High Performance Chillers

Uniflair Chillers

Chillers designed for technical cooling applications in data centers, buildings, and industrial processes

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Life Is On Schneider Electric

Uniflair Chillers

Combining cutting-edge technology with energy efficiency and environmental protection is the basis of these units. Uniflair™ Chillers are designed to offer a complete solution for mission-critical installations. High energy efficiency, complete reliability, and total flexibility guarantee total cost of ownership (TCO) reduction and the integration in Tier III and IV data centers and mission-critical installations.

All the units are all-in-one for easy design and installation and completely configurable to guarantee use in multiple applications and environmental conditions for a continuous and quiet operation.

The component selection includes excellent technologies such as integrated automatic transfer switches, scroll, screw, and oil-free compressors, variable speed technology driven and monitored by the chiller microprocessor control both for compressors and for pumps.

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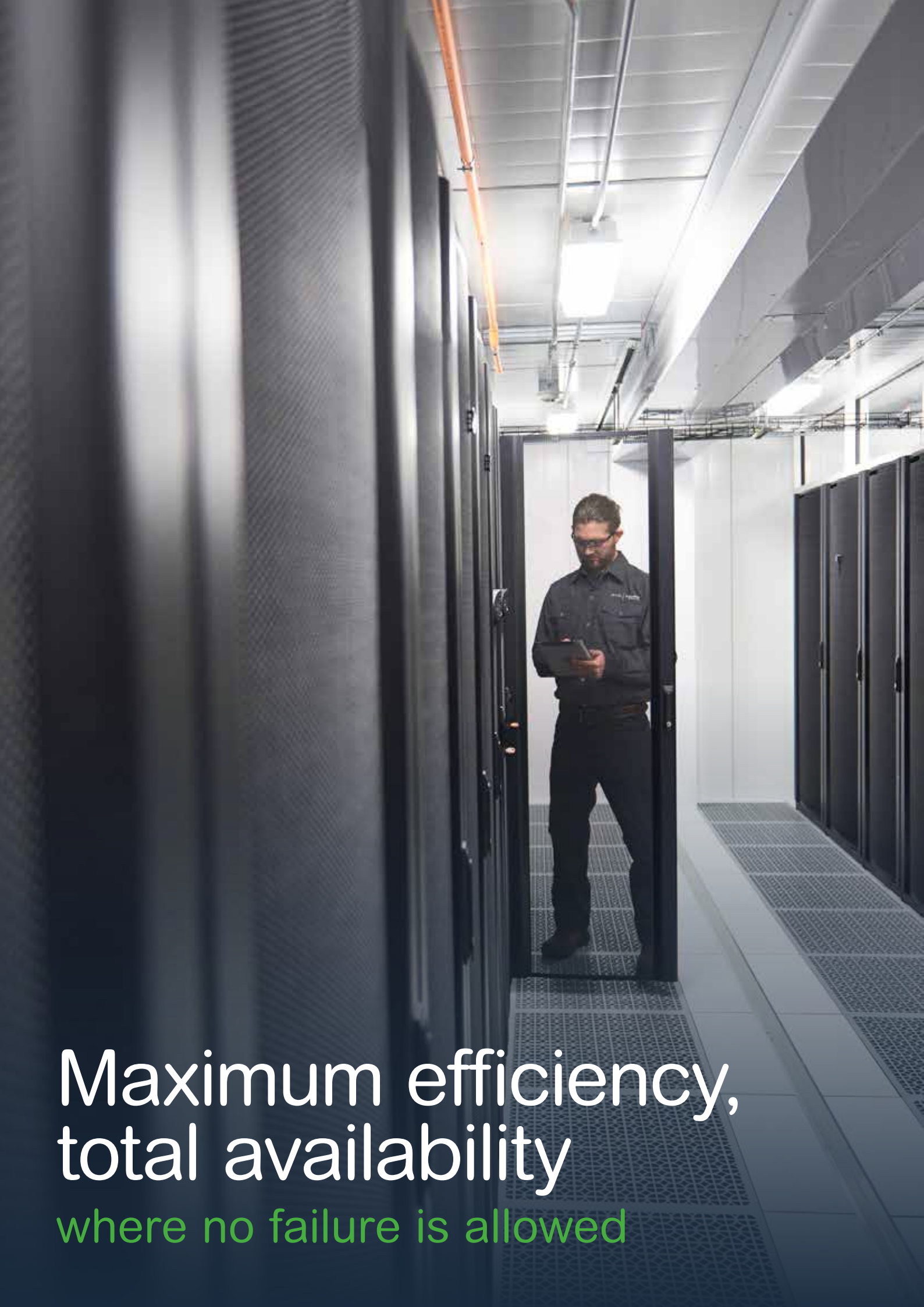


Maximum efficiency, total availability

where no failure is allowed

The solution for IT mission-critical applications

Total cost of ownership

High performance technological solutions. Optimize the unit operation at any load or ambient condition, guaranteeing an extremely low power consumption.
Integrated free-cooling system. An efficient method for reducing the energy consumption at low outside air temperatures to assist in data center or process cooling energy optimization.
Modular strategy. Mechanical equipments combined with control devices allow a modular installation which guarantees to follow the growth of the site, reducing the CapEx and deferring the investment throughout the years.
Optimized management. Connection between the computer room air conditioners and the chillers guarantees energy maximization, based on real, instantaneous load conditions.
Quick restart. Full-load operation in less than three minutes with specific settings permits undersizing of the storage tanks.
Oil-free solution. Centrifugal compressors operating without oil minimize the energy impact of the chiller.
Tandem compressors. Quiet and efficient operation of compressors, connected on a common circuit for staged capacity control.
Integrated hydronics package. Includes all the necessary components to make one connection to the chiller without the need of external connections to auxiliary equipment, such as pumps, thus increasing the speed of deployment.
Integrated pumps adjustment system. Onboard variable speed drive (VSD) pumps are available for adaptation to changing conditions on-site or for continuous adjustment of the available pressure (optional).

Serviceability

Operational service. Allows critical components to be maintained/replaced while the system is in operation.
Easy service access. Allows for all serviceable components to be replaced/maintained by easily accessible panels/doors.
Service monitoring. All the monitoring devices onboard the unit allow for preventative maintenance and general service during system operation.

Availability

Compressors. Scroll and screw compressors utilize few moving parts for increased reliability and life expectancy.
Oil-free solution. Centrifugal compressors which operate without oil increase operational availability.
Modulating compressors. Ease the mechanical and electrical stress on compressor start-up.
Redundant components. Single points of failure in the system have redundant components to maintain availability and reliability.
Dual A-B power inputs. Draws power from the secondary line for power protection with dual feeds for redundancy (optional).
Separate power input. Draws power from the external UPS for mainboards and heaters to monitor and protect the unit even in complete power failure mode.
Quick restart. Full-load operation in less than three minutes with specific arrangements guarantees continuous chilled water availability to the data center.
Active response controls. Monitors and actively adjusts cooling capacity to ensure proper server inlet temperatures. Through the microprocessor controller, visibility into the operation and health of the unit is provided.
Electronic expansion valve. Refrigerant flow optimization at any load and temperature conditions. Continuous indirect refrigerant charge monitoring.
Wide range for ambient temperature design. Guarantees continuous operation at ambient temperatures from -25 °C up to 50 °C. Wider limits are available upon request.
Tier III- and IV-ready. Units are able to be fully integrated into the latest generation of data centers for guaranteed continuous operation.

Manageability

Local area network. Creates a shared communication between all available units for energy optimization and management during emergency situations.
Building management system integration. Units are able to send alarms and data points to a single system in order to manage critical building infrastructure from a remote location.
Network interface. Provides management by connecting the device directly to the network with a dedicated IP address, avoiding the need for a proxy such as a server. Monitoring is available via Web browser.

Uniflair Chillers are designed combining cutting-edge technology with extensive tests for energy efficiency and continuous availability

Energy savings, complete reliability, and total flexibility guarantee TCO reduction and integration in Tier III and IV data centers.

The all-in-one design and the complete configurability allow easy installation and tailored solutions to meet the specific needs of each critical application.

Some of the features described may be available only for some models or configurations. Please refer to the products' technical section for details.

-30% of annual energy consumption* thanks to the integrated free-cooling.

* Average value in a medium DC in Europe.

99.99% is the reliability of Tier III and Tier IV* data centers according to Uptime Institute certification standards.

* Uniflair Chillers are Tier III- and Tier IV-ready design.

Protect the environment and your investments

Focus on your core business

The reliable chiller solution for industrial processes

Multiple processes adaptability

Wide range of operation features. Units are able to adapt to a large variety of industrial processes at any external conditions.
Engineering-to-order design. Cooling system design can be adjusted to fit a specific application.
Multiple set point for water temperatures. Guarantees different settings for multiple processes stages such as plastic manufacturing, healthcare equipment manufacturing, and food and beverage applications.
Wide range for ambient temperature design. Guarantees continuous operation from -40 °C up to 50 °C.
Integrated hydronics package. Includes all the components required to make one connection to the chiller, thus increasing the speed of deployment.
High head pressure pumps. Are available to be integrated and managed by the chiller.
Integrated primary and secondary loop. Enables quick and easy design and installation for all applications.
Close control on water temperature. Enables the use on high-precision applications like laser manufacturing or biomedical devices.
Continuous load adaption. Is available on the whole range to follow all phases of the manufacturing process.
Non-ferrous materials. Available for water circuits where ferrous materials must not be present.
Heat exchangers treatment. Protects air side heat exchangers in saline or aggressive environments.

Reliability

Safe and reliable design. Guarantees operation in the most varied working conditions thanks to the use of cutting-edge solutions and to the availability of a wide range of accessories and options.
Pretested and validated solution. All units are tested at the end of the manufacturing process.
Compressors. Utilize few moving parts for increased reliability and life expectancy.
Redundant components. Redundancy is applied on the critical sections of the units to maintain availability on 24/7 operating processes.
Electrical panel. Units are equipped with double closure panels, certified for outdoor use and manufactured in compliance with all safety standards.
Dual A-B power inputs. Draws power from the secondary line for power protection with dual feeds for redundancy.
Quick restart. Full-load operation in less than three minutes with specific arrangements guarantees continuous chilled
water availability to the data center.
Active response controls. Monitor and actively adjust the cooling capacity to ensure proper temperatures. Through the microprocessor controller, visibility into the operation and health of the unit is provided.
Current monitoring. Allows continuous monitoring of the current absorbed from the compressors to signal any difference from default values.

Total cost of ownership

No waste of water. Thanks to the use of water in a closed circuit.
High performance technological solutions. Optimizes the unit operation at any load or ambient condition, guaranteeing extremely low power consumption.
Undersize for storage tanks. Quick restart allows full-load operation in less than three minutes with specific settings.
Integrated free-cooling system. An efficient method for reducing the energy consumption at low outside air temperatures to assist in energy optimization.

Serviceability

Reduced maintenance. Closed circuit operation, proven technology, and design and test of all refrigeration circuits reduce maintenance over the lifetime of the unit.
Operational service. Critical components can be maintained/replaced while the system is working.
Service monitoring. All the onboard monitoring devices allow preventive maintenance and check of the operation while the system is working.

Manageability

Easy to use. The local user terminal displays all unit settings and data points. The most used parameters are visible on the main screen.
Network interface. Provides management by connecting the device directly to the network or to the management system avoiding the need of a proxy such as a server.

The use of chilled water is essential in many industrial production and transformation processes.

Needs vary from heat absorption to the necessity to keep components, rooms, and working phases at controlled temperature conditions.

Reliability and easy adjustment of the cooling system to the specific application are key factors to ensure an uninterrupted production and to optimize the process reducing costs.

-10 °C

Water inlet temperature up to 30 ° C and outlet temperature down to -10 ° C allow application in many industrial processes.

±0.2 °C

Close control water temperature guarantees use in high-precision applications like laser machineries or biomedical devices.

Smart buildings

With efficient, quiet and adaptative operation

Cooling for innovative building systems

Operative cost OpEx

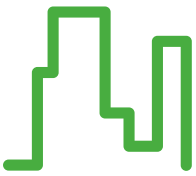
High efficiency technological solutions. Optimize the unit operation at any load or ambient condition, guaranteeing an extremely low power consumption.
Excellent performance at any load or temperature conditions. All the ranges, and particularly the modulating units, are characterized by high efficiency at part loads or at low ambient conditions with a short payback time compared to conventional chillers, reducing consistently the operational costs.
Modulating compressors. VSD centrifugal compressors are able to modulate the cooling capacity to match the actual thermal load, therefore minimizing energy consumption of the chiller and requiring little to no backup water tanks.
Heat recovery. Optimize the energy usage in reheating and heating systems.
Geothermal applications. Are available for installation with complete renewable energies usage.
Oil-free solution. Centrifugal compressors operating without oil minimize the energy impact of the chiller.
User-friendly control system. Contains all necessary operating and safety controls with a simple interface and a large screen for quick and easy checks on unit operation and maintenance.
Underflow air distribution. Is an efficient solution to provide cooling and heating in the building.
BMS integration. Units are able to send alarms and data points to a single system (natively integrated with Schneider Electric SmartStruxure platform or using specific adaptor for other BMS platforms) in order to manage critical building infrastructure from a remote location.
Innovative defrosting system. Occurs only in necessary conditions and improves heating operation.
Chilled beams and radiant panels optimization. The units are designed to operate with smart cooling and heating systems, maximizing the efficiency at the typical water set points for those applications.
Integrated shifting set point system. Adapts the water temperature to the ambient conditions with a consequent reduction in energy consumption.

Investment optimization CapEx

Low noise impact. Allows installation in different areas, limiting the expense for noise barriers or louvers.
Package solution. Includes all the necessary components to make one connection to the chiller without the need of external connections to auxiliary equipment, such as pumps, thus increasing the speed and reducing cost of deployment.
Underflow air distribution. Enables quick and low-cost modifications of the internal building layout.
Low starting current. VSD and oil-free technology on compressors allow for low starting currents. A soft starter is also possible to add to the unit.
Water heat recovery. Integrated to provide water for sanitary uses without boilers or heaters.
Easy and quick installation. The units are totally assembled, cabled, and refrigerant and oil charged in the factory. They are complete with all the control and protection devices necessary. Only electrical and hydraulic connections are made on-site.
Reduced mandatory controls. Reduces the ordinary checks cost when compared to boilers or other.

Quiet operations

Low noise operation. Both standard Low Noise and optional Ultra-Low Noise versions guarantee very low acoustic impact, guaranteeing a wide range of installations, even where the noise restrictions are very tight (hospitals, hotels, etc.).
Oil-free solution. Magnetic bearing compressors allow extremely quiet operation.
Variable speed fans. Variable speed fans reduce noise impact during off-peak cooling periods. Benefits are maximized with electronic commutated motor fans, available on all the range.
Internal installation. Backward curved centrifugal fans are available in the middle range allowing the possibility to install the chiller inside building where the air is taken/discharged through duct or plenums.



Uniflair Chillers offer an efficient, quiet, and flexible solution for buidings.

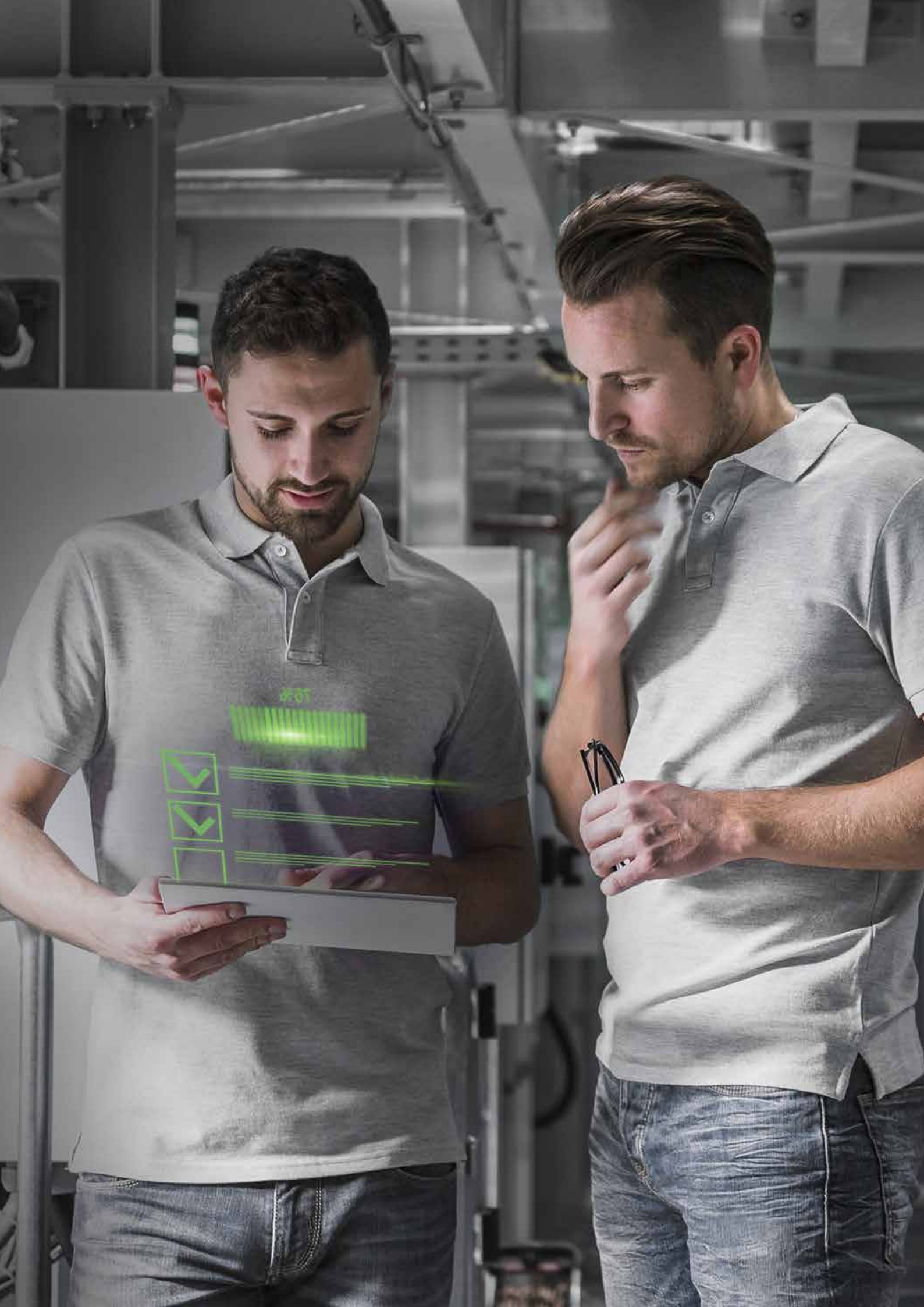
Where high performance cooling is crucial, Schneider Electric long experience on mission-critical installations guarantees investment optimization, short design and on-site operation, ease of maintenance, complete flexibility, and quiet operation.

Uniflair Chillers are usually installed in hospitals, hotels, and small and large buildings designed for smart operation.

Completely configurable units allow tailored solutions to meet the specific needs of each application.

45 dB(A)

Is the limit for most residential areas during night.



EcoStruxure™

Innovation At Every Level

IoT-enabled solutions that drive operational and energy efficiency

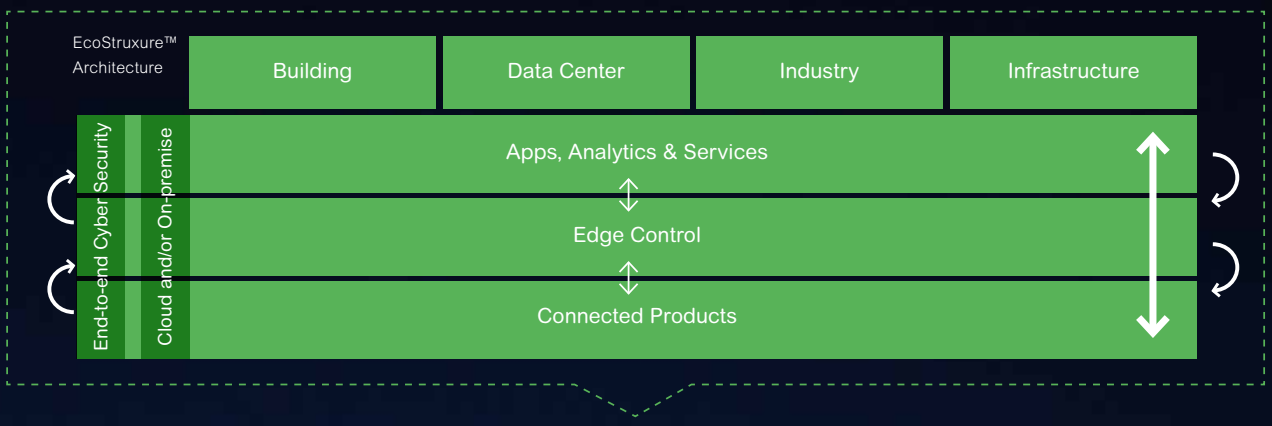
EcoStruxure™ architecture and interoperable technology platform brings together energy, automation, and software. It provides enhanced value around safety, reliability, efficiency, sustainability, and connectivity.

In turn, this advancement opens up the digital world to users across key end markets, enabling them to be competitive in today's IoT economy.

Uniflair Chillers are is EcoStruxure ready

Schneider Electric chillers seamlessly integrate with EcoStruxure. Users are able to monitor, manage and optimize any unit from local or remote locations.

One EcoStruxure architecture, serving four end markets, with six domains of expertise



EcoStruxure™ Building | EcoStruxure™ Power | EcoStruxure™ IT | EcoStruxure™ Machine | EcoStruxure™ Plant | EcoStruxure™ Grid

Connected Products:

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

Edge Control:

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

Applications, Analytics & Services:

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid end markets. EcoStruxure enables a breadth of agnostic applications, analytics & services for seamless enterprise integration.

Life Is On | Schneider Electric

Conselve Cooling Excellence Center

Acquired by Schneider Electric December 2010, Conselve Cooling Excellence Center is specialized in the design, production and marketing of Datacenter cooling solutions. It is also one of the Research, Development and Manufacturing centers specialized in Computer Room Air Conditioning units (CRACs), Chillers, Indirect Air Economizers and Modular Access flooring.

Products displaying areas

The complete IT cooling portfolio is displayed to see, touch and learn more about the products, which are presented in three areas:

- High Density datacenter demo room
- Indirect air economizer showroom
- Demo area with latest innovative Cooling units
- Access Flooring show room

Factory Acceptance Testing areas

Conselve Research Centre is fundamental for developing cooling units for datacentres and Mission Critical applications and for collaboration with partners and designers. Products, applications, components and software are tested here in order to guarantee a complete pre-arranged reliable solution before the on site installation.

The Research Centre is also able to offer a qualified technical environment for our standard unit applications and on Engineering To Order solutions. R&D center facility is based on seven areas/rooms for testing Chillers, CRACs and Air Economizers. The testing areas can simulate a multitude of environments and operating conditions and are fully instrumented for data collection.

Cooling Academy

Conselve site hosts the EMEA Cooling training center, which organizes technical trainings addressed to Schneider Electric FSR (Field Service Representatives) and to engineers from certified service partners. This unique organization brings service partners to the highest level of competency and it secures their competency level thanks to a certification process.

Specific trainings are also conducted to train system engineers and partners/ consultants on the technical aspects of our products.

The training team works closely with both R&D and field services to continuously adhere to the evolutions and needs of the industry.

Tested solutions for reliable and predictable installations

All Schneider Electric chillers are fully tested in the factory in accordance with applicable standards, ensuring the units will have the quality our customers expect.

Factory Acceptance Tests (FAT) are available for customers to verify unit performance. These are conducted at our manufacturing facility in Conselve, Italy. A dedicated laboratory is set up to provide a controlled testing climate.

Our chiller lab is certified for industrial cooling equipment and allows for testing units in a wide range of operating conditions to meet customer requirements and designs.

Chiller test lab capabilities

Product ranges:

- Air-cooled chillers
- Free-cooling and adiabatic chillers
- Water-cooled chillers

Operating ranges:

- Max nominal cooling capacity: 1.300kW
- Max air temperature: +55°C
- Min air temperature: +5°C
- Max water temperatures in/out: 32/20°C

Ecodesign directive 2009 /125/EC

Ecodesign is a directive that covers all Electrical Related Products (ERP) and sets requirements for Minimum Efficiency Performance Standards (MEPS).

Under the EcoDesign Directive, the European Parliament set a framework for development of minimum requirements for the energy and environmental performance of energy-using products (EuP) and energy-related products (ErP) throughout their life-cycle.

In terms of cooling and heating products, the decision to act came after the EC identified the "high potential" for energy savings that refrigeration equipment had due to its high energy consumption and long operating times.

Chillers used in process cooling and climate control are subject to Regulation (EU) 2016/2281 and (EU) 2015/1095 that define the legal limits for the minimum efficiency. The energy efficiency of chillers is specified using the performance indicators:

- seasonal energy efficiency ratio (SEER)
- seasonal energy performance ratio (SEPR)

They describe the energy efficiency of refrigeration systems based on a one-year usage cycle with consideration of periods under partial or full loads.

