cooling	Cooling capacity (1)	kW	217	258	315	375	418	473	569
	Absorbed power (1)	kW	83	97	114	148	157	184	210
	EER (1)		2.61	2.66	2.76	2.53	2.66	2.57	2.71
Cooling (EN14511)	Cooling capacity (1)	kW	215	255	311	371	413	469	565
	Absorbed power (1)	kW	85	100	118	152	162	188	215
	EER (1)		2.53	2.55	2.64	2.44	2.55	2.49	2.63
	SEPR with EC or ECH accessory (2)		5.00	5.04	5.03	5.03	5.30	5.20	5.40
	SEPR with EC or ECH and ID accessory (2)		5.35	5.39	5.38	5.38	5.64	5.57	5.76
Free-Cooling cycle	Air temperature (3)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0	-3.5
	Absorbed power (3)	kW	8	12	12	12	12	16	20
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Water circuit	Water flow	l/s	11.22	13.34	16.29	19.38	21.61	24.45	29.42
	Pressure drops	kPa	125	170	180	168	191	130	115
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	194	201	237	261	293	337	393
	Max. starting current	A	256	263	281	337	353	405	504
Unit with tank and pump	Pump available static pressure	kPa	125	105	130	105	100	140	105
	Tank water volume	l	1100	1100	1100	1100	1100	1100	2000
	Water connections	DN	100	100	100	125	125	125	150
Sound pressure	STD version (4)	dB(A)	75	75	76	76	76	77	77
	With SL accessory (4)	dB(A)	72	72	73	73	73	74	74
Weights	Transport weight (5)	Kg	3250	3320	3620	3805	4180	4510	5310
	Operating weight (5)	Kg	3450	3520	3870	4060	4530	4850	5700

MODEL			732	902	1102	1272	1432	1622
Cooling	Cooling capacity (1)	kW	709	847	994	1139	1288	1460
	Absorbed power (1)	kW	263	316	370	434	490	541
	EER (1)		2.70	2.68	2.69	2.62	2.63	2.70
Cooling (EN14511)	Cooling capacity (1)	kW	702	838	984	1126	1272	1436
	Absorbed power (1)	kW	270	325	380	447	507	565
	EER (1)		2.60	2.58	2.59	2.52	2.51	2.54
	SEPR with EC or ECH accessory (2)		5.40	5.20	5.20	5.20	5.30	5.30
	SEPR with EC or ECH and ID accessory (2)		5.74	5.5	5.57	5.5	5.62	5.64
Free-Cooling cycle	Air temperature (3)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9
	Absorbed power (3)	kW	20	22	22	25	29	36
Compressor	Quantity	n°	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2
	Capacity steps	n°	Stepless					
Water circuit	Water flow	l/s	36.65	43.79	51.38	58.88	66.58	75.47
	Pressure drops	kPa	160	164	160	200	225	300
	Water connections	DN	150	150	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	437	565	649	713	720	896
	Max. starting current	A	526	770	812	848	855	1688
Unit with tank and pump	Pump available static pressure	kPa	115	130	140	170	120	115
	Tank water volume	l	2000	2000	2000	---	---	---
	Water connections	DN	150	150	200	200	200	200
Sound pressure	STD version (4)	dB(A)	77	79	79	79	79	80
	With SL accessory (4)	dB(A)	74	76	76	76	76	77
Weights	Transport weight (5)	Kg	6820	7710	8605	9590	10070	11750
	Operating weight (5)	Kg	7420	8350	9410	10550	10900	12970

DIMENSIONS

MODEL			302	322	342	392	452	492	592	732	902	1102	1272	1432	1622
L	STD	mm	4400	4400	4400	4400	5550	5550	6700	10050	10050	10050	10050	11100	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

TWA/FC 302÷1622 VV/Y

500	1800	1000	1800

Electrical board side

NOTES

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

TWA/EP 172÷632 S/K/P

AIRCOOLED 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 TWA/EP 172÷632 S/K/P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER/COP/TER and SEER/SCOP energy values. The units are characterized by double cooling circuit. Thanks to the advanced control system, ENERGYPOWER units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.
Units are designed for **hot water production up to 55 °C.**

The models 172÷392 are compliant to the ErP Regulation. The models 492÷632 are compliant to the ErP 2021 Regulation for comfort cooling application if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R452B (TWA/EP 172÷632 S/G/P)** or **R454B (TWA/EP 172÷632 S/L/P)** refrigerant.

FROM 167 KW TO 643 KW.

VERSION

TWA/EP
Multifunctional unit
TWA/EP/SSL
Super silenced multifunctional unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/EP 172÷632 S/K/P

MODEL			172	212	222	242	272	302	342	392	492	542	592	632
Cooling only	Cooling capacity (1)	kW	167	190	216	241	264	301	339	395	459	522	583	643
	Absorbed power (1)	kW	57	69	75	85	93	104	114	140	169	193	210	225
	EER (1)		2.93	2.75	2.88	2.84	2.84	2.89	2.97	2.82	2.72	2.70	2.78	2.86
Cooling only (EN14511)	Cooling capacity (1)	kW	166	189	215	240	263	300	338	394	457	520	581	641
	Absorbed power (1)	kW	58	70	76	85	94	105	115	141	171	195	212	227
	EER (1)		2.86	2.70	2.83	2.82	2.80	2.86	2.94	2.79	2.67	2.67	2.74	2.82
	SEER (2)		4.14	4.22	4.18	4.17	4.22	4.19	4.2	4.26	4.31	4.34	4.39	4.3
	Energy Efficiency (2)	%	163	166	164	164	166	165	165	167	169	171	173	169
	SEER with EC or ECH accessory (2)		4.44	4.38	4.43	4.42	4.42	4.44	4.47	4.49	4.56	4.56	4.55	4.55
	Energy Efficiency with EC or ECH accessory (2)	%	175	172	174	174	174	175	176	177	179	179	179	179
Heating only	Heating capacity (3)	kW	180	204	231	257	281	318	361	427	515	570	632	693
	Absorbed power (3)	kW	55	64	72	79	86	97	109	128	159	168	195	208
	COP (3)		3.25	3.20	3.22	3.25	3.28	3.28	3.31	3.34	3.24	3.39	3.24	3.33
Heating only (EN14511)	Heating capacity (3)	kW	181	205	232	258	282	319	362	429	517	572	634	696
	Absorbed power (3)	kW	56	65	73	80	87	98	111	131	162	172	200	214
	COP (3)		3.23	3.15	3.18	3.23	3.24	3.26	3.26	3.27	3.19	3.33	3.17	3.25
	SCOP (4)		3.52	3.36	3.65	3.58	3.43	3.63	3.68	3.51	3.51	3.80	3.56	3.53
	Energy Efficiency (4)	%	138	131	143	140	134	142	144	137	137	149	139	138
Cooling + Heating	Cooling capacity (5)	kW	170	195	214	243	270	303	334	405	465	543	594	652
	Heating capacity (5)	kW	220	255	281	318	351	396	436	527	613	712	777	849
	Absorbed power (5)	kW	50	60	67	75	81	93	102	122	148	169	183	197
	TER (5)		7.80	7.50	7.39	7.48	7.67	7.52	7.55	7.64	7.28	7.43	7.49	7.62
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	169	194	213	242	269	302	333	404	463	541	592	650
	Heating capacity (5)	kW	221	256	282	319	352	397	438	529	615	715	780	852
	Absorbed power (5)	kW	51	61	68	76	82	94	103	123	150	171	185	199
	TER (5)		7.65	7.38	7.28	7.38	7.57	7.44	7.49	7.59	7.19	7.35	7.42	7.55
Compressor	Quantity	n°	4	4	4	4	4	4	6	6	6	6	6	6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4						6					
Evaporator - cooling side	Water flow	l/s	7.98	9.08	10.32	11.51	12.61	14.38	16.20	18.87	21.93	24.94	27.85	30.72
	Pressure drops	kPa	34	33	36	35	42	36	45	44	53	43	34	40
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Condenser - heating side	Water flow (5)	l/s	8.60	9.75	11.04	12.28	13.43	15.19	17.25	20.40	24.61	27.23	30.20	33.11
	Pressure drops (5)	kPa	35	36	39	30	37	33	43	43	42	49	48	54
	Water connections (5)	DN	100	100	100	100	100	100	100	100	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	133	151	171	186	201	227	255	301	386	416	453	483
	Max. starting current	A	301	328	347	400	415	488	432	515	647	755	792	822
Unit with pump - cooling side	Pump available static pressure	kPa	175	170	160	150	130	145	125	160	125	165	165	145
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Unit with pump - heating side	Pump available static pressure	kPa	170	165	150	145	125	140	120	150	110	150	140	120
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Sound pressure	STD version (6)	dB(A)	70	70	71	71	71	72	74	74	76	77	78	79
	With SL accessory (6)	dB(A)	67	67	68	68	68	69	71	71	73	74	75	76
	SSL version (6)	dB(A)	64	64	65	65	65	66	67	67	70	70	71	72
Weights	Transport weight	Kg	2200	2230	2350	2390	2420	3180	3420	3530	4530	4600	5320	5350
	Operating weight	Kg	2300	2330	2450	2500	2530	3310	3560	3680	4730	4840	5630	5670

DIMENSIONS

MODEL			172	212	222	242	272	302	342	392	492	542	592	632
L	STD	mm	3350	3350	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

TWA/EP 172÷632 S/K/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

TWA/EP 362÷1492 VV/Y

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH 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 TWA/EP 362÷1492 VV/Y ENERGYPOWER, with R134a refrigerant, are provided with latest generation Screw compressors, 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. Furthermore, accessories as the Inverter control on one or both Screw compressors, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The models 362÷552 are compliant to the ErP Regulation. The models 632÷1492 are compliant to the ErP 2021 Regulation for comfort cooling application if provided with EC or ECH accessory (EC Inverter fans) and ID accessory (Inverter on all compressors).

FROM 278 KW TO 1133 KW.

On request, units can be supplied with **R513A** refrigerant **(TWA/EP 362÷1492 VV/J)**.

VERSION

TWA/EP
Multifunctional unit
TWA/EP/SSL
Super silenced multifunctional unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/EP 362÷1492 VV/Y

MODEL			362	412	482	552	632	742	882	1082	1292	1492
Cooling only	Cooling capacity (1)	kW	278	312	366	423	484	564	676	822	978	1133
	Absorbed power (1)	kW	89	100	116	133	153	177	210	258	315	365
	EER (1)		3.12	3.12	3.16	3.18	3.16	3.19	3.22	3.19	3.10	3.10
Cooling only (EN14511)	Cooling capacity (1)	kW	277	311	364	421	482	562	674	819	974	1128
	Absorbed power (1)	kW	90	101	118	135	155	179	212	261	319	370
	EER (1)		3.08	3.08	3.08	3.12	3.11	3.14	3.18	3.14	3.05	3.05
	SEER (2)		3.93	3.93	3.89	3.92	3.91	3.92	3.92	3.90	3.88	3.88
	Energy Efficiency (2)	%	154	154	153	154	153	154	154	153	152	152
	SEER with EC or ECH accessory (2)		4.73	4.73	4.73	4.75	4.74	4.75	4.78	4.75	4.72	4.72
	Energy Efficiency with EC or ECH accessory (2)	%	186	186	186	187	187	187	188	187	186	186
Heating only	Heating capacity (3)	kW	283	320	375	431	490	572	672	838	990	1156
	Absorbed power (3)	kW	86	91	107	122	139	159	190	231	271	313
	COP (3)		3.29	3.52	3.50	3.53	3.53	3.60	3.54	3.63	3.65	3.69
Heating only (EN14511)	Heating capacity (3)	kW	284	321	376	432	491	574	674	840	992	1159
	Absorbed power (3)	kW	88	93	109	124	141	162	193	235	276	319
	COP (3)		3.23	3.45	3.45	3.48	3.48	3.54	3.49	3.57	3.59	3.63
	SCOP (4)		3.20	3.42	3.41	3.40	3.39	3.69	3.63	3.71	3.90	4.00
	Energy Efficiency (4)	%	125	134	133	133	133	145	142	145	153	157
Cooling + Heating	Cooling capacity (5)	kW	276	318	370	429	492	575	686	834	996	1181
	Heating capacity (5)	kW	359	404	469	544	621	726	865	1054	1261	1495
	Absorbed power (5)	kW	83	87	99	115	130	152	179	220	265	314
	TER (5)		7.65	8.30	8.47	8.46	8.56	8.56	8.66	8.58	8.52	8.52
Cooling + Heating (EN14511)	Cooling capacity (5)	kW	275	317	368	427	490	573	684	831	992	1176
	Heating capacity (5)	kW	360	405	470	545	622	728	867	1057	1264	1499
	Absorbed power (5)	kW	84	88	101	117	132	154	181	223	269	319
	TER (5)		7.56	8.20	8.30	8.31	8.42	8.45	8.57	8.47	8.39	8.39
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator - cooling side	Water flow	l/s	13.28	14.91	17.49	20.21	23.12	26.95	32.30	39.27	46.73	54.13
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Condenser - heating side	Water flow (6)	l/s	13.52	15.29	17.92	20.59	23.41	27.33	32.11	40.04	47.30	55.23
	Pressure drops (6)	kPa	21	23	20	18	17	20	18	20	20	20
	Water connections (6)	DN	100	100	125	125	125	150	150	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	185	155	155	140	155	140	115	135	100	145
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (5)	dB(A)	77	77	77	78	78	78	79	80	80	81
	With SL accessory (5)	dB(A)	73	73	74	75	74	75	76	76	76	77
	SSL version (5)	dB(A)	67	67	68	69	69	70	70	72	72	72
Weights	Transport weight	Kg	4090	4110	4820	5460	5970	6950	8100	9340	9760	10430
	Operating weight	Kg	4330	4460	5280	5980	6480	7570	8880	10200	10740	11800

DIMENSIONS

MODEL			362	412	482	552	632	742	882	1082	1292	1492
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

TWA/EP 362÷1492 VV/Y

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA 281÷1432 TT/H

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

TURBOLINE

The innovative TWA 281÷1432 TT/H **TURBOLINE** units, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of flooded shell & tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by a dedicated Web page, have access to the Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation.

FROM 262 KW TO 1340 KW.

VERSION

TWA
Cooling only
TWA/MC
Cooling only with MICROCHANNEL coils

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 281÷1432 TT/H

MODEL			281	361	561	721	831	1071	1431	562	722	1432
Cooling STD version	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	76	94	154	191	228	280	377	154	193	381
	EER (1)		3.45	3.56	3.40	3.51	3.41	3.57	3.55	3.40	3.51	3.55
Cooling STD version (EN14511)	Cooling capacity (1)	kW	261	334	522	668	774	997	1336	523	668	1335
	Absorbed power (1)	kW	77	95	156	193	231	283	381	155	195	386
	EER (1)		3.39	3.52	3.35	3.46	3.35	3.52	3.51	3.37	3.46	3.51
	SEER (2)		5.50	5.73	5.52	5.70	5.60	5.88	5.86	5.52	5.70	5.59
	Energy Efficiency (2)	%	217	226	218	225	221	232	232	218	225	221
Cooling MC version	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	72	89	145	181	216	264	356	145	183	360
	EER		3.64	3.76	3.59	3.70	3.60	3.79	3.76	3.59	3.70	3.76
Cooling MC version (EN14511)	Cooling capacity (1)	kW	259	334	518	668	774	997	1336	519	668	1335
	Absorbed power (1)	kW	73	90	147	183	219	267	360	146	185	365
	EER (1)		3.55	3.71	3.52	3.65	3.53	3.73	3.71	3.55	3.65	3.71
	SEER (2)		5.55	5.79	5.58	5.76	5.65	5.94	5.93	5.58	5.76	5.65
	Energy Efficiency (2)	%	219	229	220	227	223	235	234	220	227	223
Compressor	Quantity	n°	1	1	2	2	3	3	4	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	12.52	16.01	25.04	32.01	37.12	47.78	64.02	25.04	32.01	64.02
	Pressure drops	kPa	40	47	47	50	40	43	32	47	50	32
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	173	173	339	347	505	520	678	339	347	678
	Max. starting current	A	25	25	191	199	357	372	530	191	199	530
Unit with pump	Pump available static pressure	kPa	140	120	110	125	105	120	145	110	125	145
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Sound pressure	STD version (3)	dB(A)	70	70	71	71	71	71	72	71	71	72
	MC version (3)	dB(A)	69	69	70	70	70	70	71	70	70	71
Weights	Transport weight	Kg	2610	3000	4050	4460	6050	6820	8100	4290	4700	8400
	Operating weight	Kg	2670	3070	4150	4580	6210	7010	8400	4390	4820	8700

DIMENSIONS

MODEL			281	361	561	721	831	1071	1431	562	722	1432
L	STD/MC	mm	4000	5000	6200	7200	8400	10050	11700	6200	7200	11700
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2500	2500	2500	2100	2100	2500

CLEARANCE AREA

TWA 281÷1432 TT/H

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/FC 281÷1432 TT/H

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

TURBOLINE

FROM 279 KW TO 1386 KW.

