



PRODUCT SELECTION DATA

AIR-COOLED FIXED-SPEED SCREW CHILLER



- Very economical operation
- Low sound levels
- Simple installation
- Environmentally responsible
- Exceptional reliability

30XB 250-1700



Nominal cooling capacity 273-1682 kW - 50 Hz

The AquaForce® 30XB liquid chillers are the economic solution for commercial and industrial applications where high reliability and economic operation in all climate conditions are key customer requirements.

The AquaForce® 30XB liquid chillers are designed to meet current and future regulations for energy efficiency and operating sound levels. They use the latest Carrier technologies:

Carrier 06T twin-rotor fixed-speed screw compressors.

Low noise 6th generation of Carrier Flying Bird™ fans with AC motor.

Carrier flooded shell-and-tube evaporator with new copper tube design for low pressure drops

2nd generation of "V" shape Carrier Novation™ microchannel heat exchangers with optional Enviro-Shield coatings.

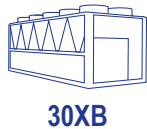
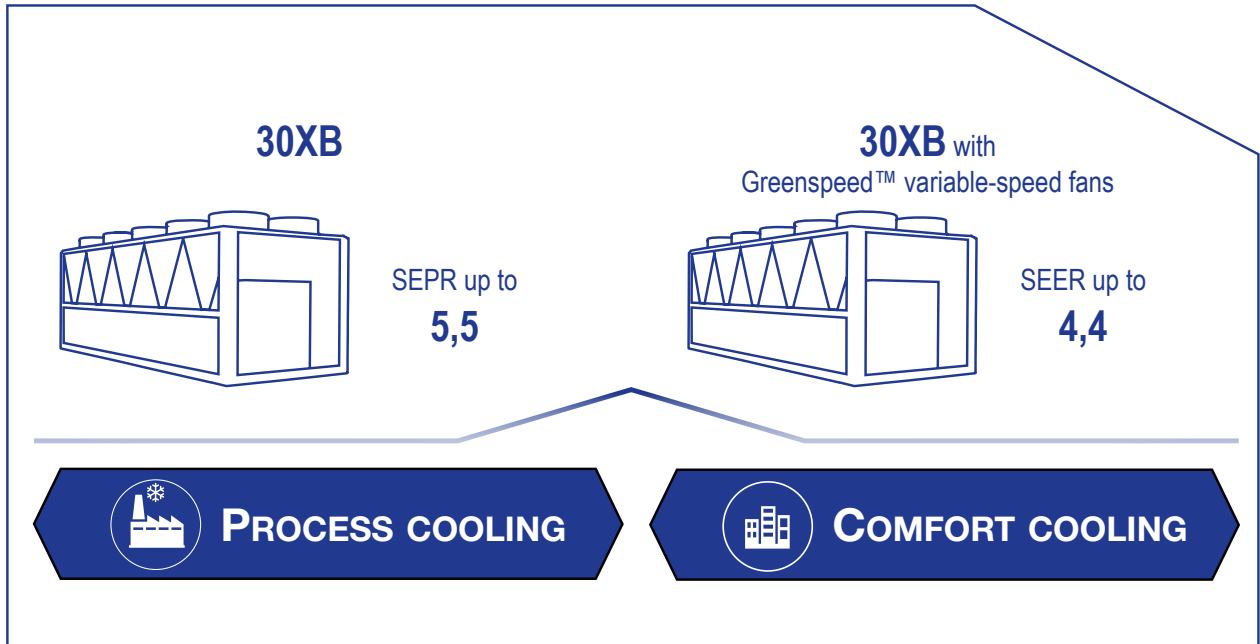
Carrier SmartVu™ control with color touch screen user interface that includes 10 languages and integrated web-server.



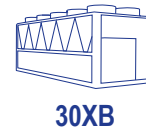
CARRIER participates in the ECP programme for LCP/HP
Check ongoing validity of certificate:
www.eurovent-certification.com

AQUAFORCE®, THE RIGHT SOLUTION FOR EVERY APPLICATION

Carrier's AquaForce® 30XB range is available in two levels of efficiency to perfectly match each customer application.