ErP 2021 Ready

Ecodesign Directive application benefits:

- More energy efficient equipment
- More efficient chillers are Carbon Reduction Commitment compliant
- The SEPR and Seasonal Space Cooling Energy Efficiency are based on more realistic conditions and must be declared
- Investment in highly efficient, low Global Warming Potential (GWP) refrigeration technology reduces the overall CO2 emissions

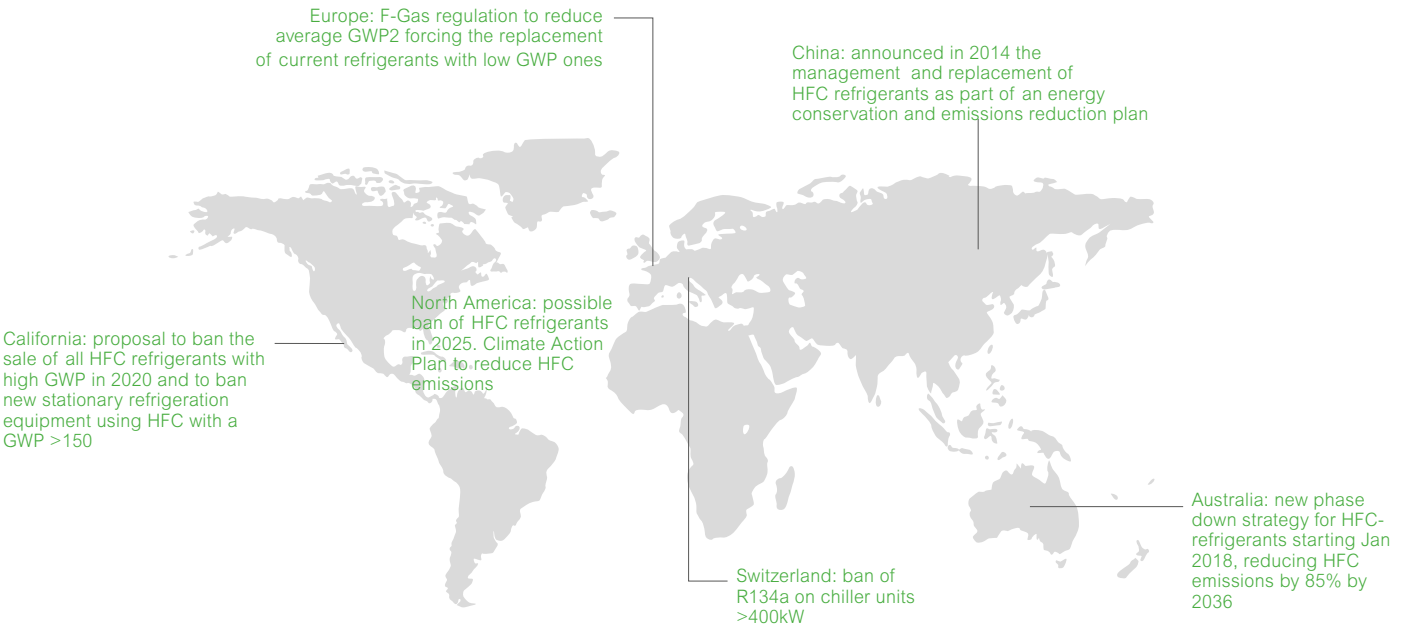
Uniflair Air-cooled Chillers and Free-cooling Chillers are impacted and must comply with Ecodesign parameters according to the application.

The design principles encouraged by Ecodesign are the same promoted and adopted by Schneider Electric Cooling. In particular, high temperature design, chilled water and air economizer applications, VSD technologies, tandem compressors and EC fans.

Starting from January 1st, 2021 the TIER II of Ecodesign will enter into force requiring more challenging efficiency levels. Uniflair Chillers are ready for the next upcoming step.

Refrigerants and efficiency levels regulations

Aiming at reducing the impact of emissions from refrigeration and air conditioning systems, governments worldwide are regulating or banning the use of HFC refrigerants.



Uniflair chillers are available with traditional refrigerants as well as alternatives to minimize the environmental impact and to comply with latest regulations.

Large chillers are available with R134a, R513A and R1234ze, mid-chillers with fixed scroll compressors are available with R410A and R454B refrigerants.

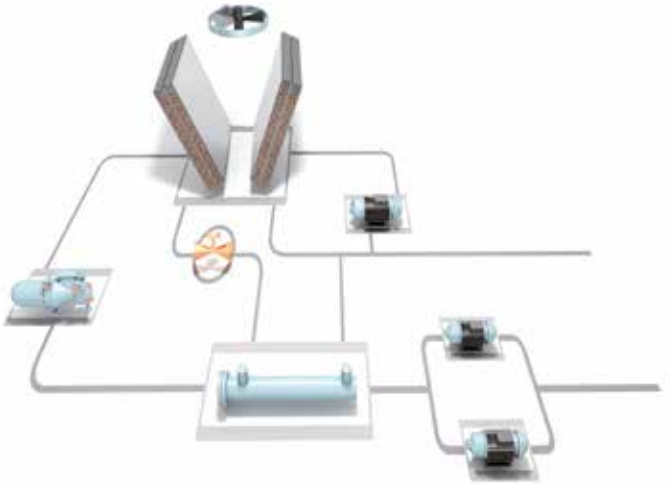
Key:

● Available in the standard unit

Refrigerant	GWP	Screw units	Oil-free units
R134a	1430	●	●
R513A	631	●	●
R1234ze	7	●	●
R1234yf	4	●	

Refrigerant	GWP	On/off scroll
R410A	2088	●
R454B	466	●

Integrated free-cooling system/Water economization system



Free-cooling is an efficient method to reduce energy consumption at low outside air temperatures. It enhances energy optimization in data center and process cooling.

According to the ambient temperature, the chilled water is partially or totally produced exploiting the thermal exchange with the external air. This significantly reduces the chillers' energy impact.

When the external air temperature is low enough, the microprocessor control system activates the free-cooling pump, which circulates water inside special heat exchange coils. Water is cooled by external air brought in by the fans, which, together with the pump, are the only components that absorb energy.

Intelligent free-cooling (IFC)

Designing a reliable system means choosing units which are both intrinsically reliable and including “N+1” or “N+N” redundancy logic.

With IFC, all the available units are connected allowing chilled water to circulate through all the free-cooling coils, thus increasing the free-cooling surface and the benefit in terms of thermal dissipation:

+7% on Schneider Electric free-cooling*

+35% on traditional systems*

* Average values.

Glycol-free installations

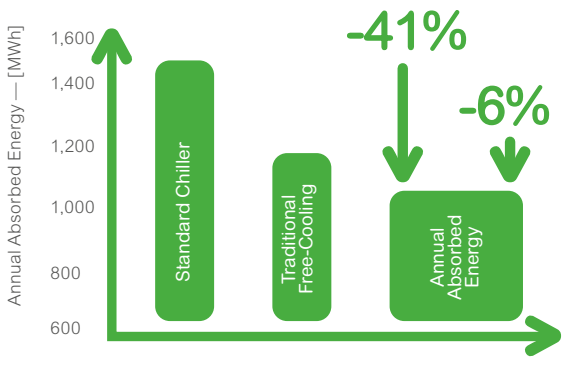
Designed for applications where the use of glycol is not allowed in the data center, this solution uses an intermediate heat exchanger to limit glycol in free-cooling circuit only, while using water in the main circuit.

The careful selection and position of the intermediate heat exchanger allows the installation of the onboard main pump too, to minimize the efficiency losses typical of intermediate heat exchangers.

delta T = 2 °C
in the heat exchanger*

* Average values.

Schneider Electric free-cooling OpEx savings



		STANDARD CHILLER	STANDARD FREE-COOLING	SE FREE-COOLING
Energy consumption	kWh	1,424,766	1,193,799	1,160,297
Energy saving	%	0	19%	23%
Cost saving	€	0	-25,406	-29,092

Load: 750 kW
Location: Paris
€/kWh: 0.1
Design water temperature: 10 °C/15 °C

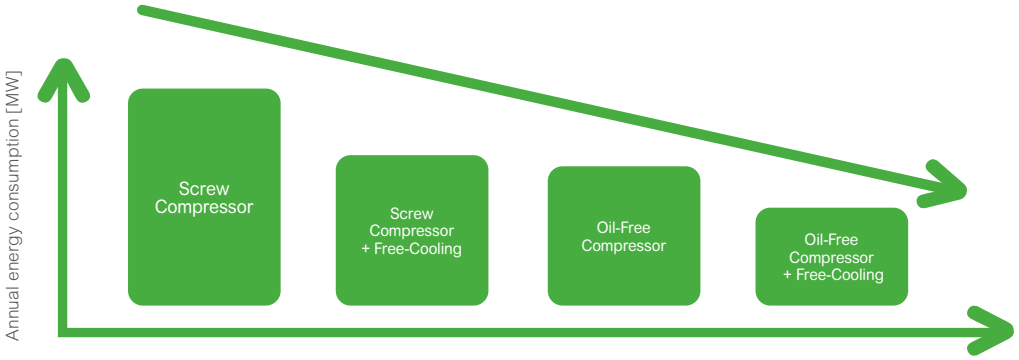
Variable speed compressors

Inverter scroll, Inverter screw and oil-free centrifugal solutions

Variable speed compressors, normally driven by inverter, are among the most interesting solutions that characterize modern chillers. There are different solutions according to the application size, i.e., Inverter scroll, Inverter screw or oil-free centrifugal solutions, but all of them provide a high level of reliability and may be implemented in a wide range of applications and operating parameters.

Main benefits of variable speed compressors

- Increased efficiency at partial loads thanks to the continuous regulation of the cooling capacity and installation of the compressors on the same cooling circuit.
- Energy efficiency is maintained even during mixed-mode operation by optimizing compressor usage in conjunction with free-cooling at full load.
- Regulation of the cooling capacity over a wide operating range, i.e., from 10% to 100% continuously.
- High precision on chilled water temperatures (±0.2 °C), thanks to continuous regulation by means of an inverter.
- Limitation of the maximum absorbed current (LRA) since the inverter-driven compressor can always be started up at low speed.
- Limitation of noise level.
- Increased system reliability thanks to the reduction in compressor inrush current, thus reducing mechanical and electrical stress.
- Reduction or elimination of water tanks on the hydraulic lines.



Based on 1 MW free-cooling chillers at the climatic profile of Paris. Nominal conditions: water 10/15 °C, 20% glycol.

Type of chiller	100 Kw	Paris	Frankfurt	Milan	Madrid
Traditional unit	kWh	57,271	56,524	57,261	58,095
Unit with inverter	kWh	46,843	46,183	46,778	47,763
	%	-18%	-18.3%	-18.3%	-17.8%

Comparison of annual energy consumption of a traditional unit and a unit equipped with a variable speed compressor (note: traditional unit has two ON/OFF scroll compressors placed on the same refrigerant circuit; modulating unit is equipped with two scroll compressors, one of which is variable speed, on the same refrigerant circuit).

Adiabatic cooling system

Adiabatic cooling is based on the natural process of water evaporation, to shift average suction condensing and free-cooling coils air temperature to the wet bulb conditions. As water evaporates, energy is dissipated by the air and temperature is reduced, which means operating conditions are improved and energy efficiency is maximized. This, combined with high chilled water temperature, results in significant OPEX reduction for next generation datacenters.

Schneider Electric applies these concepts on mid-large air-cooled and free-cooling chillers.

Main Benefits

- The system is applicable on chillers and free-cooling chillers (>300kW)
- Improved cooling capacity with lower CAPEX (up to 10% cost saving)
- Increased efficiency in summer mode, lower OPEX (between 10 to 15% less, depending on the climatic zone)
- Extended free-cooling operation, (up to 3°C more economization hours)
- Factory fitted and tested
- Ready for standard ISO container shipping
- Easy maintenance
- Completely accessible unit

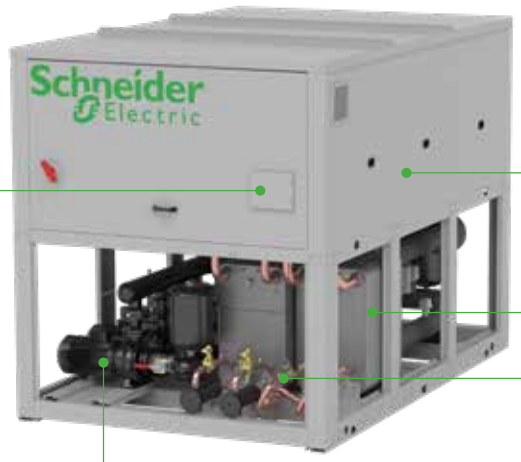
How it's made

- Nozzles: their position has been defined in order to optimize the drops distribution
- Layout: the "V" shape arrangement for coils and free-cooling coils allows for integrated installation
- Protective filter: prevents non-evaporated water from damaging the internal components and the coils.
- Embedded control system: controls and optimizes the unit operation, including adiabatic pre-cooling.

Free-cooling redefined: a Uniflair cooling solution

- Cooling capacity: 400–1200 kW
- Operation up to 32/20°C water inlet/outlet temperatures
- Free cooling as primary source
- Adiabatic system with wet pad as an option
- EC fans
- Fixed speed scroll compressors

How it's made



Electrical board and user interface

- 7 inch IT touch screen display interface
- Native integration with EcoStruxure™ IT Platform via SNMP

Compressors

- 6 fixed-speed scroll compressors in trio configuration
- Two independent refrigerant circuits
- Compressor size configurable according to operating conditions

Evaporator

- Brazed plate evaporator
- Water flows in the evaporator only when the system is operating in mixed mode or mechanical mode

Condenser

- Brazed plate condenser
- Water flows in the condenser only when the system is operating in mixed mode or mechanical mode

Source side pumps

- VSD pumps placed onboard without increasing unit dimensions
- Redundant pump is an option

User-side pumps (optional)

- Fixed-speed or VSD pumps placed onboard without increasing unit dimensions
- Redundant pump is an option

Anemometer

Measures the wind speed and closes the pads in case of hard wind

EC fans

910 mm high efficiency EC fans

Air-side coils

Copper tubes and aluminum fins

Water tray for adiabatic water

- Unevaporated water is collected in a water tray below the pad and recirculated to avoid any waste
- An ultrasonic sensor is placed on the water basin to monitor the water level and once above a default value, it communicates to the unit control to switch on pumps to recirculate water
- When the water level is below a default value, the sensor communicates to switch off the pumps to avoid any pump break

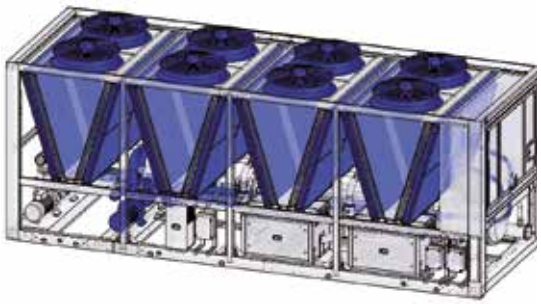
Adiabatic pad system (optional)

- Wet pads made of treated cellulose paper placed upstream of the air-side coils and mounted on a metallic frame
- System can be fixed or automatic (pistons move the pad when adiabatic system is switched off to minimize air-side pressure drops)
- High adiabatic effectiveness (around 85%)

Adiabatic pumps

Fixed-speed pumps to reuse unevaporated water

Prepackaged solutions / Variable speed onboard pumps



Uniflair Chillers are designed to integrate the main electrical and hydraulic components onboard the units. Free-cooling circuit, primary pumps, VSDs, water tanks, and automatic transfer switches are available to be factory installed which reduces the design and installation phases and allows a solution ready to be used.

Thanks to this logic, the availability level is further increased since the usual single point of failure is removed, for instance:

- The integrated ATS connects the unit to both the redundant power supplies. According to the line presence, the unit manages the connection while the control board operates due to the Uniflair backup system.
- An additional external UPS* connection is available for critical components protection.
- The default network connection allows for group management without a master or external device which could represent a critical item.
- The possibility to choose onboard pumps guarantees better availability when compared to single external pump group.

Variable speed onboard pumps

Choosing the best solution for pumps is certainly one of the most important challenges for the designer. Uniflair Chillers have an onboard pump group which can be inverter-driven.

Variable speed driven pumps integrated in the units and driven by the chiller controller allow:

- Increased efficiency due to the continuous speed adaption on the pressure drops of the circuit.
- Increased flexibility and modularity. It is possible to change and adapt the available head pressure from the chiller terminal, guaranteeing on-site optimization and modular installations.
- Reduction in capital expense, since a single-circuit design can be easily applied, saving the extra cost for the additional devices typical of primary/secondary circuits and manifolds, tanks, and secondary pumps.

** Specific configurations may be required.*

Schneider Electric Ecostruxure Modular Data Centers

Why go Modular?

Predictable Performance
Modular Data Centers are implemented as designed, and are configured and tested in the factory prior to shipment.

Faster Deployment
Modular Data Centers simplify the planning, construction, and implementation, reducing the total time from concept to commissioning.

Scalability
Prefabrication gives you the flexibility to scale your data centre growth at a more granular level, minimizing oversizing and up-front expenditures.

Why Schneider Electric?

1. Experience
Schneider Electric has over 15 years of experience in modular data center manufacturing. Over 300 projects with 500+ modules.

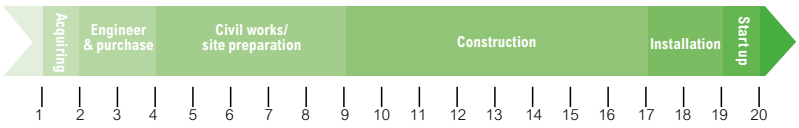
2. Broad offering of Modular Data Centers
Wide range of prefabricated options to meet different applications.

3. Global capabilities with local support
Global supply chain with experts in your region to support with applications and engineering.

4. Ecostruxure IT
Modules are fully instrumented and compatible with Schneider's DCIM software suite.

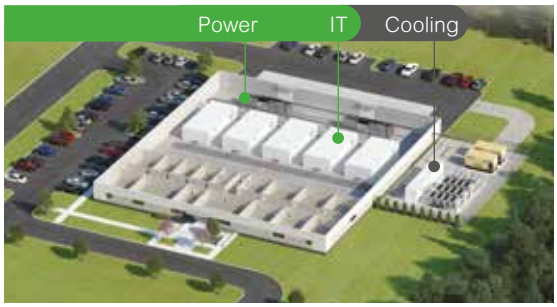
5. Library of Reference designs
Pre-engineered prefabricated reference designs in a range of sizes and tier levels.

New Build



Containerized Solution

TIME SAVED = 30%



Modular IT

- Available in All-in-One, Single, Dual, and Multi-Bay Configurations
- Containerized Modules – easy international transport, ruggedized applications
- Purpose-Built Modules for maximum space and aesthetics
- Modular Rooms – field-assembled, combine benefits of modularity and traditional IT space1

Modular Power

- Enclosed power modules with UPS, switchboards, fire suppression, monitoring, and security
- Power skids for large-scale, indoor deployments
- Ranges from 250kW-1200kW

Modular chilled water systems

- Hydronics Modules – Pumps, drives, valves, and controls for Tier II and Tier III designs
- Complete portfolio of chillers with and without free cooling options
- Indirect and direct air economizer, chilled water, and direct expansion solutions optimized for prefabricated modules

Advanced control strategies / Acoustic impact

All the control software solutions for the Uniflair Chillers range are developed by Schneider Electric and specifically designed for each unit configuration. This choice enables the company to equip each machine with a tailor-made control which manages all aspects of the unit.

- Precision: the units use advanced algorithms to accurately control the chilled water temperature.
- Availability: all the monitoring devices onboard the unit allow a preventive maintenance and a check of the working operation while the system is functioning.
- Amperage monitoring permits continuous supervision of the compressors' absorbed current to signal possible discrepancies with the default values.
- Quick restart: chiller control software provides full cooling capacity within three minutes* after power failure, optimizing reliability and reducing the capital expense thanks to the downsize of backup water tanks.
- Local area network: creates a shared control between all the available resources for energy optimization and management of emergency situations.
- Connectivity: the unit sends alarms and data points to manage critical building infrastructure from a single system. Additional network interfaces provide management by connecting the device directly to the network with a dedicated IP address. This eliminates the need for a proxy such as a server. Monitoring is available via Web browser.
- 7-inch, touch-screen LCD display interface.

Acoustic impact

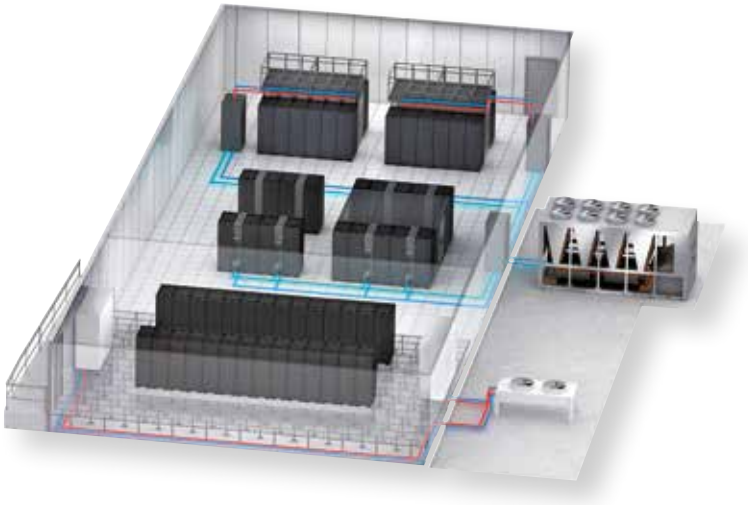
Reduction in noise impact is one of the most critical issues designers are called on to solve when choosing plant systems.

Uniflair Chillers offer low noise solutions with extremely low acoustic impact thanks to:

- EC motor Acousti-Composite fans with high efficiency and low acoustic impact.
- Completely isolated soundproofing enclosures for compressors.
- Variable speed compressors, to adapt the noise emission to the thermal load.
- Extremely quiet oil-free centrifugal solution*.
- Extra quiet regulation algorithms which control the rotation speed of the fans.

** Available on large chillers only.*
*** With specific adaptor.*

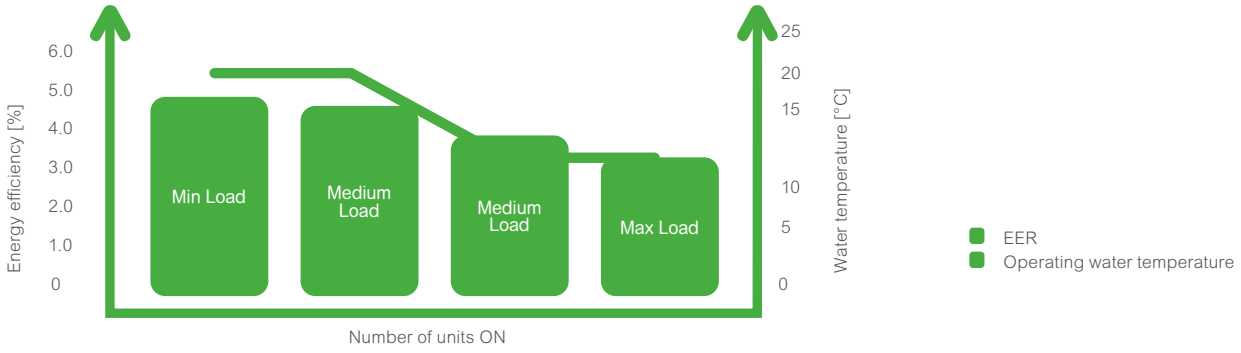
Optimized management



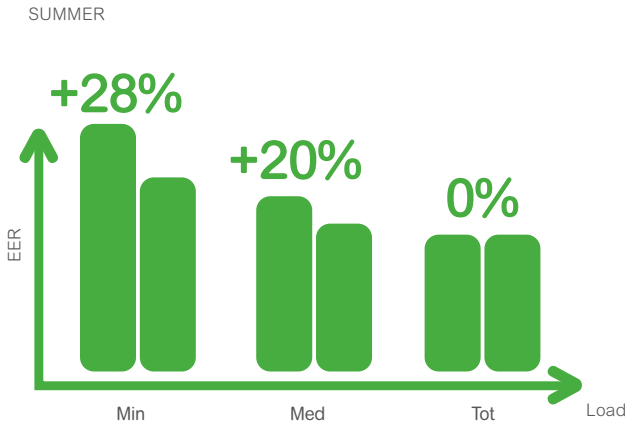
Management of the whole system allows energy consumption to be optimized and integrated control strategies to be implemented, which would otherwise not be possible.

All the Schneider Electric cooling resources can therefore be linked* together in a network to maximize the operating parameters and the current required. Row and room cooling units communicate to the chiller, reducing the energy requirement by means of a “tracking logic” for the current thermal load. The chilled water temperature varies dynamically to minimize compressor consumption and maximize the use of free-cooling, while maintaining the optimum temperature in the data center.
** Specific configuration may be required.*

How it works

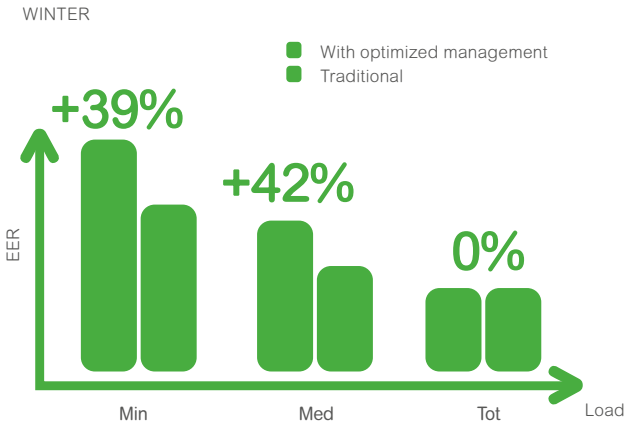


Energy saving improvement



Comparison between a traditional solution and an optimized management logic:

Summer mode external temperature: 35 °C



Free-cooling external temperature: 8 °C

Load variation: 100 kW – 300 kW
Water set point: 12 °C

Unflair Chillers portfolio

		Small	Medium
Uniflair Air-cooled units	Cooling only	 LRAC Page 28 – 29	 ERAC Page 30 – 32  ERCC Page 34 – 36  ISAC Page 38 – 39  ISCC Page 40 – 41
Uniflair Water-cooled units	Cooling only		
Uniflair Free-cooling units	Cooling only		 ERAF Page 70 – 72  ERCF Page 74 – 76  ISAF Page 78 – 79  ISCF Page 80 – 81
Uniflair Dry Coolers			

Cooling Only

Refrigerant R410A

Refrigerant R1234ze

Refrigerant R134a

Refrigerant R454B

Refrigerant R513A

Refrigerant R1234yf

Scroll compressors

Screw compressors

Oil-free compressors

Variable speed drive compressors

Large

TRAC
Page 42 – 44

TSAC
Page 46 – 47

Extra Large

XRAC
Page 48 – 60

BCEC
Page 62 – 64

BCWC
Page 66 – 69

TRAF
Page 82 – 84

TSAF
Page 86 – 87

XRAF
Page 88 – 100

BCEF
Page 102 – 104

DSAF
Page 106 – 109

DSAF
Page110 – 114

LRAC

6 – 35 kW*

All-in-one air-cooled chillers with EC axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, healthcare applications, industrial processes and comfort cooling.

The unit is equipped with one or two fixed speed scroll compressors operating on one single refrigerant circuit, high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with R410A refrigerant.

Horizontal air-flow, onboard pump, expansion vessel and water tank as options, all in the unit frame without increasing dimensions, provide reliable performances in a compact footprint.

The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability.