The innovative TWA/FC 281÷1432 TT/H **TURBOLINE** units, with **HFO-R1234ze** refrigerant and **FREE-COOLING** technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell & tube evaporator, achieves a high rate of energy efficiency, with unequalled SEPR values, with minimum water content, and an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by a dedicated Web page, have access to the Monitoring, Managing and Statistics activities. Are available as option the new EC Inverter fans with high available static pressure and efficiency.

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

VERSION

TWA/FC

Cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/FC 281÷1432 TT/H

MODEL			281	361	561	721	831	1071	1431	562	722	1432
Cooling	Cooling capacity (1)	kW	279	348	554	698	837	1040	1386	554	698	1386
	Absorbed power (1)	kW	75	95	160	193	242	283	387	160	193	387
	EER (1)		3.72	3.66	3.46	3.62	3.46	3.67	3.58	3.46	3.62	3.58
Cooling (EN14511)	Cooling capacity (1)	kW	277	345	551	694	831	1031	1366	551	694	1366
	Absorbed power (1)	kW	77	98	163	198	248	292	407	163	198	407
	EER (1)		3.60	3.52	3.38	3.51	3.35	3.53	3.36	3.38	3.51	3.36
	SEPR (2)		7.35	7.30	7.13	7.25	7.42	7.43	7.43	7.13	7.25	7.45
Free-Cooling cycle	Air temperature (3)	°C	3.0	2.5	1.5	-1.0	0.0	0.5	-1.0	1.5	-1.0	-1.0
	Absorbed power (3)	kW	10.8	14.4	21.6	21.6	25.2	32.4	36.0	21.6	21.6	36.0
Compressor	Quantity	n°	1	1	2	2	3	3	4	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless									
Water circuit	Water flow	l/s	14.42	17.98	28.63	36.07	43.26	53.75	71.63	28.63	36.07	71.63
	Pressure drops	kPa	88	103	78	94	101	142	253	78	94	253
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	173	181	347	347	505	520	678	347	347	678
	Max. starting current	A	25	33	199	199	357	372	530	199	199	530
Unit with pump	Pump available static pressure	kPa	140	125	110	180	150	150	160	110	180	160
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Sound pressure (4)		dB(A)	69	70	71	71	71	71	72	71	71	72
Weights	Transport weight	Kg	3620	3730	5560	5640	7890	8910	10800	5740	5820	11000
	Operating weight	Kg	3900	4030	6040	6160	8610	9810	11840	6220	6340	12040

DIMENSIONS

MODEL			281	361	561	721	831	1071	1431	562	722	1432
L	STD	mm	5000	5000	7200	7200	8400	10050	11700	7200	7200	11700
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2750	2750	2750	2360	2360	2750

CLEARANCE AREA

TWA/FC 281÷1432 TT/H

500	1800	1000	1800

Electrical board side

NOTES

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

TWA 251÷1502 TT/Y

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

TURBOLINE

The innovative TWA 251÷1502 TT/Y **TURBOLINE** units, with R134a refrigerant, are designed to provide an effective solution to highly selective system needs. Efficiency at partial loads, low inrush currents, an excellent silent functioning, reduced weight and the specific design and handling of every manufacturing aspect make the TURBOLINE series the top unit of the range.
The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of flooded shell & tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by a dedicated Web page, have access to Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(TWA 251÷1502 TT/J)**.

FROM 248 KW TO 1456 KW.

VERSION

TWA
Cooling only
TWA/MC
Cooling only with MICROCHANNEL coils

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA 251÷1502 TT/Y

MODEL			251	291	341	411	521	641	801	981	1101
Cooling STD version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	73	81	97	116	145	185	221	274	311
	EER (1)		3.40	3.48	3.45	3.47	3.51	3.39	3.48	3.39	3.46
Cooling STD version (EN14511)	Cooling capacity (1)	kW	247	281	334	402	507	624	767	925	1072
	Absorbed power (1)	kW	74	82	98	117	147	188	224	278	315
	EER (1)		3.32	3.43	3.40	3.42	3.46	3.33	3.43	3.32	3.41
	SEER (2)		4.88	5.06	5.07	5.18	5.14	5.16	5.34	5.29	5.36
	Energy Efficiency (2)	%	192	199	200	204	203	203	211	209	211
Cooling MC version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	132	163	198	243	281
	EER		3.88	3.86	3.90	3.80	3.86	3.85	3.89	3.82	3.83
Cooling MC version (EN14511)	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	132	163	198	243	281
	EER (1)		3.88	3.86	3.90	3.80	3.86	3.85	3.89	3.82	3.83
	SEER (2)		4.93	5.11	5.12	5.23	5.19	5.22	5.40	5.34	5.41
	Energy Efficiency (2)	%	194	201	202	206	205	206	213	211	213
Compressor	Quantity	n°	1	1	1	1	2	2	2	2	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	11.85	13.47	16.01	19.25	24.32	29.96	36.79	44.39	51.36
	Pressure drops	kPa	64	40	40	35	44	56	46	68	46
	Water connections	DN	100	100	100	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	168	168	168	262	329	337	509	517	763
	Max. starting current	A	25	25	25	33	186	194	280	288	534
Unit with pump	Pump available static pressure	kPa	150	200	195	165	175	145	155	120	170
	Water connections	DN	100	100	100	125	125	150	150	150	150
Sound pressure	STD version (3)	dB(A)	69	69	69	69	70	70	70	69	70
	MC version (3)	dB(A)	68	68	68	68	69	69	69	68	69
Weights	Transport weight	Kg	2440	2440	2770	2790	3685	4020	4055	5710	6460
	Operating weight	Kg	2510	2510	2900	2920	3825	4170	4225	5910	6680

MODEL			1291	1501	522	642	802	982	1102	1292	1502
Cooling STD version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	362	433	145	185	221	274	309	362	433
	EER (1)		3.48	3.36	3.51	3.39	3.48	3.39	3.48	3.48	3.36
Cooling STD version (EN14511)	Cooling capacity (1)	kW	1256	1450	507	624	767	925	1072	1256	1450
	Absorbed power (1)	kW	366	439	147	188	224	278	312	366	439
	EER (1)		3.43	3.31	3.46	3.33	3.43	3.32	3.43	3.43	3.31
	SEER (2)		5.40	5.25	5.14	5.16	5.34	5.29	5.36	5.40	5.25
	Energy Efficiency (2)	%	213	207	203	203	211	209	211	213	207
Cooling MC version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
Cooling MC version (EN14511)	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER (1)		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
	SEER (2)		5.46	5.31	5.19	5.22	5.40	5.34	5.41	5.46	5.31
	Energy Efficiency (2)	%	215	209	205	206	213	211	213	215	209
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	60.20	69.56	24.32	29.96	36.79	44.39	51.36	60.20	69.56
	Pressure drops	kPa	50	59	44	56	46	68	41	50	59
	Water connections	DN	200	200	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	658	1002	329	337	509	517	650	658	1002
	Max. starting current	A	515	773	186	194	280	288	507	515	773
Unit with pump	Pump available static pressure	kPa	220	185	175	145	155	120	170	220	185
	Water connections	DN	200	200	125	150	150	150	150	200	200
Sound pressure	STD version (3)	dB(A)	71	71	70	70	70	69	70	71	71
	MC version (3)	dB(A)	70	70	69	69	69	68	69	70	70
Weights	Transport weight	Kg	7430	7640	3700	4250	4270	5820	6690	7570	7850
	Operating weight	Kg	7660	7880	3845	4405	4445	6030	6915	7805	8095

DIMENSIONS

MODEL			251	291	341	411	521	641	801	981	1101	1291	1501	522	642	802	982	1102	1292	1502
L	STD/MC	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2100	2100	2100	2500	2500	2500	2500

CLEARANCE AREA

TWA 251÷1502 TT/Y

500	1800	1000	1800

Electrical board side

NOTES

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

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

TWA/FC 251÷1502 TT/Y

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

TURBOLINE

The innovative TWA/FC 251÷1502 TT/Y **TURBOLINE** units, with R134a refrigerant and FREE-COOLING technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell & tube evaporator, achieves a high rate of energy efficiency, with unequalled SEPR values, with minimum water content, and an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by a dedicated Web page, have access to the Monitoring, Managing and Statistics activities.
Are available as option the new EC Inverter fans with high available static pressure and efficiency.

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

On request, units can be supplied with **R513A** refrigerant **(TWA/FC 251÷1502 TT/J).**

FROM 246 KW TO 1443 KW.

VERSION

TWA/FC
Cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWA/FC 251÷1502 TT/Y

MODEL			251	291	341	411	521	641	801	981	1101
Cooling	Cooling capacity (1)	kW	246	281	333	400	495	588	696	869	1046
	Absorbed power (1)	kW	71	80	94	116	143	171	204	257	307
	EER (1)		3.46	3.51	3.54	3.45	3.46	3.44	3.41	3.38	3.41
Cooling (EN14511)	Cooling capacity (1)	kW	244	279	331	397	491	582	690	861	1033
	Absorbed power (1)	kW	73	82	96	119	147	177	210	265	321
	EER (1)		3.34	3.40	3.45	3.34	3.34	3.29	3.29	3.25	3.22
	SEPR (2)		7.29	7.38	7.07	7.02	7.40	7.19	7.04	7.23	7.04
Free-Cooling cycle	Air temperature (3)	°C	-2.5	0.5	-2.9	0.0	-2.8	-2.3	-0.5	-0.2	1.0
	Absorbed power (3)	kW	10.8	10.8	10.8	14.4	18.0	21.6	21.6	25.2	32.4
Compressor	Quantity	n°	1	1	1	1	2	2	2	2	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Water circuit	Water flow	l/s	12.69	14.50	17.18	20.64	25.54	30.34	35.91	44.84	53.97
	Pressure drops	kPa	92	97	88	105	115	155	125	144	220
	Water connections	DN	100	100	100	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	168	168	168	262	329	337	509	517	763
	Max. starting current	A	25	25	25	33	186	194	280	288	534
Unit with pump	Pump available static pressure	kPa	135	125	115	110	150	140	155	105	160
	Water connections	DN	100	100	100	125	125	150	150	150	150
Sound pressure (4)		dB(A)	68	68	69	69	69	70	70	69	70
Weights	Transport weight	Kg	3040	3200	3600	3700	4620	5150	5500	7700	8800
	Operating weight	Kg	3180	3360	3810	3930	4850	5400	5810	8080	9250

MODEL			1291	1501	522	642	802	982	1102	1292	1502
Cooling	Cooling capacity (1)	kW	1229	1443	495	588	696	869	981	1229	1443
	Absorbed power (1)	kW	357	425	143	171	204	257	280	357	425
	EER (1)		3.44	3.40	3.46	3.44	3.41	3.38	3.50	3.44	3.40
Cooling (EN14511)	Cooling capacity (1)	kW	1211	1421	491	582	690	861	970	1211	1421
	Absorbed power (1)	kW	375	447	147	177	210	265	291	375	447
	EER (1)		3.23	3.18	3.34	3.29	3.29	3.25	3.33	3.23	3.18
	SEPR (2)		7.23	7.22	7.40	7.19	7.04	7.23	7.04	7.23	7.22
Free-Cooling cycle	Air temperature (3)	°C	1.0	1.0	-2.8	-2.3	-0.5	-0.2	1.5	1.0	1.0
	Absorbed power (3)	kW	36.0	36.0	18.0	21.6	21.6	25.2	32.4	36.0	36.0
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Water circuit	Water flow	l/s	63.42	74.46	25.54	30.34	35.91	44.84	50.62	63.42	74.46
	Pressure drops	kPa	256	275	115	155	125	144	188	256	275
	Water connections	DN	200	200	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	658	1002	329	337	509	517	650	658	1002
	Max. starting current	A	515	773	186	194	280	288	507	515	773
Unit with pump	Pump available static pressure	kPa	205	145	150	140	155	105	200	205	145
	Water connections	DN	200	200	125	150	150	150	150	200	200
Sound pressure (4)		dB(A)	70	70	69	70	70	69	70	71	71
Weights	Transport weight	Kg	10000	10300	4700	5400	5700	7800	9100	10200	10500
	Operating weight	Kg	10480	10790	4930	5650	6010	8180	9550	10680	10990

DIMENSIONS

MODEL			251	291	341	411	521	641	801	981	1101	1291	1501	522	642	802	982	1102	1292	1502
L	STD	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	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	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

TWA/FC 251÷1502 TT/Y

500	1800	1000	1800

Electrical board side

NOTES

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

TWH 212÷342 S/K/P

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

The TWH 212÷342 S/K/P series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (TWH 212÷342 S/G/P)** or **R454B (TWH 212÷342 S/L/P)** refrigerant.

FROM 224 KW TO 383 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 302÷342
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 212÷342 S/K/P

MODEL			212	222	242	272	302	342
Cooling	Cooling capacity (1)	kW	224	250	274	308	345	383
	Absorbed power (1)	kW	52	57	63	70	78	86
	EER (1)		4.31	4.39	4.35	4.40	4.42	4.45
Cooling (EN14511)	Cooling capacity (1)	kW	223	249	273	307	343	382
	Absorbed power (1)	kW	55	60	66	74	82	90
	EER (1)		4.08	4.16	4.11	4.17	4.20	4.26
	SEER (2)		5.27	5.52	5.56	5.87	5.61	5.99
	Energy Efficiency (2)	%	203	213	214	227	216	232
Heating	Heating capacity (3)	kW	290	320	349	394	437	484
	Absorbed power (3)	kW	66	74	80	88	101	111
	COP (3)		4.39	4.32	4.36	4.48	4.33	4.36
Heating (EN14511)	Heating capacity (3)	kW	291	321	350	396	438	485
	Absorbed power (3)	kW	67.5	77.5	81.4	89.8	102	112
	COP (3)		4.31	4.14	4.30	4.41	4.29	4.33
	SCOP (4)		5.23	5.36	5.49	5.50	5.77	5.71
	Energy Efficiency (4)	%	201	206	212	212	223	220
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	10.70	11.94	13.09	14.72	16.48	18.30
	Pressure drops	kPa	54	51	56	56	60	47
	Water connections	DN	80	80	80	80	80	80
Condenser	Water flow	l/s	13.19	14.67	16.10	18.06	20.21	22.41
	Pressure drops	kPa	70	74	81	76	67	59
	Water connections	DN	80	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	136	151	163	176	201	218
	Max. starting current	A	261	284	331	344	334	385
Sound pressure	STD version (5)	dB(A)	68	70	71	71	71	72
	With SL accessory (5)	dB(A)	64	66	67	67	67	68
	SSL version (5)	dB(A)	61	62	63	63	63	64
Weights	Transport weight	Kg	1047	1103	1123	1159	1352	1422
	Operating weight	Kg	1080	1140	1160	1200	1400	1480

DIMENSIONS

MODEL			212	222	242	272	302	342
L	STD/SSL	mm	2500	2500	2500	2500	3000	3000
W	STD/SSL	mm	800	800	800	800	800	800
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

TWH 212÷ 342 S/K/P

500	500	800	500

Electrical board side

NOTES

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

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

TWH 212÷342 S/K

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

The TWH 212÷342 S/K series liquid Chillers and Heat Pumps, with R410A refrigerant, are designed for medium and large domestic or industrial systems which require medium-high power, space-saving units and quiet operation. These units are ideal for indoor installation and, equipped with a self contained structure, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
The units are characterized by multi-compressor design on double cooling circuit, to reach high energy performances, reduction of current at start-up, elimination of inertial tanks and excellent silent functioning. The use of components built in large series makes them highly reliable and the management of an high number of compressors allows increased life span with reduction of machine stopping risks and easier maintenance operations. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

The units are compliant to the ErP Regulation.

On request, units can be supplied with **R452B (TWH 212÷342 S/G)** or **R454B (TWH 212÷342 S/L)** refrigerant.

FROM 225 KW TO 375 KW.