The AquaForce® 30XB is equipped with fixed-speed screw compressor and fixed-speed fans with AC motor. The 30XB offers an economical solution whilst providing high full load energy efficiency level for process applications and 12/7°C operation in hot climates. (Application thermal load variation from 80% to 100%).



The AquaForce® 30XB with Greenspeed™ intelligence is equipped with variable-speed AC fan motors. It offers an economical solution to enhance seasonal energy efficiency levels for comfort applications. (Application thermal load variation from 0% to 100%).

30XB CUSTOMER BENEFITS

■ Absolute reliability

Carrier's AquaForce® 30XB is the evolution of the 30XA range that counts thousands of installations worldwide. The reliability of the AquaForce® system is the result of intensive research, field experience combined with the highest quality standards. The AquaForce® range is equipped with the Carrier 06T twin screw compressors, well-known for its robustness, 99,7% of units without a compressor failure*, and the fully aluminium Novation® microchannel heat exchangers with Super Enviro-shield™ coatings to deliver guaranteed long-term optimized performance.

* Quality rate measured over a period of 15 years operation.

■ Extensive scope of application

Carrier's AquaForce® 30XB adapt effortlessly to a wide range of applications. Extended operating temperatures from -20°C to 55°C outdoor air temperatures and negative water temperatures make it ideal for various sectors of activity. From high-end office buildings and hotels to healthcare facilities, data centers and industrial projects, AquaForce® 30XB are the perfect solutions to combine competitive price associated with high energy efficiency whatever the climate and wherever the location.



99,7%
of units without a
compressor failure



Up to
40% less
refrigerant charge



25%
smaller



from
-20°C
to **55°C**



93 dB(A)

■ Environmental responsibility

Carrier's AquaForce® 30XB is a boost for green cities and contributes to a sustainable future. Combining a reduced load refrigerant (-40% vs traditional cu/al coils) thanks to the use of Novation® microchannel heat exchangers and high energy efficiency it significantly lowers energy consumption while reducing carbon dioxide emissions throughout its life cycle.

The AquaForce® PUREtec™ version, designed exclusively for ultra low GWP HFO R1234ze, is available.

■ Compact

Designed with one "V shape" Novation® microchannel heat exchanger less, Carrier's AquaForce® 30XB is 25% smaller than the previous 30XA generation. As an example, the 30XB-500 model is 1.2 meters shorter than the previous 30XA-502 model while offering same energy efficiency ratio. This 30XB model is having the same dimensions as the previous Carrier's 30GX while offering at least 15% energy efficiency improvement.

■ Low operating sound levels

The AquaForce® 30XB range offers 4 sound levels to meet the most demanding technical requirements in noise sensitive environments. 30XB is up to 6 dB(A) quieter than the AquaForce® 30XAV generation.

The range is equipped in standard with the 6th generation of Carrier Flying Bird fans. The new fan blade inspired by nature is the result of advanced research in our laboratory. The unit can be equipped in option with AC to guarantee smooth fan speed variation and thus eliminate start-stop noise during part load operation.

For further acoustic comfort, the units can be equipped with an acoustic compressor and oil separator enclosure reducing radiated noise (option 15), with low speed fans (option 15LS) and with sound attenuation material on the refrigerating circuit to guarantee ultra-low noise operation for highly noise sensitive environment (option 15LS+).

CUSTOMER BENEFITS

The range is available in 2 efficiency levels.

- 30XB standard unit

The AquaForce® 30XB is equipped with fixed-speed screw compressors and fixed-speed fans with AC motors. The 30XB offers an economical solution whilst providing high full load efficiency for process applications and operation in high ambients.