**Basic unit with water 12/7°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R410A

Scroll

Main configurable options and accessories

- Unit predisposition to operate down to -20°C outdoor ambient temperature
- User side fixed speed pump group integrated in the chiller frame.
- Water tank integrated in the chiller frame.
- Electronic expansion valve
- Hot gas bypass (optional) to allow continuous operation with a constant water setpoint even in case of load variations.
- Control accessories: RS485 serial card (Modbus RTU), TCP/IP serial adaptor (pCOWeb card) - (Modbus over IP, BACnet over IP, SNMP)
- Metallic filters to protect air side coils (as standard)
- Suitable for truck and container transportation and wooden case packing option

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

LRAC

Refrigerant
R410A

Technical Data										
LRAC		**023B1**	**032B1**	**041B1**	**054A1**	**067A1**	**090A1**	**120A1**	**137A1**	**180A1**
Power supply	V/ph/Hz	230/1/50			400/3/50					
Compressors/circuits	nr. x mod.	1/1	1/1	1/1	1/1	1/1	1/1	2/1	2/1	2/1
Evaporator	nr. x mod.	1 x brazed plate								
Fans	nr.	1	1	1	1	2	2	2	3	4
Refrigerant	type	R410A								
Basic version										
Cooling capacity (1)	kW	5,3	6,8	8,4	12,0	14,4	16,7	24,0	28,7	33,0
Absorbed power (1)(2)	kW	1,7	2,3	3,1	4,5	5,2	6,3	9,0	10,5	12,6
EER (1)(2)		3,08	2,92	2,75	2,66	2,79	2,64	2,67	2,73	2,62
ETAs,c (a)	%	173,5	170,6	157,5	151,3	161,4	152,8	188,1	194,9	184,4
SEPR HT (c)	-	6,4	6,3	5,5	5,1	5,6	5,2	6,3	6,7	6,4
Noise level										
Sound Pressure (3)	dB(A)	42,8	42,6	44,6	44,2	46,4	47,2	47,2	49,4	50,2
Sound Power (4)	dB(A)	71,0	71,0	71,0	72,0	75,0	75,0	75,0	77,0	78,0
Dimensions										
Height	mm	689	689	689	1289	1289	1289	1289	1289	1289
Lenght	mm	558	558	558	555	555	555	721	721	721
Width	mm	1250	1250	1250	1250	1250	1250	2030	2030	2030

1. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W
2. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
3. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
4. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Air cooled water chillers with axial fans for outdoor installations]

ERAC

70 - 160 kW

High efficiency air-cooled chillers with axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two fixed speed scroll compressors operating on one single refrigerant circuit (tandem) or on two independent refrigerant circuits, high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

Main configurable options and accessories

- Quiet and Ultraquiet noise versions to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor.
- Partial and total condensation heat recovery
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter.
- Water tank integrated in the chiller frame on the outlet water side.
- Discharge shut off valves (embedded for units with R454B refrigerant) to prevent the reversal of flow in a piping system.
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation.
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current.
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ERAC

Refrigerant
R410A

Technical Data											
ERAC		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Circuits / Compressors	nr. x mod.	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	2	3	3	3	3	3	3	3
Refrigeant	type	R410A									
Basic/Quiet version											
Cooling capacity (1)	kW	68,5	80,2	92,9	108,3	117,9	118,6	140,9	138,7	159,6	158,0
Absorbed power (1)(2)	kW	15,7	19,8	21,7	25	28,9	28,9	33,3	33,2	39	38.9
EER (1)(2)		4.36	4,05	4,28	4,33	4,08	4,10	4,23	4,18	4,09	4.06
Cooling capacity (3)	kW	44,9	53.2	61,6	71,5	78,5	79,2	93,9	92,6	106,5	105,8
Absorber power (3)(4)	kW	15,5	19,2	20,9	24,2	27,5	27,5	31,6	31,7	36,7	36,9
EER (3)(4)		2,89	2,77	2,95	2,96	2,85	2,88	2,98	2,92	2,9	2,87
Cooling capacity (5)	kW	62,9	74,0	85,8	99,6	108,4	109,1	129,2	127,6	146,5	145,5
Absorbed power (5)(2)	kW	15,6	19,6	21,4	24,7	28,4	28,5	32,7	32,7	38,3	38,2
EER (5)(2)		4,03	3,78	4,01	4,03	3,82	3,83	3,95	3,90	3,83	3,81
ETAs,c (a)	%	185,8	186	201,2	190	185,9	140,7	200,9	151,9	199,7	145,4
ETAs,c (b)	%	238,9	234,5	256,3	238,9	230,6	169,2	252,7	182	248,5	172,5
SEPR HT (c)	-	6,5	6,4	6,8	6,6	6,3	5,3	6,7	5,5	6,6	5,4
Ultraquiet version											
Cooling capacity (3)	kW	43,6	51,6	59,8	69,7	76,1	76,7	90,9	89,2	102,2	101,6
Absorbed power (3)(4)	kW	15,5	19,5	21,3	24,2	27,8	27,8	32,2	32,3	37,9	38,1
EER (3)(4)		2,82	2,65	2,81	2,88	2,74	2,76	2,82	2,76	2,7	2,67
ETAs,c (a)	%	196,7	191,5	204,3	199,3	192,7	140,1	207,2	151,4	199,8	139,3
ETAs,c (b)	%	251,1	238,5	255,9	247,8	235,7	165,4	257,1	178,6	245,1	162,2
SEER HT (c)	-	6,6	6,5	6,8	6,7	6,4	5,3	6,7	5,5	6,6	5,2
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	50.2	50.2	54.3	54.3	54.3	54.3	56.2	56.2	56.7	56.7
Basic version - Sound Power (7)	dB(A)	84,6	84,7	86,3	86,2	86,2	86,2	88,2	88,2	88,8	88,8
Quiet version - Sound Pressure (6)	dB(A)	49,9	50,0	54,1	54,1	54,1	54,1	54,6	54,6	54,8	54,8
Quiet version - Sound Power (7)	dB(A)	84,3	84,3	86,0	86,0	86,0	86,0	86,6	86,6	86,9	86,9
Ultrquiet version - Sound Pressure (6)	dB(A)	44,9	45,1	46,7	46,7	46,7	46,7	49,2	49,2	49,9	49,9
Ultrquiet version - Sound Power (7)	dB(A)	77,0	77,1	78,6	78,6	78,6	78,6	81,2	81,2	81,9	81,9
Dimensions											
Height (EC fans)	mm	1600	1600	1600	1600	1600	1600	1910	1910	1910	1910
Width	mm	2034	2034	2831	2831	2831	2804	3098	3073	3098	3073
Lenght	mm	1216,5	1216,5	1216,5	1216,5	1216,5	1184	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

ERAC

Refrigerant
R454B

Technical Data											
ERAC		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A**	**1221A**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Circuits / Compressors	nr. x mod.	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	2	3	3	3	3	3	4	4
Refrigeant	type	R454B									
Basic/Quiet version											
Cooling capacity (1)	kW	65,4	78,1	90,3	104,6	112,4	113,2	136,2	133,4	155,4	153,4
Absorbed power (1)(2)	kW	14,6	18,9	20,4	23,6	27,4	27,4	31,6	31,5	37,1	37,0
EER (1)(2)		4,48	4,13	4,43	4,43	4,10	4,13	4,31	4,23	4,19	4,15
Cooling capacity (3)	kW	42,5	51,4	59,5	68,8	75,4	76	90,8	88,8	103,4	101,9
101,9	kW	14,7	18,2	19,9	22,9	25,9	25,9	29,5	29,5	34,1	34,2
EER (3)(4)		2,9	2,83	3	3,01	2,91	2,94	3,08	3,01	3,03	2,98
Cooling capacity (5)	kW	59,2	71,2	82,2	95,2	102,6	103,4	124,0	121,5	141,2	139,4
Absorbed power (5)(2)	kW	14,6	18,7	20,2	23,4	27,0	27,0	31,1	30,9	36,4	36,3
EER (5)(2)		4,12	3,86	4,11	4,12	3,84	3,87	4,02	3,98	3,91	3,90
ETAs,c (a)	%	181,2	185,3	199,6	189,8	184,5	141,6	201,2	153,1	201,5	148,4
ETAs,c (b)	%	231,2	234,8	253,5	240,7	227,8	169,7	249,4	182,9	250,6	175,6
SEPR HT (c)	-	6,4	6,3	6,7	6,6	6,3	5,4	6,7	5,6	6,6	5,4
Ultraquiet version											
Cooling capacity (3)	kW	41,6	50,1	58	67,4	73,3	73,9	88,4	86,5	99,9	98,6
Absorbed power (3)(4)	kW	14,6	18,4	20,2	22,8	26	26	30	30	35	35,1
EER (3)(4)		2,86	2,73	2,87	2,96	2,82	2,84	2,95	2,89	2,85	2,81
ETAs,c (a)	%	192,2	192,1	204	200,5	192,9	142,3	208,2	153,9	203,2	144,1
ETAs,c (b)	%	245,3	240,2	255,8	251,2	234,8	167,1	255,9	180,7	248,5	166,5
SEER HT (c)	-	6,4	6,4	6,6	6,6	6,4	5,4	6,7	5,6	6,6	5,3
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	50.2	50.2	54.3	54.3	54.3	54.3	56.2	56.2	56.7	56.7
Basic version - Sound Power (7)	dB(A)	84,6	84,7	86,3	86,2	86,2	86,2	88,2	88,2	88,8	88,8
Quiet version - Sound Pressure (6)	dB(A)	49,9	50,0	54,1	54,1	54,1	54,1	54,6	54,6	54,8	54,8
Quiet version - Sound Power (7)	dB(A)	84,3	84,3	86,0	86,0	86,0	86,0	86,6	86,6	86,9	86,9
Ultrquiet version - Sound Pressure (6)	dB(A)	44,9	45,1	46,7	46,7	46,7	46,7	49,2	49,2	49,9	49,9
Ultrquiet version - Sound Power (7)	dB(A)	77,0	77,1	78,6	78,6	78,6	78,6	81,2	81,2	81,9	81,9
Dimensions											
Height (EC fans)	mm	1600	1600	1600	1600	1600	1600	1910	1910	1910	1910
Width	mm	2034	2034	2831	2831	2831	2804	3098	3073	3098	3073
Lenght	mm	1216,5	1216,5	1216,5	1216,5	1216,5	1184	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

ERCC

70 - 160 kW

High efficiency air-cooled chillers with centrifugal fans for indoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two fixed speed scroll compressors operating on one single refrigerant circuit (tandem) or on two independent refrigerant circuits, high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C, External static pressure 50Pa.*

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

Main configurable options and accessories

- Quiet noise version to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial and total condensation heat recovery
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter.
- Water tank integrated in the chiller frame on the outlet water side
- Discharge shut off valves (embedded for units with R454B refrigerant) to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ERCC

Refrigerant
R410A

Technical Data											
ERCC		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr. x mod.	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	2	3	3	3	3	3	4	4
Refrigerant	type	R410A									
Basic / Quiet version											
Cooling capacity (1)	kW	66,1	77,2	88,1	104,3	113,2	114,0	132,2	131,3	157,1	157,1
Absorbed power (1)(2)	kW	18,4	22,7	25,3	29,0	33,1	33,1	38,4	38,3	43,1	43,1
EER (1)(2)		3,59	3,40	3,48	3,60	3,43	3,44	3,44	3,43	3,65	3,64
Cooling capacity (3)	kW	43.2	51,6	58,8	69,2	75,8	76,4	88,5	88,4	104,4	104,8
Absorbed power (3)(4)	kW	17,5	21,3	23,5	27,1	30,6	30,6	35,4	35,4	40,5	40,5
EER (3)(4)		2,47	2,42	2,51	2,55	2,48	2,49	2,50	2,50	2,58	2,58
Cooling capacity (5)	kW	60,6	70,9	81,3	96,2	104,6	105,4	121,4	121,4	143,9	144,8
Absorbed power (5)(2)	kW	18,2	22,4	24,9	28,7	32,6	32,6	37,7	37,7	42,5	42,6
EER (5)(2)		3,33	3,17	3,27	3,35	3,21	3,23	3,22	3,22	3,39	3,40
ETAs,c (a)	%	138,7	146,3	155,3	145,3	145,6	111,6	150,8	117,5	149,8	116,2
ETAs,c (b)	%	180,4	186,4	197,7	184,3	182,2	135,8	189,1	142,8	189,1	142,1
SEPR HT (c)	-	6,5	5,9	6,1	6,4	5,9	4,4	6,2	4,7	6,3	4,6
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	65,2	65,3	65,3	66,8	66,8	66,8	69,9	69,9	71,2	71,2
Basic version -Sound Power (7)	dB(A)	82,0	82,2	82,1	83,6	83,6	83,6	86,7	86,7	88,0	88,0
Quiet version - Sound Pressure (6)	dB(A)	63,1	63,2	63,2	64,7	64,7	64,7	65,3	65,3	66,6	66,6
Quiet version - Sound Power (7)	dB(A)	79,9	80,0	80,0	81,6	81,6	81,6	82,1	82,1	83,4	83,4
Dimensions											
Height (EC fans)	mm	1837	1837	1837	1837	1837	1837	2147	2147	2147	2147
Width	mm	2034	2034	2831	2831	2831	2804	3099	3073	3099	3073
Lenght	mm	1216	1216	1218	1218	1218	1185	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

ERCC

Refrigerant
R454B

Technical Data											
ERCC		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr. x mod.	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	2	3	3	3	3	3	4	4
Refrigerant	type	R454B									
Basic / Quiet version											
Cooling capacity (1)	kW	63,0	75,4	85,6	101,0	108,4	109,4	128,3	127,1	152,7	152,6
Absorbed power (1)(2)	kW	17,2	21,7	24,0	27,7	31,6	31,6	36,6	36,5	41,3	41,3
EER (1)(2)		3,66	3,47	3,57	3,65	3,44	3,46	3,51	3,47	3,70	3,69
Cooling capacity (3)	kW	41,2	49,8	57,0	66,7	72,8	73,7	86,4	85,3	101,2	101,1
Absorbed power (3)(4)	kW	16,6	20,2	22,4	25,8	28,9	28,9	33,1	33,1	37,9	37,9
EER (3)(4)		2,48	2,46	2,55	2,59	2,52	2,55	2,61	2,58	2,67	2,67
Cooling capacity (5)	kW	57,8	69,4	79,0	92,7	99,9	100,8	118,1	117,3	140,5	140,5
Absorbed power (5)(2)	kW	17,2	21,5	23,7	27,4	31,1	31,1	35,9	35,8	40,6	40,6
EER (5)(2)		3,36	3,23	3,33	3,38	3,21	3,24	3,29	3,28	3,46	3,46
ETAs,c (a)	%	133,6	143,9	152,8	142,7	142,6	111,1	148,2	117,2	148,8	116,6
ETAs,c (b)	%	173,5	183,7	194,8	182,5	178,1	134,5	185,1	141,8	187,3	142,6
SEPR HT (c)	-	6,4	6,0	6,1	6,4	6,0	4,5	6,3	4,7	6,3	4,7
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	65,2	65,3	65,3	66,8	66,8	66,8	69,9	69,9	71,2	71,2
Basic version - Sound Power (7)	dB(A)	82,0	82,2	82,1	83,6	83,6	83,6	86,7	86,7	88,0	88,0
Quiet version- Sound Pressure (6)	dB(A)	63,1	63,2	63,2	64,7	64,7	64,7	65,3	65,3	66,6	66,6
Quiet version - Sound Power (7)	dB(A)	79,9	80,0	80,0	81,6	81,6	81,6	82,1	82,1	83,4	83,4
Dimensions											
Height (EC fans)	mm	1837	1837	1837	1837	1837	1837	2146	2146	2146	2146
Width	mm	2034	2034	2831	2831	2831	2804	3099	3073	3099	3073
Lenght	mm	1216	1216	1217,5	1217,5	1217,5	1185	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air-cooled water chillers with backward curved blade fans for indoor/outdoor installations]

ISAC

90 - 180 kW

High efficiency variable speed air-cooled chillers with axial fans for outdoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two scroll compressors, one fixed speed and one inverter driven, operating on one single refrigerant circuit (tandem), high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R410A

Scroll

VSD

Main configurable options and accessories

- Quiet and Ultraquiet noise versions to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Electronic expansion valve and R410A refrigeranr with GWP 2088 (as standard)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Discharge shut off valves to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC). Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ISAC

Refrigerant
R410A

Technical Data				
Model		**0621A**	**0921A**	**1221A**
Power supply	V/ph/Hz		400/3/50	
Compressors/circuits	nr. x mod.	2/1	2/1	2/1
Evaporator	nr. x mod.		1 x brazed plate	
Fans	nr.	2	3	3
Refrigerant	type		R410A	
Quiet version				
Cooling capacity (1)	kW	92,0	130,4	175,5
Absorbed power (1)(2)	kW	24,2	33,0	47,2
EER (1)(2)		3,80	3,95	3,72
Cooling capacity (3)	kW	57,1	81,3	111,1
absorbed power (3)(4)	kW	19,4	26,9	37,4
EER (3)(4)		2,95	3,02	2,97
Cooling capacity (5)	kW	86,1	122,1	164,6
Absorbed power (5)(2)	kW	23,7	32,3	46,1
EER (5)(2)		3,63	3,78	3,57
ETAs,c (a)	%	170,6	176,3	189,4
ETAs,c (b)	%	204,1	204,3	230,8
SEPR HT (c)	-	5,0	5,3	5,8
UltraQuiet version				
Cooling capacity (3)	kW	55,5	79,3	106,8
Absorbed power (3)(4)	kW	19,6	27,1	38,5
EER (3)(4)		2,84	2,93	2,77
ETAs,c (a)	%	173,7	178,5	191,3
ETAs,c (b)	%	210,3	211,6	233,4
SEPR HT (c)	-	5,1	5,4	5,7
Noise Levels				
Quiet version - Sound Pressure (6)	dB(A)	53,9	56,1	57,0
Quiet version - Sound Power (7)	dB(A)	86,0	88,0	89,0
Ultraquiet version - Sound Pressure (6)	dB(A)	48,1	50,0	52,5
Ultraquiet version - Sound Power (7)	dB(A)	80,1	82,0	84,5
Dimensions				
Height (EC fans)	mm	1600	1600	1910
Width	mm	2009	2804	3073
Lenght	mm	1214	1214	1238

1. Data refer to: water temperatures 27/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air cooled water chillers with axial fans for outdoor installations]

ISCC

90 - 180 kW

High efficiency variable speed air-cooled chillers with centrifugal fans for indoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two scroll compressors, one fixed speed and one inverter driven, operating on one single refrigerant circuit (tandem), high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 0% glycol, outdoor temperature 35°C, External static pressure 50Pa.*

Cooling Only

Refrigerant R410A

Scroll

VSD

Main configurable options and accessories

- Quiet noise version to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Electronic expansion valve and R410A refrigeranr with GWP 2088 (as standard)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Discharge shut off valves to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC). Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ISCC

Refrigerant
R410A

Technical Data				
ISCC		**0621A**	**0921A**	**1221A**
Power supply	V/ph/Hz		400/3/50	
Compressors/circuits	nr. x mod.	2/1	2/1	2/1
Evaporator	nr. x mod.		1 x brazed plate	
Fans	nr.	2	3	4
Refrigerant	type		R410A	
Quiet version				
Cooling capacity (1)	kW	88,1	124,9	172,6
Absorbed power (1)(2)	kW	25,8	35,9	50,4
EER (1)(2)		3,41	3,48	3,42
Cooling capacity (3)	kW	55,5	79,3	109,7
Absorbed power (3)(4)	kW	20,4	28,4	39,3
EER (3)(4)		2,72	2,80	2,79
Cooling capacity (5)	kW	82,6	117,1	161,6
Absorbed power (5)(4)	kW	25,5	35,1	49,1
EER (5)(2)		3,24	3,34	3,29
ETAs,c (a)	%	158,7	162,1	172,8
ETAs,c (b)	%	188,7	189,7	205,5
SEPR HT (c)	-	4,8	5,1	5,4
Noise Levels				
Quiet version - Sound Pressure (6)	dB(A)	64,9	66,5	68,2
Quiet version - Sound Power (7)	dB(A)	82,0	84,0	88,0
ISCC / ISAH Dimensions				
Height (EC fans)	mm	1836	1836	2146
Width	mm	2003	2804	3073
Lenght	mm	1214	1214	1238

1. Data refer to: water temperatures 27/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Air cooled water chillers with axial fans for outdoor installations]

TRAC

180 - 580 kW

High efficiency air-cooled chillers with axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two or four fixed speed scroll compressors operating on one single refrigerant circuit or two independent refrigerant circuits (tandem), high efficiency brazed plate evaporator and air-side condenser coils made of microchannel aluminum coils or copper tubes and aluminum fins coils (according to model size) optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor.
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- Partial condensation heat recovery
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Water tank integrated in the chiller frame on the outlet water side
- Suction/Discharge shut off valves (embedded for units with R454B refrigerant) to isolate compressors for maintenance purpose.
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Air side coils protections as metallic filters and lateral protection grilles
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BACNet MS/TP, i.e. BACnet on serial networks)
- Flanged connections adaptors (only 3642A1, 4042A1 and 4142A1 models) and Victaulic/Weld adaptor kit
- Spring antivibration supports
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

TRAC

Refrigerant
R410A

Technical Data											
TRAC		**1221A1**	**1421A1**	**1742A1**	**2042A1**	**2342A1**	**2642A1**	**2842A1**	**3642A1**	**4042A1**	**4142A1**
Power supply	V/ph/Hz	400/3/50									
Circuits /Compressors	nr. x mod.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Evaporator type	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	3	3	4	4	4	5	6	6
Refrigerant	type	R410A									
Basic version											
Cooling capacity (1)	kW	179,4	195,1	246,1	276,8	322,9	356,1	388,2	464,1	529,5	576,1
Absorbed power (1)(2)	kW	45,1	51,6	57,9	69,8	77,6	89,2	102,2	113,2	128,0	143,5
EER (1)(2)		3,98	3,78	4,25	3,97	4,16	3,99	3,80	4,10	4,14	4,01
Cooling capacity (3)	kW	119,1	130,0	164,6	185,9	215,9	238,4	260,5	309,8	353,1	385,5
Absorbed power (3)(4)	kW	40,1	46,7	51,7	60,9	67,8	79,5	92,5	103,4	117,2	130,9
EER (3)(4)		2,97	2,79	3,19	3,05	3,19	3,00	2,82	3,00	3,01	2,95
Cooling capacity (5)	kW	164,4	178,9	227,6	256,0	298,7	328,5	358,9	428,0	488,1	531,9
Absorbed power (5)(2)	kW	43,7	50,2	56,2	67,4	74,8	86,6	99,7	110,6	125,2	140,4
EER (5)(2)		3,76	3,56	4,05	3,80	3,99	3,79	3,60	3,87	3,90	3,79
ETAs,c (a)	%	185,6	183,4	192,7	185,4	189,5	191,5	189,8	196,9	196,1	193,4
ETAs,c (b)	%	220,5	218,0	214,4	205,1	208,4	224,2	222,1	226,2	224,5	225,4
SEPR HT (c)	-	5,8	5,8	5,8	5,6	5,6	5,8	5,8	6,1	6,1	5,9
Ultraquiet version											
Cooling capacity (3)	kW	112,6	121,3	157,0	175,7	205,7	224,8	242,3	291,2	332,3	358,1
Absorbed power (3)(4)	kW	41,7	49,8	52,4	62,9	68,6	82,9	99,1	108,6	122,1	139,5
EER (3)(4)		2,70	2,44	3,00	2,79	3,00	2,71	2,45	2,68	2,72	2,57
ETAs,c (a)	%	187,5	183,3	192,9	185,5	189,5	191,8	188,1	196,3	195,7	191,8
ETAs,c (b)	%	219,5	214,9	216,9	204,3	210,3	222,8	218,1	227,6	225,3	222,5
SEPR HT (c)	-	5,9	5,8	5,9	5,7	5,8	5,9	5,8	6,2	6,1	6,0
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	57,2	57,5	58,6	58,7	60,3	60,6	59,9	61,9	62,1	62,1
Basic version - Sound Power (7)	dB(A)	88,7	88,9	90,2	90,2	91,4	91,7	91,0	93,5	93,7	93,8
Ultraquiet version - Sound Pressure (6)	dB(A)	52,0	52,8	52,6	52,9	54,2	55,3	55,8	56,9	57,4	57,5
Ultraquiet version - Sound Power (7)	dB(A)	83,4	84,2	84,2	84,5	85,3	86,4	86,9	88,5	89,1	89,2
TRAC Dimensions											
Height (EC fans)	mm	2236	2236	2235	2235	2236	2236	2236	2156	2156	2156
Width	mm	1151	1151	1151	1151	1151	1151	1151	2204	2204	2204
Lenght	mm	3169	3169	4619	4619	5569	5569	5569	5737	5737	5737

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

TRAC

Refrigerant
R454B

Technical Data											
TRAC		**1221A1**	**1421A1**	**1742A1**	**2042A1**	**2342A1**	**2642A1**	**2842A1**	**3642A1**	**4042A1**	**4142A1**
Power supply	V/ph/Hz	400/3/50									
Circuits /Compressors	nr. x mod.	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Evaporator type	nr. x mod.	1 x brazed plate									
Fans	nr.	2	2	3	3	4	4	4	5	6	6
Refrigerant	type	R454B									
Basic version											
Cooling capacity (1)	kW	1171,7	188,2	236,1	264,7	306,9	340,5	374,0	445,4	508,3	545,3
Absorbed power (1)(2)	kW	41,9	47,0	53,9	65,7	73,2	82,7	92,9	104,9	120,2	130,4
EER (1)(2)		4,10	4,00	4,38	4,03	4,19	4,12	4,03	4,25	4,23	4,18
Cooling capacity (3)	kW	114,9	125,9	157,8	178,6	206,4	229,2	251,8	300,3	343,7	368,9
Absorbed power (3)(4)	kW	37,5	42,6	48,4	57,8	64,8	74,1	84,2	95,7	109,8	118,6
EER (3)(4)		3,07	2,96	3,26	3,09	3,18	3,09	2,99	3,14	3,13	3,11
Cooling capacity (5)	kW	157,9	173,2	218,8	245,3	284,6	315,8	346,7	413,0	470,8	505,0
Absorbed power (5)(2)	kW	40,7	45,8	52,4	63,7	70,9	80,5	90,9	102,6	117,7	127,5
EER (5)(2)		3,88	3,78	4,18	3,85	4,01	3,92	3,81	4,03	4,00	3,96
ETAs,c (a)	%	192,2	190,6	200,3	190,7	194,7	199,2	197,7	201,3	199,5	199,7
ETAs,c (b)	%	222,4	220,6	224,2	214,8	218,8	225,1	223,1	226,4	223,4	224,9
SEPR HT (c)	-	6,2	6,2	6,1	5,9	6,0	6,2	6,2	6,2	6,1	6,2
Ultraquiet version											
Cooling capacity (3)	kW	109,3	118,7	151,5	170,0	197,9	218,0	236,9	285,0	326,5	346,3
Absorbed power (3)(4)	kW	38,6	44,8	48,8	59,6	65,6	76,8	89,0	99,5	113,4	124,8
EER (3)(4)		2,83	2,65	3,10	2,85	3,01	2,84	2,66	2,86	2,88	2,78
ETAs,c (a)	%	194,6	191,1	200,6	190,6	194,6	199,7	196,3	200,3	199,5	198,4
ETAs,c (b)	%	241,6	243,3	226,5	213,9	219,6	225,6	221,7	248,6	243,7	242,3
SEPR HT (c)	-	6,3	6,2	6,3	6,0	6,1	6,3	6,3	6,3	6,3	6,3
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	57,2	57,5	58,6	58,7	60,3	60,6	59,9	61,9	62,1	62,1
Basic version - Sound Power (7)	dB(A)	88,7	88,9	90,2	90,2	91,4	91,7	91,0	93,5	93,7	93,8
Ultraquiet version - Sound Pressure (6)	dB(A)	52,0	52,8	52,6	52,9	54,2	55,3	55,8	56,9	57,4	57,5
Ultraquiet version - Sound Power (7)	dB(A)	83,4	84,2	84,2	84,5	85,3	86,4	86,9	88,5	89,1	89,2
TRAC Dimensions											
Height (EC fans)	mm	2236	2236	2236	2236	2236	2236	2236	2156	2156	2156
Width	mm	1151	1151	1145	1145	1151	1151	1151	2204	2204	2204
Lenght	mm	3169	3169	4619	4619	5569	5569	5569	5737	5737	5737