VERSION

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

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Shell and tube type condenser with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube evaporator with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 302÷342 models.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R410A refrigerant. On request R452B or R454B refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors, interface relay and terminals for external connections.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 212÷342 S/K

MODEL			212	222	242	272	302	342
Cooling	Cooling capacity (1)	kW	225	248	271	302	343	375
	Absorbed power (1)	kW	53	57	64	72	79	88
	EER (1)		4.25	4.35	4.23	4.19	4.34	4.26
Cooling (EN14511)	Cooling capacity (1)	kW	225	248	271	302	343	375
	Absorbed power (1)	kW	53	57	64	72	79	88
	EER (1)		4.25	4.35	4.23	4.19	4.34	4.26
	SEER (2)		5.31	5.52	5.52	5.67	5.58	5.81
	Energy Efficiency (2)	%	204	213	213	219	215	224
Heating	Heating capacity (3)	kW	291	317	345	386	434	474
	Absorbed power (3)	kW	67	74	81	91	102	113
	COP (3)		4.34	4.28	4.26	4.24	4.25	4.19
Heating (EN14511)	Heating capacity (3)	kW	293	319	346	387	436	476
	Absorbed power (3)	kW	69	77	83	93	105	116
	COP (3)		4.25	4.14	4.17	4.16	4.15	4.10
	SCOP (4)		4.93	5.20	5.13	4.97	5.26	5.04
	Energy Efficiency (4)	%	189	200	197	191	202	194
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	10.75	11.85	12.95	14.43	16.39	17.92
	Pressure drops	kPa	38	38	24	27	31	25
	Water connections	DN	125	125	150	150	150	150
Condenser	Water flow	l/s	13.28	14.57	16.01	17.87	20.16	22.12
	Pressure drops	kPa	31	28	31	36	35	36
	Water connections	DN	65	65	65	65	65	65
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	136	151	163	176	201	218
	Max. starting current	A	261	284	331	344	334	385
Sound pressure	STD version (5)	dB(A)	70	71	71	71	72	72
	With SL accessory (5)	dB(A)	66	67	67	67	68	68
	SSL version (5)	dB(A)	62	63	63	63	64	64
Weights	Transport weight	Kg	1370	1399	1544	1554	1819	2024
	Operating weight	Kg	1470	1500	1680	1690	1950	2230

DIMENSIONS

MODEL			212	222	242	272	302	342
L	STD/SSL	mm	3000	3000	3000	3000	3000	3000
W	STD/SSL	mm	800	800	800	800	1350	1350
H	STD/SSL	mm	1900	1900	1900	1900	1900	1900

CLEARANCE AREA

TWH 212÷342 S/K

500	500	800	500

Electrical board side

NOTES

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

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

TWH 202÷1352 VV/H/A

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

idroinverter

The liquid Chillers of the TWH 202÷1352 VV/H/A series, with A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one Screw compressor or both is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The models 202÷312 are compliant to the ErP 2021 Regulation. The models 362÷1352 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).

FROM 234 KW TO 1650 KW.

VERSION

TWH
Cooling only
TWH/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 202÷1352 VV/H/A

MODEL			202	262	312	362	412	472	552
Cooling	Cooling capacity (1)	kW	234	310	375	437	488	558	655
	Absorbed power (1)	kW	44	57	66	80	89	100	117
	EER (1)		5.32	5.44	5.68	5.46	5.48	5.58	5.60
Cooling (EN14511)	Cooling capacity (1)	kW	233	309	373	436	487	557	653
	Absorbed power (1)	kW	45	59	68	83	92	103	121
	EER (1)		5.18	5.23	5.46	5.27	5.32	5.39	5.42
	SEER (2)		5.68	5.84	5.93	5.88	5.90	5.91	5.95
	Energy Efficiency (2)	%	219	226	229	227	228	228	230
	SEER with ID accessory (2)		6.53	6.71	6.81	6.76	6.79	6.8	6.84
	Energy Efficiency with ID accessory (2)	%	253	260	264	262	264	264	266
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	11.18	14.81	17.92	20.88	23.32	26.66	31.29
	Pressure drops	kPa	36	37	42	39	32	31	35
	Water connections	DN	125	150	150	150	200	200	200
Condenser	Water flow	l/s	13.28	17.53	21.07	24.70	27.57	31.44	36.88
	Pressure drops	kPa	17	28	34	36	36	35	32
	Water connections	DN	80	80	80	80	80	80	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	144	190	220	260	290	334	384
	Max. starting current	A	199	257	318	373	420	504	492
Sound pressure	STD version (3)	dB(A)	76	76	76	76	76	76	76
	SSL version (3)	dB(A)	72	72	72	72	72	72	72
Weights	Transport weight	Kg	2140	2445	2640	2860	3090	3230	4180
	Operating weight	Kg	2300	2660	2840	3100	3420	3550	4590

MODEL			612	722	812	982	1062	1232	1352
Cooling	Cooling capacity (1)	kW	736	868	980	1160	1278	1475	1650
	Absorbed power (1)	kW	131	154	174	222	242	275	304
	EER (1)		5.62	5.64	5.63	5.23	5.28	5.36	5.43
Cooling (EN14511)	Cooling capacity (1)	kW	734	866	977	1157	1274	1469	1644
	Absorbed power (1)	kW	135	159	180	229	250	285	314
	EER (1)		5.42	5.45	5.44	5.06	5.10	5.16	5.23
	SEER (2)		6.02	6.11	6.07	6.14	6.21	6.33	6.33
	Energy Efficiency (2)	%	233	236	235	238	240	245	245
	SEER with ID accessory (2)		6.92	7.02	6.98	7.06	7.14	7.28	7.28
	Energy Efficiency with ID accessory (2)	%	269	273	271	274	278	283	283
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	35.16	41.47	46.82	55.42	61.06	70.47	78.83
	Pressure drops	kPa	45	39	38	39	49	57	54
	Water connections	DN	200	200	250	250	250	250	250
Condenser	Water flow	l/s	41.42	48.83	55.14	66.03	72.62	83.61	93.36
	Pressure drops	kPa	34	37	37	37	37	35	32
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	436	489	549	701	761	873	961
	Max. starting current	A	576	692	782	1144	1174	1372	1416
Sound pressure	STD version (3)	dB(A)	77	78	79	80	80	81	82
	SSL version (3)	dB(A)	73	74	75	76	76	77	78
Weights	Transport weight	Kg	4560	5205	5670	6950	7080	9060	10050
	Operating weight	Kg	5110	5880	6470	7220	7880	10030	11230

DIMENSIONS

MODEL			202	262	312	362	412	472	552	612	722	812	982	1062	1232	1352
L	STD/SSL	mm	3700	3700	3700	3800	3900	3900	3900	4900	4900	4900	5300	5300	5550	5550
W	STD	mm	1000	1100	1100	1150	1200	1200	1200	1200	1300	1300	1400	1400	2000	2000
	SSL	mm	1200	1250	1250	1350	1350	1400	1400	1450	1450	1450	1550	1550	2150	2150
H	STD	mm	1800	1800	1900	1950	2000	2050	2150	2150	2250	2300	2450	2450	2500	2550
	SSL	mm	1800	1950	2050	2100	2150	2200	2300	2300	2400	2450	2600	2600	2650	2700

CLEARANCE AREA

TWH 202÷1352 VV/H/A

500	500	800	500

Electrical board side

NOTES

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

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

TWH 321÷1321 VV/Y/A

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

idroinverter

The A CLASS liquid Chillers of the TWH 321÷1321 VV/Y/A series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
These units are characterized by an high efficiency (EER) and are equipped with latest generation Screw compressors, flooded shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler. Furthermore, they have a series of accessories which are factory fitted or supplied separately such as desuperheater, total heat recovery and, if neccessary, a device for operating a Heat Pump. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. The units can be equipped with Inverter control on one or on both the Screw compressors, to significantly reduce the inrush current of the unit. The solution with double Inverter allows, in addition to the above described, to increase the power efficiency of the unit in the same size, adapting to the different needs and solutions.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(TWH 321÷1321 VV/J/A).**

FROM 280 KW TO 1289 KW.

VERSION

TWH
Cooling only
TWH/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 321÷1321 VV/Y/A

MODEL			321	341	391	451	491	591	651	731	901	1101	1321
Cooling	Cooling capacity (1)	kW	280	341	392	448	507	626	711	792	961	1126	1289
	Absorbed power (1)	kW	50	60	69	79	88	108	121	132	160	188	217
	EER (1)		5.60	5.68	5.68	5.67	5.76	5.80	5.88	6.00	6.01	5.99	5.94
Cooling (EN14511)	Cooling capacity (1)	kW	279	340	391	446	505	623	708	789	957	1122	1284
	Absorbed power (1)	kW	51	61	70	81	90	111	124	135	164	192	222
	EER (1)		5.47	5.57	5.59	5.51	5.61	5.61	5.71	5.84	5.84	5.84	5.78
	SEER (2)		7.03	7.20	7.25	7.11	7.27	7.34	7.46	7.63	7.66	7.67	7.62
	Energy Efficiency (2)	%	273	280	282	276	283	286	290	297	298	299	297
Cooling *	Cooling capacity (1)	kW	329	401	459	527	595	734	833	928	1125	1319	1510
	Absorbed power (1)	kW	60	73	84	96	107	131	148	161	194	228	263
	EER (1)		5.48	5.49	5.46	5.49	5.56	5.60	5.63	5.76	5.80	5.79	5.74
Cooling * (EN14511)	Cooling capacity (1)	kW	328	399	458	524	592	730	828	923	1119	1312	1502
	Absorbed power (1)	kW	61	75	85	99	110	135	153	166	200	235	271
	EER (1)		5.38	5.32	5.39	5.29	5.38	5.41	5.41	5.56	5.60	5.58	5.54
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless										
Evaporator	Water flow	l/s	13.38	16.29	18.73	21.40	24.22	29.91	33.97	37.84	45.91	53.80	61.59
	Pressure drops	kPa	28	32	26	60	54	57	57	54	56	57	61
	Water connections	DN	100	100	100	125	125	125	125	150	150	150	150
Condenser	Water flow	l/s	15.77	19.16	22.03	25.18	28.43	35.07	39.75	44.15	53.56	62.78	71.95
	Pressure drops	kPa	46	39	42	62	52	60	62	65	58	58	59
	Water connections	DN	80	100	100	100	125	125	125	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	178	214	238	270	292	354	398	438	456	536	622
	Max. starting current	A	240	258	314	330	434	465	487	549	558	598	775
Sound pressure	STD version (3)	dB(A)	76	76	77	77	77	77	77	79	79	80	80
	SSL version (3)	dB(A)	72	72	73	73	73	73	73	75	75	76	76
Weights	Transport weight	Kg	2690	2830	2913	3215	3602	3980	4210	4745	5210	5675	6500
	Operating weight	Kg	2750	2900	3000	3500	3700	4100	4350	4900	5400	5900	6750

DIMENSIONS

MODEL			321	341	391	451	491	591	651	731	901	1101	1321
L	STD/SSL	mm	3700	3700	3700	4200	4200	4200	4200	4200	4200	4500	4600
W	STD/SSL	mm	1300	1300	1300	1400	1400	1400	1400	1400	1600	1600	1600
H	STD/SSL	mm	2100	2100	2100	2200	2200	2200	2200	2200	2250	2250	2250

CLEARANCE AREA

TWH 321÷1321 VV/Y/A

500	500	800	500

Electrical board side

NOTES

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

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

* Unit provided with Inverter on both compressors.

NEW

TWH 252-T÷2122-T VV/Y/A

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

idroinverter

The liquid Chillers of the TWH 252-T÷2122-T VV/Y/A series, with A CLASS energy efficiency and R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems requiring high power.
Equipped with latest generation Screw compressors, shell and tube exchangers and connections for condensation with cooling tower water or well water or with a Dry-Cooler, these units have a series of accessories which are factory fitted or supplied separately. Designed and produced to optimize the layout of each component so as to make any necessary maintenance operations more convenient, these units have an essential and compact structure intended for indoor installation. Furthermore, accessories as the Inverter control on one Screw compressor or both is also available for getting the highest efficiency at part load and a significant reduction of starting current.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(TWH 252-T÷2122-T VV/J/A)**.

FROM 250 KW TO 2143 KW.

VERSION

TWH
Cooling only
TWH/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 252-T÷2122-T VV/Y/A

MODEL			252-T	302-T	362-T	422-T	502-T	582-T	672-T	782-T
Cooling	Cooling capacity (1)	kW	250	307	359	427	499	572	675	783
	Absorbed power (1)	kW	46.2	58.1	65.4	78.1	85.0	101	121	137
	EER (1)		5.41	5.28	5.49	5.47	5.87	5.66	5.58	5.72
Cooling (EN14511)	Cooling capacity (1)	kW	250	307	359	427	499	571	674	782
	Absorbed power (1)	kW	47.6	60.0	67.7	80.7	88.4	104	125	142
	EER (1)		5.25	5.12	5.30	5.29	5.64	5.49	5.39	5.51
	SEER (2)		6.35	6.55	6.71	6.68	6.87	6.87	6.98	6.87
	Energy Efficiency (2)	%	246	254	260	259	267	267	271	267
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	11.94	14.67	17.15	20.40	23.84	27.33	32.25	37.41
	Pressure drops	kPa	43	37	40	39	34	38	38	52
	Water connections	DN	125	150	150	150	200	200	200	200
Condenser	Water flow	l/s	14.15	17.44	20.28	24.13	27.90	32.15	38.03	43.96
	Pressure drops	kPa	19	27	32	35	37	37	34	40
	Water connections	DN	80	80	80	80	80	80	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	184	182	210	240	278	306	392	444
	Max. starting current	A	200	218	245	282	347	383	471	559
Sound pressure	STD version (3)	dB(A)	75	75	75	75	76	76	76	76
	SSL version (3)	dB(A)	71	71	71	71	72	72	72	72
Weights	Transport weight	Kg	1983	2254	2423	2625	2943	3039	3715	4079
	Operating weight	Kg	2140	2460	2620	2860	3260	3350	4110	4610

MODEL			902-T	1042-T	1182-T	1342-T	1492-T	1662-T	1872-T	2122-T
Cooling	Cooling capacity (1)	kW	901	1040	1183	1342	1497	1662	1902	2143
	Absorbed power (1)	kW	157	182	205	235	255	293	355	374
	EER (1)		5.74	5.71	5.77	5.71	5.87	5.67	5.36	5.73
Cooling (EN14511)	Cooling capacity (1)	kW	901	1039	1182	1341	1496	1661	1901	2142
	Absorbed power (1)	kW	163	188	212	243	265	301	366	387
	EER (1)		5.53	5.53	5.58	5.52	5.65	5.52	5.19	5.53
	SEER (2)		6.99	7.07	7.23	7.21	7.29	7.22	7.12	7.12
	Energy Efficiency (2)	%	272	275	281	280	284	281	277	277
Compressor	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless							
Evaporator	Water flow	l/s	43.05	49.69	56.52	64.12	71.52	79.41	90.87	102
	Pressure drops	kPa	43	44	42	52	59	40	50	49
	Water connections	DN	200	250	250	250	250	250	250	300
Condenser	Water flow	l/s	50.55	58.38	66.32	75.35	83.71	93.41	108	120
	Pressure drops	kPa	39	41	37	40	35	32	42	41
	Water connections	DN	100	100	125	125	125	125	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	528	590	672	770	730	804	1296	1464
	Max. starting current	A	564	653	784	893	912	992	1583	1667
Sound pressure	STD version (3)	dB(A)	77	77	77	78	79	79	81	82
	SSL version (3)	dB(A)	73	73	73	74	75	75	77	78
Weights	Transport weight	Kg	4862	5259	6070	6315	7843	8263	9713	10308
	Operating weight	Kg	5520	6040	6820	7110	8790	9250	10700	11470

DIMENSIONS

MODEL			252-T	302-T	362-T	422-T	502-T	582-T	672-T	782-T	902-T	1042-T	1182-T	1342-T	1492-T	1662-T	1872-T	2122-T
L	STD/SSL	mm	3700	3700	3700	3800	3900	3900	3900	4900	4900	4900	5300	5300	5550	5550	5550	5550
W	STD	mm	1000	1100	1100	1150	1200	1200	1200	1200	1300	1300	1400	1400	2000	2000	2000	2000
	SSL	mm	1200	1250	1250	1350	1350	1350	1400	1400	1450	1450	1550	1550	2150	2150	2150	2150
H	STD	mm	1800	1800	1900	1950	2000	2050	2150	2150	2250	2300	2450	2450	2500	2550	2550	2550
	SSL	mm	1800	1950	2050	2100	2150	2200	2300	2300	2400	2450	2600	2600	2650	2700	2700	2700

CLEARANCE AREA

TWH 252-T÷2122-T VV/Y/A

500	500	800	500

Electrical board side

NOTES

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

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

NEW

TWH 322÷2582 VV/Y

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

MAXI POWER

The liquid Chillers of the TWH 322÷2582 VV/Y 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 322÷392 are compliant to the ErP 2021 Regulation. The models 452÷2582 are compliant to the ErP 2021 Regulation with ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant **(TWH 322÷2582 VV/J)**.