(Average SEPR of 5.2, average SEER of 4.2, average EER of 3.1)

- 30XB with variable-speed AC fan motors (Option 17)

The 30XB with variable-speed AC fan motors offers an economical solution to enhance seasonal energy efficiency levels for comfort applications. (Average SEPR of 5.5, average SEER of 4.3, average EER of 3.1)

Very economical operation

Exceptionally high full load and part load energy efficiency:

- 30XB version : SEER 12/7°C up to 4.4 with option 17 in accordance with EN14825.
- Twin-rotor screw compressor equipped with a high-efficiency motor and a variable capacity valve that permits exact matching of the cooling capacity to the load.
- Novation™ aluminium condenser with high-efficiency micro-channels.
- Flooded shell-and-tube evaporator with new generation of cooler tubes to reduce exchanger pressure drops, especially in applications with high percentage of glycol.
- Electronic expansion device permitting operation at a lower condensing pressure and improved utilisation of the evaporator heat exchange surface (superheat control).
- Economiser system with electronic expansion device for increased cooling capacity.

Low operating sound levels

- Compressors

- Discharge dampers integrated in the oil separator (Carrier patent).
- Silencer on the economiser return line.
- Compressor and oil separator acoustic enclosure, reducing radiated noise (option).

- Condenser section

- Condenser coils in wide angle V configuration, allowing quieter air flow across the coil
- Low-noise 6th generation Flying Bird fans, made of a composite material (Carrier patent), are now even quieter and do not generate intrusive low-frequency noise
- Rigid fan mounting preventing start-up noise (Carrier patent).

CUSTOMER BENEFITS

Simple installation

- Integrated hydraulic module (option)
 - Centrifugal low or high-pressure water pump (as required), based on the pressure loss of the hydraulic installation
 - Single or dual pump (as required) with run time balancing and automatic changeover to the back-up pump if a fault develops
 - Water filter to protect pump against circulating debris
 - High-capacity membrane expansion tank ensures pressurisation of the water circuit (option)
 - Thermal insulation and aluminium cladding (option)
 - Pressure sensor to check filter condition and for direct numerical display of the water flow rate with an estimate of the instantaneous cooling capacity at the control interface
- Simplified electrical connections
 - Main disconnect switch with high trip capacity
 - Transformer to supply the integrated control circuit (400/24 V).
- Fast commissioning
 - Systematic factory operation test before shipment
 - Quick-test function for step-by-step verification of the controls, expansion devices, fans and compressors.

Environmental responsibility

- R-134a refrigerant
 - Range designed for use with R-134a refrigerant with the possibility to upgrade to ultra-low global warming potential R-1234ze by using the dedicated field retrofit kit.
 - 40% reduction in the refrigerant charge through the use of micro-channel heat exchangers
- Leak-tight refrigerant circuit
 - Reduction of leaks as no capillary tubes and flare connections are used
 - Verification of pressure transducers and temperature sensors without transferring refrigerant charge
 - Liquid line service valve for simplified maintenance (option).

Exceptional reliability

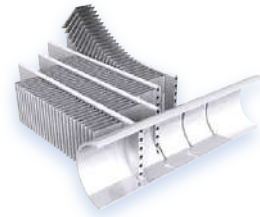
- Screw compressors
 - Industrial-type screw compressors with oversized bearings and motor cooled by suction gas.
 - All compressor components are easily accessible on site minimising down-time.
 - Dedicated electronic compressor protection module.
- Air condenser
 - 2nd generation of "V" shape Carrier Novation™ aluminium microchannel heat exchangers (MCHE) with high corrosion resistance. The all aluminium design eliminates the formation of galvanic currents between aluminium and copper that cause coil corrosion in saline or corrosive environments.
- Evaporator
 - Thermal insulation with aluminium sheet finish (option) for improved resistance to mechanical and UV damage.
- Auto-adaptive control
 - Control algorithm prevents excessive compressor cycling (Carrier patent)
 - Automatic compressor unloading in case of abnormally high condensing pressure. If condenser coil fouling or fan failure occurs, the AquaForce® continues to operate, but at reduced capacity
- Exceptional endurance tests
 - Partnerships with specialised laboratories and use of sophisticated finite element stress analysis for the design of critical components.
 - Transport simulation test in the laboratory on a vibrating table. The test is based on a military standard and equivalent to 4000 km by truck.
 - Salt mist corrosion resistance test in the laboratory for increased corrosion resistance.