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air cooled water chillers with axial fans for outdoor installations]

TSAC

190 - 460 kW

High efficiency variable speed air-cooled chillers with axial EC fans for outdoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

The unit is equipped with two or four scroll compressors (one inverter driven) operating on one single refrigerant circuit or two independent refrigerant circuits (tandem), high efficiency brazed plate evaporator and air-side condenser coils made of microchannel aluminum coils or copper tubes and aluminum fins coils (according to model size) optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R410A

Scroll

VSD

Main configurable options and accessories

- Separate power supply mainboard and auxiliaries section
- Dual power supply with aforutomatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels
- Electronic expansion valve and R410A refrigerant with GWP 2088 (as standard)
- Partial condensation heat recovery
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Suction/Discharge shut off valves to isolate compressors for maintenance purpose
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Air side coils protections as metallic filters and lateral protection grilles
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BACNet MS/TP, i.e. BACnet on serial networks)
- Flanged connections adaptors (only 3642A and 4042A models) and Victaulic/Weld adaptor kit
- Spring antivibration supports
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

TSAC

Refrigerant
R410A

Technical Data						
TSAC		**1521A**	**2042A**	**2642A**	**3642A**	**4042A**
Power supply	V/ph/Hz	400/3/50				
Compressors/circuits	nr./nr.	2/1	4/2	4/2	4/2	4/2
Evaporator	nr. x mod.	1 x brazed plate				
Fans	nr.	2	3	4	5	6
Refrigerant	type	R410A				
Quiet version						
Cooling capacity (1)	kW	187,1	220,2	299,2	419,3	457,5
Absorbed power (1)(2)	kW	43,5	51,1	67,8	96,3	106,4
EER (1)(2)		4,30	4,31	4,41	4,35	4,30
Cooling capacity (3)	kW	127,3	151,3	205,6	289,7	323,3
Absorbed power (3)(4)	kW	38,6	46,0	62,2	87,6	97,7
EER (3)(4)		3,30	3,29	3,31	3,31	3,31
Cooling capacity (5)	kW	181,3	213,0	289,4	405,3	451,2
Absorbed power (5)(2)	kW	43,1	50,6	67,3	95,4	106,1
EER (5)(2)		4,21	4,21	4,30	4,25	4,25
ETAs,c (a)	%	198,4	191,1	196,2	200,8	198,8
ETAs,c (b)	%	239,2	225,7	229,4	232,5	232,6
SEPR HT (c)	-	6,5	6,0	6,2	6,3	6,2
Ultraquiet version						
Cooling capacity (3)	kW	120,9	145,1	195,8	275,5	306,3
Absorbed power (3)(4)	kW	39,6	46,1	62,6	89,2	98,6
EER (3)(4)		3,05	3,15	3,13	3,09	3,11
ETAs,c (a)	%	197,4	191,2	196,1	200,8	199,1
ETAs,c (b)	%	236,9	227,7	231,4	233,8	234,3
SEPR HT (c)	-	6,5	6,2	6,3	6,4	6,3
Noise Levels						
Quiet version - Sound Pressure (6)	dB(A)	57,3	56,9	59,8	60,4	60,8
Quiet version - Sound Power (7)	dB(A)	90,2	89,1	91,4	92,7	93,1
Ultraquiet version - Sound Pressure (6)	dB(A)	53,5	53,9	54,8	55,8	56,2
Ultraquiet version - Sound Power (7)	dB(A)	86,4	84,1	86,4	89,2	89,5
Dimensions						
Height (EC fans)	mm	2236	2236	2236	2150	2150
Width	mm	1151	1151	1151	2204	2204
Lenght	mm	4119	4619	5569	5737	5737

1. Data refer to: water temperatures 27/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

600 - 2000 kW

High efficiency air-cooled chillers with axial EC fans for outdoor installation and with fixed speed or inverter driven screw compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling, where high performance is required.

The unit is equipped with two screw compressors suitable for multiple refrigerants (R134a, R513A, R1234ze, R1234yf), high efficiency dry shell and tube evaporator and air-side condenser made of copper tubes and aluminum fins coils (model 1812A to 4812A) or microchannel condensing coils (model 5622A and 6422A) optimized for wide operating conditions.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency, guaranteeing reliability and ensuring to provide immediate cooling load thanks to the quick restart procedure.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C, 0% glycol*

Cooling Only

Screw

Refrigerant R134a

Refrigerant R513a

Refrigerant R1234ze

Refrigerant R1234yf

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Quiet and Ultraquiet noise version to minimize the unit noise levels
- Noise reduction diffusers
- Refrigerant options: R134a (as standard), R513A, R1234ze, R1234yf as options
- Compressor technologies: stepless, hybrid (1 stepless + 1 VSD), full inverter
- High ambient/water temperature operation with specific compressor motor
- Spray adiabatic system to improve the effciency
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Suction shut-off valves to isolate each compressor in case of maintenance and manometers on each circuit
- Subcooling economizer with additional portion of cooling circuit to increase subcooling on condensate liquid refrigerant without changing unit model and frame
- Embedded water filter on evaporator inlet
- Air side coils protections as metallic filters and coil manifold protections
- E-coating treatment for air-side condensing coils for protection in aggressive ambient installation
- Additional module on models 5622 and 6422 to improve efficiency and cooling capacity, shipped separately and connected on site
- Power phase capacitors (for stepless) to improve unit cosphi
- Electrical service socket and service light to facilitate maintenance operations
- Partial condensation heat recovery
- Suitable for truck and container transportation
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), TCP/IP module (SNMP, Modbus TCP/IP), pCONet card (BCAnet MS/TP, i.e. BACnet on serial networks)
- Spring antivibration supports
- Flanged connections adaptors and Victaulic/Weld adaptor kit
- Lifting tubes kit
- External readily serviceable water filter
- Adaptor for Grouping Logic up to 10 units

Uniflair Chillers units comply with the following directives*: Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS). *to be considered when applicable.

XRAC

Refrigerant
R134a

Technical Data - Stepless version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	597,0	742,1	800,7	944,8	1138,6	1270,2	1463,8	1637,1	1846,7	2053,2
Absorbed power (1)(2)	kW	148,1	182,6	198,8	238,8	280,9	319,8	375,3	416,6	461,7	506,4
EER (1)(2)		4,03	4,06	4,03	3,96	4,05	3,97	3,90	3,93	4,00	4,05
Cooling capacity (3)	kW	389,7	487,4	532,3	614,2	737,7	837,4	976,4	1087,1	1213,8	1360,6
Absorbed power (3)(4)	kW	123,9	154,7	169,3	198,9	238,5	265,5	319,8	354,5	386,8	426,3
EER (3)(4)		3,15	3,15	3,14	3,09	3,09	3,15	3,05	3,07	3,14	3,19
Cooling capacity (5)	kW	558,3	697,3	752,9	879,5	1043,6	1167,1	1367,5	1532,4	1730,7	1941,6
Absorbed power (5)(2)	kW	143,3	177,4	193,3	230,3	270,0	307,1	362,4	402,5	444,0	489,4
EER (5)(2)		3,90	3,93	3,90	3,82	3,87	3,80	3,77	3,81	3,90	3,97
ETAs,c (a)	%	171,1	181,7	182,0	180,8	189,1	182,5	182,5	183,7	188,0	189,2
ETAs,c (b)	%	213,6	221,9	203,2	223,7	220,5	221,5	221,5	221,6	227,9	228,4
SEPR HT (c)	-	5,6	6,0	5,9	5,8	6,0	5,9	6,0	6,0	6,1	6,2
Ultraquiet version											
Cooling capacity (3)	kW	371,9	465,2	508,5	580,9	695,8	786,4	917,5	1019,8	1153,7	1293,2
Absorbed power (3)(4)	kW	121,7	151,3	167,3	200,9	239,3	268,3	325,2	364,6	385,0	423,6
EER (3)(4)		3,06	3,07	3,04	2,89	2,91	2,93	2,82	2,80	3,00	3,05
ETAs,c (a)	%	171,2	182,5	182,0	179,5	186,8	179,9	179,6	179,7	186,9	188,2
ETAs,c (b)	%	199,4	222,9	202,1	201,7	217,8	219,3	218,1	217,1	226,1	226,7
SEPR HT (c)	-	5,7	6,0	5,9	5,9	6,0	5,9	6,0	6,0	6,2	6,3
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,3	58,0	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	92,6	93,3	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R134a

Technical Data - Hybrid version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	608,4	734,1	827,9	954,1	1155,5	1285,1	1482,3	1658,9	1821,9	2031,6
Absorbed power (1)(2)	kW	154,0	183,1	208,9	249,1	293,3	330,7	392,6	435,1	447,3	495,8
EER (1)(2)		3,95	4,01	3,96	3,83	3,94	3,89	3,78	3,81	4,07	4,10
Cooling capacity (3)	kW	383,1	459,5	523,3	597,4	715,4	808,4	941,9	1064,3	1147,6	1285,6
Absorbed power (3)(4)	kW	124,0	148,0	169,4	196,2	233,2	265,4	309,2	342,9	357,6	397,7
EER (3)(4)		3,09	3,10	3,09	3,04	3,07	3,05	3,05	3,10	3,21	3,23
Cooling capacity (5)	kW	569,3	689,5	779,8	888,6	1058,0	1181,9	1385,5	1553,2	1704,6	1917,1
Absorbed power (5)(2)	kW	149,2	177,7	203,1	240,2	280,9	317,7	379,1	420,3	431,1	479,9
EER (5)(2)		3,82	3,88	3,84	3,70	3,77	3,72	3,65	3,70	3,95	3,99
ETAs,c (a)	%	188,1	186,3	182,4	181,9	180,2	181,8	186,7	190,4	210,6	209,4
ETAs,c (b)	%	223,2	216,8	205,3	205,7	211,5	210,6	221,1	224,4	249,1	246,3
SEPR HT (c)	-	5,9	6,0	5,9	5,8	6,1	5,7	5,9	6,0	6,7	6,8
Ultraquiet version											
Cooling capacity (3)	kW	366,3	440,5	500,5	566,6	677,9	761,4	885,5	999,4	1091,5	1224,5
Absorbed power (3)(4)	kW	121,6	143,4	167,1	197,3	233,3	267,8	311,9	351,3	354,1	393,3
EER (3)(4)		3,01	3,07	3,00	2,87	2,91	2,84	2,84	2,85	3,08	3,11
ETAs,c (a)	%	188,2	186,9	182,5	181,3	179,7	181,2	185,6	188,5	211,1	209,8
ETAs,c (b)	%	224,4	218,7	205,4	204,6	210,4	209,8	219,1	221,1	248,7	246,1
SEPR HT (c)	-	6,0	6,1	5,9	5,8	6,1	5,8	6,0	6,1	6,8	6,9
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,5	58,1	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	92,8	93,4	95,6	95,8
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R134a

Technical Data - Full inverter version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	619,8	726,3	855,4	963,3	1172,5	1299,9	1501,0	1680,9	1796,9	2009,8
Absorbed power (1)(2)	kW	159,9	183,5	219,1	259,5	305,9	341,6	409,9	453,7	433,1	485,2
EER (1)(2)		3,88	3,96	3,90	3,71	3,83	3,81	3,66	3,70	4,15	4,14
Cooling capacity (3)	kW	393,3	456,5	548,4	608,6	722,2	821,9	957,3	1081,0	1125,2	1259,8
Absorbed power (3)(4)	kW	129,2	148,4	178,3	204,3	237,7	273,5	322,7	356,6	345,5	387,9
EER (3)(4)		3,04	3,08	3,07	2,98	3,04	3,01	2,97	3,03	3,26	3,25
Cooling capacity (5)	kW	580,4	681,8	806,9	897,7	1072,6	1196,7	1403,6	1574,1	1678,4	1892,4
Absorbed power (5)(2)	kW	155,1	178,0	212,9	250,1	291,8	328,4	395,8	438,1	418,3	470,5
EER (5)(2)		3,74	3,83	3,79	3,59	3,68	3,64	3,55	3,59	4,01	4,02
ETAs,c (a)	%	202,7	205,6	205,5	200,8	207,9	203,4	202,4	208,8	241,2	236,4
ETAs,c (b)	%	224,0	226,1	225,2	221,4	227,9	224,5	226,5	232,3	272,1	265,4
SEPR HT (c)	-	6,2	6,4	6,3	6,1	6,4	6,2	6,2	6,3	7,3	7,4
Ultraquiet version											
Cooling capacity (3)	kW	375,8	437,8	523,3	576,8	685,3	773,4	897,9	1014,3	1068,7	1200,0
Absorbed power (3)(4)	kW	127,5	143,6	177,2	206,6	238,7	278,0	326,0	366,6	341,6	383,1
EER (3)(4)		2,95	3,05	2,95	2,79	2,87	2,78	2,75	2,77	3,13	3,13
ETAs,c (a)	%	203,2	206,7	205,7	200,2	208,1	202,5	201,7	207,2	242,0	236,9
ETAs,c (b)	%	226,1	229,3	227,4	221,7	228,7	224,5	225,1	229,5	274,5	267,2
SEPR HT (c)	-	6,3	6,5	6,4	6,2	6,5	6,3	6,3	6,4	7,5	7,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	57,8	58,5	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,1	93,8	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R513a

Technical Data - Stepless version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	595,5	743,1	800,0	931,0	1130,2	1255,2	1468,5	1618,2	1793,6	1998,2
Absorbed power (1)(2)	kW	149,6	182,0	205,5	241,6	283,9	326,0	378,9	417,8	449,4	493,0
EER (1)(2)		3,98	4,08	3,89	3,85	3,98	3,85	3,88	3,87	3,99	4,05
Cooling capacity (3)	kW	394,8	493,8	538,5	609,5	741,9	830,2	986,7	1092,0	1179,0	1325,8
Absorbed power (3)(4)	kW	125,6	155,3	176,1	202,9	243,1	270,4	323,1	357,6	380,0	419,2
EER (3)(4)		3,14	3,18	3,06	3,00	3,05	3,07	3,05	3,05	3,10	3,16
Cooling capacity (5)	kW	557,9	699,4	753,5	867,0	1038,4	1155,7	1376,2	1518,4	1678,7	1888,5
Absorbed power (5)(2)	kW	144,8	176,7	199,8	232,8	272,8	312,7	365,8	403,7	432,4	477,0
EER (5)(2)		3,85	3,96	3,77	3,72	3,81	3,70	3,76	3,76	3,88	3,96
ETAs,c (a)	%	166,2	181,9	179,7	181,1	185,9	180,1	183,2	183,5	186,6	188,1
ETAs,c (b)	%	207,3	221,1	198,3	226,2	215,7	219,2	212,0	211,4	230,0	230,8
SEPR HT (c)	-	5,5	5,9	5,9	5,9	6,1	5,9	6,1	6,0	6,1	6,2
Ultraquiet version											
Cooling capacity (3)	kW	373,6	467,2	510,4	571,8	691,9	772,3	917,6	1010,4	1113,1	1251,3
Absorbed power (3)(4)	kW	123,7	152,6	175,3	205,6	245,0	274,3	327,6	367,3	377,0	415,2
EER (3)(4)		3,02	3,06	2,91	2,78	2,82	2,82	2,80	2,75	2,95	3,01
ETAs,c (a)	%	165,8	179,7	179,4	179,6	182,4	179,8	179,9	179,5	185,5	187,1
ETAs,c (b)	%	194,8	222,1	198,5	201,9	204,9	215,9	200,5	198,6	228,5	229,6
SEPR HT (c)	-	5,6	5,9	5,9	6,1	6,1	5,9	6,2	6,2	6,1	6,2
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,4	58,0	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	92,7	93,3	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R513a

Technical Data - Hybrid version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	606,7	737,0	825,6	939,5	1148,6	1267,9	1479,4	1645,8	1767,1	1973,2
Absorbed power (1)(2)	kW	158,4	187,4	216,9	256,1	302,1	340,1	403,1	446,1	437,0	484,4
EER (1)(2)		3,83	3,93	3,81	3,67	3,80	3,73	3,67	3,69	4,04	4,07
Cooling capacity (3)	kW	387,9	468,5	530,4	596,4	722,8	810,4	958,7	1077,4	1116,4	1253,4
Absorbed power (3)(4)	kW	128,2	152,2	176,6	202,3	241,9	275,0	319,3	354,6	351,4	391,3
EER (3)(4)		3,03	3,08	3,00	2,95	2,99	2,95	3,00	3,04	3,18	3,20
Cooling capacity (5)	kW	568,7	693,4	778,8	875,4	1054,1	1168,6	1386,8	1544,9	1652,4	1861,8
Absorbed power (5)(2)	kW	153,5	181,9	210,8	246,7	289,1	326,6	389,1	430,9	421,2	469,2
EER (5)(2)		3,70	3,81	3,69	3,55	3,65	3,58	3,56	3,59	3,92	3,97
ETAs,c (a)	%	182,3	184,8	181,9	180,5	180,3	180,8	186,1	189,9	208,9	208,0
ETAs,c (b)	%	217,5	215,6	205,6	205,7	212,9	211,2	221,9	225,6	249,9	247,4
SEPR HT (c)	-	5,8	6,0	5,9	5,9	6,1	5,7	6,0	6,1	6,6	6,7
Ultraquiet version											
Cooling capacity (3)	kW	368,0	445,6	503,3	561,0	678,3	755,8	889,8	998,0	1055,8	1186,8
Absorbed power (3)(4)	kW	126,3	148,2	175,4	204,4	243,0	278,1	322,8	363,4	347,1	385,9
EER (3)(4)		2,91	3,01	2,87	2,74	2,79	2,72	2,76	2,75	3,04	3,08
ETAs,c (a)	%	182,1	185,2	181,6	179,5	179,5	179,8	184,5	187,6	209,4	208,4
ETAs,c (b)	%	218,0	217,5	205,2	204,0	211,2	209,9	218,3	220,4	250,0	247,5
SEPR HT (c)	-	5,9	6,0	6,0	5,9	6,2	5,8	6,2	6,2	6,7	6,8
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,5	58,1	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	92,8	93,4	95,6	95,9
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R513a

Technical Data - Full inverter version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	617,9	730,9	851,3	948,0	1167,1	1280,6	1490,3	1673,6	1740,6	1948,1
Absorbed power (1)(2)	kW	167,3	192,9	228,4	270,6	320,5	354,2	427,3	474,5	424,8	475,9
EER (1)(2)		3,69	3,79	3,73	3,50	3,64	3,62	3,49	3,53	4,10	4,09
Cooling capacity (3)	kW	397,9	466,1	553,8	606,4	729,4	822,1	966,4	1096,9	1095,7	1228,2
Absorbed power (3)(4)	kW	135,6	155,8	186,6	213,7	249,2	285,4	337,0	374,5	339,8	381,9
EER (3)(4)		2,93	2,99	2,97	2,84	2,93	2,88	2,87	2,93	3,22	3,22
Cooling capacity (5)	kW	579,5	687,5	804,3	883,8	1070,0	1181,4	1397,6	1571,4	1626,1	1835,2
Absorbed power (5)(2)	kW	162,3	187,0	221,9	260,6	305,4	340,6	412,5	458,1	409,9	461,4
EER (5)(2)		3,57	3,68	3,62	3,39	3,50	3,47	3,39	3,43	3,97	3,98
ETAs,c (a)	%	196,7	200,7	204,0	197,4	205,7	203,8	199,5	206,9	239,1	234,5
ETAs,c (b)	%	218,3	220,7	225,2	219,7	226,9	227,4	224,6	232,1	271,2	264,7
SEPR HT (c)	-	6,0	6,3	6,3	6,1	6,4	6,2	6,2	6,3	7,3	7,3
Ultraquiet version											
Cooling capacity (3)	kW	377,2	443,6	524,0	569,7	685,5	765,8	895,6	1015,1	1035,3	1163,8
Absorbed power (3)(4)	kW	134,3	151,8	186,5	217,3	251,7	290,7	341,7	385,5	335,2	376,5
EER (3)(4)		2,81	2,92	2,81	2,62	2,72	2,63	2,62	2,63	3,09	3,09
ETAs,c (a)	%	196,8	201,6	203,9	196,3	205,3	202,7	198,2	204,7	239,8	234,9
ETAs,c (b)	%	220,0	223,7	226,7	219,3	227,2	226,4	222,2	228,1	273,9	266,8
SEPR HT (c)	-	6,1	6,4	6,5	6,2	6,5	6,4	6,3	6,5	7,4	7,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	57,8	58,5	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,1	93,8	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R1234ze

Technical Data - Stepless version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	485,7	603,0	651,0	759,0	922,3	1039,4	1205,2	1321,7	1471,6	1645,8
Absorbed power (1)(2)	kW	109,6	133,9	145,6	173,1	199,1	228,3	272,2	298,7	335,7	370,0
EER (1)(2)		4,43	4,50	4,47	4,38	4,63	4,55	4,43	4,43	4,38	4,45
Cooling capacity (3)	kW	310,8	384,7	419,6	489,1	578,6	656,9	772,6	857,8	928,9	1052,4
Absorbed power (3)(4)	kW	94,4	117,0	127,1	148,5	175,5	196,0	234,5	258,8	286,4	316,2
EER (3)(4)		3,29	3,29	3,30	3,29	3,30	3,35	3,29	3,31	3,24	3,33
Cooling capacity (5)	kW	450,9	562,1	608,5	703,3	837,9	947,0	1119,0	1230,0	1362,7	1542,3
Absorbed power (5)(2)	kW	106,6	130,3	141,9	167,5	193,4	219,8	264,6	290,6	323,7	358,2
EER (5)(2)		4,23	4,31	4,29	4,20	4,33	4,31	4,23	4,23	4,21	4,31
ETAs,c (a)	%	175,1	187,3	184,2	187,6	185,1	188,7	186,0	187,4	194,5	197,8
ETAs,c (b)	%	218,4	231,2	210,0	226,1	233,4	235,3	231,5	232,4	242,6	245,1
SEPR HT (c)	-	5,9	6,1	6,1	6,0	6,0	6,0	6,0	6,0	6,3	6,5
Ultraquiet version											
Cooling capacity (3)	kW	299,5	370,5	404,8	466,9	551,7	625,5	734,0	814,0	892,2	1010,1
Absorbed power (3)(4)	kW	89,8	110,1	121,7	144,9	170,8	192,4	232,4	259,9	280,1	308,8
EER (3)(4)		3,33	3,36	3,33	3,22	3,23	3,25	3,16	3,13	3,19	3,27
ETAs,c (a)	%	180,5	187,6	190,1	188,1	194,5	187,6	188,9	189,4	193,9	197,1
ETAs,c (b)	%	219,2	233,5	209,6	226,1	231,8	234,9	230,1	221,2	241,3	243,8
SEPR HT (c)	-	5,9	6,1	6,1	6,1	6,1	6,1	6,1	6,1	6,3	6,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,2	64,3	63,3	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	93,9	97,9	96,9	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,4	61,0	60,4	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,0	94,7	94,0	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,3	58,0	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	92,6	93,3	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R1234ze

Technical Data - Hybrid version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	498,9	592,4	673,9	771,7	944,5	1057,8	1227,6	1349,2	1452,5	1626,3
Absorbed power (1)(2)	kW	115,7	135,2	155,2	180,6	212,7	241,9	289,7	316,1	326,8	363,9
EER (1)(2)		4,31	4,38	4,34	4,27	4,44	4,37	4,24	4,27	4,44	4,47
Cooling capacity (3)	kW	305,6	361,2	416,2	477,0	569,5	646,6	758,7	845,5	880,1	997,1
Absorbed power (3)(4)	kW	94,8	112,0	129,7	146,8	177,1	199,6	236,0	259,3	266,3	297,4
EER (3)(4)		3,22	3,22	3,21	3,25	3,22	3,24	3,22	3,26	3,31	3,35
Cooling capacity (5)	kW	463,4	551,9	630,5	715,3	858,1	964,8	1140,8	1256,5	1344,8	1523,0
Absorbed power (5)(2)	kW	112,5	131,7	151,5	174,8	205,6	233,3	281,3	307,2	315,6	353,1
EER (5)(2)		4,12	4,19	4,16	4,09	4,17	4,14	4,06	4,09	4,26	4,31
ETAs,c (a)	%	191,3	195,1	188,3	196,9	184,4	186,4	188,9	191,2	214,5	215,8
ETAs,c (b)	%	231,4	235,3	216,4	231,8	226,9	226,8	229,3	231,9	258,3	258,8
SEPR HT (c)	-	6,3	6,4	6,1	6,3	6,2	5,9	6,0	6,0	6,8	7,0
Ultraquiet version											
Cooling capacity (3)	kW	295,2	349,3	402,0	456,0	544,1	616,0	720,8	802,7	846,1	956,8
Absorbed power (3)(4)	kW	90,4	105,1	124,1	142,8	171,5	195,7	231,9	258,5	256,3	286,2
EER (3)(4)		3,26	3,32	3,24	3,19	3,17	3,15	3,11	3,11	3,30	3,34
ETAs,c (a)	%	191,7	196,0	188,8	197,2	184,6	186,3	188,9	190,6	215,5	216,7
ETAs,c (b)	%	232,9	238,1	217,3	232,9	227,7	227,8	229,7	231,3	259,8	260,2
SEPR HT (c)	-	6,4	6,5	6,1	6,4	6,3	6,0	6,1	6,0	6,9	7,0
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,3	64,3	63,4	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,0	98,0	97,0	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,3	60,9	60,4	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,0	94,6	94,1	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,5	58,1	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	92,8	93,4	95,6	95,9
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