FROM 267 KW TO 2349 KW.

VERSION

TWH
Cooling only
TWH/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 322÷2582 VV/Y

MODEL			322	342	392	452	492	592	652	732	902
Cooling	Cooling capacity (1)	kW	267	323	374	426	488	577	660	750	892
	Absorbed power (1)	kW	57	69	80	90	99	123	136	150	182
	EER (1)		4.68	4.68	4.68	4.73	4.93	4.69	4.85	5.00	4.90
Cooling (EN14511)	Cooling capacity (1)	kW	266	322	372	424	486	574	657	747	889
	Absorbed power (1)	kW	59	72	83	94	103	128	142	157	189
	EER (1)		4.47	4.48	4.46	4.51	4.74	4.48	4.62	4.77	4.70
	SEER (2)		5.66	5.71	5.71	5.95	6.11	5.93	5.95	6.15	6.07
	Energy Efficiency (2)	%	218	220	220	230	236	229	230	238	235
	SEER with ID accessory (2)		6.23	6.28	6.28	6.55	6.54	6.52	6.55	6.58	6.56
	Energy Efficiency with ID accessory (2)	%	241	243	243	254	254	253	254	255	254
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	12.76	15.43	17.87	20.35	23.32	27.57	31.53	35.83	42.62
	Pressure drops	kPa	51	43	55	60	48	61	67	66	47
	Water connections	DN	100	125	125	125	125	150	150	150	200
Condenser	Water flow	l/s	15.48	18.71	21.67	24.67	28.00	33.43	38.00	42.99	51.32
	Pressure drops	kPa	43	49	51	47	36	52	48	45	57
	Water connections	DN	65	65	65	65	80	80	80	80	80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (3)	dB(A)	76	76	76	76	76	76	76	77	78
	SSL version (3)	dB(A)	72	72	72	72	72	72	72	73	74
Weights	Transport weight	Kg	2124	2183	2309	2340	2973	3121	3174	4274	4613
	Operating weight	Kg	2240	2350	2480	2510	3160	3440	3490	4580	5050

MODEL			1102	1202	1322	1452	1612	1812	2052	2292	2582
Cooling	Cooling capacity (1)	kW	1049	1159	1286	1438	1612	1753	1922	2116	2349
	Absorbed power (1)	kW	210	234	256	287	323	350	383	425	475
	EER (1)		5.00	4.95	5.02	5.01	4.99	5,01	5,02	4,98	4,95
Cooling (EN14511)	Cooling capacity (1)	kW	1045	1155	1281	1432	1604	1744	1913	2107	2333
	Absorbed power (1)	kW	219	244	269	299	339	367	403	444	502
	EER (1)		4.78	4.73	4.77	4.79	4.73	4,75	4,75	4,75	4,65
	SEER (2)		6.24	6.13	6.2	6.37	6.45	6.45	6.33	6.33	6.33
	Energy Efficiency (2)	%	242	237	240	247	250	250	245	245	245
	SEER with ID accessory (2)		6.68	6.68	6.76	6.82	7.10	7.10	7.03	7.03	7.03
	Energy Efficiency with ID accessory (2)	%	259	259	262	265	276	276	273	273	273
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	50.12	55.37	61.44	68.70	77.02	83.75	91.83	101,10	112,23
	Pressure drops	kPa	62	51	59	65	81	74	70	60	107
	Water connections	DN	200	200	200	200	200	250	250	250	250
Condenser	Water flow	l/s	60.17	66.55	73.67	82.42	92.45	100,48	110,13	121,40	134,92
	Pressure drops	kPa	49	66	77	66	63	63	73	67	57
	Water connections	DN	100	100	100	100	125	125	125	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	801	863	1032	1144
	Max. starting current	A	765	765	793	1610	1479	1013	1045	1129	1365
Sound pressure	STD version (3)	dB(A)	79	80	80	81	82	82	83	84	85
	SSL version (3)	dB(A)	75	76	76	77	78	78	79	80	81
Weights	Transport weight	Kg	4645	4650	5360	5440	6000	6630	8040	8100	9150
	Operating weight	Kg	5100	5220	5940	6100	6690	7380	8940	9050	10170

DIMENSIONS

MODEL			322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1812	2052	2292	2582
L	STD/SSL	mm	3550	3550	3300	3300	3300	3500	3500	3600	3600	3600	4800	4800	5200	5500	5500	5500	5500	5500
W	STD/SSL	mm	800	800	1400	1400	1400	1450	1450	1650	1650	1650	1800	1800	1800	2250	2250	2250	2250	2250
H	STD/SSL	mm	2000	2000	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2200	2200	2200	2200	2200

CLEARANCE AREA

TWH 322÷2582 VV/Y

500	500	800	500

Electrical board side

NOTES

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

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

NEW

TEE 322÷2582 VV/Y

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

MAXI POWER

The liquid Chillers for remote condensation of TEE 322÷2582 VV/Y series, with R134a refrigerant, are designed to satisfy the needs of the service sector or industrial systems which require high power with continual refrigerant delivery, space-saving units and quiet operation.
Combined with the remote condenser, these units are ideal for indoor installation and, equipped with a self-supporting structure that sustains the main components, they reduce the overall dimensions to a minimum while at the same time making installation and maintenance operations easier.
Equipped with latest generation Screw compressors and shell and tube exchanger, these units can also be produced in a super silent version. They have cooling and hydraulic circuits complete with everything necessary for quick installation and high energy efficiency. A series of accessories, factory fitted or supplied separately, rounds off the variety of equipment in this product range.

On request, units can be supplied for **R513A** refrigerant **(TEE 322÷2582 VV/J)**.

FROM 235 KW TO 2060 KW.

VERSION

TEE
Cooling only
TEE/SSL
Super silenced cooling only

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

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

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TEE 322÷2582 VV/Y

MODEL			322	342	392	452	492	592	652	732	902
Cooling	Cooling capacity (1)	kW	235	279	325	375	424	526	599	672	778
	Absorbed power (1)	kW	73	85	103	118	133	158	176	193	228
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	11.23	13.33	15.53	17.92	20.26	25.13	28.62	32.11	37.17
	Pressure drops	kPa	49	34	39	41	34	50	48	55	51
	Water connections	DN	100	125	125	125	125	150	150	150	150
Connections	Delivery line	Ø mm	2x42	2x42	2x54	2x54	2x54	2x64	2x64	2x76	2x76
	Liquid line	Ø mm	2x35	2x35	2x35	2x35	2x35	2x42	2x42	2x42	2x54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	178	214	238	270	306	354	398	438	518
	Max. starting current	A	240	258	314	330	374	465	487	549	723
Sound pressure	STD version (2)	dB(A)	76	76	76	76	76	76	76	77	78
	SSL version (2)	dB(A)	72	72	72	72	72	72	72	73	74
Weights	Transport weight	Kg	1480	1820	1840	1860	1900	2420	2540	2590	3190
	Operating weight	Kg	1570	1960	1990	2010	2040	2680	2820	2850	3460

MODEL			1102	1202	1322	1452	1612	1812	2052	2292	2582
Cooling	Cooling capacity (1)	kW	905	1015	1140	1282	1433	1535	1681	1833	2060
	Absorbed power (1)	kW	262	296	327	364	417	447	483	528	599
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	43.24	48.49	54.47	61.25	68.47	73,34	80,31	87,58	98,42
	Pressure drops	kPa	57	55	56	52	69	75	54	62	86
	Water connections	DN	150	200	200	200	200	250	250	250	250
Connections	Delivery line	Ø mm	2x76	2x76	2x89	2x89	2x89	2x89	2x89	2x108	2x108
	Liquid line	Ø mm	2x54	2x54	2x54	2x54	2x54	2x54	2x64	2x64	2x64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	602	602	658	818	834	801	863	1032	1144
	Max. starting current	A	765	765	793	1610	1479	1013	1045	1129	1365
Sound pressure	STD version (2)	dB(A)	79	80	80	81	82	82	83	84	85
	SSL version (2)	dB(A)	75	76	76	77	78	78	79	80	81
Weights	Transport weight	Kg	3225	3525	4445	4530	4600	4830	5690	6925	7280
	Operating weight	Kg	3480	3980	4980	5040	5100	5420	6390	7660	7980

DIMENSIONS

MODEL			322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1812	2052	2292	2582
L	STD/SSL	mm	3300	3300	3700	3700	3700	3800	4000	4000	4300	4300	4300	5100	5100	5100	6000	6000	6000	6000
W	STDL	mm	800	800	800	800	800	1080	1080	1080	1080	1080	1080	1080	1080	1080	1400	1400	1400	1400
	SSL	mm	800	800	800	800	800	1080	1080	1080	1080	1080	1080	1080	1080	1080	1450	1450	1500	1500
H	STDL	mm	1700	1700	1700	1700	1700	1700	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2200	2200
	SSL	mm	1700	1700	1700	1700	1700	1700	2100	2100	2100	2100	2100	2100	2100	2100	2200	2200	2300	2300

CLEARANCE AREA

TEE 322÷2582 VV/Y

500	500	800	500

Electrical board side

NOTES

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

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

TWH 341÷2061 TT/H

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

TURBOLINE

The innovative TWH 341÷2061 TT/H **TURBOLINE** units for **cooling tower** operation, featuring A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, by a dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

FROM 321 KW TO 1922 KW.

VERSION

TWH
Cooling only for **cooling tower**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 341÷2061 TT/H

MODEL			341	681	1031	1371	1711	2061
Cooling	Cooling capacity (1)	kW	321	639	958	1279	1601	1922
	Absorbed power (1)	kW	54	108	162	216	271	325
	EER (1)		5.94	5.92	5.91	5.92	5.91	5.91
Cooling (EN14511)	Cooling capacity (1)	kW	320	637	955	1276	1595	1916
	Absorbed power (1)	kW	56	110	165	220	277	331
	EER (1)		5.71	5.79	5.79	5.80	5.76	5.79
	SEER (2)		8.55	8.67	8.83	9.53	9.75	9.77
	Energy Efficiency (2)	%	334	339	345	373	382	383
Compressor	Quantity	n°	1	2	3	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1
	Capacity steps	n°	Stepless					
Evaporator	Water flow	l/s	15.34	30.53	45.77	61.11	76.49	91.83
	Pressure drops	kPa	45	46	45	34	52	50
	Water connections	DN	100	125	150	150	200	200
Condenser	Water flow	l/s	17.93	35.69	53.51	71.43	89.44	107
	Pressure drops	kPa	49	50	49	50	55	52
	Water connections	DN	100	125	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	150	300	450	600	750	900
	Max. starting current	A	5	155	305	455	605	755
Sound pressure (3)		dB(A)	72	74	76	76	77	78
Weights	Transport weight	Kg	1798	2837	3924	6408	7741	11474
	Operating weight	Kg	1930	3100	4340	7120	8780	13140

DIMENSIONS

MODEL			341	681	1031	1371	1711	2061
L	STD	mm	3400	3400	3450	4550	5500	6500
W	STD	mm	1100	1150	1800	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2100	2150

CLEARANCE AREA

TWH 341÷2061 TT/H

500	500	800	500

Electrical board side

NOTES

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

TWH/DR 341÷2061 TT/H

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

TURBOLINE

The innovative TWH/DR 341÷2061 TT/H **TURBOLINE** units for **Dry-Cooler** operation, featuring A CLASS energy efficiency and **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, by a dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

FROM 301 KW TO 1802 KW.

VERSION

TWH/DR
Cooling only for **Dry-Cooler**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH/DR 341÷2061 TT/H

MODEL			341	681	1031	1371	1711	2061
Cooling	Cooling capacity (1)	kW	301	603	899	1203	1499	1802
	Absorbed power (1)	kW	71	142	212	283	354	424
	EER (1)		4.24	4.25	4.24	4.25	4.23	4.25
Cooling (EN14511)	Cooling capacity (1)	kW	300	601	896	1200	1494	1797
	Absorbed power (1)	kW	72	144	215	286	359	429
	EER (1)		4.17	4.17	4.17	4.20	4.16	4.19
	SEER (2)		8.55	8.67	8.83	9.53	9.75	9.77
	Energy Efficiency (2)	%	334	339	345	373	382	383
Compressor	Quantity	n°	1	2	3	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1
	Capacity steps	n°	Stepless					
Evaporator	Water flow	l/s	14.38	28.81	42.95	57.48	71.62	86.10
	Pressure drops	kPa	41	42	41	30	47	44
	Water connections	DN	100	125	150	150	200	200
Condenser	Water flow	l/s	19.4	38.8	58.0	77.7	96.7	116
	Pressure drops	kPa	55	56	55	56	62	58
	Water connections	DN	100	125	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Max. running current	A	150	300	450	600	750	900
	Max. starting current	A	5	155	305	455	605	755
Sound pressure (3)		dB(A)	72	74	76	76	77	78
Weights	Transport weight	Kg	1849	2919	4065	6587	7942	11716
	Operating weight	Kg	1990	3200	4510	7340	9040	13460

DIMENSIONS

MODEL			341	681	1031	1371	1711	2061
L	STD	mm	3400	3400	3450	4550	5500	6500
W	STD	mm	1100	1150	1800	1800	1800	1800
H	STD	mm	1800	1950	2050	2100	2100	2150

CLEARANCE AREA

TWH/DR 341÷2061 TT/H

500	500	800	500

Electrical board side

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.

TWH 291÷4061 TT/Y

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR COOLING TOWER OPERATION.

TURBOLINE

The innovative TWH 291÷4061 TT/Y **TURBOLINE** units for **cooling tower** operation, featuring A CLASS energy efficiency, are designed to provide an effective solution to highly selective system needs. Efficiency at partial loads, low breakaway starting current, low levels of operational noise, reduced weight and the specific design and handling every manufacturing aspect, make the TURBOLINE series the top of the range.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with a savings that can even reach 50%. Besides, the units are equipped with the WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, by a dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(TWH 291÷4061 TT/J).**

FROM 319 KW TO 3912 KW.