30XB TECHNICAL INSIGHTS



6TH GENERATION OF FLYING BIRD™ FANS WITH AC

- Exclusive Carrier design
- Fan blade design inspired by nature
- 30XB standard version with fixed-speed fans and AC motor
- Variable-speed fans available as an option on 30XB standard version



2ND GENERATION OF "V" SHAPE NOVATION® MICRO CHANNEL HEAT EXCHANGERS

- Exclusive Carrier design
- High reliability with long-life aluminum alloy
- Significantly reduces refrigerant load (~40% vs cu/al coils)
- Enviro-shield™ coating for mildly corrosive environments
- Super Enviro-shield™ coating for highly corrosive environments (industry or marine applications)



FIXED-SPEED SINGLE OR DUAL PUMPS WITH AC MOTOR (OPTION)

- Low static pressure (~100 kPa) or high static pressure (~180 kPa) available
- Available on all sizes up to 500 kW



CARRIER FIXED-SPEED 06T TWIN SCREW COMPRESSOR WITH AC MOTOR

- Exclusive Carrier design
- Twin screw compressor designed for fixed-speed operation
- Sliding valve control (30%-100%)
- Bearing life exceeding 100.000 hours
- 99,7% of units without compressor default

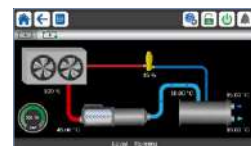


FLOODED SHELL AND TUBE EVAPORATOR

- Exclusive Carrier design
- Flooded technology for high energy efficiency
- New generation of copper tubes with specific profile to reduce pressure drops when operating with glycol

ADVANCED SMARTVU™ WITH 5 INCH COLOR TOUCH SCREEN INTERFACE

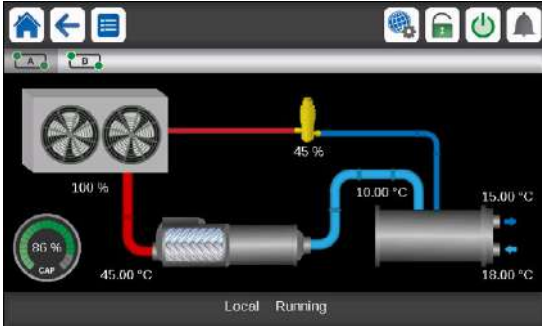
- Exclusive Carrier design
- 10 languages available: DE, EN, ES, FR, IT, NL, PT, TR, TU + one additional customer choice
- Touch screen user interface
- BACnet, J-Bus or LON communication interfaces
- Optional wireless connectivity
- Web server capabilities-easy remote access via internet
- Trending capabilities



TECHNICAL INSIGHTS

SmartVu™ Control

SmartVu™, user interface



- New innovative smart control features:
 - An intuitive and user-friendly, coloured, 5" interface (7" optional)
 - Direct access to the unit's technical drawings and the main service documents
 - Screen-shots with concise and clear information in local languages
 - Complete menu, customised for different users (end user, service personnel and Carrier-factory technicians)
 - Easy access to the control panel with inclined touch screen mounting to ensure legibility under any lighting conditions
 - Safe operation and unit setting: password protection ensures that unauthorised people cannot modify any advanced parameters
 - Simple and «smart» intelligence uses data collection from the constant monitoring of all machine parameters to optimise unit operation.
- Energy management:
 - Internal time schedule clock controls chiller on/off times and operation at a second set-point
 - The DCT (Data Collection Tool) records the alarms history to simplify and facilitate service operations.

Remote Management (Standard)

- Units with SmartVu™ control can be easily accessed from the internet, using a PC with an Ethernet connection. This makes remote control quick and easy and offers significant advantages for service operations.
- AquaForce® is equipped with an RS485 serial port that offers multiple remote control, monitoring and diagnostic possibilities. When networked with other Carrier equipment through the CCN (Carrier Comfort Network - proprietary protocol), and in conjunction with one of Carrier's network products (Chiller System Manager or Plant system Manager) it forms part of a fully integrated and balanced HVAC system (optional).
- AquaForce® also communicates with other building management systems via optional communication gateways.