Refrigerant
R1234ze

Technical Data - Full inverter version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	512,2	581,9	697,1	784,4	967,0	1076,2	1250,1	1376,9	1433,6	1606,7
Absorbed power (1)(2)	kW	121,8	136,5	164,8	188,2	226,5	255,6	307,3	333,5	318,0	357,9
EER (1)(2)		4,20	4,26	4,23	4,17	4,27	4,21	4,07	4,13	4,51	4,49
Cooling capacity (3)	kW	315,4	355,2	434,8	488,6	581,2	660,0	775,0	865,7	866,5	981,8
Absorbed power (3)(4)	kW	100,5	112,1	139,6	153,2	184,4	210,1	248,2	271,7	258,6	292,4
EER (3)(4)		3,14	3,17	3,12	3,19	3,15	3,14	3,12	3,19	3,35	3,36
Cooling capacity (5)	kW	476,0	541,7	652,8	727,5	878,4	982,7	1162,6	1283,0	1326,9	1503,6
Absorbed power (5)(2)	kW	118,5	133,1	161,1	182,0	218,0	246,9	298,0	323,8	307,5	347,9
EER (5)(2)		4,02	4,07	4,05	4,00	4,03	3,98	3,90	3,96	4,32	4,32
ETAs,c (a)	%	213,4	218,1	207,8	215,2	208,7	204,8	208,4	213,3	243,3	242,0
ETAs,c (b)	%	245,1	248,7	239,1	242,1	239,3	234,4	239,8	245,5	281,7	279,8
SEPR HT (c)	-	6,7	7,1	6,4	6,7	6,5	6,1	6,3	6,3	7,4	7,5
Ultraquiet version											
Cooling capacity (3)	kW	304,2	344,0	419,0	466,5	555,0	627,8	734,3	820,2	832,2	940,0
Absorbed power (3)(4)	kW	96,2	105,4	133,9	150,0	178,4	207,2	244,2	271,3	246,4	279,0
EER (3)(4)		3,16	3,27	3,13	3,11	3,11	3,03	3,01	3,02	3,38	3,37
ETAs,c (a)	%	214,6	220,0	208,9	215,9	210,7	205,9	210,0	213,7	246,1	244,0
ETAs,c (b)	%	248,0	252,3	242,1	244,5	242,7	236,7	241,9	246,4	286,4	284,1
SEPR HT (c)	-	6,7	7,2	6,5	6,8	6,5	6,1	6,4	6,4	7,5	7,7
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,6	64,6	63,7	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,3	98,2	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,7	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,2	94,7	94,4	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	57,8	58,5	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,1	93,8	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

R1234yf
Refrigerant
R1234yf

Technical Data - Stepless version											
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**	**XRAC5622A**	**XRAC6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234yf									
Basic / Quiet version											
Cooling capacity (1)	kW	561,2	689,1	744,5	880,4	1079,4	1165,3	1400,6	1517,8	1644,1	1847,6
Absorbed power (1)(2)	kW	142,9	173,2	188,8	226,3	267,4	301,7	358,4	393,0	432,2	475,3
EER (1)(2)		3,93	3,98	3,94	3,89	4,04	3,86	3,91	3,86	3,80	3,89
Cooling capacity (3)	kW	369,3	460,8	498,3	577,1	702,2	772,8	931,8	1019,1	1062,2	1223,5
Absorbed power (3)(4)	kW	121,5	150,6	163,9	192,4	231,2	255,4	310,4	342,4	366,3	406,2
EER (3)(4)		3,04	3,06	3,04	3,00	3,04	3,03	3,00	2,98	2,90	3,01
Cooling capacity (5)	kW	524,2	645,6	698,6	818,6	988,7	1069,5	1307,5	1418,8	1528,2	1734,7
Absorbed power (5)(2)	kW	138,6	168,5	184,0	218,9	257,9	290,7	347,0	380,8	415,8	460,0
EER (5)(2)		3,78	3,83	3,80	3,74	3,83	3,68	3,77	3,73	3,68	3,77
ETAs,c (a)	%	165,9	180,7	179,5	179,8	187,3	179,7	181,9	182,6	180,5	180,6
ETAs,c (b)	%	207,1	222,2	200,5	222,1	216,7	220,1	221,5	221,6	225,5	218,4
SEPR HT (c)	-	5,5	5,8	5,9	5,9	6,1	6,0	6,1	6,1	5,9	6,1
Ultraquiet version											
Cooling capacity (3)	kW	350,2	437,5	473,5	541,7	656,5	720,4	865,2	945,4	1004,1	1154,5
Absorbed power (3)(4)	kW	118,6	146,9	161,4	193,7	231,4	256,7	314,6	350,6	361,6	401,9
EER (3)(4)		2,95	2,98	2,93	2,80	2,84	2,81	2,75	2,70	2,78	2,87
ETAs,c (a)	%	166,3	179,5	179,8	179,3	184,6	181,8	179,6	179,5	179,7	179,3
ETAs,c (b)	%	195,1	223,4	201,8	203,3	208,9	217,2	200,8	199,9	224,7	217,3
SEPR HT (c)	-	5,6	5,9	6,0	6,1	6,1	6,0	6,2	6,2	5,9	6,1
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,3	58,0	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	92,6	93,3	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

R1234yf
Refrigerant R1234yf

Technical Data - Hybrid version									
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**
Power supply	V/ph/Hz	400/3/50							
Compressors/circuits	nr./nr.	2/2							
Evaporator	nr. x mod.	1 x dry shell and tube							
Fans	nr.	6	8	8	8	10	10	12	12
Refrigerant	type	R1234yf							
Basic / Quiet version									
Cooling capacity (1)	kW	571,8	689,7	763,8	889,1	1094,9	1187,6	1400,6	1547,4
Absorbed power (1)(2)	kW	148,6	175,2	196,0	236,1	279,1	312,5	372,8	411,6
EER (1)(2)		3,85	3,94	3,90	3,77	3,92	3,80	3,76	3,76
Cooling capacity (3)	kW	363,6	433,9	487,2	563,5	683,5	754,9	895,2	1002,4
Absorbed power (3)(4)	kW	121,9	144,5	163,2	191,1	227,4	258,1	300,9	333,1
EER (3)(4)		2,98	3,00	2,98	2,95	3,01	2,92	2,98	3,01
Cooling capacity (5)	kW	534,5	646,1	717,7	827,0	1002,0	1091,4	1307,6	1447,2
Absorbed power (5)(2)	kW	144,3	170,4	191,0	228,3	268,2	301,4	361,0	398,8
EER (5)(2)		3,70	3,79	3,76	3,62	3,74	3,62	3,62	3,63
ETAs,c (a)	%	180,3	181,8	179,6	179,6	180,4	180,4	184,9	189,5
ETAs,c (b)	%	216,2	214,2	204,4	204,8	214,0	210,8	220,9	226,0
SEPR HT (c)	-	5,7	5,9	5,9	5,9	6,1	5,8	6,1	6,1
Ultraquiet version									
Cooling capacity (3)	kW	345,4	413,8	463,8	530,6	642,3	705,6	832,6	930,9
Absorbed power (3)(4)	kW	118,9	139,3	160,3	191,6	226,9	259,4	302,2	339,4
EER (3)(4)		2,91	2,97	2,89	2,77	2,83	2,72	2,75	2,74
ETAs,c (a)	%	180,3	182,3	179,8	179,1	179,7	179,8	183,8	187,6
ETAs,c (b)	%	217,5	216,0	204,5	203,8	212,9	210,0	218,9	222,5
SEPR HT (c)	-	5,8	6,0	6,0	6,0	6,2	5,9	6,2	6,2
Noise Levels									
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,5	58,1
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	92,8	93,4
Dimensions									
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAC

R1234yf
Refrigerant
R1234yf

Technical Data - Full inverter version									
XRAC		**XRAC1812A**	**XRAC2212A**	**XRAC2512A**	**XRAC2812A**	**XRAC3212A**	**XRAC3612A**	**XRAC4212A**	**XRAC4812A**
Power supply	V/ph/Hz	400/3/50							
Compressors/circuits	nr./nr.	2/2							
Evaporator	nr. x mod.	1 x dry shell and tube							
Fans	nr.	6	8	8	8	10	10	12	12
Refrigerant	type	R1234yf							
Basic / Quiet version									
Cooling capacity (1)	kW	582,5	690,4	783,1	897,7	1110,6	1210,0	1400,7	1577,2
Absorbed power (1)(2)	kW	154,3	177,2	203,3	246,0	290,8	323,3	387,2	430,3
EER (1)(2)		3,77	3,90	3,85	3,65	3,82	3,74	3,62	3,67
Cooling capacity (3)	kW	372,9	435,0	504,6	572,3	687,9	771,2	897,0	1025,2
Absorbed power (3)(4)	kW	126,9	145,6	169,7	198,7	231,0	265,5	312,4	347,1
EER (3)(4)		2,94	2,99	2,97	2,88	2,98	2,90	2,87	2,95
Cooling capacity (5)	kW	544,8	646,5	736,9	835,5	1015,3	1113,3	1307,7	1475,6
Absorbed power (5)(2)	kW	150,0	172,2	198,1	237,7	278,5	312,0	375,1	416,7
EER (5)(2)		3,63	3,75	3,72	3,51	3,65	3,57	3,49	3,54
ETAs,c (a)	%	193,8	196,6	203,1	199,5	208,9	205,1	198,8	208,5
ETAs,c (b)	%	216,4	218,9	228,0	224,0	233,1	230,4	225,1	236,2
SEPR HT (c)	-	5,9	6,2	6,4	6,2	6,5	6,3	6,2	6,4
Ultraquiet version									
Cooling capacity (3)	kW	353,8	414,8	479,3	538,2	647,3	719,5	833,1	950,3
Absorbed power (3)(4)	kW	124,5	140,2	167,6	200,2	231,2	268,8	314,0	355,3
EER (3)(4)		2,84	2,96	2,86	2,69	2,80	2,68	2,65	2,68
ETAs,c (a)	%	194,1	197,8	203,3	198,7	209,3	204,2	198,0	206,6
ETAs,c (b)	%	218,6	222,0	230,3	224,6	234,3	230,8	224,3	234,0
SEPR HT (c)	-	6,0	6,3	6,5	6,3	6,6	6,4	6,3	6,5
Noise Levels									
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	57,8	58,5
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,1	93,8
Dimensions									
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air-cooled water chillers for outdoor installations]

BCEC

400-1850 kW

High efficiency variable speed air-cooled chillers with axial fans for outdoor installation and oil-free centrifugal compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.
The unit is equipped with one, two or three oil-free centrifugal compressors (Turbocor) operating on one single refrigerant circuit, high efficiency flooded shell and tube evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.
The range is available with multiple refrigerants (R134a, R513A and R1234ze).
In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability.
A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R134a

Refrigerant R513a

Oil free

VSD

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Quiet and Ultraquiet noise version to minimize the unit noise levels
- Noise reduction diffusers
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Refrigerant options: R134a with GWP 1430 (as standard), R513A (optional) and R1234ze with GWP 4 (on request)
- Air side coils protections as metallic filters and coil manifold protections
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Lateral hydraulic connections
- Suitable for truck and container transportation
- Control accessories: additional RS485 serial card (Modbus RTU)
- Spring antivibration supports
- Flanged connections adaptors and Victaulic/Weld adaptor kit
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

BCEC

Refrigerant
R134a

Technical Data								
BCEC		**0301A**	**0401A**	**0532A**	**0632A**	**0752A**	**0903A**	**1103A**
Power supply	V/ph/Hz	400/3/50						
Compressors/circuits	nr./nr.	1/1	1/1	2/1	2/1	2/1	3/1	3/1
Evaporator	nr. x mod.	1 x flooded						
Fans	nr.	6	6	8	10	12	14	16
Refrigerant	type	R134a						
Quiet version								
Cooling capacity (1)	kW	430,6	590,4	830,1	877,1	1209,6	1297,9	1840,6
Absorbed power (1)(2)	kW	98,9	139,9	202,2	205,7	280,8	308,3	416,5
EER (1)(2)		4,35	4,22	4,11	4,26	4,31	4,21	4,42
Cooling capacity (3)	kW	284,4	384,7	555,3	574,2	787,8	852,7	1162,7
Absorbed power (3)(4)	kW	85,2	116,7	172,0	171,0	237,4	256,6	323,9
EER (3)(4)		3,34	3,30	3,23	3,36	3,32	3,32	3,59
Cooling capacity (5)	kW	413,2	566,6	794,1	835,5	1154,8	1239,1	1766,7
Absorbed power (5)(2)	kW	98,6	139,3	202,2	204,4	279,9	308,3	416,5
EER (5)(2)		4,19	4,07	3,93	4,09	4,13	4,02	4,24
ETAs,c (a)	%	240,2	231,6	224,1	236,0	228,6	234,4	233,3
ETAs,c (b)	%	310,3	286,9	271,1	281,8	281,5	282,8	262,3
SEPR HT (c)	-	7,3	7,3	6,8	7,1	7,2	7,0	7,2
Ultraquiet version								
Cooling capacity (3)	kW	274,3	360,8	519,5	548,7	737,4	812,2	1066,4
Absorbed power (3)(4)	kW	78,5	113,8	166,2	162,7	230,3	246,8	309,1
EER (3)(4)		3,50	3,17	3,13	3,37	3,20	3,29	3,45
ETAs,c (a)	%	243,1	232,7	228,2	241,4	224,6	242,9	245,1
ETAs,c (b)	%	328,7	293,6	293,1	302,5	300,4	306,8	304,5
SEPR HT (c)	-	7,2	7,2	6,7	7,1	7,2	7,0	7,1
Noise Levels								
Quiet version - Sound Pressure (6)	dB(A)	57,7	58,0	59,7	60,6	61,2	61,4	61,8
Quiet version - Sound Power (7)	dB(A)	92,0	92,2	93,4	94,3	95,2	95,8	96,6
Ultraquiet version - Sound Pressure (6)	dB(A)	50,8	52,0	53,6	54,0	55,2	55,0	56,1
Ultraquiet version - Sound Power (7)	dB(A)	85,1	86,2	87,4	87,7	89,3	89,4	90,8
Dimensions								
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532
Width	mm	2200	2200	2200	2200	2200	2200	2201
Lenght	mm	5005	5005	6435	7865	9295	10725	12025

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

BCEC

Refrigerant
R513a

Technical Data								
BCEC		**0301A**	**0401A**	**0532A**	**0632A**	**0752A**	**0903A**	**1103A**
Power supply	V/ph/Hz	400/3/50						
Compressors/circuits	nr./nr.	1/1	1/1	2/1	2/1	2/1	3/1	3/1
Evaporator	nr. x mod.	1 x flooded						
Fans	nr.	6	6	8	10	12	14	16
Refrigerant	type	R513A						
Quiet version								
Cooling capacity (1)	kW	430,4	590,3	829,7	876,8	1209,2	1297,3	1839,8
Absorbed power (1)(2)	kW	98,9	140,0	202,2	205,7	280,9	308,3	416,5
EER (1)(2)		4,35	4,22	4,10	4,26	4,30	4,21	4,42
Cooling capacity (3)	kW	284,2	384,5	555,1	574,0	787,5	852,5	1162,2
Absorbed power (3)(4)	kW	85,2	116,8	172,0	171,1	237,5	256,6	324,0
EER (3)(4)		3,34	3,29	3,23	3,36	3,32	3,32	3,59
Cooling capacity (5)	kW	413,0	566,6	793,7	835,3	1154,3	1238,6	1765,9
Absorbed power (5)(2)	kW	98,6	139,5	202,2	204,4	279,9	308,3	416,5
EER (5)(2)		4,19	4,06	3,93	4,09	4,12	4,02	4,24
ETAs,c (a)	%	237,3	229,6	223,1	235,2	228,4	234,2	231,2
ETAs,c (b)	%	321,5	289,8	279,7	291,3	282,8	292,9	288,9
SEPR HT (c)	-	7,3	7,3	6,8	7,1	7,2	7,0	7,2
Ultraquiet version								
Cooling capacity (3)	kW	274,2	360,8	519,3	548,5	737,2	811,9	1065,9
Absorbed power (3)(4)	kW	78,5	113,9	166,2	162,8	230,5	246,8	309,1
EER (3)(4)		3,49	3,17	3,12	3,37	3,20	3,29	3,45
ETAs,c (a)	%	242,8	230,9	228,0	241,3	230,0	242,7	244,2
ETAs,c (b)	%	328,4	290,8	288,3	303,4	297,8	305,9	303,1
SEPR HT (c)	-	7,2	7,2	6,7	7,1	7,2	7,0	7,1
Noise Levels								
Quiet version - Sound Pressure (6)	dB(A)	57,7	58,0	59,7	60,6	61,2	61,4	61,8
Quiet version - Sound Power (7)	dB(A)	92,0	92,2	93,4	94,3	95,2	95,8	96,6
Ultraquiet version - Sound Pressure (6)	dB(A)	50,8	52,0	53,6	54,0	55,2	55,0	56,1
Ultraquiet version - Sound Power (7)	dB(A)	85,1	86,2	87,4	87,7	89,3	89,4	90,8
Dimensions								
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532
Width	mm	2200	2200	2200	2200	2200	2200	2201
Lenght	mm	5005	5005	6435	7865	9295	10725	12025

1. Data refer to: water temperatures 30/20 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans) (EN14511). Unit equipped with EC fans
5. Data refer to: water temperatures 23/18 °C and glycol 0%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

BCWC

Cooling Only

Refrigerant R134a

Refrigerant R513a

Refrigerant R1234ze

Oil free

VSD

300 – 2000 kW*

High efficiency water-cooled chillers with oil-free centrifugal compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling, where high performance is required.

The unit is equipped between one and four oil-free centrifugal compressors suitable for multiple refrigerants (R134a, R513A, R1234ze), high efficiency flooded evaporator, dry shell and tube condenser and 7-inch touch screen display.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency, guaranteeing reliability and ensuring to provide immediate cooling load thanks to the quick restart procedure.

A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, water 30/35°C condenser side, 0% glycol*

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Refrigerant options: R513A (as standard), R134a and R1234ze(E) as option
- Subcooling economizer to obtain an increase in cooling capacity without changing unit model and frame
- Refrigerant leak detector to detect any refrigerant leakage
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BACNet MS/TP, i.e. BACnet on serial networks)
- Rubber antivibration supports
- External hydraulic circuit accessories: victaulic/weld adaptor kit evaporator side and or condenser side or flanged connections adaptors evaporator side and or condenser side

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

BCWC

Refrigerant
R134a

Technical Data						
BCWC Model		**0301A**	**0602A**	**0903A**	**1203A**	**1604A**
Power supply	V/ph/Hz	400/3/50				
Refrigerant circuits	nr.	1	1	1	1	1
Compressors	nr. x type	1 x oil free	2 x oil free	3 x oil free	3 x oil free	4 x oil free
Evaporator / Condenser	nr. x type	1 x flooded				
Refrigerant choice	type	R134a				
Basic unit without subcooling economizer option						
Cooling capacity (1)	kW	362,9	768,9	1139,8	1560,2	1976,0
Absorbed power (1)(2)	kW	44,2	102,2	148,6	181,6	209,9
EER (1)(2)	-	8,21	7,52	7,67	8,59	9,41
Cooling capacity (3)	kW	272,1	546,9	823,6	1175,5	1486,7
Absorbed power (3)(4)	kW	52,3	107,5	160,6	230,3	274,6
EER (3)(4)		5,20	5,10	5,10	5,10	5,40
ETAs,c (a)	%	318,6	322,9	333,8	325,8	328,3
SEPR HT (c)	-	10,0	9,5	10,1	10,2	11,2
Noise Pressure Levels						
Sound Pressure (6)	dB(A)	69,1	71,4	72,9	73,7	74,3
Sound Power (7)	dB(A)	87,0	90,0	91,8	92,9	94,1
Dimensions						
Height	mm	2040	2045	2100	2268	2330
Width	mm	1225	1370	1487	1668	1673
Lenght	mm	2602	3662	3914	3859	4995

1. Data refer to: water temperatures 30/20 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
2. Data refer to total absorbed power
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
4. Data refer to total absorbed power (EN14511).
6. Data refer to free field at 1 meter from the unit operating at nominal conditions, Q=2 directional factor. At different conditions and with different configurations, noise values may vary.
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746.

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

BCWC

Refrigerant
R513a

Technical Data						
BCWC Model		**0301A**	**0602A**	**0903A**	**1203A**	**1604A**
Power supply	V/ph/Hz	400/3/50				
Refrigerant circuits	nr.	1	1	1	1	1
Compressors	nr. x type	1 x oil free	2 x oil free	3 x oil free	3 x oil free	4 x oil free
Evaporator / Condenser	nr. x type	1 x flooded				
Refrigerant choice	type	R513A				
Basic unit without subcooling economizer option						
Cooling capacity (1)	kW	365,4	775,8	1151,6	1565,1	1984,0
Absorbed power (1)(2)	kW	46,0	106,4	155,1	186,9	215,8
EER (1)(2)	-	7,94	7,29	7,42	8,37	9,20
Cooling capacity (3)	kW	270,6	541,8	815,9	1164,2	1471,7
Absorbed power (3)(4)	kW	52,4	107,0	159,8	228,9	273,1
EER (3)(4)		5,20	5,10	5,10	5,10	5,40
ETAs,c (a)	%	315,9	326,5	332,8	324,8	323,7
SEPR HT (c)	-	9,7	10,0	9,9	10,4	10,3
Noise Pressure Levels						
Sound Pressure (6)	dB(A)	69,1	71,4	72,9	73,7	74,3
Sound Power (7)	dB(A)	87,0	90,0	91,8	92,9	94,1
Dimensions						
Height	mm	2040	2045	2100	2268	2330
Width	mm	1225	1370	1487	1668	1673
Lenght	mm	2602	3662	3914	3859	4955

1. Data refer to: water temperatures 30/20 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
2. Data refer to total absorbed power
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
4. Data refer to total absorbed power (EN14511)
6. Data refer to free field at 1 meter from the unit operating at nominal conditions, Q=2 directional factor. At different conditions and with different configurations, noise values may vary
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

BCWC

Refrigerant
R1234ze

Technical Data						
BCWC Model		**0301A**	**0602A**	**0903A**	**1204A**	**2004A**
Power supply	V/ph/Hz	400/3/50				
Refrigerant circuits	nr.	1	1	1	1	1
Compressors	nr. x type	1 x oil free	2 x oil free	3 x oil free	4 x oil free	4 x oil free
Evaporator / Condenser	nr. x type	1 x flooded				
Refrigerant choice	type	R1234ze				
Basic unit without subcooling economizer option						
Cooling capacity (1)	kW	361,7	766,5	1146,2	1448,2	2074,7
Absorbed power (1)(2)	kW	37,3	86,3	127,6	146,4	227,1
EER (1)(2)	-	9,69	8,88	8,98	9,89	9,13
Cooling capacity (3)	kW	276,6	554,9	832,0	1116,9	1783,2
Absorbed power (3)(4)	kW	50,7	104,4	154,9	201,8	352,8
EER (3)(4)		5,50	5,30	5,40	5,50	5,05
ETAs,c (a)	%	317,5	332,4	340,4	337,3	331,5
SEPR HT (c)	-	11,3	10,2	10,6	9,7	11,8
Noise Pressure Levels						
Sound Pressure (6)	dB(A)	69,1	71,4	72,9	74,3	74,3
Sound Power (7)	dB(A)	87,0	90,0	91,8	94,1	94,1
Dimensions						
Height	mm	2040	2045	2100	2330	2382
Width	mm	1225	1370	1487	1673	1918
Lenght	mm	2602	3662	3914	4955	5020

1. Data refer to: water temperatures 30/20 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
2. Data refer to total absorbed power
3. Data refer to nominal conditions (EN14511): water temperatures 12/7 °C and glycol 0%, condensing temperature in/out 30/35°C, fouling factor 0.0 m2 °C/W
4. Data refer to total absorbed power (EN14511)
6. Data refer to free field at 1 meter from the unit operating at nominal conditions, Q=2 directional factor. At different conditions and with different configurations, noise values may vary
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746
a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Air cooled water chillers with axial fans and free-cooling system for outdoor installations]

ERAF

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

70 – 160 kW*

High efficiency free cooling chillers with axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two fixed speed scroll compressors operating on one single refrigerant circuit (tandem) or on two independent refrigerant circuits, high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 20% glycol, outdoor temperature 35°C*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Quiet and Ultraquiet noise versions to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter
- Water tank integrated in the chiller frame on the outlet water side
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Discharge shut off valves (embedded for units with R454B refrigerant) to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ERAF