VERSION

TWH

Cooling only for **cooling tower**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH 291÷4061 TT/Y

MODEL			291	391	471	581	651	771	881	1041	1161	1301
Cooling	Cooling capacity (1)	kW	319	421	519	642	712	838	962	1040	1260	1302
	Absorbed power (1)	kW	55	71	85	110	121	141	166	170	213	206
	EER (1)		5.80	5.93	6.11	5.84	5.88	5.94	5.80	6.12	5.92	6.32
Cooling (EN14511)	Cooling capacity (1)	kW	318	420	517	640	710	835	958	1036	1255	1298
	Absorbed power (1)	kW	55	72	87	112	123	143	167	174	216	210
	EER (1)		5.78	5.83	5.94	5.71	5.77	5.84	5.74	5.95	5.81	6.18
	SEER (2)		8.15	8.45	8.83	8.66	8.79	8.40	8.40	8.78	8.67	9.13
	Energy Efficiency (2)	%	318	330	345	338	344	328	328	343	339	357
Compressor	Quantity	n°	1	1	1	2	2	2	3	2	3	2
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	15.24	20.11	24.80	30.67	34.02	40.04	45.96	49.69	60.20	62.21
	Pressure drops	kPa	46	48	50	49	42	53	57	53	59	45
	Water connections	DN	100	100	100	125	125	125	150	150	150	150
Condenser	Water flow	l/s	17.87	23.51	28.86	35.93	39.80	46.77	53.89	57.81	70.38	72.05
	Pressure drops	kPa	46	45	37	45	38	46	47	48	44	47
	Water connections	DN	100	100	125	125	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	145	231	187	290	462	462	435	374	693	420
	Max. starting current	A	2	2	2	147	233	233	292	189	464	212
Sound pressure (3)		dB(A)	72	74	74	75	76	77	76	76	77	77
Weights	Transport weight	Kg	1795	2060	2360	2870	3225	3325	3715	3540	4235	4155
	Operating weight	Kg	1920	2230	2580	3120	3560	3660	4070	3940	4720	4740

MODEL			1391	1461	1541	1691	2031	2421	2501	2701	3381	4061
Cooling	Cooling capacity (1)	kW	1427	1563	1676	1787	1944	2080	2382	2600	3245	3912
	Absorbed power (1)	kW	238	257	281	295	306	341	396	411	511	617
	EER (1)		6.00	6.08	5.96	6.06	6.35	6.10	6.02	6.33	6.35	6.34
Cooling (EN14511)	Cooling capacity (1)	kW	1423	1559	1671	1783	1939	2075	2376	2592	3234	3898
	Absorbed power (1)	kW	242	260	286	298	311	346	401	419	522	631
	EER (1)		5.88	6.00	5.84	5.98	6.23	6.00	5.93	6.19	6.20	6.18
	SEER (2)		9.01	8.81	9.24	9.52	9.58	9.58	9.20	9.22	9.50	9.52
	Energy Efficiency (2)	%	352	344	362	373	375	375	360	361	372	373
Compressor	Quantity	n°	3	3	4	3	3	4	4	4	5	6
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	68.18	74.68	80.08	85.38	92.88	99.38	114	124	155	187
	Pressure drops	kPa	45	54	48	28	36	36	37	48	58	62
	Water connections	DN	200	200	200	200	200	200	250	250	300	300
Condenser	Water flow	l/s	79.55	86.96	93.50	99.47	108	116	133	144	179	216
	Pressure drops	kPa	42	49	35	36	45	46	36	46	50	52
	Water connections	DN	200	200	200	200	200	250	250	250	300	300
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	561	561	924	630	630	748	840	840	1050	1260
	Max. starting current	A	376	376	695	422	422	563	632	632	842	1052
Sound pressure (3)		dB(A)	78	78	79	78	78	78	79	79	80	80
Weights	Transport weight	Kg	4725	4825	7355	7730	7880	8350	9330	9430	14440	18420
	Operating weight	Kg	5310	5410	8190	8760	8910	9400	10520	10620	16590	21260

DIMENSIONS

MODEL			291	391	471	581	651	771	881	1041	1161	1301	1391	1461	1541	1691	2031	2421	2501	2701	3381	4061
L	STD	mm	3400	3400	3400	3400	3400	3400	3400	3400	3450	3450	3450	3450	4500	4500	4500	4500	4750	4750	5750	6750
W	STD	mm	1100	1150	1150	1150	1250	1250	1700	1300	1800	1400	1800	1800	1750	1800	1800	1800	1800	1800	1950	2100
H	STD	mm	1800	1850	1950	1950	2000	2000	2000	2050	2050	2100	2100	2100	2100	2150	2150	2150	2200	2200	2350	2400

CLEARANCE AREA

TWH 291÷4061 TT/Y

500	500	800	500

Electrical board side

NOTES

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

TWH/DR 291÷1541 TT/Y

A CLASS ENERGY EFFICIENCY WATERCOOLED LIQUID CHILLERS WITH TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGERS FOR DRY-COOLER OPERATION.

TURBOLINE

The innovative TWH/DR 291÷1541 TT/Y **TURBOLINE** units for **Dry-Cooler** operation, featuring A CLASS energy efficiency, are designed to provide an effective solution for highly selective system needs. Efficiency at partial loads, low breakaway starting current, low levels of operational noise, reduced weight, specific design and handling of every manufacturing aspect, make the TURBOLINE series the top of the range.
Using TURBOCOR dynamic partial-load oil-free magnetic levitation compressors, managed by the TURBOSOFT self-adaptive electronic control and flooded shell and tube evaporators, provide high energy performance, with unbeatable SEER values, with minimum water content, and an excellent silent functioning. Compared to traditional Screw compressor units, TURBOLINE units have low operational costs during their entire use, with savings that can even reach 50%. Besides, the units are equipped with WEB MONITORING system, for remotely managing and monitoring the units by means of GPRS/EDGE/3G/TCP-IP communication protocol. The users enabled to use this service can, by a dedicated Web page, access Monitoring, Management and Statistics activities.

The units are compliant to the ErP 2021 Regulation.

On request, units can be supplied with **R513A** refrigerant **(TWH/DR 291÷1541 TT/J).**

FROM 298 KW TO 1584 KW.

VERSION

TWH/DR
Cooling only for **Dry-Cooler**

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Shell and tube type condenser, with easily removable cast iron heads to enable access for maintenance operations.
- High efficiency flooded shell and tube type evaporator, with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors, interface relay and terminals for external connections.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
HR	Desuperheater
HRT	Total heat recovery
FE	Antifreeze heater for evaporator
TS	Touch screen Interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES:

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

TECHNICAL DATA - TWH/DR 291÷1541 TT/Y

MODEL			291	391	581	771	871	1161	1541
Cooling	Cooling capacity (1)	kW	298	395	598	792	894	1185	1584
	Absorbed power (1)	kW	70	92	141	186	211	277	372
	EER (1)		4.26	4.29	4.24	4.26	4.24	4.28	4.26
Cooling (EN14511)	Cooling capacity (1)	kW	297	394	596	789	891	1180	1579
	Absorbed power (1)	kW	71	94	144	189	214	282	376
	EER (1)		4.18	4.19	4.14	4.17	4.16	4.18	4.20
	SEER (2)		8.15	8.45	8.66	8.40	8.40	8.67	9.24
	Energy Efficiency (2)	%	318	330	338	328	328	339	362
Compressor	Quantity	n°	1	1	2	2	3	3	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless						
Evaporator	Water flow	l/s	14.24	18.87	28.57	37.84	42.71	56.62	75.68
	Pressure drops	kPa	44	45	48	50	54	56	42
	Water connections	DN	100	100	125	125	150	150	200
Condenser	Water flow	l/s	19.20	25.40	38.55	51.02	57.64	76.26	102
	Pressure drops	kPa	58	52	57	53	59	52	40
	Water connections	DN	100	100	125	125	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	145	231	290	462	435	693	924
	Max. starting current	A	2	2	147	233	292	464	695
Sound pressure (2)		dB(A)	72	74	75	76	76	77	78
Weights	Transport weight	Kg	1840	2115	2955	3430	3855	4415	7555
	Operating weight	Kg	1980	2300	3220	3790	4240	4940	8450

DIMENSIONS

MODEL			291	391	581	771	871	1161	1541
L	STD	mm	3400	3400	3400	3400	3400	3450	4500
W	STD	mm	1100	1150	1150	1250	1700	1800	1750
H	STD	mm	1800	1850	1950	2000	2000	2050	2100

CLEARANCE AREA

TWH/DR 291÷1541 TT/Y

500	500	800	500

Electrical board side

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.


KTK
KTK

Remote Condensers, Dry-Coolers and Hydronic Modules.

ARC 1111÷4222 K

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

VERSION

ARC
Base unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:	
SVV	Supports for vertical air flow versions

COMBINATIONS

JEE S/K/P	4	5	7	8	9	11	14	16	18	20	24	27	34	40
ARC	1111	1111	1111	1111	1111	1112	2111	2111	2112	2113	3111	3112	3113	2121

JEE S/K/P	051	061	071	081	091	101	111	131	152	172				
ARC	3114	3121	3122	3123	3124	3125	3131	3132	4221	4222				

TECHNICAL DATA - ARC 1111÷4222 K

MODEL			1111	1112	2111	2112	2113	2121	3111	3112	3113	3114
Fan	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Connections	In	Ø mm	22	28	22	28	28	35	28	28	28	35
	Out	Ø mm	18	18	18	18	18	28	22	22	22	28
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3/50							
	Absorbed power	kW	0.22	0.22	0.83	0.83	0.83	1.90	0.63	1.90	1.90	1.90
	Absorbed current	A	0.97	0.97	1.45	1.45	1.45	3.2	1.25	3.20	3.20	3.20
Sound pressure	STD version (1)	dB(A)	43	43	51	51	51	58	46	58	58	58
Weights	Transport weight	Kg	89	89	89	94	94	169	158	158	158	178
	Operating weight	Kg	90	91	90	96	96	174	161	163	164	184

MODEL			3121	3122	3123	3124	3125	3131	3132	4221	4222
Fan	Quantity	n°	2	2	2	2	2	3	3	4	4
Connections	In	Ø mm	35	42	35	42	42	42	54	2x35	2x35
	Out	Ø mm	28	35	28	35	35	35	35	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	1.26	1.26	3.80	3.80	3.80	5.70	5.70	5.76	7.20
	Absorbed current	A	2.50	2.50	6.40	6.40	6.40	9.60	9.60	11.60	15.20
Sound pressure	STD version (1)	dB(A)	48	48	60	60	60	62	62	54	55
Weights	Transport weight	Kg	178	198	178	198	218	304	322	555	555
	Operating weight	Kg	184	207	184	207	230	313	336	573	569

DIMENSIONS

MODEL			1111	1112	2111	2112	2113	2121	3111	3112	3113	3114	3121	3122	3123	3124	3125	3131	3132	4221	4222
L	STD	mm	1130	1130	1130	1130	1130	1910	1490	1490	1490	1490	2630	2630	2630	2630	2630	3770	3770	3230	3230
W	STD	mm	900	900	900	900	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	STD	mm	980	980	980	980	980	990	990	990	990	990	990	990	990	990	990	990	990	1565	1565

DIMENSIONAL

ARC 1111÷4222 K

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.

ARC/SL 1111÷4222 K

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

VERSION

ARC/SL
Silenced unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:

SVV	Supports for vertical air flow versions

COMBINATIONS

JEE S/K/P	4	5	7	8	9	11	14	16	18	20	24	27	34	40
ARC/SL	1111	1111	1111	1112	1113	2111	2112	2113	2121	3111	3111	3111	3112	3120

JEE S/K/P	051	061	071	081	091	101	111	131	152	172				
ARC/SL	3121	3122	3123	3124	3131	3132	3133	3134	4221	4222				

TECHNICAL DATA - ARC/SL 1111÷4222 K

MODEL			1111	1112	1113	2111	2112	2113	2121	3111	3112	3120
Fan	Quantity	n°	1	1	1	1	1	1	2	1	1	2
Connections	In	Ø mm	22	22	22	22	22	28	28	35	35	28
	Out	Ø mm	18	18	18	18	18	18	22	28	28	22
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50				400/3/50					
	Absorbed power	kW	0.22	0.22	0.22	0.22	0.55	0.55	0.55	1.35	1.35	1.15
	Absorbed current	A	0.97	0.97	0.97	0.97	0.97	0.97	0.97	2.20	2.20	2.20
Sound pressure	SL version (1)	dB(A)	43	43	43	43	43	43	43	52	52	42
Weights	Transport weight	Kg	89	89	89	89	89	94	99	158	169	215
	Operating weight	Kg	90	91	92	90	90	96	105	161	174	221

MODEL			3121	3122	3123	3124	3131	3132	3133	3134	4221	4222
Fan	Quantity	n°	2	2	2	2	3	3	3	3	4	4
Connections	In	Ø mm	35	42	35	42	42	42	54	54	2x35	2x42
	Out	Ø mm	28	35	28	35	35	35	35	35	2x28	2x35
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Absorbed power	kW	0.88	0.88	2.70	2.70	1.89	4.05	4.05	4.05	4.60	4.60
	Absorbed current	A	1.46	1.46	4.40	4.40	3.75	6.60	6.60	6.60	8.80	8.80
Sound pressure	SL version (1)	dB(A)	43	43	54	54	50	56	56	56	48	48
Weights	Transport weight	Kg	178	198	178	198	304	304	322	351	555	603
	Operating weight	Kg	184	207	184	207	313	313	336	369	569	625

DIMENSIONS

MODEL			1111	1112	1113	2111	2112	2113	2121	3111	3112	3120	3121	3122	3123	3124	3131	3132	3133	3134	4221	4222
L	SL	mm	1130	1130	1130	1130	1130	1130	1910	1490	1490	2630	2630	2630	2630	2630	3770	3770	3770	3770	3230	3230
W	SL	mm	900	900	900	900	900	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260	2400	2400
H	SL	mm	980	980	980	980	980	980	980	990	990	990	990	990	990	990	990	990	990	990	1565	1565

DIMENSIONAL

ARC/SL 1111÷4222 K

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.

ARC/SSL 2111÷4222 K

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

VERSION

ARC/SSL
Super silenced unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:

SVV	Supports for vertical air flow versions

COMBINATIONS

JEE S/K/P	4	5	7	8	9	11	14	16	18	20	24	27	34	40
ARC/SSL	2111	2111	2111	2111	2111	2112	2112	3111	3111	3111	3112	3121	3121	3121

JEE S/K/P	051	061	071	081	091	101	111	131	152	172				
ARC/SSL	3124	3131	3132	3133	3141	4121	4131	4132	4221	4222				

TECHNICAL DATA - ARC/SSL 2111÷4222 K

MODEL			2111	2112	3111	3112	3121	3124	3131	3132
Fan	Quantity	n°	1	1	1	1	2	2	3	3
Connections	In	Ø mm	22	28	28	35	35	42	42	42
	Out	Ø mm	18	18	22	28	28	35	35	35
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50		400/3/50					
	Absorbed power	kW	0.13	0.94	0.24	0.24	0.47	0.47	0.42	0.71
	Absorbed current	A	0.59	1.60	0.55	0.55	1.10	1.10	0.81	1.65
Sound pressure	SSL version (1)	dB(A)	34	22	41	41	43	43	39	45
Weights	Transport weight	Kg	48	79	158	178	178	198	304	304
	Operating weight	Kg	49	81	161	181	184	207	313	313

MODEL			3133	3141	4121	4131	4132	4221	4222
Fan	Quantity	n°	3	4	2	3	3	4	4
Connections	In	Ø mm	54	35	42	42	54	2x35	2x35
	Out	Ø mm	35	28	35	35	42	2x28	2x28
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Absorbed power	kW	0.71	0.94	1.78	2.67	2.67	3.56	3.56
	Absorbed current	A	1.65	2.20	4.44	6.66	6.66	8.88	8.88
Sound pressure	SSL version (1)	dB(A)	45	46	46	48	48	49	49
Weights	Transport weight	Kg	322	407	434	545	586	555	603
	Operating weight	Kg	336	419	450	557	604	569	625

DIMENSIONS

MODEL			2111	2112	3111	3112	3121	3124	3131	3132	3133	3141	4121	4131	4132	4221	4222
L	SSL	mm	1130	1130	1490	1490	2630	2630	3770	3770	3770	4910	3230	4580	4580	3230	3230
W	SSL	mm	900	900	1260	1260	1260	1260	1260	1260	1260	1260	1380	1380	1380	2400	2400
H	SSL	mm	980	980	990	990	990	990	990	990	990	990	1565	1565	1565	1565	1565

DIMENSIONAL

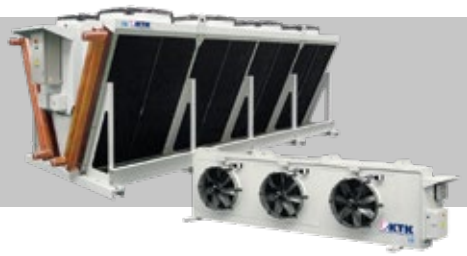
ARC/SSL 2111÷4222 K

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.