Refrigerant
R410A

Technical Data											
ERAF		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	2	3	3	3	3	3	3	3
Refrigerant	type	R410A									
Basic / Quiet version											
Cooling capacity (1)	kW	66,9	77,8	91,2	105,5	114,4	115,1	137,6	135,5	154,4	153,0
Absorbed power (1)(2)	kW	16,5	20,8	22,5	26,2	30,2	30,3	34,6	34,4	41,0	40,9
EER (1)(2)		4,05	3,74	4,05	4,03	3,79	3,80	3,98	3,94	3,77	3,74
Cooling capacity (3)	kW	48,5	57,3	66,7	77,3	84,4	85,0	101,2	99,7	113,7	113,3
Absorbed power (3)(4)	kW	15,8	19,8	21,2	24,8	28,4	28,4	32,5	32,4	38,2	38,1
EER (3)(4)		3,07	2,89	3,15	3,12	2,97	2,99	3,11	3,08	2,98	2,97
ETAs.c (a)	%	168,8	170,8	187,9	175,9	173,1	130,1	188,7	142,1	186,2	134,7
ETAs.c (b)	%	217,1	215,3	238,1	220,9	213,9	155,7	236,5	170,0	231,3	158,8
SEPR HT (c)	-	7,9	7,6	8,4	7,8	7,3	5,8	8,1	6,3	7,1	6,0
Ultraquiet version											
Cooling capacity (3)	kW	46,8	55,0	64,4	74,5	80,8	81,4	97,0	95,9	107,8	107,8
Absorbed power (3)(4)	kW	15,9	20,3	21,8	25,1	29,0	29,0	33,5	33,4	39,9	39,9
EER (3)(4)		2,94	2,71	2,95	2,97	2,79	2,81	2,90	2,87	2,70	2,70
ETAs.c (a)	%	178,7	174,8	190,0	184,2	178,4	128,3	194,2	141,2	185,2	127,3
ETAs.c (b)	%	227,5	216,4	237,3	228,2	217,2	150,4	240,1	165,7	225,7	147,3
SEPR HT (c)	-	8,0	7,7	8,4	7,9	7,4	5,8	8,1	6,3	7,1	5,8
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	50,2	50,2	54,3	54,3	54,3	54,3	56,2	56,2	56,7	56,7
Basic version - Sound Power (7)	dB(A)	84,6	84,7	86,3	86,2	86,2	86,2	88,2	88,2	88,8	88,8
Quiet version - Sound Pressure (6)	dB(A)	49,9	50,0	54,1	54,1	54,1	54,1	54,6	54,6	54,8	54,8
Quiet version - Sound Power (7)	dB(A)	84,3	84,3	86,0	86,0	86,0	86,0	86,6	86,6	86,9	86,9
Ultraquiet version - Sound Pressure (6)	dB(A)	44,9	45,1	46,7	46,7	46,7	46,7	49,2	49,2	49,9	49,9
Ultraquiet version - Sound Power (7)	dB(A)	77,0	77,1	78,6	78,6	78,6	78,6	81,2	81,2	81,9	81,9
Dimensions											
Height (EC fans)	mm	1600	1600	1600	1600	1600	1600	1910	1910	1910	1910
Width	mm	2034	2034	2831	2831	2831	2804	3098	3073	3098	3073
Lenght	mm	1216,5	1216,5	1216,5	1216,5	1216,5	1184	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

ERAF

Refrigerant
R454B

Technical Data											
ERAF		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	2	3	3	3	3	3	3	3
Refrigerant	type	R454B									
Basic / Quiet version											
Cooling capacity (1)	kW	64,0	76,4	88,8	102,2	109,6	110,3	133,3	130,7	150,9	148,6
Absorbed power (1)(2)	kW	15,3	19,8	21,1	24,8	28,7	28,7	32,9	32,7	39,1	38,8
EER (1)(2)		4,18	3,86	4,21	4,12	3,82	3,84	4,05	4,00	3,86	3,83
Cooling capacity (3)	kW	46,2	55,6	64,7	74,6	81,2	81,7	98,0	96,2	111,2	110,0
Absorbed power (3)(4)	kW	14,9	18,8	20,2	23,5	26,8	26,8	30,5	30,3	35,7	35,6
EER (3)(4)		3,10	2,96	3,20	3,17	3,03	3,05	3,21	3,17	3,11	3,09
ETAs.c (a)	%	164,0	170,1	186,0	175,8	171,8	131,2	188,0	143,2	188,4	137,9
ETAs.c (b)	%	211,1	214,9	236,0	222,5	211,7	156,2	234,2	171,1	232,8	162,1
SEPR HT (c)	-	7,7	7,5	8,2	7,8	7,4	5,9	8,1	6,5	7,2	6,0
Ultraquiet version											
Cooling capacity (3)	kW	45,1	53,6	62,7	72,3	78,4	79,0	94,6	92,9	106,1	105,0
Absorbed power (3)(4)	kW	15,0	19,2	20,7	23,7	27,2	27,3	31,3	31,1	37,2	37,1
EER (3)(4)		3,01	2,79	3,03	3,05	2,88	2,89	3,02	2,99	2,85	2,83
ETAs.c (a)	%	175,2	175,7	190,2	185,4	178,8	130,7	194,8	143,5	188,9	132,3
ETAs.c (b)	%	223,3	218,3	237,9	231,3	216,8	152,2	239,6	168,0	228,9	151,7
SEPR HT (c)	-	7,8	7,6	8,2	7,9	7,4	5,9	8,1	6,4	7,1	5,9
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	50,2	50,2	54,3	54,3	54,3	54,3	56,2	56,2	56,7	56,7
Basic version - Sound Power (7)	dB(A)	85,0	85,0	86,0	87,0	86,0	86,0	88,0	88,0	89,0	89,0
Quiet version - Sound Pressure (6)	dB(A)	49,9	50,0	54,1	54,1	54,1	54,1	54,6	54,6	54,8	54,8
Quiet version - Sound Power (7)	dB(A)	84,3	84,3	86,0	86,0	86,0	86,0	86,6	86,6	86,9	86,9
Ultraquiet version - Sound Pressure (6)	dB(A)	44,9	45,1	46,7	46,7	46,7	46,7	49,2	49,2	49,9	49,9
Ultraquiet version - Sound Power (7)	dB(A)	77,0	77,1	78,6	78,6	78,6	78,6	81,2	81,2	81,9	81,9
Dimensions											
Height (EC fans)	mm	1600	1600	1600	1600	1600	1600	1910	1910	1910	1910
Width	mm	2034	2034	2831	2831	2831	2804	3098	3073	3098	3073
Lenght	mm	1216,5	1216,5	1216,5	1216,5	1216,5	1184	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Air cooled water chillers with backward curved blade fans and free-cooling system for indoor/outdoor installations]

ERCF

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

70 – 160 kW*

High efficiency free cooling chillers with centrifugal fans for indoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two fixed speed scroll compressors operating on one single refrigerant circuit (tandem) or on two independent refrigerant circuits, high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 20% glycol, outdoor temperature 35°C, External static pressure 50Pa*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Quiet noise version to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter
- Water tank integrated in the chiller frame on the outlet water side
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Discharge shut off valves (embedded for units with R454B refrigerant) to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

ERCF

Refrigerant
R410A

Technical Data											
ERCF		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	2	3	3	3	3	3	4	4
Refrigerant	type	R410A									
Basic / Quiet version											
Cooling capacity (1)	kW	66,8	77,7	89,1	105,3	114,2	114,9	134,8	132,8	160,3	158,8
Absorbed power (1)(2)	kW	18,6	22,9	25,5	29,3	33,4	33,5	38,8	38,6	43,9	43,8
EER (1)(2)		3,59	3,39	3,49	3,59	3,42	3,43	3,47	3,44	3,65	3,63
Cooling capacity (3)	kW	48,5	57,3	65,6	77,2	84,3	84,9	99,6	98,5	117,5	116,6
Absorbed power (3)(4)	kW	17,9	21,9	24,0	28,0	31,6	31,6	36,5	36,4	41,8	41,7
EER (3)(4)		2,71	2,62	2,73	2,76	2,67	2,69	2,73	2,71	2,81	2,80
ETAs.c (a)	%	138,3	145,8	155,6	144,7	145,2	111,3	153,9	117,3	152,0	115,5
ETAs.c (b)	%	177,3	183,6	195,8	182,0	180,0	134,0	192,3	140,8	190,8	139,7
SEPR HT (c)	-	6,5	6,2	6,6	6,4	6,0	4,8	6,6	5,0	6,1	5,0
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	65,2	65,3	65,3	66,8	66,8	66,8	69,9	69,9	71,2	71,2
Basic version - Sound Power (7)	dB(A)	82,0	82,2	82,1	83,6	83,6	83,6	86,7	86,7	88,0	88,0
Quiet version - Sound Pressure (6)	dB(A)	63,1	63,2	63,2	64,7	64,7	64,7	65,3	65,3	66,6	66,6
Quiet version - Sound Power (7)	dB(A)	79,9	80,0	80,0	81,6	81,6	81,6	82,1	82,1	83,4	83,4
Dimensions											
Height (EC fans)	mm	1837	1837	1837	1837	1837	1837	2146	2146	2146	2146
Width	mm	2034	2034	2831	2831	2831	2804	3099	3073	3099	3073
Lenght	mm	1216	1216	1217,5	1217,5	1217,5	1185	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

ERCF

Refrigerant
R454B

Technical Data											
ERCF		**0521A1**	**0621A1**	**0721A1**	**0821A1**	**0921A1**	**0922A1**	**1021A1**	**1022A1**	**1221A1**	**1222A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	2/1	2/1	2/1	2/2	2/1	2/2	2/1	2/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	2	3	3	3	3	3	4	4
Refrigerant	type	R454B									
Basic / Quiet version											
Cooling capacity (1)	kW	63,9	76,3	86,7	102,1	109,4	110,1	130,9	128,4	155,9	154,0
Absorbed power (1)(2)	kW	17,4	21,9	24,1	27,9	31,9	31,9	37,1	36,9	42,0	41,9
EER (1)(2)		3,67	3,48	3,60	3,66	3,43	3,45	3,53	3,48	3,71	3,68
Cooling capacity (3)	kW	46,3	55,6	63,8	74,5	81,1	81,7	97,0	94,9	113,9	112,6
Absorbed power (3)(4)	kW	17,1	20,9	23,0	26,7	29,9	30,0	34,4	34,2	39,4	39,3
EER (3)(4)		2,71	2,66	2,77	2,79	2,71	2,72	2,82	2,77	2,89	2,87
ETAs.c (a)	%	128,4	138,9	148,6	139,6	139,4	111,1	148,2	117,3	148,5	116,2
ETAs.c (b)	%	165,4	176,0	188,0	177,2	172,7	133,5	184,8	140,7	186,5	140,5
SEPR HT (c)	-	6,3	6,2	6,5	6,4	6,1	4,8	6,6	5,1	6,1	5,0
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	65,2	65,3	65,3	66,8	66,8	66,8	69,9	69,9	71,2	71,2
Basic version - Sound Power (7)	dB(A)	82,0	82,2	82,1	83,6	83,6	83,6	86,7	86,7	88,0	88,0
Quiet version - Sound Pressure (6)	dB(A)	63,1	63,2	63,2	64,7	64,7	64,7	65,3	65,3	66,6	66,6
Quiet version - Sound Power (7)	dB(A)	79,9	80,0	80,0	81,6	81,6	81,6	82,1	82,1	83,4	83,4
Dimensions											
Height (EC fans)	mm	1837	1837	1837	1837	1837	1837	2146	2146	2146	2146
Width	mm	2034	2034	2831	2831	2831	2804	3099	3073	3099	3073
Lenght	mm	1216	1216	1217,5	1217,5	1217,5	1185	1238	1184	1238	1184

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 1 meter from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air cooled water chillers with axial fans and free-cooling system for outdoor installations]

ISAF

Cooling Only

Refrigerant R410A

Scroll

VSD

90 – 180 kW*

High efficiency variable speed free cooling chillers with axial fans for outdoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two scroll compressors, one fixed speed and one inverter driven, operating on one single refrigerant circuit (tandem), high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 20% glycol, outdoor temperature 35°C*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Quiet and Ultraquiet noise versions to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Electronic expansion valve and R410A refrigeranr with GWP 2088 (as standard)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Discharge shut off valves to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

[Variable speed air cooled water chillers with axial fans and free-cooling system for outdoor installations]

ISAF

Refrigerant
R410A

Technical Data				
ISAF		**0621A**	**0921A**	**1221A**
Power supply	V/ph/Hz		400/3/50	
Compressors/circuits	nr,/nr,	2/1	2/1	2/1
Evaporator	nr, x mod,		1 x brazed plate	
Fans	nr,	2	3	3
Refrigerant	type		R410A	
Quiet version				
Cooling capacity (1)	kW	88,3	125,6	173,8
Absorbed power (1)(2)	kW	25,1	34,6	48,7
EER (1)(2)		3,52	3,63	3,57
Cooling capacity (3)	kW	61,3	87,3	120,9
Absorbed power (3)(4)	kW	20,1	28,0	39,0
EER (3)(4)		3,05	3,12	3,10
ETAs.c (a)	%	156,3	162,2	172,0
ETAs.c (b)	%	185,1	187,4	204,0
SEPR HT (c)	-	5,4	5,6	5,9
Ultraquiet version				
Cooling capacity (3)	kW	58,8	83,9	115,3
Absorbed power (3)(4)	kW	20,7	28,6	40,0
EER (3)(4)		2,84	2,93	2,88
ETAs.c (a)	%	161,5	167,2	177,1
ETAs.c (b)	%	188,8	193,2	209,6
SEPR HT (c)	-	5,5	5,7	6,0
Noise Levels				
Quiet version - Sound Pressure (6)	dB(A)	53,9	56,1	57,0
Quiet version - Sound Power (7)	dB(A)	86,0	88,0	89,0
Ultraquiet version - Sound Pressure (6)	dB(A)	48,1	50,0	52,5
Ultraquiet version - Sound Power (7)	dB(A)	80,1	83,0	84,5
Dimensions				
Height (EC fans)	mm	1600	1600	1910
Width	mm	2009	2804	3073
Lenght	mm	1214	1214	1238

1. Data refer to: water temperatures 27/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air-cooled water chillers with backward curved blade fans and free-cooling system for indoor/outdoor installations]

ISCF

Cooling Only

Refrigerant R410A

Scroll

VSD

90 – 180 kW*

High efficiency variable speed free cooling chillers with centrifugal fans for indoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two scroll compressors, one fixed speed and one inverter driven, operating on one single refrigerant circuit (tandem), high efficiency brazed plate evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 20% glycol, outdoor temperature 35°C, External static pressure 50Pa*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Quiet noise version to minimize the unit noise levels
- Dual power supply with automatic changeover (ATS)
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Partial condensation heat recovery
- Electronic expansion valve and R410A refrigeranr with GWP 2088 (as standard)
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Discharge shut off valves to prevent the reversal of flow in a piping system
- Cataphoresis treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU)
- Metallic filters to protect air side coils
- Rubber or spring antivibration supports

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

[Variable speed air-cooled water chillers with backward curved blade fans and free-cooling system for indoor/outdoor installations]

ISCF

Refrigerant
R410A

Technical Data				
ISCF		**0621A**	**0921A**	**1221A**
Power supply	V/ph/Hz		400/3/50	
Compressors/circuits	nr,/nr,	2/1	2/1	2/1
Evaporator	nr, x mod,		1 x brazed plate	
Fans	nr,	2	3	4
Refrigerant	type		R410A	
Quiet version				
Cooling capacity (1)	kW	86,5	122,9	169,8
Absorbed power (1)(2)	kW	26,0	36,3	50,9
EER (1)(2)		3,33	3,39	3,34
Cooling capacity (3)	kW	60,2	86,0	118,7
Absorbed power (3)(4)	kW	21,0	29,2	40,6
EER (3)(4)		2,87	2,95	2,92
ETAs.c (a)	%	152,4	135,3	168,0
ETAs.c (b)	%	178,2	181,2	196,1
SEPR HT (c)	-	5,2	5,4	5,7
Noise Levels				
Quiet version - Sound Pressure (6)	dB(A)	64,9	66,5	68,2
Quiet version - Sound Power (7)	dB(A)	82,0	84,0	88,0
Dimensions				
Height (EC fans)	mm	1836	1836	2146
Width	mm	2003	2804	3073
Lenght	mm	1214	1214	1238

1. Data refer to: water temperatures 27/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 12/7 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 11 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Air-cooled water chillers with free-cooling system for outdoor installations]

TRAF

Cooling Only

Refrigerant R410A

Refrigerant R454B

Scroll

180 - 580 kW*

High efficiency free cooling chillers with axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed bythe microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two or four fixed speed scroll compressors operating on one single refrigerant circuit or two independent refrigerant circuits (tandem), high efficiency brazed plate evaporator and air-side condenser coils made of microchannel aluminum coils or copper tubes and aluminum fins coils (according to model size) optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B). In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, water 30/35°C condenser side, 0% glycol*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Mechanical expansion valve (as standard) and Electronic expansion valve (optional)
- Refrigerant options: R410A with GWP 2088 (as standard), R454B with GWP 466 (optional)
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Glycol free option to separate glycoled free-cooling circuit from main pure water circuit with an intermediate heat exchanger
- Partial condensation heat recovery
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Water tank integrated in the chiller frame on the outlet water side
- Suction/Discharge shut off valves (embedded for units with R454B refrigerant) to isolate compressors for maintenance purpose
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Air side coils protections as metallic filters and lateral protection grilles
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BCAnet MS/TP, i.e. BACnet on serial networks)
- Flanged connections adaptors (only 3642A1, 4042A1 and 4142A1 models) and Victaulic/Weld adaptor kit
- Spring antivibration supports
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC).
Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

TRAF

Refrigerant
R410A

Technical Data											
TRAF		**1221A1**	**1421A1**	**1742A1**	**2042A1**	**2342A1**	**2642A1**	**2842A1**	**3642A1**	**4042A1**	**4142A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	3	3	4	4	4	5	6	6
Refrigerant	type	R410A									
Basic version											
Cooling capacity (1)	kW	174,9	189,9	239,0	268,5	311,7	343,3	374,0	448,0	508,9	554,8
Absorbed power (1)(2)	kW	46,0	52,8	58,7	70,7	79,4	91,7	105,6	116,8	133,3	149,8
EER (1)(2)		3,80	3,60	4,07	3,80	3,93	3,74	3,54	3,84	3,82	3,70
Cooling capacity (3)	kW	127,7	138,9	176,2	198,3	229,8	253,2	275,3	329,2	373,6	406,4
Absorbed power (3)(4)	kW	41,3	48,2	52,8	62,7	70,1	82,6	96,5	107,3	122,6	137,4
EER (3)(4)		3,09	2,88	3,34	3,16	3,28	3,07	2,85	3,07	3,05	2,96
ETAs.c (a)	%	187,6	185,3	191,8	184,5	186,3	188,2	186,4	192,2	190,6	188,7
ETAs.c (b)	%	229,8	226,2	213,8	204,2	205,2	218,7	219,4	221,8	219,6	220,6
SEPR HT (c)	-	6,4	6,3	6,3	6,2	6,5	6,7	6,7	6,7	6,6	6,5
Ultraquiet version											
Cooling capacity (3)	kW	119,4	131,1	166,5	186,3	216,8	235,5	260,0	307,8	350,7	382,9
Absorbed power (3)(4)	kW	43,4	50,8	54,1	65,2	72,0	87,4	102,1	113,9	128,5	144,8
EER (3)(4)		2,75	2,58	3,08	2,86	3,01	2,69	2,55	2,70	2,73	2,64
ETAs.c (a)	%	189,6	188,8	191,9	183,7	186,1	187,2	184,0	190,9	190,0	186,2
ETAs.c (b)	%	224,7	218,4	216,1	203,5	206,8	216,6	212,9	219,1	217,6	214,5
SEPR HT (c)	-	6,7	6,4	6,5	6,2	6,7	6,8	6,7	6,8	6,7	6,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	57,2	57,5	58,6	58,7	60,3	60,6	59,9	61,9	62,1	62,1
Basic version - Sound Power (7)	dB(A)	88,7	88,9	90,2	90,2	91,4	91,7	91,0	93,5	93,7	93,8
Ultraquiet version - Sound Pressure (6)	dB(A)	52,0	52,8	52,6	52,9	54,2	55,3	55,8	56,9	57,4	57,5
Ultraquiet version - Sound Power (7)	dB(A)	83,4	84,2	84,2	84,5	85,3	86,4	86,9	88,5	89,1	89,2
Dimensions											
Height (EC fans)	mm	2236	2236	2236	2236	2236	2236	2236	2156	2156	2156
Width	mm	1151	1151	1145	1145	1151	1151	1151	2204	2204	2204
Lenght	mm	3169	3169	4619	4619	5569	5569	5569	5737	5737	5737

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

TRAF

Refrigerant
R454B

Technical Data											
TRAF		**1221A1**	**1421A1**	**1742A1**	**2042A1**	**2342A1**	**2642A1**	**2842A1**	**3642A1**	**4042A1**	**4142A1**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr,/nr,	2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Evaporator	nr, x mod,	1 x brazed plate									
Fans	nr,	2	2	3	3	4	4	4	5	6	6
Refrigerant	type	R454B									
Basic version											
Cooling capacity (1)	kW	167,7	183,6	229,3	257,3	296,9	329,2	361,5	432,1	490,9	526,3
Absorbed power (1)(2)	kW	42,7	48,0	54,8	66,8	75,2	85,2	96,0	108,2	125,1	135,5
EER (1)(2)		3,93	3,83	4,18	3,85	3,95	3,86	3,77	3,99	3,92	3,88
Cooling capacity (3)	kW	123,4	134,8	169,3	190,8	220,5	244,1	267,6	320,0	364,6	390,2
Absorbed power (3)(4)	kW	38,5	43,9	49,5	59,6	67,2	77,0	87,8	99,4	114,8	124,3
EER (3)(4)		3,21	3,07	3,42	3,20	3,28	3,17	3,05	3,22	3,18	3,14
ETAs.c (a)	%	193,1	190,4	199,5	190,5	191,8	194,7	193,7	197,4	193,7	194,4
ETAs.c (b)	%	229,1	225,6	222,5	213,4	214,1	218,7	219,1	220,1	217,9	219,7
SEPR HT (c)	-	6,7	6,7	6,6	6,4	6,8	7,0	7,0	6,8	6,7	6,7
Ultraquiet version											
Cooling capacity (3)	kW	116,3	127,5	161,4	180,0	209,3	229,3	252,4	300,2	343,8	366,5
Absorbed power (3)(4)	kW	40,3	46,2	50,5	62,2	69,0	81,1	92,7	105,1	119,9	131,1
EER (3)(4)		2,89	2,76	3,20	2,89	3,03	2,83	2,72	2,86	2,87	2,80
ETAs.c (a)	%	196,5	196,2	199,7	189,7	191,6	193,3	191,7	196,5	193,6	192,9
ETAs.c (b)	%	229,3	223,5	224,6	213,5	214,8	218,6	215,9	220,5	218,3	217,4
SEPR HT (c)	-	7,0	6,7	6,8	6,5	7,0	7,1	7,1	6,9	6,8	6,7
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	57,2	57,5	58,6	58,7	60,3	60,6	59,9	61,9	62,1	62,1
Basic version - Sound Power (7)	dB(A)	88,7	88,9	90,2	90,2	91,4	91,7	91,0	93,5	93,7	93,8
Ultraquiet version - Sound Pressure (6)	dB(A)	52,0	52,8	52,6	52,9	54,2	55,3	55,8	56,9	57,4	57,5
Ultraquiet version - Sound Power (7)	dB(A)	83,4	84,2	84,2	84,5	85,3	86,4	86,9	88,5	89,1	89,2
Dimensions											
Height (EC fans)	mm	2236	2236	2236	2236	2236	2236	2236	2156	2156	2156
Width	mm	1151	1151	1145	1145	1151	1151	1151	2204	2204	2204
Lenght	mm	3169	3169	4619	4619	5569	5569	5569	5737	5737	5737

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air cooled water chillers with axial fans and free-cooling system for outdoor installations]

TSAF

Cooling Only

Refrigerant R410A

Scroll

VSD

190 - 460 kW*

High efficiency variable speed free cooling chillers with axial EC fans for outdoor installation and with inverter driven scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two or four scroll compressors (one inverter driven) operating on one single refrigerant circuit or two independent refrigerant circuits (tandem), high efficiency brazed plate evaporator and air-side condenser coils made of microchannel aluminum coils or copper tubes and aluminum fins coils (according to model size) optimized for wide operating conditions.

The range is available with R410A refrigerant.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 27/20°C evaporator side, 20% glycol, outdoor temperature 35°C*

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Separate power supply mainboard and auxiliaries sectio
- Dual power supply with aforutomatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels
- Electronic expansion valve and R410A refrigerant with GWP 2088 (as standard)
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- Glycol free option to separate glycoled free-cooling circuit from main pure water circuit with an intermediate heat exchanger
- Partial condensation heat recovery
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Suction/Discharge shut off valves to isolate compressors for maintenance purpose
- Power phase capacitors to improve unit cosphi and softstarters to reduce starting current
- Air side coils protections as metallic filters and lateral protection grilles
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation and wooden case packing option
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BCAnet MS/TP, i.e. BACnet on serial networks)
- Flanged connections adaptors (only 3642A and 4042A models) and Victaulic/Weld adaptor kit
- Spring antivibration supports
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

TSAF

Refrigerant
R410A

Technical Data						
TSAF		**1521A**	**2042A**	**2642A**	**3642A**	**4042A**
Power supply	V/ph/Hz	400/3/50				
Compressors/circuits	nr./nr.	2/1	4/2	4/2	4/2	4/2
Evaporator	nr. x mod.	1 x brazed plate				
Fans	nr.	2	3	4	5	6
Refrigerant	type	R410A				
Quiet version						
Cooling capacity (1)	kW	184,7	217,2	295,0	410,5	450,6
Absorbed power (1)(2)	kW	44,7	52,1	70,2	99,5	110,7
EER (1)(2)		4,13	4,17	4,20	4,13	4,07
Cooling capacity (3)	kW	136,8	162,3	219,0	308,5	344,0
Absorbed power (3)(4)	kW	39,7	47,3	64,3	90,8	101,7
EER (3)(4)		3,45	3,43	3,41	3,40	3,38
ETAs.c (a)	%	201,4	188,8	188,8	192,3	189,9
ETAs.c (b)	%	238,5	218,8	217,3	218,7	216,8
SEPR HT (c)	-	6,5	6,1	6,7	6,5	6,3
Ultraquiet version						
Cooling capacity (3)	kW	128,3	154,2	206,8	289,4	320,8
Absorbed power (3)(4)	kW	41,2	47,8	65,6	93,6	104,4
EER (3)(4)		3,11	3,23	3,15	3,09	3,07
ETAs.c (a)	%	200,6	189,5	189,6	192,7	190,6
ETAs.c (b)	%	237,4	221,7	219,8	220,2	218,5
SEPR HT (c)	-	6,6	6,3	6,9	6,7	6,5
Noise Levels						
Quiet version - Sound Pressure (6)	dB(A)	57,3	56,9	59,8	60,4	60,8
Quiet version - Sound Power (7)	dB(A)	90,2	89,1	91,4	92,7	93,1
Ultraquiet version - Sound Pressure (6)	dB(A)	53,5	53,9	54,8	55,8	56,2
Ultraquiet version - Sound Power (7)	dB(A)	86,4	84,1	86,4	89,2	89,5
Dimensions						
Height (EC fans)	mm	2236	2236	2236	2150	2150
Width	mm	1151	1151	1151	2204	2204
Lenght	mm	4119	4619	5569	5737	5737

1. Data refer to: water temperatures 27/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions : water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

600 - 2000 kW*

High efficiency free cooling chillers with EC axial fans for outdoor installation and with fixed speed or inverter driven screw compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling, where high performance is required.