ARC 4141÷5282 Y

REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

On request, units can be supplied for **R513A** refrigerant **(ARC 4141÷5282 J).**

VERSION

ARC
Base unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:	
SVV	Supports for vertical air flow versions

COMBINATIONS

TEE VV/Y	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
ARC Y	4141	4151	4161	4171	4172	4251	4261	4271	4281	4282	5261	5271	5281	5242	3x4251	3x4252	3x4262	3x4272

TEE VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1812	2052	2292	2582
ARC J	4141	4151	4161	4171	4172	4251	4261	4271	4281	4282	5261	5271	5281	5242	2x4272	2x4281	2x4282	2x5272

TECHNICAL DATA - ARC 4141÷5282 Y

MODEL			4141	4151	4161	4171	4172	4251	4252	4261	4262
Fan	Quantity	n°	4	5	6	7	7	10	10	12	12
Connections	In	Ø mm	2x64	2x64	2x76	2x76	2x76	2x64	2x64	2x76	2x76
	Out	Ø mm	2x42	2x42	2x42	2x54	2x54	2x42	2x42	2x42	2x42
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	7.20	9.00	10.80	12.60	12.60	18.00	68.40	21.60	21.60
	Absorbed current	A	15.20	19.00	22.80	26.60	26.60	38.00	38.00	45.60	45.60
Sound pressure	STD version (1)	dB(A)	55	56	57	56	56	59	59	59	59
Weights	Transport weight	Kg	822	1016	1210	1302	1404	1590	1467	1754	1902
	Operating weight	Kg	854	1055	1282	1366	1489	1660	1521	1854	2033

MODEL			4271	4272	4281	4282	5272	5273	5281	5282
Fan	Quantity	n°	14	14	16	16	14	14	16	16
Connections	In	Ø mm	2x76	2x76	2x76	2x76	2x76	2x76	2x76	2x76
	Out	Ø mm	2x54	2x54	2x54	2x54	2x64	2x64	2x64	2x64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Absorbed power	kW	25.20	25.20	28.80	28.80	34.30	34.30	39.20	57.60
	Absorbed current	A	53.20	53.20	60.80	60.80	72.80	72.80	83.20	115.20
Sound pressure	STD version (1)	dB(A)	59	59	60	60	63	63	64	70
Weights	Transport weight	Kg	2043	2214	2331	2528	3971	4218	4769	4769
	Operating weight	Kg	2196	2367	2463	2702	4102	4369	4940	4940

DIMENSIONS

MODEL			4141	4151	4161	4171	4172	4251	4252	4261	4262	4271	4272	4281	4282	5272	5273	5281	5282
L	STD	mm	5930	7280	8630	9980	9980	7280	7280	8630	8630	9980	9980	11330	11330	9240	9240	10490	10490
W	STD	mm	1380	1380	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	STD	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	2260	2260	2260	2260

DIMENSIONAL

ARC 4141÷4282 Y

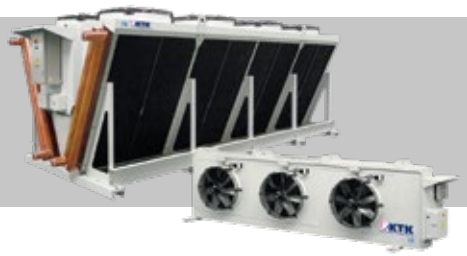
ARC 5261÷5282 Y

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.



ARC/SL 4231÷5282 Y

SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

On request, units can be supplied for **R513A** refrigerant **(ARC/SL 4231÷5282 J).**

VERSION

ARC/SL
Silenced unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:

SVV	Supports for vertical air flow versions

COMBINATIONS

TEE VV/Y	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
ARC/SL Y	4231	4232	4241	4242	4251	4261	4271	4281	5261	5271	5281	5282	2x4272	2x4282	3x5171	3x5172	3x5251	3x5252

TEE VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1812	2052	2292	2582
ARC/SL J	4231	4232	4241	4242	4251	4261	4271	4281	5261	5271	5281	5282	2x4272	2x4282	2x5252	2x5261	2x5271	2x5281

TECHNICAL DATA - ARC/SL 4231÷5282 Y

MODEL			4231	4232	4241	4242	4251	4261	4271	4272	4281
Fan	Quantity	n°	6	6	8	8	10	12	14	14	16
Connections	In	Ø mm	2x54	2x54	2x54	2x54	2x64	2x76	2x76	2x76	2x76
	Out	Ø mm	2x42	2x42	2x35	2x42	2x42	2x42	2x54	2x54	2x54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	6.90	6.90	9.20	9.20	11.50	13.80	16.10	16.10	18.40
	Absorbed current	A	13.20	13.20	17.60	17.60	22.00	26.40	30.80	30.80	35.20
Sound pressure	SL version (1)	dB(A)	50	50	51	51	52	52	52	52	53
Weights	Transport weight	Kg	891	965	1179	1278	1467	1754	2043	2214	2331
	Operating weight	Kg	924	1008	1222	1334	1521	1854	2160	2367	2463

MODEL			4282	5171	5172	5251	5252	5261	5271	5281	5282
Fan	Quantity	n°	16	7	7	10	10	12	14	16	16
Connections	In	Ø mm	2x76	2x76	2x76	2x76	2x76	2x76	2x76	2x76	2x76
	Out	Ø mm	2x54	2x54	2x54	2x54	2x54	2x54	2x64	2x64	2x64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Absorbed power	kW	18.40	10.92	10.92	15.60	15.60	18.72	21.84	24.96	38.40
	Absorbed current	A	35.20	20.30	20.30	29.00	29.00	34.80	40.60	46.40	65.60
Sound pressure	SL version (1)	dB(A)	53	53	53	55	55	56	56	57	65
Weights	Transport weight	Kg	2528	2097	2283	2942	3117	3668	4218	4769	4769
	Operating weight	Kg	2702	2183	2396	3027	3227	3799	4369	4940	4940

DIMENSIONS

MODEL			4231	4232	4241	4242	4251	4261	4271	4272	4281	4282	5171	5172	5251	5252	5261	5271	5281	5282
L	SL	mm	4580	4580	5930	5930	7280	8630	9980	9980	11330	11330	10275	10275	6740	6740	7990	9240	10490	10490
W	SL	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	1170	1170	2400	2400	2400	2400	2400	2400
H	SL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	1565	1805	1805	2260	2260	2260	2260	2260	2260

DIMENSIONAL

ARC/SL 4231÷4282 Y

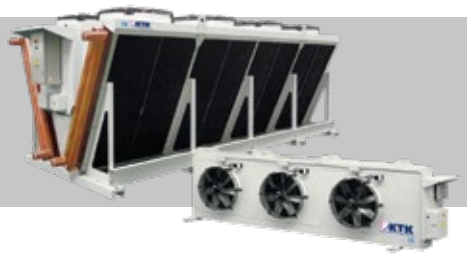
ARC/SL 5171÷5282 Y

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.



ARC/SSL 4151÷5281 Y

SUPER SILENCED REMOTE AIRCOOLED CONDENSERS WITH AXIAL FANS.

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

On request, units can be supplied for **R513A** refrigerant **(ARC/SSL 4151÷5281 J).**

VERSION

ARC/SSL
Super silenced unit

FEATURES

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

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:	
SVV	Supports for vertical air flow versions

COMBINATIONS

TEE VV/Y	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
ARC/SSL Y	4151	4161	4171	4251	4251	4261	4272	4282	5271	5272	5281	2x4271	2x4281	2x4282	3x4261	3x4271	3x4272	3x4281

TEE VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1812	2052	2292	2582
ARC/SSL J	4151	4161	4171	4251	4251	4261	4272	4282	5271	5272	5281	2x4271	2x4281	2x4282	2x4282	2x5271	2x5272	2x5281

TECHNICAL DATA - ARC/SSL 4151÷5281 Y

MODEL			4151	4161	4171	4251	4261	4271
Fan	Quantity	n°	5	6	7	10	12	14
Connections	In	Ø mm	2x64	2x76	2x76	2x64	2x76	2x76
	Out	Ø mm	2x42	2x42	2x54	2x42	2x42	2x54
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Absorbed power	kW	4.45	5.34	6.23	8.90	10.68	12.46
	Absorbed current	A	11.10	13.32	15.54	22.20	26.64	31.08
Sound pressure	SSL version (1)	dB(A)	50	51	50	53	53	53
Weights	Transport weight	Kg	1016	1210	1404	1467	1902	2214
	Operating weight	Kg	1055	1282	1489	1521	2033	2367

MODEL			4272	4281	4282	5271	5272	5281
Fan	Quantity	n°	14	16	16	14	14	16
Connections	In	Ø mm	2x76	2x54	2x54	2x76	2x76	2x76
	Out	Ø mm	2x54	2x54	2x54	2x64	2x64	2x64
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50					
	Absorbed power	kW	12.46	14.24	14.24	12.74	12.74	14.56
	Absorbed current	A	31.08	35.52	35.52	31.78	31.78	36.32
Sound pressure	SSL version (1)	dB(A)	53	54	54	57	57	58
Weights	Transport weight	Kg	2043	2528	2331	3971	4218	3769
	Operating weight	Kg	2156	2702	2463	4088	4369	3940

DIMENSIONS

MODEL			4151	4161	4171	4251	4261	4271	4272	4281	4282	5271	5272	5281
L	SSL	mm	7280	8630	9980	7280	8630	9980	9980	11330	11330	9240	9240	10490
W	SSL	mm	1380	1380	1380	2400	2400	2400	2400	2400	2400	2400	2400	2400
H	SSL	mm	1565	1565	1565	1565	1565	1565	1565	1565	1565	2262	2262	2262

DIMENSIONAL

ARC/SSL 4151÷4282 Y

ARC/SSL 5271÷5281 Y

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.

WRC 3121÷5282

DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the WRC series are designed to be combined with watercooled liquid Chillers (JWH and TWH).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

WRC
Base unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

ACCESSORIES

FACTORY FITTED ACCESSORIES:	
SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:	
SVV	Supports for vertical air flow versions

COMBINATIONS

JWH S/K/P JWH S/G/P	051	061	071	081	091	101	111	131	152	172								
WRC	3121	4111	3132	3134	4121	4122	3141	4131	4132	3151								
JWH S/K JWH S/G	051	061	071	081	091	101	111	131	152	172								
WRC	3121	4111	3132	3134	4121	4122	3141	4131	4132	3151								
JWH VV/H/P/A	081	101	131	171														
WRC	6134	8122	8131	6151														
TWH S/K/P TWH S/G/P	212	222	242	272	302	342												
WRC	4141	4141	4152	4152	4241	4241												
TWH S/K TWH S/G	212	222	242	272	302	342												
WRC	4141	4141	4152	4152	4241	4241												
TWH VV/H/A	202	262	312	362	412	472	552	612	722	812	982	1062	1232	1352				
WRC	4141	4231	4241	4242	4243	4252	4261	5261	5271	5282	5282	2x4262	2x5261	2x5262				
TWH VV/Y/A TWH VV/J/A	322	342	392	452	492	592	652	732	902	1102	1322							
WRC	4152	4241	4241	4242	4243	4261	5261	5261	5271	5282	2x4262							
TWH VV/Y/A TWH VV/J/A	252-T	302-T	362-T	422-T	502-T	582-T	672-T	782-T	902-T	1042-T	1182-T	1342-T	1492-T	1662-T	1872-T	2122-T		
WRC	4141	4231	4241	4242	4243	4252	4261	5261	5271	5282	5282	2x4262	2x5261	2x5262	2x5281	3x4262		
TWH VV/Y TWH VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
WRC	4151	4231	4241	4242	4243	4252	4261	5261	5271	5282	5282	2x4262	2x5261	2x5262	2x5271	2x5281	3x4262	3x5261
TWH/DR TT/H	341	681	1031	1371	1711	2061												
WRC	4242	5271	5282	2x4262	2x5271	2x5282												
TWH/DR TT/Y TWH/DR TT/J	291	391	581	771	871	1161	1541											
WRC	4242	4252	5271	5282	5282	2x4262	2x5282											

TECHNICAL DATA - WRC 3121÷5282

MODEL			3121	3131	3132	3133	3134	3141	3151	4111	4121	4122	4131	4132	4141	4151	4152
Fan	Air flow	m³/s	4.67	7.32	7.01	6.56	12.31	15.44	17.86	5.18	10.83	10.37	16.25	15.55	20.73	27.08	25.92
	Quantity	n°	2	3	3	3	3	4	5	1	2	2	3	3	4	5	5
Connections	In	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
	Out	Ø mm	42	42	54	54	54	54	80	42	70	70	80	102	102	70	70
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50														
	Absorbed power	kW	1.32	1.98	1.98	1.98	4.95	6.60	8.25	2.00	4.00	4.00	6.00	6.00	8.00	10.00	10.00
	Absorbed current	A	2.6	3.9	3.9	3.9	9.3	12.4	15.5	4.0	8.0	8.0	12.0	12.0	16.0	20.0	20.0
Sound pressure	STD version (1)	dB(A)	49	51	51	51	57	58	59	49	52	52	53	53	54	55	55
Weights	Transport weight	Kg	145	191	205	245	239	337	516	182	308	326	470	497	646	684	724
	Operating weight	Kg	160	211	225	265	259	367	566	197	333	351	520	547	706	754	794

MODEL			4231	4232	4241	4242	4243	4251	4252	4261	4262	5261	5262	5271	5281	5282
Fan	Air flow	m³/s	31.96	30.45	44.80	42.62	40.60	53.28	50.75	63.93	65.33	68.50	65.33	76.22	91.33	87.11
	Quantity	n°	6	6	8	8	8	10	10	12	12	12	12	14	16	16
Connections	In	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
	Out	Ø mm	102	2x102	102	102	2x102	2x102	3x102	3x102	3x102	4x80	4x80	6x102	4x102	6x102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50													
	Absorbed power	kW	12.00	12.00	16.00	16.00	16.00	20.00	20.00	24.00	24.00	24.00	24.00	28.00	32.00	32.00
	Absorbed current	A	24.0	24.0	32.0	32.0	32.0	40.0	40.0	48.0	48.0	48.0	48.0	56.0	64.0	64.0
Sound pressure	STD version (1)	dB(A)	56	56	57	57	57	58	58	58	59	59	59	59	60	60
Weights	Transport weight	Kg	860	910	994	1204	1274	1548	1638	1892	3390	3060	3390	3890	3960	4380
	Operating weight	Kg	950	1000	1094	1304	1374	1658	1748	2032	3530	3360	3690	4240	4360	4780

DIMENSIONS

MODEL			3121	3131	3132	3133	3134	3141	3151	4111	4121	4122	4131	4132	4141	4151	4152
L	STD	mm	2425	3525	3525	3525	3525	4625	5725	1803	3278	3278	4753	4753	6228	7703	7703
W	STD	mm	630	630	630	630	630	630	630	795	795	795	795	795	795	795	795
H	STD	mm	1098	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272	1272

MODEL			4231	4232	4241	4242	4243	4251	4252	4261	4262	5261	5262	5271	5281	5282
L	STD	mm	4783	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	9120	9120
W	STD	mm	878	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	STD	mm	2322	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

DIMENSIONAL

WRC 3121÷5262

WRC 5271÷5282

NOTES

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

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

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

WRC/SL 3122÷5281

SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the WRC/SL series are designed to be combined with watercooled liquid Chillers (JWH and TWH).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

WRC/SL
Silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:

SVV	Supports for vertical air flow versions

COMBINATIONS

JWH S/K/P JWH S/G/P	051	061	071	081	091	101	111	131	152	172								
WRC/SL	3122	3131	3141	4121	4131	3151	3152	4132	4142	4142								
JWH S/K JWH S/G	051	061	071	081	091	101	111	131	152	172								
WRC/SL	3122	3131	3141	4121	4131	3151	3152	4132	4142	4142								
JWH VV/H/P/A	081	101	131	171														
WRC/SL	8121	6151	8132	8142														
TWH S/K/P TWH S/G/P	212	222	242	272	302	342												
WRC/SL	4152	4152	4231	4231	4242	4243												
TWH S/K TWH S/G	212	222	242	272	302	342												
WRC/SL	4152	4152	4231	4231	4242	4243												
TWH VV/H/A	202	262	312	362	412	472	552	612	722	812	982	1062	1232	1352				
WRC/SL	4152	4241	4242	4251	4252	4262	5261	5271	5281	2x4252	2x4261	2x5262	2x5271	2x5272				
TWH VV/Y/A TWH VV/J/A	322	342	392	452	492	592	652	732	902	1102	1322							
WRC/SL	4231	4242	4243	4251	4252	5261	5271	5271	5281	2x4261	2x5262							
TWH VV/Y/A TWH VV/J/A	252-T	302-T	362-T	422-T	502-T	582-T	672-T	782-T	902-T	1042-T	1182-T	1342-T	1492-T	1662-T	1872-T	2122-T		
WRC/SL	4152	4241	4242	4251	4252	4262	5261	5271	5281	2x4252	2x4261	2x5262	2x5271	2x5272	3x5261	3x5262		
TWH VV/Y TWH VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
WRC/SL	4152	4241	4242	4251	4252	4262	5261	5271	5281	2x4252	2x4261	2x5262	2x5271	2x5272	2x5281	3x5261	3x5262	3x5271
TWH/DR TT/H	341	681	1031	1371	1711	2061												
WRC/SL	4251	5281	2x4261	2x5262	2x5281	4x4261												
TWH/DR TT/Y TWH/DR TT/J	291	391	581	771	871	1161	1541											
WRC/SL	4251	4262	5281	2x4261	2x4261	2x5262	4x4261											