An exclusive free-cooling system completely managed by the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two screw compressors suitable for multiple refrigerants (R134a, R513A, R1234ze, R1234yf), high efficiency dry shell and tube evaporator and air-side condenser made of copper tubes and aluminum fins coils (model 1812A to 4812A) or microchannel condensing coils (model 5622A and 6422A) optimized for wide operating conditions.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency, guaranteeing reliability and ensuring to provide immediate cooling load thanks to the quick restart procedure.

**Basic unit with water 30/20°C evaporator side, 20% glycol, outdoor temperature 35°C*

Cooling Only

Screw

Refrigerant R134a

Refrigerant R513a

Refrigerant R1234ze

Refrigerant R1234yf

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump
- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Quiet and Ultraquiet noise version to minimize the unit noise levels
- Noise reduction diffusers
- Refrigerant options: R134a (as standard), R513A, R1234ze, R1234yf as option
- Compressor technologies: stepless, hybrid (1 stepless + 1 VSD), full inverter
- Spray adiabatic system to improve the efficiency
- Intelligent free-cooling predisposition to improve free-cooling capabilities
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Suction shut-off valves to isolate each compressor in case of maintenance and manometers on each circuit
- Subcooling economizer with additional portion of cooling circuit to increase subcooling on condensate liquid refrigerant without changing unit model and frame
- Embedded water filter on evaporator inlet
- Air side coils protections as metallic filters and coil manifold protections
- E-coating treatment for air-side condensing and free-cooling coils for protection in aggressive ambient installation
- Additional module on models 5622 and 6422 to improve efficiency and cooling capacity, shipped separately and connected on site
- Power phase capacitors (for stepless) to improve unit cosphi
- Electrical service socket and service light to facilitate maintenance operations
- Partial condensation heat recovery
- Suitable for truck and container transportation
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), TCP/IP module (SNMP, Modbus TCP/IP), pCONet card (BCAnet MS/TP, i.e. BACnet on serial networks)
- Spring antivibration supports
- Flanged connections adaptors and Victaulic/Weld adaptor kit
- Lifting tubes kit
- External readily serviceable water filter
- Adaptor for Grouping Logic up to 10 units

Uniflair Chillers units comply with the following directives*: Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS). *to be considered when applicable.

XRAF

Refrigerant
R134a

Technical Data - Stepless version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	576,6	724,3	784,7	908,3	1110,7	1243,6	1379,9	1583,5	1788,5	1991,2
Absorbed power (1)(2)	kW	147,0	183,4	199,6	242,9	284,8	326,9	363,8	430,2	469,6	515,6
EER (1)(2)		3,92	3,95	3,93	3,74	3,90	3,80	3,79	3,68	3,81	3,86
Cooling capacity (3)	kW	420,6	529,0	576,6	663,8	799,5	902,4	1056,7	1173,7	1314,4	1475,3
Absorbed power (3)(4)	kW	129,0	160,2	174,9	208,3	247,7	277,0	336,8	372,7	403,6	444,5
EER (3)(4)		3,26	3,30	3,30	3,19	3,23	3,26	3,14	3,15	3,26	3,32
ETAs,c (a)	%	164,2	176,2	176,9	174,5	183,8	181,4	176,3	177,8	181,2	181,6
ETAs,c (b)	%	205,2	215,5	198,0	216,0	214,6	219,2	213,8	214,1	218,5	218,2
SEPR HT (c)	-	5,7	6,0	6,0	5,9	6,3	6,2	6,0	5,9	5,8	6,0
Ultraquiet version											
Cooling capacity (3)	kW	398,2	501,5	547,5	622,1	748,2	839,1	999,7	1106,2	1236,6	1387,6
Absorbed power (3)(4)	kW	127,9	158,1	174,5	213,1	250,8	283,1	342,3	383,3	405,7	446,2
EER (3)(4)		3,11	3,17	3,14	2,92	2,98	2,96	2,92	2,89	3,05	3,11
ETAs,c (a)	%	164,1	177,1	176,7	172,7	181,3	178,3	173,1	173,3	180,0	180,5
ETAs,c (b)	%	191,4	216,3	196,4	193,4	203,5	216,3	210,0	208,9	216,3	216,3
SEPR HT (c)	-	5,7	6,1	6,1	6,1	6,4	6,3	6,1	6,0	6,0	6,2
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,7	58,3	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	93,0	93,6	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R134a

Technical Data - Hybrid version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	585,7	711,1	800,7	923,7	1122,1	1240,8	1440,5	1610,5	1763,9	1971,0
Absorbed power (1)(2)	kW	155,3	183,9	209,9	252,8	295,7	335,3	399,3	443,1	455,5	505,3
EER (1)(2)		3,77	3,87	3,81	3,65	3,79	3,70	3,61	3,63	3,87	3,90
Cooling capacity (3)	kW	413,3	498,8	566,8	646,8	777,1	871,4	1019,9	1149,7	1243,3	1395,5
Absorbed power (3)(4)	kW	128,9	153,0	174,8	205,2	242,4	276,5	325,0	360,3	373,7	415,3
EER (3)(4)		3,21	3,26	3,24	3,15	3,21	3,15	3,14	3,19	3,33	3,36
ETAs,c (a)	%	180,3	180,6	177,3	175,5	175,1	175,7	180,0	183,7	202,7	200,5
ETAs,c (b)	%	214,1	210,4	199,6	198,6	205,5	203,7	212,8	216,3	238,6	235,2
SEPR HT (c)	-	6,1	6,1	6,0	5,9	6,0	5,8	6,0	6,0	6,4	6,5
Ultraquiet version											
Cooling capacity (3)	kW	392,1	475,2	538,8	608,3	731,0	812,8	958,9	1080,5	1170,8	1316,9
Absorbed power (3)(4)	kW	127,5	149,3	173,9	209,0	245,0	282,1	329,2	370,1	373,7	415,0
EER (3)(4)		3,07	3,18	3,10	2,91	2,98	2,88	2,91	2,92	3,13	3,17
ETAs,c (a)	%	180,3	181,2	177,3	174,6	174,4	174,7	178,6	181,5	203,2	200,9
ETAs,c (b)	%	214,9	212,2	199,6	197,3	204,2	202,3	210,2	212,0	237,9	234,4
SEPR HT (c)	-	6,2	6,2	6,1	6,0	6,2	5,9	6,1	6,1	6,7	6,8
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,7	58,4	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	93,0	93,7	95,6	95,9
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R134a

Technical Data - Full inverter version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R134a									
Basic / Quiet version											
Cooling capacity (1)	kW	596,5	703,5	826,8	932,4	1138,4	1254,7	1457,7	1631,4	1739,1	1950,3
Absorbed power (1)(2)	kW	161,4	184,2	220,1	263,3	308,2	346,5	416,6	461,9	441,5	495,0
EER (1)(2)		3,70	3,82	3,76	3,54	3,69	3,62	3,50	3,53	3,94	3,94
Cooling capacity (3)	kW	424,0	496,0	592,7	658,5	785,0	885,3	1035,5	1167,0	1218,4	1367,7
Absorbed power (3)(4)	kW	134,4	153,5	183,8	214,0	247,7	285,0	339,1	374,8	361,8	405,9
EER (3)(4)		3,15	3,23	3,22	3,08	3,17	3,11	3,05	3,11	3,37	3,37
ETAs,c (a)	%	194,5	198,9	199,2	192,9	201,5	195,9	194,7	201,2	231,9	225,9
ETAs,c (b)	%	215,2	219,2	218,5	213,2	221,3	216,7	218,0	223,8	260,7	253,2
SEPR HT (c)	-	6,5	6,7	6,4	6,3	6,5	6,4	6,3	6,4	7,1	7,2
Ultraquiet version											
Cooling capacity (3)		401,8	472,7	562,0	618,6	739,8	824,8	973,3	1098,5	1145,5	1291,7
Absorbed power (3)(4)		133,8	149,6	184,4	219,1	251,5	293,0	343,4	385,7	361,3	405,3
EER (3)(4)		3,00	3,16	3,05	2,82	2,94	2,82	2,83	2,85	3,17	3,19
ETAs,c (a)		194,6	200,0	199,3	192,2	201,6	194,8	193,9	199,2	232,5	226,3
ETAs,c (b)		217,1	222,2	220,6	213,1	221,9	216,2	215,6	219,7	262,5	254,3
SEPR HT (c)		6,5	6,7	6,6	6,5	6,7	6,5	6,5	6,6	7,4	7,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	58,0	58,7	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,4	94,0	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R513a

Technical Data - Stepless version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	575,5	723,1	782,3	899,0	1099,2	1217,0	1331,5	1524,2	1733,9	1934,6
Absorbed power (1)(2)	kW	147,6	183,9	207,0	244,2	290,9	335,9	347,5	412,9	457,3	502,3
EER (1)(2)		3,90	3,93	3,78	3,68	3,78	3,62	3,83	3,69	3,79	3,85
Cooling capacity (3)	kW	424,1	533,5	580,9	656,5	800,2	890,3	1061,5	1171,9	1273,5	1433,7
Absorbed power (3)(4)	kW	130,6	160,7	181,7	212,0	252,1	282,1	339,5	375,1	395,6	436,1
EER (3)(4)		3,25	3,32	3,20	3,10	3,17	3,16	3,13	3,12	3,22	3,29
ETAs,c (a)	%	159,6	176,3	174,7	174,5	180,5	178,7	176,8	177,5	179,9	180,6
ETAs,c (b)	%	199,3	214,6	193,1	201,1	209,7	216,5	204,5	204,1	220,6	220,6
SEPR HT (c)	-	5,5	5,9	5,9	6,0	6,3	6,1	6,0	5,9	5,8	5,9
Ultraquiet version											
Cooling capacity (3)	kW	397,7	501,1	546,7	610,1	739,5	823,7	1000,3	1098,6	1188,3	1337,1
Absorbed power (3)(4)	kW	129,9	159,2	182,6	217,4	256,4	288,6	343,1	383,2	396,0	436,1
EER (3)(4)		3,06	3,15	2,99	2,81	2,88	2,85	2,92	2,87	3,00	3,07
ETAs,c (a)	%	158,8	174,2	174,1	172,5	176,5	177,6	173,1	172,6	178,7	179,5
ETAs,c (b)	%	186,8	215,4	192,7	192,8	197,9	212,4	190,8	189,6	218,7	218,9
SEPR HT (c)	-	5,6	6,0	6,0	6,2	6,5	6,3	6,1	6,1	6,0	6,1
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	57,0	58,0	58,4	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,8	93,3	93,7	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R513a

Technical Data - Hybrid version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	583,5	713,4	798,0	908,3	1114,3	1222,2	1434,6	1594,3	1708,5	1912,0
Absorbed power (1)(2)	kW	159,8	188,4	218,0	259,9	304,5	344,7	409,8	453,9	445,1	493,9
EER (1)(2)		3,65	3,79	3,66	3,50	3,66	3,55	3,50	3,51	3,84	3,87
Cooling capacity (3)	kW	416,6	506,5	572,1	642,7	781,7	869,3	1032,0	1156,4	1206,7	1357,2
Absorbed power (3)(4)	kW	133,1	157,1	181,9	211,3	251,0	285,9	335,0	371,7	366,6	407,9
EER (3)(4)		3,13	3,22	3,15	3,04	3,11	3,04	3,08	3,11	3,29	3,33
ETAs,c (a)	%	174,7	179,2	176,4	173,8	174,9	174,6	179,1	182,9	201,3	199,3
ETAs,c (b)	%	208,6	209,1	199,7	198,2	206,7	203,9	213,3	216,7	239,5	236,2
SEPR HT (c)	-	6,0	6,1	6,0	5,9	6,0	5,8	6,0	6,0	6,3	6,5
Ultraquiet version											
Cooling capacity (3)	kW	391,6	478,3	539,0	598,6	727,4	802,6	967,3	1081,6	1128,5	1271,7
Absorbed power (3)(4)	kW	132,3	154,1	182,3	216,1	254,5	291,9	338,1	379,6	365,5	406,4
EER (3)(4)		2,96	3,10	2,96	2,77	2,86	2,75	2,86	2,85	3,09	3,13
ETAs,c (a)	%	174,3	179,4	176,0	172,5	173,9	173,2	177,5	180,4	201,7	199,6
ETAs,c (b)	%	208,6	210,8	199,2	196,2	204,5	202,0	208,9	210,7	239,2	235,8
SEPR HT (c)	-	6,1	6,2	6,1	6,0	6,2	6,0	6,1	6,2	6,6	6,7
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,1	57,9	58,5	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,9	93,2	93,8	95,6	95,9
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R513a

Technical Data - Full inverter version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R513A									
Basic / Quiet version											
Cooling capacity (1)	kW	594,1	707,6	822,4	916,2	1132,2	1234,1	1444,5	1620,5	1683,1	1889,0
Absorbed power (1)(2)	kW	168,8	193,7	229,5	274,6	322,9	359,2	434,0	482,6	433,0	485,5
EER (1)(2)		3,52	3,65	3,58	3,34	3,51	3,44	3,33	3,36	3,89	3,89
Cooling capacity (3)	kW	427,0	504,3	596,1	653,0	789,4	881,1	1039,9	1176,5	1183,6	1330,1
Absorbed power (3)(4)	kW	140,9	161,1	192,0	223,6	259,5	296,8	353,7	392,9	355,4	399,2
EER (3)(4)		3,03	3,13	3,10	2,92	3,04	2,97	2,94	2,99	3,33	3,33
ETAs,c (a)	%	188,7	194,2	197,5	189,4	199,1	196,0	191,7	198,9	229,8	224,0
ETAs,c (b)	%	209,6	213,9	218,3	211,3	220,2	219,2	216,0	223,2	259,9	252,5
SEPR HT (c)	-	6,3	6,5	6,4	6,3	6,5	6,4	6,3	6,4	7,1	7,2
Ultraquiet version											
Cooling capacity (3)	kW	401,0	476,6	559,9	607,3	736,0	813,4	974,4	1102,7	1106,2	1248,7
Absorbed power (3)(4)	kW	140,8	158,1	193,8	230,2	264,8	304,9	357,7	402,1	354,2	397,8
EER (3)(4)		2,85	3,01	2,89	2,64	2,78	2,67	2,72	2,74	3,12	3,14
ETAs,c (a)	%	188,6	194,9	197,3	188,0	198,5	194,6	190,3	196,5	230,4	224,4
ETAs,c (b)	%	210,7	216,8	219,4	210,1	219,9	217,2	212,4	217,6	262,0	253,9
SEPR HT (c)	-	6,4	6,6	6,6	6,5	6,7	6,6	6,5	6,6	7,4	7,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,4	58,2	58,9	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,2	93,5	94,2	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R1234ze

Technical Data - Stepless version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	469,7	585,6	632,0	737,6	898,1	1007,4	1175,0	1288,2	1429,8	1601,7
Absorbed power (1)(2)	kW	111,0	135,0	146,8	175,9	201,9	231,9	278,2	305,3	343,8	379,4
EER (1)(2)		4,23	4,34	4,31	4,19	4,45	4,35	4,22	4,22	4,16	4,22
Cooling capacity (3)	kW	337,6	419,7	457,2	531,3	631,2	713,4	842,5	932,6	1015,1	1150,8
Absorbed power (3)(4)	kW	98,6	120,7	131,5	154,7	181,5	203,8	245,8	270,7	300,1	331,2
EER (3)(4)		3,42	3,48	3,48	3,43	3,48	3,50	3,43	3,44	3,38	3,47
ETAs,c (a)	%	167,4	181,2	178,8	180,8	179,8	186,9	179,6	184,3	188,4	190,3
ETAs,c (b)	%	209,4	223,9	204,3	218,1	226,5	231,7	222,9	224,2	233,6	234,7
SEPR HT (c)	-	6,1	6,3	6,3	6,2	6,5	6,5	6,2	6,1	6,2	6,4
Ultraquiet version											
Cooling capacity (3)	kW	322,7	401,9	438,1	502,8	597,6	673,2	792,4	876,1	966,5	1094,7
Absorbed power (3)(4)	kW	94,2	114,4	126,2	152,5	178,2	202,1	246,4	275,3	297,1	327,6
EER (3)(4)		3,43	3,51	3,47	3,30	3,35	3,33	3,22	3,18	3,25	3,34
ETAs,c (a)	%	172,5	181,4	184,3	181,1	188,6	185,6	182,3	182,8	187,6	189,5
ETAs,c (b)	%	204,3	226,0	203,7	217,8	224,8	231,1	221,6	212,4	232,2	233,5
SEPR HT (c)	-	6,0	6,3	6,3	6,2	6,5	6,5	6,2	6,1	6,3	6,5
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,3	58,0	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	92,6	93,3	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R1234ze

Technical Data - Hybrid version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	482,1	575,5	653,8	749,7	919,3	1024,7	1195,8	1314,0	1411,0	1582,1
Absorbed power (1)(2)	kW	117,1	136,4	156,4	183,5	215,2	245,8	295,5	322,7	334,3	372,6
EER (1)(2)		4,12	4,22	4,18	4,08	4,27	4,17	4,05	4,07	4,22	4,25
Cooling capacity (3)	kW	332,7	395,1	453,8	518,5	622,4	702,6	828,2	920,0	962,2	1090,4
Absorbed power (3)(4)	kW	99,2	116,5	134,1	152,9	183,3	207,5	247,4	271,3	278,6	311,1
EER (3)(4)		3,35	3,39	3,38	3,39	3,40	3,39	3,35	3,39	3,45	3,51
ETAs,c (a)	%	182,4	188,0	182,3	189,5	178,9	180,0	182,0	184,5	207,7	207,5
ETAs,c (b)	%	221,2	227,4	210,0	223,1	220,0	218,7	220,5	223,5	248,7	247,8
SEPR HT (c)	-	6,5	6,6	6,2	6,5	6,3	6,1	6,1	6,1	6,7	6,9
Ultraquiet version											
Cooling capacity (3)	kW	318,6	379,7	435,4	491,6	590,5	663,2	778,8	864,8	917,2	1037,4
Absorbed power (3)(4)	kW	94,6	109,3	128,4	150,2	179,0	205,6	245,7	273,8	271,2	302,9
EER (3)(4)		3,37	3,47	3,39	3,27	3,30	3,23	3,17	3,16	3,38	3,43
ETAs,c (a)	%	182,9	188,8	182,9	189,5	179,1	179,7	182,0	183,8	208,7	208,4
ETAs,c (b)	%	222,7	230,1	210,8	223,9	220,6	219,5	220,8	222,5	250,2	249,2
SEPR HT (c)	-	6,5	6,6	6,3	6,5	6,3	6,1	6,2	6,1	6,8	7,0
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8	66,4	66,3
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1	102,1	102,4
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4	62,7	62,7
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7	98,4	98,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,5	58,1	59,9	59,8
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	92,8	93,4	95,6	95,9
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

Refrigerant
R1234ze

Technical Data - Full inverter version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234ze									
Basic / Quiet version											
Cooling capacity (1)	kW	494,7	565,5	675,9	761,8	940,7	1042,0	1216,6	1340,0	1392,4	1562,6
Absorbed power (1)(2)	kW	123,3	137,7	166,1	191,2	228,6	259,8	312,9	340,2	324,9	365,9
EER (1)(2)		4,01	4,11	4,07	3,98	4,11	4,01	3,89	3,94	4,29	4,27
Cooling capacity (3)	kW	343,1	388,9	473,4	530,8	635,4	716,7	845,2	940,9	947,0	1072,7
Absorbed power (3)(4)	kW	104,7	117,1	143,6	159,7	191,0	218,3	260,2	284,1	270,5	305,9
EER (3)(4)		3,28	3,32	3,30	3,32	3,33	3,28	3,25	3,31	3,50	3,51
ETAs,c (a)	%	203,1	209,3	200,6	206,6	202,3	198,0	200,6	205,7	235,2	232,0
ETAs,c (b)	%	233,9	239,8	231,4	232,5	231,8	226,2	230,7	236,5	270,6	267,2
SEPR HT (c)	-	7,0	7,3	6,6	6,9	6,7	6,4	6,5	6,5	7,3	7,5
Ultraquiet version											
Cooling capacity (3)	kW	328,3	374,2	453,4	502,4	602,5	675,3	792,2	882,4	901,5	1018,4
Absorbed power (3)(4)	kW	100,6	109,8	138,5	157,9	186,2	217,7	258,6	287,3	260,4	294,9
EER (3)(4)		3,26	3,41	3,27	3,18	3,24	3,10	3,06	3,07	3,46	3,45
ETAs,c (a)	%	204,2	211,2	201,8	207,2	204,1	198,8	202,2	205,9	238,0	234,0
ETAs,c (b)	%	236,9	243,5	234,4	234,7	235,2	228,3	232,6	237,2	275,7	271,7
SEPR HT (c)	-	7,1	7,4	6,7	7,0	6,8	6,5	6,6	6,6	7,5	7,7
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0	66,7	66,6
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3	102,4	102,7
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5	62,8	62,9
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8	98,6	98,9
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	57,8	58,5	60,2	60,1
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,1	93,8	95,9	96,2
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

R1234yf
Refrigerant
R1234yf

Technical Data - Stepless version											
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**	**XRAF5622A**	**XRAF6422A**
Power supply	V/ph/Hz	400/3/50									
Compressors/circuits	nr./nr.	2/2									
Evaporator	nr. x mod.	1 x dry shell and tube									
Fans	nr.	6	8	8	8	10	10	12	12	16	18
Refrigerant	type	R1234yf									
Basic / Quiet version											
Cooling capacity (1)	kW	541,6	682,6	729,3	845,4	1052,2	1140,0	1328,5	1477,9	1588,7	1788,0
Absorbed power (1)(2)	kW	141,9	176,5	190,4	232,6	275,2	312,3	362,6	416,6	439,4	484,1
EER (1)(2)		3,82	3,87	3,83	3,63	3,82	3,65	3,66	3,55	3,62	3,69
Cooling capacity (3)	kW	397,1	498,9	538,1	621,0	759,1	829,8	1004,1	1094,9	1149,6	1316,7
Absorbed power (3)(4)	kW	126,2	155,3	168,6	200,6	239,3	265,6	325,8	358,5	381,7	422,9
EER (3)(4)		3,15	3,21	3,19	3,10	3,17	3,12	3,08	3,05	3,01	3,11
ETAs,c (a)	%	159,3	175,2	174,3	173,3	181,8	178,4	175,7	176,6	174,1	173,6
ETAs,c (b)	%	198,9	215,6	195,1	214,0	210,6	217,2	213,3	204,7	216,2	209,3
SEPR HT (c)	-	5,6	5,9	5,9	5,9	6,3	6,2	6,0	5,9	5,6	5,9
Ultraquiet version											
Cooling capacity (3)	kW	373,3	470,2	507,9	577,0	703,4	764,3	942,1	1020,7	1074,0	1227,6
Absorbed power (3)(4)	kW	124,2	152,8	167,6	204,6	241,8	269,9	329,7	367,4	379,5	421,3
EER (3)(4)		3,00	3,08	3,03	2,82	2,91	2,83	2,86	2,78	2,83	2,91
ETAs,c (a)	%	159,4	174,0	174,5	172,3	178,7	179,7	172,8	172,7	173,1	172,1
ETAs,c (b)	%	187,3	216,4	195,9	194,5	201,9	213,8	191,6	190,6	215,1	207,9
SEPR HT (c)	-	5,6	6,0	6,0	6,2	6,6	6,3	6,1	6,0	5,8	6,1
Noise Levels											
Basic version - Sound Pressure (6)	dB(A)	60,4	64,3	63,4	63,7	63,5	63,6	64,1	64,6	66,2	66,2
Basic version - Sound Power (7)	dB(A)	94,1	97,9	97,1	97,4	98,3	98,4	99,4	99,9	101,9	102,3
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,0	60,6	60,7	60,6	60,6	61,0	61,3	62,6	62,6
Quiet version - Sound Power (7)	dB(A)	92,3	94,7	94,3	94,4	95,4	95,4	96,3	96,6	98,3	98,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,1	57,6	56,5	56,9	56,7	56,9	57,8	58,3	59,7	59,6
Ultraquiet version - Sound Power (7)	dB(A)	86,7	91,3	90,2	90,6	91,5	91,7	93,1	93,6	95,4	95,7
Dimensions											
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532	2552	2552
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541	11969	13399

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

R1234yf
Refrigerant R1234yf

Technical Data - Hybrid version									
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**
Power supply	V/ph/Hz	400/3/50							
Compressors/circuits	nr./nr.	2/2							
Evaporator	nr. x mod.	1 x dry shell and tube							
Fans	nr.	6	8	8	8	10	10	12	12
Refrigerant	type	R1234yf							
Basic / Quiet version									
Cooling capacity (1)	kW	550,4	667,9	738,9	860,1	1062,4	1145,9	1358,5	1499,4
Absorbed power (1)(2)	kW	150,0	176,2	197,3	239,7	281,5	316,9	379,1	419,0
EER (1)(2)		3,67	3,79	3,75	3,59	3,77	3,62	3,58	3,58
Cooling capacity (3)	kW	390,8	469,8	526,1	607,3	740,1	810,5	965,5	1077,3
Absorbed power (3)(4)	kW	126,3	148,9	167,7	198,9	235,3	267,7	314,7	347,9
EER (3)(4)		3,09	3,16	3,14	3,05	3,15	3,03	3,07	3,10
ETAs,c (a)	%	172,8	176,1	174,2	173,1	175,1	174,1	178,1	182,5
ETAs,c (b)	%	207,4	207,7	198,5	197,5	207,7	203,5	212,6	217,6
SEPR HT (c)	-	5,9	6,1	5,9	5,9	6,1	5,8	6,0	6,0
Ultraquiet version									
Cooling capacity (3)	kW	367,9	445,1	497,4	566,2	689,6	749,2	899,2	1001,5
Absorbed power (3)(4)	kW	124,1	144,4	165,9	201,6	236,7	271,5	316,7	355,1
EER (3)(4)		2,96	3,08	3,00	2,81	2,91	2,76	2,84	2,82
ETAs,c (a)	%	172,6	176,5	174,2	172,2	174,2	173,2	176,7	180,4
ETAs,c (b)	%	208,2	209,5	198,5	196,1	206,4	202,2	209,9	213,2
SEPR HT (c)	-	6,0	6,1	6,1	6,0	6,2	6,0	6,1	6,2
Noise Levels									
Basic version - Sound Pressure (6)	dB(A)	60,5	64,4	63,5	63,8	63,7	63,8	64,2	64,8
Basic version - Sound Power (7)	dB(A)	94,2	98,1	97,2	97,5	98,5	98,6	99,5	100,1
Quiet version - Sound Pressure (6)	dB(A)	58,6	61,1	60,7	60,8	60,7	60,7	61,1	61,4
Quiet version - Sound Power (7)	dB(A)	92,3	94,8	94,3	94,5	95,5	95,5	96,4	96,7
Ultraquiet version - Sound Pressure (6)	dB(A)	53,2	57,7	56,7	57,1	56,9	57,0	57,7	58,4
Ultraquiet version - Sound Power (7)	dB(A)	86,9	91,4	90,4	90,7	91,7	91,8	93,0	93,7
Dimensions									
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