TECHNICAL DATA - WRC/SL 3122÷5281

MODEL			3122	3131	3132	3141	3151	3152	4121	4131	4132	4141	4142	4151	4152
Fan	Air flow	m³/s	4.67	6.01	5.66	8.01	9.04	10.90	8.24	13.10	11.78	16.49	15.71	20.61	19.64
	Quantity	n°	2	3	3	4	5	5	2	3	3	4	4	5	5
Connections	In	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
	Out	Ø mm	42	54	54	54	70	80	54	70	70	80	102	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	1.32	1.20	1.20	1.60	2.00	3.30	2.50	3.75	3.75	5.00	5.00	6.25	6.25
	Absorbed current	A	2.6	2.1	2.1	2.8	3.5	6.5	4.6	6.9	6.9	9.2	9.2	11.5	11.5
Sound pressure	SL version (1)	dB(A)	49	44	44	45	46	52	45	47	47	48	48	49	49
Weights	Transport weight	Kg	145	145	145	145	388	448	308	388	497	611	646	684	724
	Operating weight	Kg	160	165	165	175	438	498	333	438	547	671	706	754	794

MODEL			4231	4241	4242	4243	4251	4252	4261	4262	5261	5262	5271	5272	5281
Fan	Air flow	m³/s	21.95	34.90	32.26	29.27	40.32	36.58	48.39	43.90	52.33	49.08	61.06	57.26	65.44
	Quantity	n°	6	8	8	8	10	10	12	12	12	12	14	14	16
Connections	In	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
	Out	Ø mm	2x102	102	102	102	2x102	2x102	3x102	3x102	2x102	2x102	2x102	4x80	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Absorbed power	kW	7.50	10.00	10.00	10.00	12.50	12.50	15.00	15.00	15.00	15.00	17.50	17.50	20.00
	Absorbed current	A	13.8	18.4	18.4	18.4	23.0	23.0	27.6	27.6	27.6	27.6	32.2	32.2	36.8
Sound pressure	SL version (1)	dB(A)	50	51	51	51	51	51	52	52	52	52	53	53	53
Weights	Transport weight	Kg	910	994	1204	1274	1548	1638	1892	2200	3060	3390	3510	3890	4380
	Operating weight	Kg	1000	1094	1304	1374	1658	1748	2032	2340	3360	3690	3860	4240	4780

DIMENSIONS

MODEL			3122	3131	3132	3141	3151	3152	4121	4131	4132	4141	4142	4151	4152
L	SL	mm	2425	3525	3525	4625	5725	5725	3278	4753	4753	6228	6228	7703	7703
W	SL	mm	630	630	630	630	630	630	795	795	795	795	795	795	795
H	SL	mm	1098	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	1272	1272

MODEL			4231	4241	4242	4243	4251	4252	4261	4262	5261	5262	5271	5272	5281
L	SL	mm	4783	6258	6258	6258	7733	7733	9208	9208	6920	6920	8020	8020	9120
W	SL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350	2350
H	SL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450	2450

DIMENSIONAL

WRC/SL 3122÷4262

WRC/SL 5261÷5281

NOTES

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

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

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

WRC/SSL 3132÷5282

SUPER SILENCED DRY-COOLERS WITH AXIAL FANS.

The Dry-Coolers with axial fans of the WRC/SSL series are designed to be combined with watercooled liquid Chillers (JWH and TWH).
These units, available in three configurations depending on the level of noiselessness required, Standard, Silenced (SL) and Super silenced (SSL), are equipped with latest generation axial fans, with motor fan shrouds having a large radius of curvature to eliminate all the air flow turbulence and with larger plenum to uniform the air distribution on the cooling coil.
The units, except the V shaped ones, can be installed with either horizontal or vertical air delivery, as needed.

VERSION

WRC/SSL

Super silenced unit

FEATURES

- Frame in pre-painted galvanised steel casework.
- The cowlings of the motorfans are made with a wide bending radius to eliminate any turbulence in the air flow.
- Heat exchanger with fins cut and special louver configuration to give the best external coefficient of heat exchange and threated warer connections.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

SD	Wiring integrated in branch circuit box
FR	Fan speed control

LOOSE ACCESSORIES:

SVV	Supports for vertical air flow versions

COMBINATIONS

JWH S/K/P JWH S/G/P	051	061	071	081	091	101	111	131	152	172								
WRC/SSL	3132	3141	3151	4131	4132	4141	4151	4152	4231	4241								
JWH S/K JWH S/G	051	061	071	081	091	101	111	131	152	172								
WRC/SSL	3132	3141	3151	4131	4132	4141	4151	4152	4231	4241								
JWH VV/H/P/A	081	101	131	171														
WRC/SSL	8131	8141	8152	8241														
TWH S/K/P TWH S/G/P	212	222	242	272	302	342												
WRC/SSL	4242	4242	4252	4252	4262	4262												
TWH S/K TWH S/G	212	222	242	272	302	342												
WRC/SSL	4242	4242	4252	4252	4262	4262												
TWH VV/H/A	202	262	312	362	412	472	552	612	722	812	982	1062	1232	1352				
WRC/SSL	4242	4253	4262	4264	5271	5282	2x4261	2x4262	2x5261	2x5282	2x5282	3x4264	2x5271	2x5282				
TWH VV/Y/A TWH VV/J/A	322	342	392	452	492	592	652	732	902	1102	1322							
WRC/SSL	4252	4262	4262	4264	5271	2x4261	2x4262	2x4263	2x5261	2x5282	3x4264							
TWH VV/Y/A TWH VV/J/A	252-T	302-T	362-T	422-T	502-T	582-T	672-T	782-T	902-T	1042-T	1182-T	1342-T	1492-T	1662-T	1872-T	2122-T		
WRC/SSL	4242	4253	4262	4264	5271	5282	2x4261	2x4262	2x5261	2x5282	2x5282	3x4264	2x5271	2x5282	4x5261	4x5271		
TWH VV/Y TWH VV/J	322	342	392	452	492	592	652	732	902	1102	1202	1322	1452	1612	1813	2053	2293	2583
WRC/SSL	4251	4253	4262	4264	5271	5282	2x4261	2x4262	2x5261	2x5282	2x5282	3x4264	2x5271	2x5282	3x5282	4x5261	4x5271	4x5282
TWH/DR TT/H	341	681	1031	1371	1711	2061												
WRC/SSL	4264	2x5261	2x5282	3x4264	4x4264	4x5282												
TWH/DR TT/Y TWH/DR TT/J	291	391	581	771	871	1161	1541											
WRC/SSL	4264	5282	2x5261	2x5282	2x5282	3x4264	4x5282											

TECHNICAL DATA - WRC/SSL 3132÷5282

MODEL			3132	3141	3142	3151	3152	4131	4132	4141	4151	4152	4231	4241
Fan	Air flow	m³/s	3.83	5.51	5.11	6.88	6.38	7.80	7.64	9.87	13.11	12.33	15.58	20.78
	Quantity	n°	3	4	4	5	5	3	3	4	5	5	6	8
Connections	In	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
	Out	Ø mm	54	54	54	70	70	70	70	80	80	80	102	102
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	0.57	0.76	0.76	0.95	0.95	1.41	1.41	1.48	1.85	1.85	2.22	2.96
	Absorbed current	A	1.1	1.5	1.5	1.9	1.9	3.0	3.0	4.8	6.0	6.0	7.2	9.6
Sound pressure	SSL version (1)	dB(A)	35	36	36	37	37	38	38	38	38	38	39	40
Weights	Transport weight	Kg	191	256	273	332	363	470	497	611	562	684	710	994
	Operating weight	Kg	211	286	303	382	413	520	547	671	632	754	800	1094

MODEL			4242	4251	4252	4253	4261	4262	4263	4264	5261	5271	5281	5282
Fan	Air flow	m³/s	19.53	25.97	24.40	24.40	31.17	29.29	30.56	27.35	31.50	36.75	39.66	36.77
	Quantity	n°	8	10	10	10	12	12	12	12	12	14	16	16
Connections	In	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
	Out	Ø mm	102	102	2x102	102	102	2x102	3x102	2x102	2x102	2x102	2x102	4x80
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Absorbed power	kW	2.96	3.70	3.70	3.70	4.40	4.40	5.64	5.64	4.44	5.18	7.52	7.52
	Absorbed current	A	9.6	12.0	12.0	12.0	14.4	14.4	12.0	12.0	14.4	16.8	16.0	16.0
Sound pressure	SSL version (1)	dB(A)	40	41	41	41	42	42	43	43	42	42	44	44
Weights	Transport weight	Kg	1204	1278	1548	1548	1562	1892	1892	2200	3060	3510	3960	4380
	Operating weight	Kg	1304	1388	1658	1658	1702	2032	2032	2340	3360	3860	4360	4780

DIMENSIONS

MODEL			3132	3141	3142	3151	3152	4131	4132	4141	4151	4152	4231	4241
L	SSL	mm	3525	4625	4625	5725	5725	4753	4753	6228	7703	7703	4783	6258
W	SSL	mm	630	630	630	630	630	795	795	795	795	795	878	878
H	SSL	mm	1098	1098	1098	1098	1098	1272	1272	1272	1272	1272	2322	2322

MODEL			4242	4251	4252	4253	4261	4262	4263	4264	5261	5271	5281	5282
L	SSL	mm	6258	7733	7733	7733	9208	9208	9208	9208	6920	8020	9120	9120
W	SSL	mm	878	878	878	878	878	878	878	878	2350	2350	2350	2350
H	SSL	mm	2322	2322	2322	2322	2322	2322	2322	2322	2450	2450	2450	2450

DIMENSIONAL

WRC/SSL 3132÷4264

WRC/SSL 5261÷5282

NOTES

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

N.B. Combinations are made at ambient air temperature 35 °C, In-Out water temperature 50/45°C (with ethylene glycol at 35%).

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

MR 50÷80

REMOTE HYDRONIC MODULES.

The Remote Hydronic Modules of the MR 50÷80 series are intended to solve technical problems resulting from thermal inertia in air conditioning systems for both residential and industrial use.
Installing a tank for cooled water allows units to reduce the operating cycles of the compressors, thus extending the useful life of the machines. It also results in a greater capacity of the system itself, a remarkable operational saving and a greater flexibility, being able to work with temperatures other than the design temperatures.

30 l AND 70 l

VERSION

MR 50
30 l tank
MR 80
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.

TECHNICAL DATA - MR 50÷80

MODEL			50	80
Water circuit	Tank water volume	l	30	70
	Expansion vessel	l	3	3
	Safety valve	bar	3	3
	Water connections	"G	1"	1"
Weights	Transport weight	Kg	28	36
	Operating weight	Kg	78	116

DIMENSIONS

MODEL			50	80
L	STD	mm	240	340
W	STD	mm	320	500
H	STD	mm	1100	1270

CLEARANCE AREA

MR 50÷80

600	600	600	800

Electrical board side

MR 1500÷2500

REMOTE HYDRONIC MODULES WITH PUMP KIT.

The Remote Hydronic Modules with pump kit of the MR 1500÷2500 series are designed to solve technical problems resulting from thermal inertia in air conditioning systems for both residential and industrial use.
Installing a tank for cooled water allows units to reduce the operating cycles of the compressors, thus extending the useful life of the machines. It also results in a greater capacity of the system itself, a remarkable operational saving and a greater flexibility, being able to work with temperatures other than the design temperatures. The tanks are available with a capacity of 1500 and 2500 litres, with circulating pump or double circulating pump accessory and are complete with all the components necessary for a quick on-site installation.

1500 l AND 2500 l

VERSION

MR 1500
With 1500 l tank
MR 2500
With 2500 l tank

FEATURES

- Self-supporting galvanized steel frame further protected with polyester powder painting. Easy to remove panels allow access to the inside of the unit for maintenance and other necessary operations.
- Electrical board. Present only with the accessories circulating pump, it includes main switch with door safety interlock; automatic switches for protection of circulating pumps, of secondary circuit and of antifreeeze heaters, signalling lamps, interface relay and clamps for external connections.
- Water circuit includes: insulated inertial tank, safety valve, automatic air release valves, expansion vessel, gauge, automatic filling group, plant charge and discharge water shut-off valve.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

PU1-PU5	Single circulating pump
PD1-PD5	Double circulating pump
FA	Antifreeze heater for tank
FUM	Antifreeze heater for tank, single pump and pipes
FDM	Antifreeze heater for tank, double pump and pipes

TECHNICAL DATA - MR 1500÷2500

MODEL			1500	2500
Pump kit	Tank water volume	l	1500	2500
	Expansion vessel	l	2x25	3x25
	Safety valve	bar	3	3
	Water connections	"G	4"	4"
Transport weight	STD version	Kg	470	520
	STD+PU1	Kg	513	565
	STD+PU2	Kg	569	617
	STD+PU3	Kg	569	617
	STD+PU4	Kg	634	686
	STD+PU5	Kg	740	796
	STD+PD1	Kg	586	638
	STD+PD2	Kg	696	740
	STD+PD3	Kg	696	740
	STD+PD4	Kg	826	878
	STD+PD5	Kg	1055	990
Operating weight	STD version	Kg	1970	3020
	STD+PU1	Kg	2014	3066
	STD+PU2	Kg	2070	3118
	STD+PU3	Kg	2070	3118
	STD+PU4	Kg	2135	3187
	STD+PU5	Kg	2241	3297
	STD+PD1	Kg	2088	3140
	STD+PD2	Kg	2198	3242
	STD+PD3	Kg	2198	3242
	STD+PD4	Kg	2328	3380
	STD+PD5	Kg	2557	3492
PUMPS ELECTRICAL CHARACTERISTICS				
Nominal absorbed power	PU1	kW	3	3
	PU2	kW	5.5	5.5
	PU3	kW	7.5	7.5
	PU4	kW	15	15
	PU5	kW	22	22
	PD1	kW	6	6
	PD2	kW	11	11
	PD3	kW	15	15
	PD4	kW	30	30
	PD5	kW	44	44
Max. running current	PU1	A	5.6	5.6
	PU2	A	11	11
	PU3	A	14.6	14.6
	PU4	A	28.6	28.6
	PU5	A	40.3	40.3
	PD1	A	11.2	11.2
	PD2	A	22	22
	PD3	A	29.2	29.2
	PD4	A	57.2	57.2
	PD5	A	80.6	80.6

DIMENSIONS

MODEL			1500	2500
L	STD	mm	1900	1900
W	STD	mm	2260	2260
H	STD	mm	1780	1780

CLEARANCE AREA

MR 1500÷2500

800	800	800	800

Electrical board side


KTK
AIRMAXI

Packaged Roof Top units with single or double skin for medium and wide areas.

URT/EC/WP 051÷131 S/K

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

The single skin packaged Roof Top units of the **AIRPLUS** series are the ideal solution for air conditioning of medium-wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. The units are equipped with Scroll compressors with R410A refrigerant, and are available in Reversible Heat Pump version also with **Free-Cooling** with 2 or 3 dampers. AIRPLUS is equipped with **EC Inverter Plug-Fans** with high energy efficiency backward blades both for intake as well as delivery, managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity. The unit can easily adapt to diverse engineering needs thanks to the possibility of selecting onsite the air flow direction, choosing among 8 positions of both intake and output air direction. The unit's structure is made of a frame with extruded aluminium profiles and prepainted panels, and features flat type filters with varying efficiency levels, maintaining high air quality and high comfort.
The unit can be equipped, as an option, with the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

The units are compliant to the ErP Regulation with ECA accessory (EC Inverter fans on condensing section).

FROM 63 KW TO 162 KW.

VERSION

URT/EC/WP
Reversible Heat Pump

URT/EC/WP/MS
Reversible Heat Pump with Free-Cooling section (2 dampers)

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

FEATURES

- Structure of base perimeter made of galvanised steel sheet elements. The frame is made of extruded aluminium alloy profiles connected by 3 way joints. The assembling of the base to the frame is of dual support and grants the walking on the base panels installation of which is effected without sticking out screws. The perimeter panels are realised in prepainted sheet steel, they can be easily removed and allow access inside the unit for maintenance and repair operations.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Condenser and evaporator with copper tube and aluminium finned coil.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- The air treatment section has removable panels allowing the selection of intake and output configurations that adapt to the specific needs of the system.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT	Plate filters efficiency M6-F7-F8
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CS	Dampers rain hood
CR	Remote control panel
RP	Coils protection metallic guards
AG	Rubber shock absorbers

ErP SCOP

TECHNICAL DATA - URT/EC/WP 051÷131 S/K

MODEL			051	061	071	081	091	101	111	131
Heating	Heating capacity (1)	kW	62.9	71.1	81.2	92.9	107	123	142	162
	Absorbed power (1).(2)	kW	18.6	21.7	25.2	28.1	31.0	38.1	42.6	50.1
Heating (EN14511)	SCOP with ECA accessory (3)		3.24	3.26	3.26	3.3	3.3	3.26	3.28	3.28
	Energy Efficiency with ECA accessory (3)	%	127	127	127	129	129	127	128	128
Cooling	Cooling capacity (4)	kW	64.9	73.8	85.6	96.8	111	128	147	171
	Absorbed power (2).(4)	kW	20.9	24.2	27.2	30.0	35.4	41.1	45.9	54.1
Cooling (EN14511)	SEER with ECA accessory (5)		3.53	3.54	3.54	3.58	3.55	3.57	3.65	3.63
	Energy Efficiency with ECA accessory (5)	%	138	139	139	140	139	140	143	142
Air treatment section	Air flow	m³/s	2.50	2.78	3.34	3.61	4.44	4.44	5.83	6.67
	Available static pressure	Pa	200	200	200	200	200	200	200	200
	Fan	n°	1	1	1	1	2	2	2	2
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.00	2.22	2.67	2.89	3.55	3.55	4.72	5.33
	Available static pressure	Pa	100	100	100	100	100	100	100	100
	Fan	n°	1	1	1	1	1	1	1	1
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1
	Capacity steps	n°	2				2		3	
Hot water coil	Heating capacity (6)	kW	65.4	68.6	74.9	78.9	84.9	84.9	103	110
	Air pressure drops	Pa	16	19	26	30	43	43	68	86
	Water flow (6)	l/s	1.56	1.64	1.79	1.89	2.03	2.03	2.46	2.62
	Water connections	"G	2	2	2	2	2	2	2	2
Electrical heater	Power supply	V/Ph/Hz	400/3/50				400/3/50			
	Heating capacity	kW	21	27	27	27	40	40	40	48
	Max. absorbed current	A	30	39	39	39	59	59	59	69
	Steps	n°	2	2	2	2	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50				400/3/50			
	Max. running current	A	53	56	65	69	79	91	110	131
	Max. starting current	A	190	165	188	201	208	215	242	260
Sound pressure	STD/MS/ECO versions (7)	dB(A)	56	56	60	60	60	60	61	61
Weights	Transport weight	Kg	1280	1315	1370	1380	1475	1570	1920	2020
	Operating weight	Kg	1265	1300	1355	1365	1460	1555	1900	2000

MS - ECO

MS. Free-Cooling section with 2 dampers - Further to components of the basic version, includes two wing profile aluminium dampers with spring return servomotors (dampers with opposite movement).
ECO. Free-Cooling section with 3 dampers - Further to components of the basic version, includes return air EC INVERTER PLUG-FANS; motorized wing profile aluminium dampers (dampers with opposite movement). Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131
L	STD/MS/ECO	mm	2930	2930	2930	2930	2930	2930	3930	3930
W	STD/MS/ECO	mm	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MS/ECO	mm	2370	2370	2370	2370	2370	2370	2370	2370

CLEARANCE AREA

URT/EC/WP 051÷131 S/K

1000	1800	1000	1000

NOTES

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

N.B. Weights of MS and ECO versions are specified on technical brochure.

Electrical board side

URT/EC 051÷212 S/IK

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

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.

The units are compliant to the ErP Regulation.

FROM 58 KW TO 252 KW.

VERSION

URT/EC
Cooling only with EC Inverter Plug-Fans

URT/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.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

TECHNICAL DATA - URT/EC 051÷212 S/IK

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless						Stepless				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UM Section with preparation for Humidifier
UM/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	STD	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC 051÷101 S/IK

800 | 1700 | 800 | 1700

URT/EC 111÷212 S/IK

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.

URT/EC/MS 051÷212 S/IK

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

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The MS units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, a **MIXING BOX.**

The units are compliant to the ErP Regulation.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

TECHNICAL DATA - URT/EC/MS 051÷212 S/IK

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless						Stepless				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

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

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors; the opposite movement is ensured by transmission of nylon gear.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	STD	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/MS 051÷101 S/IK

800 | 1700 | 800 | 1700

URT/EC/MS 111÷212 S/IK

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.

URT/EC/ECO 051÷212 S/IK

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

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING.
The unit can be equipped, as an option, with the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

FROM 58 KW TO 252 KW.

The units are compliant to the ErP Regulation.

VERSION

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

URT/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 section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC/ECO 051÷212 S/IK

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless						Stepless				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

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

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers, the opposite movement is ensured by transmission of nylon gear. Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	STD	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO 051÷101 S/IK

800 | 1700 | 800 | 1700

URT/EC/ECO 111÷212 S/IK

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.

URT/EC/ECO/REC-FX 051÷212 S/IK

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

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-FX units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **CROSS-FLOW HEAT RECOVERY.**

The units are compliant to the ErP Regulation.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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 section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

TECHNICAL DATA - URT/EC/ECO/REC-FX 051÷212 S/IK

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless						Stepless				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

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

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to the components of the ECO section, it includes: static recovery device made of aluminium with moisture drain pan, flat filters inspectable through hinged door and dampers with return spring servomotors (fresh air damper + air recirculation damper + exhaust air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO/REC-FX 051÷101 S/IK

800 | 1700 | 800 | 1700

URT/EC/ECO/REC-FX 111÷212 S/IK

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.

URT/EC/ECO/REC-WH 051÷212 S/IK

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

The double skin packaged Roof Top units of the **AIRMAXI** series are the ideal solution for air conditioning of wide surfaces such as shopping malls and restaurants, canteens or for industrial areas. These units feature Inverter Scroll compressor with R410A refrigerant and **EC Inverter Plug-Fans.** The highest efficiency at partial loads is guaranteed by the Inverter Scroll technology on compressor since its power is varied proportionally to the requested thermal load. Furthermore, the EC Inverter Plug-Fans with high energy efficiency backward blades are managed by an electronic control adjusting fans' rotational speed to adapt the air flow to the system capacity.
Equipped with extruded aluminium alloy sections and 50mm-thick sandwich panelling, these units are available in Cooling only and Reversible Heat Pump version.
The flat or pocket filters help to keep the air quality at a suitable level in order to guarantee appropriate hygiene standards.
The ECO/REC-WH units have an high level of modularity and adaptability to every plant-engineering need: these units feature, in addition to the basic sections, an **ECONOMIZER** automatically controlled both in FREE-COOLING or FREE-HEATING and a **WHEEL HEAT RECOVERY,** able to treat up to 100% of total air flow.

The units are compliant to the ErP Regulation.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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 section and contactors for the fan motors of the air handling section.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC/ECO/REC-WH 051÷212 S/IK

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		4.57	4.61	4.78	4.81	4.69	4.53	4.52	4.66	4.42	4.29	4.31
	Energy Efficiency (3)	%	180	181	188	189	185	178	178	183	174	169	169
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.46	3.51	3.62	3.60	3.57	3.40	3.44	3.52	3.56	3.55	3.47
	Energy Efficiency (5)	%	135	137	142	141	140	133	135	138	139	139	136
Air treatment section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless						Stepless				
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure (7)		dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

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

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to the components of the ECO section, includes: high efficiency wheel-type heat recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan and dampers with spring return (fresh air damper + air recirculation damper + exhaust air damper). Also the adjustment of this section is included into the unit control.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	STD	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO/REC-WH 051÷101 S/IK

800 | 1700 | 800 | 1700

URT/EC/ECO/REC-WH 111÷212 S/IK

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.

URT/EC 051÷212 S/K

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

The packaged Roof Top air conditioning units of the **AIRMAXI** series are ideal for the air conditioning of large 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. These 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.

FROM 58 KW TO 252 KW.

VERSION

URT/EC
Cooling only with EC Inverter Plug-Fans
URT/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.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC 051÷212 S/K

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2			3		3		4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics (EC version)	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights (EC version)	Transport weight	Kg	990	1050	1150	1250	1260	1450	1810	1860	2230	2400	3180
	Operating weight	Kg	975	1035	1135	1235	1245	1430	1790	1840	2210	2380	3150

COMPLEMENTARY SECTIONS

UM Section with preparation for Humidifier
UM/EN Section Humidifier with electrodes immersed
F/CD Condensation endothermic hot air generator with modulating gas burner

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	EC	mm	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC 051÷101 S/K

800 | 1700 | 800 | 1700

URT/EC 111÷212 S/K

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.

URT/EC/MS 051÷212 S/K

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

The packaged Roof Top air conditioning units of the **AIRMAXI** series are ideal for the air conditioning of large 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. These 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:

The units are compliant to the ErP Regulation.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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.
- High efficiency delivery reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC/MS 051÷212 S/K

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2			3		3		4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics (EC version)	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights (EC version)	Transport weight	Kg	1070	1135	1245	1340	1360	1560	1940	1990	2300	2520	3465
	Operating weight	Kg	1055	1120	1225	1320	1340	1540	1920	1970	2280	2500	3435

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

MIXING BOX

MS. Further to components of the basic section, includes two wing profile aluminium dampers with spring return servomotors; the opposite movement is ensured by transmission of nylon gear.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	EC	mm	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/MS 051÷101 S/K

800 | 1700 | 800 | 1700

URT/EC/MS 111÷212 S/K

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.

URT/EC/ECO 051÷212 S/K

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

The packaged Roof Top air conditioning units of the **AIRMAXI** series are ideal for the air conditioning of large 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. These 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 the innovative **Thermodynamic Coil-Boost Heat Recovery** to achieve better performance and efficiency both in cooling and heating up to 15%.

FROM 58 KW TO 252 KW.

The units are compliant to the ErP Regulation.

VERSION

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

URT/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.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
THCB	Thermodynamic Coil-Boost Heat Recovery (ECO only)
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC/ECO 051÷212 S/K

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2			3	3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics (EC version)	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights (EC version)	Transport weight	Kg	1500	1610	1740	1840	1860	2000	2400	2450	3020	3370	4190
	Operating weight	Kg	1480	1590	1720	1820	1840	1975	2375	2425	2990	3335	4150

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

ECONOMIZER

ECO. Further to components of the basic section, includes: return air fan with electrical motor, complete of adjustable transmission, mounted on elastic supports; motorized wing profile aluminium dampers, the opposite movement is ensured by transmission of nylon gear. Exhaust, recirculation and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the cooling circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO versions are automatically controlled both in free-cooling and free-heating mode.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	EC	mm	5260	5480	5570	5570	5650	6170	6900	6900	8080	8470	11020
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO 051÷101 S/K

800 | 1700 | 800 | 1700

URT/EC/ECO 111÷212 S/K

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.

URT/EC/ECO/REC-FX 051÷212 S/K

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

The packaged Roof Top air conditioning units of the **AIRMAXI** series are ideal for the air conditioning of large 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. These 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.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

TECHNICAL DATA - URT/EC/ECO/REC-FX 051÷212 S/K

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°			2			3	3			4	
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics (EC version)	Power supply	V/Ph/Hz			400/3/50						400/3/50		
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

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

ECONOMIZER AND CROSS-FLOW HEAT RECOVERY

ECO/REC-FX. Further to the components of the ECO section, it includes: static recovery device made of aluminium with moisture drain pan, flat filters inspectable through hinged door and dampers with return spring servomotors (fresh air damper + air recirculation damper + exhaust air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO/REC-FX 051÷101 S/K

800 | 1700 | 800 | 1700

URT/EC/ECO/REC-FX 111÷212 S/K

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.

URT/EC/ECO/REC-WH 051÷212 S/K

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

The packaged Roof Top air conditioning units of the **AIRMAXI** series are ideal for the air conditioning of large 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. These 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.

FROM 58 KW TO 252 KW.

VERSION

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

URT/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.
- High efficiency delivery & intake reverse blade EC INVERTER PLUG-FANS, with electronic speed control to easily adapt to the system characteristics.
- Electronic expansion valve.
- R410A refrigerant.
- Electrical board includes: door interlocking isolator, fuses, thermal protection relays on compressors, thermocontacts for the fans of the condensing section and contactors for the fan motors of the air handling section.
- Microprocessor for the automatic control of the unit.

ACCESSORIES

FACTORY FITTED ACCESSORIES:

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
ECA	EC Inverter fans on condensing section
TXC	Condensing coil with pre-coated fins
TXE	Evaporating coil with pre-coated fins
FT/M	Soft bag filters efficiency M6-F7-F8
FT/R	Rigid bag filters efficiency M6-F7-F8
FT/E	Electrostatic filters
AT	Constant air flow regulation control
AT/P	Constant available static pressure regulation control
WS2	Hot water coil with 3-Way valve
EHG	Electrical heater with step regulation
CH	Enthalpic control (ECO only)
SQ	Air quality sensor
SSA	Active sanitation systems
PF	Filter differential pressure switch
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
CP	Potential free contacts
RP	Coils protection metallic guards

LOOSE ACCESSORIES:

MN	High and low pressure gauges
CR	Remote control panel
AG	Rubber shock absorbers

ErP SEER 2021 ErP SCOP

TECHNICAL DATA - URT/EC/ECO/REC-WH 051÷212 S/K

MODEL			051	061	071	081	091	101	111	131	152	172	212
Cooling	Cooling capacity (1)	kW	57.9	65.8	77.6	87.4	98.6	113	129	145	168	198	252
	Absorbed power (1),(2)	kW	19.4	21.8	24.6	26.2	30.8	37.8	40.4	43.3	54.6	61.5	85.1
Cooling (EN14511)	SEER (3)		3.65	3.68	3.86	3.82	3.90	3.84	3.71	3.81	3.88	3.76	3.78
	Energy Efficiency (3)	%	143	144	151	150	153	151	145	149	152	147	148
Heating	Heating capacity (4)	kW	60.2	67.2	76.8	88.6	101	115	133	151	173	204	262
	Absorbed power (2),(4)	kW	16.8	17.9	20.2	22.8	25.2	32.2	34.0	40.0	45.7	50.4	70.5
Heating (EN14511)	SCOP (5)		3.22	3.23	3.31	3.31	3.26	3.23	3.20	3.29	3.33	3.32	3.24
	Energy Efficiency (5)	%	126	126	129	129	127	126	125	129	130	130	127
Air treatment section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	250	250	250	250	250	250	250	250	250	250	250
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
	Filter	Tipo	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4
Air intake section (EC version)	Air flow	m³/s	2.67	3.30	4.05	4.05	4.84	5.49	6.32	6.32	8.20	9.79	12.31
	Available static pressure	Pa	100	100	100	100	100	100	100	100	100	100	100
	Fan	n°	1	1	2	2	2	2	2	2	2	4	4
Condensing section	Air flow	m³/s	6.9	7.1	6.9	6.7	6.7	9.8	14.0	13.9	13.9	13.4	20.0
	Compressor	n°	2	2	2	2	2	3	3	3	4	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	2					3	3		4		
Hot water coil	Heating capacity (6)	kW	85	100	125	125	150	175	200	200	250	300	350
	Air pressure drops	Pa	30	31	31	31	31	30	36	36	35	35	57
	Water flow (6)	l/s	2.03	2.39	2.99	2.99	3.58	4.18	4.78	4.78	5.97	7.17	8.36
	Water pressure drops	kPa	45	47	48	48	49	44	51	51	53	57	45
	Water connections	"G	1"½	1"½	1"½	1"½	1"½	2"	2"	2"	2"	2 ½"	2 ½"
Electrical heater	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Heating capacity	kW	15	21	27	27	27	41	41	41	41	48	55
	Max. absorbed current	A	22	30	39	39	39	59	59	59	59	69	79
	Steps	n°	2	2	2	2	2	4	4	4	4	4	4
Electrical characteristics (EC version)	Power supply	V/Ph/Hz	400/3/50						400/3/50				
	Max. running current	A	46	47	56	60	69	88	93	102	126	148	170
	Max. starting current	A	169	169	179	192	236	212	225	269	258	315	344
Sound pressure	EC version (7)	dB(A)	57	57	57	57	57	58	59	59	60	60	61
Weights (EC version)	Transport weight	Kg	1645	1720	1910	2020	2040	2210	2640	2690	3260	3590	4390
	Operating weight	Kg	1620	1695	1885	1995	2015	2185	2610	2660	3225	3555	4350

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

ECONOMIZER AND WHEEL HEAT RECOVERY

ECO/REC-WH. Further to the components of the ECO section, includes: high efficiency wheel-type heat recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan and dampers with spring return (fresh air damper + air recirculation damper + exhaust air damper). Also the adjustment of this section is included into the unit control.

DIMENSIONS

MODEL			051	061	071	081	091	101	111	131	152	172	212
L	EC	mm	6060	6060	6270	6270	6450	7050	7870	7870	9120	9380	11650
W	EC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	EC	mm	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

CLEARANCE AREA

URT/EC/ECO/REC-WH 051÷101 S/K

800 | 1700 | 800 | 1700

URT/EC/ECO/REC-WH 111÷212 S/K

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.

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