XRAF

R1234yf
Refrigerant R1234yf

Technical Data - Full inverter version									
XRAF		**XRAF1812A**	**XRAF2212A**	**XRAF2512A**	**XRAF2812A**	**XRAF3212A**	**XRAF3612A**	**XRAF4212A**	**XRAF4812A**
Power supply	V/ph/Hz	400/3/50							
Compressors/circuits	nr./nr.	2/2							
Evaporator	nr. x mod.	1 x dry shell and tube							
Fans	nr.	6	8	8	8	10	10	12	12
Refrigerant	type	R1234yf							
Basic / Quiet version									
Cooling capacity (1)	kW	560,4	668,4	757,3	868,2	1077,5	1166,8	1358,1	1527,5
Absorbed power (1)(2)	kW	155,8	178,1	204,6	249,7	293,3	328,1	393,3	437,9
EER (1)(2)		3,60	3,75	3,70	3,48	3,67	3,56	3,45	3,49
Cooling capacity (3)	kW	400,5	471,4	544,0	616,5	745,4	827,4	966,9	1100,8
Absorbed power (3)(4)	kW	131,6	150,3	174,2	207,0	239,5	275,4	326,6	362,8
EER (3)(4)		3,04	3,14	3,12	2,98	3,11	3,00	2,96	3,03
ETAs,c (a)	%	185,9	190,3	196,4	191,3	202,2	197,1	191,2	200,4
ETAs,c (b)	%	207,9	212,2	220,7	215,3	225,9	222,0	216,4	227,3
SEPR HT (c)	-	6,3	6,4	6,5	6,3	6,7	6,5	6,3	6,4
Ultraquiet version									
Cooling capacity (3)	kW	376,6	446,4	513,0	573,9	695,7	763,1	899,4	1026,0
Absorbed power (3)(4)	kW	130,1	145,6	173,4	211,0	242,1	281,5	328,9	370,9
EER (3)(4)		2,89	3,07	2,96	2,72	2,87	2,71	2,73	2,77
ETAs,c (a)	%	186,0	191,4	196,5	190,2	202,3	196,0	190,1	198,3
ETAs,c (b)	%	209,7	215,3	222,7	215,4	226,7	221,4	214,9	223,7
SEPR HT (c)	-	6,3	6,5	6,6	6,5	6,9	6,7	6,5	6,7
Noise Levels									
Basic version - Sound Pressure (6)	dB(A)	60,7	64,7	63,8	64,1	63,9	64,0	64,5	65,0
Basic version - Sound Power (7)	dB(A)	94,4	98,4	97,4	97,8	98,7	98,8	99,8	100,3
Quiet version - Sound Pressure (6)	dB(A)	58,7	61,3	60,8	60,9	60,8	60,8	61,2	61,5
Quiet version - Sound Power (7)	dB(A)	92,4	94,9	94,5	94,6	95,6	95,7	96,5	96,8
Ultraquiet version - Sound Pressure (6)	dB(A)	53,4	58,1	57,0	57,4	57,2	57,3	58,0	58,7
Ultraquiet version - Sound Power (7)	dB(A)	87,1	91,7	90,7	91,0	92,0	92,1	93,3	94,0
Dimensions									
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532	2532
Width	mm	2201	2201	2201	2201	2201	2201	2201	2201
Lenght	mm	5405	6835	6835	6835	9111	9111	10541	10541

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

[Variable speed air-cooled water chillers with axial fans and free-cooling system for outdoor installations]

BCEF

400 - 1850 kW*

High efficiency variable speed free cooling chillers with axial fans for outdoor installation and oil-free centrifugal compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with one, two or three oil-free centrifugal compressors (Turbocor) operating on one single refrigerant circuit, high efficiency flooded shell and tube evaporator and air-side condenser made of copper tubes and aluminum fins coils optimized for wide operating conditions.

The range is available with multiple refrigerants (R134a, R513A and R1234ze).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability.

A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 30/20°C evaporator side, 0% glycol, outdoor temperature 35°C*

Cooling Only

Refrigerant R134a

Refrigerant R513a

Oil free

VSD

Main configurable options and accessories

- The unit is equipped with free-cooling system composed by air-side free-cooling coils close to condensing coils and dedicated free-cooling pump.
- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Quiet and Ultraquiet noise version to minimize the unit noise levels
- Noise reduction diffusers
- High efficiency axial EC fans with Electronically Commutated (EC) fan motor
- Intelligent free-cooling predisposition to leverage on a stand by unit to improve free-cooling capabilities
- User side pump group integrated in the chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with one external inverter
- Refrigerant options: R134a with GWP 1430 (as standard), R513A (optional) and R1234ze with GWP 4 (on request)
- Air side coils protections as metallic filters and coil manifold protections
- E-coating treatment for air-side condensing for protection in aggressive ambient installation
- Suitable for truck and container transportation
- Control accessories: additional RS485 serial card (Modbus RTU)
- Spring antivibration supports
- Flanged connections adaptors and Victaulic/Weld adaptor kit
- Lifting tubes kit

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

BCEF

Refrigerant
R134a

Technical Data								
BCEF		**0301A**	**0401A**	**0532A**	**0632A**	**0752A**	**0903A**	**1103A**
Power supply	V/ph/Hz	400/3/50						
Compressors/circuits	nr./nr.	1/1	1/1	2/1	2/1	2/1	3/1	3/1
Evaporator	nr. x mod.	1 x flooded						
Fans	nr.	6	6	8	10	12	14	16
Refrigerant	type	R134a						
Quiet version								
Cooling capacity (1)	kW	418,0	566,7	804,6	857,1	1172,8	1261,9	1784,8
Absorbed power (1)(2)	kW	101,2	141,5	203,5	208,8	282,9	310,5	419,1
EER (1)(2)		4,13	4,01	3,95	4,11	4,15	4,06	4,26
Cooling capacity (3)	kW	305,9	411,6	599,8	622,8	861,5	923,6	1255,8
Absorbed power (3)(4)	kW	88,1	120,8	178,4	177,9	250,1	266,6	334,0
EER (3)(4)		3,47	3,41	3,36	3,50	3,44	3,46	3,76
ETAs.c (a)	%	222,0	218,0	210,8	226,0	217,2	223,2	218,4
ETAs.c (b)	%	261,6	280,0	251,8	261,9	254,9	260,9	253,4
SEPR HT (c)	-	7,2	7,2	6,6	7,0	6,8	6,8	6,4
Ultraquiet version								
Cooling capacity (3)	kW	293,2	377,6	546,9	588,3	776,2	863,9	1117,6
Absorbed power (3)(4)	kW	81,5	113,7	168,5	169,4	228,7	253,6	308,0
EER (3)(4)		3,59	3,32	3,25	3,47	3,39	3,41	3,63
ETAs.c (a)	%	227,6	218,3	213,6	225,4	223,8	230,9	225,7
ETAs.c (b)	%	277,2	267,7	249,8	274,0	263,6	271,2	262,6
SEPR HT (c)	-	7,4	7,2	6,6	7,1	7,1	6,9	5,4
Noise Levels								
Quiet version - Sound Pressure (6)	dB(A)	57,7	58,0	59,7	60,6	61,2	61,4	61,8
Quiet version - Sound Power (7)	dB(A)	92,0	92,2	93,4	94,3	95,2	95,8	96,6
Ultraquiet version - Sound Pressure (6)	dB(A)	50,8	52,0	53,6	54,0	55,2	55,0	56,1
Ultraquiet version - Sound Power (7)	dB(A)	85,1	86,2	87,4	87,7	89,3	89,4	90,8
Dimensions								
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532
Width	mm	2200	2200	2200	2200	2200	2200	2201
Lenght	mm	5005	5005	6435	7865	9295	10725	12025

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

BCEF

Refrigerant
R513a

Technical Data								
BCEF		**0301A**	**0401A**	**0532A**	**0632A**	**0752A**	**0903A**	**1103A**
Power supply	V/ph/Hz	400/3/50						
Compressors/circuits	nr./nr.	1/1	1/1	2/1	2/1	2/1	3/1	3/1
Evaporator	nr. x mod.	1 x flooded						
Fans	nr.	6	6	8	10	12	14	16
Refrigerant	type	R513A						
Quiet version								
Cooling capacity (1)	kW	417,8	566,4	804,3	856,7	1172,2	1261,3	1784,0
Absorbed power (1)(2)	kW	101,2	141,5	203,5	208,8	282,9	310,5	419,1
EER (1)(2)		4,13	4,00	3,95	4,10	4,14	4,06	4,26
Cooling capacity (3)	kW	305,8	417,1	599,6	622,5	861,4	923,3	1255,3
Absorbed power (3)(4)	kW	88,2	123,9	178,5	177,9	250,4	266,6	334,1
EER (3)(4)		3,47	3,37	3,36	3,50	3,44	3,46	3,76
ETAs.c (a)	%	221,5	215,8	211,5	225,2	216,8	222,2	218,2
ETAs.c (b)	%	266,7	278,3	249,3	263,4	255,3	258,9	253,6
SEPR HT (c)	-	7,2	7,1	6,6	7,0	6,8	6,8	6,4
Ultraquiet version								
Cooling capacity (3)	kW	293,0	377,4	546,7	588,1	775,9	863,5	1117,1
Absorbed power (3)(4)	kW	81,6	113,7	168,5	169,4	228,7	253,6	308,0
EER (3)(4)		3,59	3,32	3,24	3,47	3,39	3,40	3,63
ETAs.c (a)	%	227,1	218,1	215,3	228,0	224,0	230,7	225,9
ETAs.c (b)	%	274,6	265,5	254,0	271,3	261,3	268,0	264,9
SEPR HT (c)	-	7,4	7,1	6,6	7,1	7,1	6,9	5,4
Noise Levels								
Quiet version - Sound Pressure (6)	dB(A)	57,7	58,0	59,7	60,6	61,2	61,4	61,8
Quiet version - Sound Power (7)	dB(A)	92,0	92,2	93,4	94,3	95,2	95,8	96,6
Ultraquiet version - Sound Pressure (6)	dB(A)	50,8	52,0	53,6	54,0	55,2	55,0	56,1
Ultraquiet version - Sound Power (7)	dB(A)	85,1	86,2	87,4	87,7	89,3	89,4	90,8
Dimensions								
Height (EC fans)	mm	2532	2532	2532	2532	2532	2532	2532
Width	mm	2200	2200	2200	2200	2200	2200	2201
Lenght	mm	5005	5005	6435	7865	9295	10725	12025

1. Data refer to: water temperatures 30/20 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
2. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
3. Data refer to nominal conditions: water temperatures 15/10 °C and glycol 20%, external temperature 35 °C, fouling factor 0.0 m2 °C/W. Unit equipped with EC fans
4. Data refer to total absorbed power (compressors and fans). Unit equipped with EC fans
6. Data refer to free field at 10 meters from the unit operating without pump at nominal conditions, with fans at nominal conditions, coil side, Q=2 directional factor. At different conditions and with different configurations, noise values may vary. Unit equipped with EC fans
7. Sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746. Unit equipped with EC fans

a. Seasonal space cooling energy efficiency calculated at 12/7°C water temperatures according to Regulation EU 2016/2281 (related to SEER LT)
b. Seasonal space cooling energy efficiency calculated at 23/18°C water temperatures according to Regulation EU 2016/2281 (related to SEER MT)
c. Seasonal Energy Performance Ratio according to Regulation EU 2016/2281

DSAF

Cooling Only

Refrigerant R410A

Scroll

400 – 1200 kW*

High efficiency free cooling chillers with axial fans for outdoor installation and with fixed speed scroll compressors designed for mission critical applications, as datacenters, IT rooms, industrial processes and comfort cooling.

An exclusive free-cooling system completely managed by

the microprocessor control allow to drastically reduce the annual energy usage leveraging on outdoor temperature when lower than the water setpoint.

The unit is equipped with two or four fixed speed scroll compressors operating on one single refrigerant circuit or two independent refrigerant circuits (tandem), high efficiency brazed plate evaporator and air-side condenser coils made of microchannel aluminum coils or copper tubes and aluminum fins coils (according to model size) optimized for wide operating conditions.

The range is available with multiple refrigerants (R410A and R454B).

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 32/20°C evaporator side, 20% glycol, outdoor temperature 35°C*

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels with limitation of fan speed and soundproofed enclosure for compressors
- Fixed advanced adiabatic system with wet pad and water recirculation system
- “Wings” advanced adiabatic system with wet pad to minimize air side pressure drops when the adiabatic is off and water recirculation system
- Trim cooling size: the unit is configurable with multiple compressor sizes to match specific operating conditions. The primary source is the free-cooling, while compressors are used only if needed astop up cooling
- User side pump group integrated in the trim chiller frame, in the following configurations: 1 fixed speed, 1+1 fixed speed (one for redundancy), 1 inverter driven with external inverter, 1+1 inverter driven with two external inverters
- Source side pump group integrated in the trim chiller frame, in the following configurations: 1 inverter driven with external inverter (standard configuration), 1+1 inverter driven with two external inverters (optional)
- Suction/Discharge shut off valves to isolate compressors for maintenance purpose
- Bypass valve included in one refrigerant circuit to bypass the latest compressor in operation before it is turned off during low loads in order to minimize compressor start-ups
- Metal grilles for coils protection (only if adiabatic option is not included)
- Energy meter to measure the instantaneous value of the current and the power consumption for all the components
- Adiabatic system water flow meter (only if adiabatic option is selected) to measure the adiabatic water consumption
- Refrigerant leak detector located in the compressor housing to detect any refrigerant leakage
- Suitable for truck and container transportation (only if adiabatic option is not included)
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), additional TCP/IP serial adaptor (pCOWeb card) - (Modbus over IP, BACnet over IP, SNMP), pCONet card (BACNet MS/TP, i.e. BACnet on serial networks)
- Victaulic/weld adaptor or flanged connections adaptors
- Coils collector kit from 4 tubes to 2 tubes on free-cooler side
- Rubber antivibration supports on Free-cooler section & on Trim cooling section
- Lifting tubes kit (trim cooling section)

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

DSAF

Refrigerant
R410A

Technical Data				
DSAF Free-cooling trim chillers models without adiabatic		**0826A**		
Trim cooling size		**DX350**	**DX550**	**DX700**
Power supply	V/ph/Hz	400/3/50		
Refrigerant circuits	nr.	2		
Compressors	nr. x type	6 x on/off scroll		
Evaporator / Condenser	nr. x type	1 x plate / 1 x plate		
Fans	nr.	10		
Refrigerant	type	R410A		
Basic version				
Cooling capacity (1)	kW	391,1	603,2	764,8
Absorbed power (1)(2)	kW	94,7	155,8	194,9
EER (1)(2)		4,13	3,87	3,92
Noise Power Levels (3)	dB(A)	96,9	97,1	98,1
UltraQuiet version				
Cooling capacity (1)	kW	383,7	583,9	743,3
Absorbed power (1)(2)	kW	87,7	152,8	194,6
EER (1)(2)		4,37	3,82	3,82
Noise Power Levels (3)	dB(A)	91,7	91,7	93,5
Free-cooler dimensions				
Height	mm	2690		
Width (without adiabatic)	mm	2140		
Width (with adiabatic)	mm	2470		
Lenght	mm	7080		
Trim cooling module dimensions				
Height	mm	2489	2489	2489
Width	mm	2233	2233	2234
Lenght	mm	2875	2875	3553

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

DSAF

Refrigerant
R410A

Technical Data				
DSAF Free-cooling trim chillers models without adiabatic		**1026A**		
Trim cooling size		**DX550**	**DX700**	**DX1000**
Power supply	V/ph/Hz	400/3/50		
Refrigerant circuits	nr.	2		
Compressors	nr. x type	6 x on/off scroll		
Evaporator / Condenser	nr. x type	1 x plate / 1 x plate		
Fans	nr.	14		
Refrigerant	type	R410A		
Basic version				
Cooling capacity (1)	kW	626,2	802,9	974,1
Absorbed power (1)(2)	kW	154,9	189,1	243,1
EER (1)(2)		4,04	4,25	4,01
Noise Power Levels (3)	dB(A)	98,0	98,9	98,9
UltraQuiet version				
Cooling capacity (1)	kW	611,9	779,3	948,4
Absorbed power (1)(2)	kW	146,9	184,2	241,3
EER (1)(2)		4,16	4,23	3,93
Noise Power Levels (3)	dB(A)	92,5	92,9	94,2
Free-cooler dimensions				
Height	mm	2690		
Width (without adiabatic)	mm	2140		
Width (with adiabatic)	mm	2470		
Lenght	mm	9600		
Trim cooling module dimensions				
Height	mm	2489	2489	2489
Width	mm	2233	2234	2234
Lenght	mm	2875	3553	3553

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

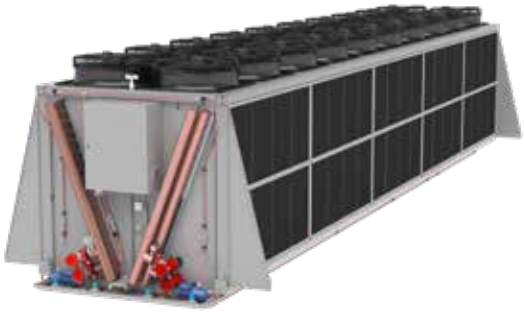
DSAF

Refrigerant
R410A

Technical Data				
DSAF Free-cooling trim chillers models without adiabatic		**1226A**		
Trim cooling size		**DX700**	**DX1000**	**DX1250**
Power supply	V/ph/Hz	400/3/50		
Refrigerant circuits	nr.	2		
Compressors	nr. x type	6 x on/off scroll		
Evaporator / Condenser	nr. x type	1 x plate / 1 x plate		
Fans	nr.	20		
Refrigerant	type	R410A		
Basic version				
Cooling capacity (1)	kW	832,0	1019,2	1204,7
Absorbed power (1)(2)	kW	197,0	245,7	304,0
EER (1)(2)		4,22	4,15	3,96
Noise Power Levels (3)	dB(A)	100,4	100,4	100,9
UltraQuiet version				
Cooling capacity (1)	kW	815,4	993,4	1167,1
Absorbed power (1)(2)	kW	183,9	235,5	297,8
EER (1)(2)		4,43	4,22	3,92
Noise Power Levels (3)	dB(A)	94,6	94,6	94,8
Free-cooler dimensions				
Height	mm	2690		
Width (without adiabatic)	mm	2140		
Width (with adiabatic)	mm	2470		
Lenght	mm	13380		
Trim cooling module dimensions				
Height	mm	2489	2489	2489
Width	mm	2234	2234	2234
Lenght	mm	3553	3553	3553

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

DSAF



Cooling Only

780 – 1560 kW*

High efficiency dry coolers / free-coolers design to dissipate the heat leveraging on the outdoor ambient temperature, that can work as dry coolers (heat rejectors) when combined with water-cooled chillers or as free-coolers when integrated with air-cooled chillers or water-cooled chillers when the whole system is operating in free-cooling mode.

They are equipped with high efficiency EC fans and large air-side water coils.

As energy efficiency is the key feature of this typology of units, the components selection and the unit sizing have been carried out to maximize free-cooling operation minimizing energy consumption over the year.

In addition to the standard features, some optional accessories are available to improve range capabilities and in order to be adapted to different design configurations. The integrated mainboard monitors and optimizes any operating condition, improving efficiency and guaranteeing reliability. A 7-inch touch screen display to allow firmware upload and data download and unit operation monitoring.

**Basic unit with water 32/20°C evaporator side, 20% glycol, outdoor temperature 16°C*

Main configurable options and accessories

- Separate power supply for mainboard and auxiliaries section
- Dual power supply with automatic changeover (ATS)
- Ultraquiet noise version to minimize the unit noise levels with limitation on fan speed
- Fixed advanced adiabatic system with wet pad and water recirculation system
- “Wings” advanced adiabatic system with wet pad to minimize air side pressure drops when the adiabatic is off and water recirculation system
- Metal grilles for coils protection (only if adiabatic option is not included)
- Adiabatic system water flow meter (only if adiabatic option is selected) to measure the water consumed by the adiabatic system.
- Suitable for truck and container transportation (only if adiabatic option is not included)
- Control accessories: RS485 serial card as additional BMS (Modbus RTU), pCONet card (BACNet MS/TP, i.e. BACnet on serial networks)
- Victaulic/weld adaptor or flanged connections adaptors
- Coils collector kit from 4 tubes to 2 tubes
- Rubber antivibration supports
- Raised fan section (on request):

  air flow on the suction side of the fans is improved thanks to an additional structure that distances fans from coils.

  This allows an higher cooling capacity and a reduced noise levels simultaneously.

Uniflair Chillers units comply with the following directives (to be considered when applicable).
Machinery Directive 2006/42/EC (MD), Ecodesign and Energy Labelling 2009/125/EC, Electromagnetic compatibility Directive 2014/30/EU (EMC), Pressure equipment Directive 2014/68/EU (PED), Regulation (EU) No 517/2014 on fluorinated greenhouse gases (F-GAS).

DSAF

Technical Data				
DSAF Dry Coolers models without adiabatic		**0800A**	**1000A**	**1200A**
Power supply	V/ph/Hz		400/3/50	
Fans	nr.	10	14	20
Basic version				
Cooling capacity (1)	kW	709,6	945,4	1419,7
Absorbed power (1)(2)	kW	19,3	26,0	38,6
EER (1)(2)		36,81	36,30	36,82
Noise Power Levels (3)	dB(A)	96,6	97,7	99,6
Basic version with “Extra fan power” function enabled				
Cooling capacity (1)	kW	781,0	1021,5	1561,9
Absorbed power (1)(2)	kW	23,9	32,3	47,8
EER (1)(2)		32,70	31,64	32,70
Noise Power Levels (3)	dB(A)	100,1	101,2	103,1
UltraQuiet version				
Cooling capacity (1)	kW	549,9	734,2	1100,6
Absorbed power (1)(2)	kW	9,2	12,4	18,4
EER (1)(2)		59,72	59,18	59,76
Noise Power Levels (3)	dB(A)	90,8	91,7	93,8
Dimensions				
Height	mm	2690	2690	2690
Width	mm	2140	2140	2140
Lenght	mm	7080	9600	13380

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746.
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

DSAF

Technical Data				
DSAF Dry Coolers models with adiabatic		**0800A**	**1000A**	**1200A**
Power supply	V/ph/Hz		400/3/50	
Fans	nr.	10	14	20
Basic version				
Cooling capacity (1)	kW	1034,5	1391,8	2069,5
Absorbed power (1)(2)	kW	22,6	30,2	43,1
EER (1)(2)		45,88	46,13	48,02
Noise Power Levels (3)	dB(A)	98,6	99,2	101,6
Basic version with “Extra fan power” function enabled				
Cooling capacity (1)	kW	1144,9	1533,3	2289,8
Absorbed power (1)(2)	kW	27,5	36,9	52,9
EER (1)(2)		41,68	41,52	43,26
Noise Power Levels (3)	dB(A)	101,7	102,4	104,7
UltraQuiet version				
Cooling capacity (1)	kW	813,5	1099,9	1627,6
Absorbed power (1)(2)	kW	11,8	15,5	21,7
EER (1)(2)		68,70	71,15	75,06
Noise Power Levels (3)	dB(A)	93,0	93,5	96,0
Dimensions				
Height	mm	2690	2690	2690
Width	mm	2470	2470	2470
Lenght	mm	7080	9600	13380

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746.
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

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Technical Data				
DSAF Dry Coolers models without adiabatic + Raised fan section		**0800A**	**1000A**	**1200A**
Power supply	V/ph/Hz		400/3/50	
Fans	nr.	10	14	20
Basic version				
Cooling capacity (1)	kW	758,9	1013,9	1518,3
Absorbed power (1)(2)	kW	19,3	26,0	38,6
EER (1)(2)		39,37	38,93	39,38
Noise Power Levels (3)	dB(A)	93,8	94,9	96,8
Basic version with “Extra fan power” function enabled				
Cooling capacity (1)	kW	835,4	1095,9	1670,9
Absorbed power (1)(2)	kW	23,9	32,3	47,8
EER (1)(2)		34,98	33,95	34,98
Noise Power Levels (3)	dB(A)	97,7	98,9	100,7
UltraQuiet version				
Cooling capacity (1)	kW	588,6	788,5	1178,0
Absorbed power (1)(2)	kW	9,2	12,4	18,4
EER (1)(2)		63,92	63,56	63,96
Noise Power Levels (3)	dB(A)	87,2	88,1	90,2
Dimensions				
Height	mm	2890	2890	2890
Width	mm	2140	2140	2140
Lenght	mm	7080	9600	13380

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746.
4. Sound power level is calculated as the combination of free-cooler module and trim cooling module, connected with the hydraulic coil kit

DSAF

Technical Data				
DSAF Dry Coolers models with adiabatic + Raised fan section		**0800A**	**1000A**	**1200A**
Power supply	V/ph/Hz		400/3/50	
Fans	nr.	10	14	20
Basic version				
Cooling capacity (1)	kW	1082,5	1458,2	2165,4
Absorbed power (1)(2)	kW	22,6	30,2	43,1
EER (1)(2)		48,00	48,33	50,24
Noise Power Levels (3)	dB(A)	95,7	96,3	98,7
Basic version with “Extra fan power” function enabled				
Cooling capacity (1)	kW	1198,1	1607,3	2396,2
Absorbed power (1)(2)	kW	27,5	36,9	52,9
EER (1)(2)		43,62	43,52	45,27
Noise Power Levels (3)	dB(A)	99,3	100,1	102,3
UltraQuiet version				
Cooling capacity (1)	kW	850,9	1152,0	1702,4
Absorbed power (1)(2)	kW	11,8	15,5	21,7
EER (1)(2)		71,86	74,52	78,51
Noise Power Levels (3)	dB(A)	89,2	89,8	92,3
Dimensions				
Height	mm	2890	2890	2890
Width	mm	2470	2470	2470
Lenght	mm	7080	9600	13380

1. Data refer to nominal conditions: water in/out temperatures 32/20 °C, glycol 20%, external dry bulb temperature 35 °C, air relative humidity 40%
2. Data refer to total absorbed power
3. Sound power level is supplied in compliance with standard ISO3744–ISO3746
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