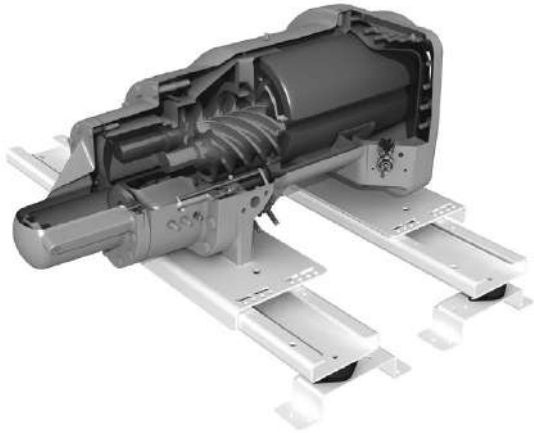
- The following commands/visualisations are possible from remote connection:
 - Start/stop of the machine
 - Dual set-point management: through a dedicated contact is possible to activate a second set-point (for example, during unoccupied mode).
 - Demand limit setting: to limit the maximum chiller capacity to a predefined value
 - Water pump control: these outputs control the contactors of one/two evaporator water pumps
 - Automatic changeover of pumps in the event of a fault (only with options 116S/116U).
 - Operation visualisation: indication if the unit is operating or in stand-by (no cooling load), (no cooling load) - alarm visualisation.

Remote Management (EMM option)

- The Energy Management Module (EMM) offers extended remote control possibilities:
 - Room temperature: Permits set-point reset based on the building indoor air temperature (if Carrier thermostat are installed)
 - Set-point reset: Allows reset of the cooling set-point based on a 4-20 mA
 - Demand limit: Permits limitation of the maximum chiller capacity
 - Demand limit 1 and 2: Closing of these contacts limits the maximum chiller capacity to two predefined values
 - User safety: This contact can be used for any customer safety loop; opening the contact generates a specific alarm
 - Ice storage end: When ice storage has finished, this input permits return to the second set-point (unoccupied mode)
 - Time schedule override: closing this contact cancels the programmed time schedule.
 - Out of service: This signal indicates that the chiller is completely out of service
 - Chiller capacity: This analogue output (0-10 V) gives an immediate indication of the chiller capacity
 - Alert indication: This volt-free contact indicates the necessity to carry out a maintenance operation or the presence of a minor fault
 - Compressors running status: Set of outputs (one for each compressor) indicating which compressors are running.

TECHNICAL INSIGHTS

06T Screw Compressor



99.7%* of units without a compressor failure

* Quality rate measured over a period of 15 years operation

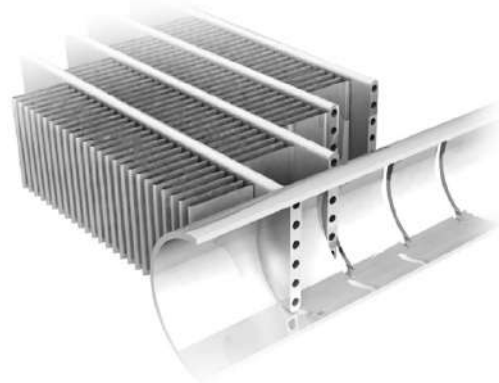
The Carrier 06T screw compressor benefits from Carrier's long experience in the development of twin-rotor screw compressors. The compressor is equipped with bearings with oversized rollers, oil pressure lubricated for reliable and durable operation, even at maximum load.

A variable control valve controlled by the oil pressure permits infinitely variable cooling capacity. This system allows optimal adjustment of the compressor cooling capacity and ensures exceptionally high stability of the chilled water leaving temperature.

Among the other advantages: if a fault occurs e.g. if the condenser is fouled or at very high outside temperature, the compressor does not switch off, but continues operation with a reduced capacity (unloaded mode).

The compressor is equipped with a separate oil separator that minimises the amount of oil in circulation in the refrigerant circuit and, with its integrated silencer, considerably reduces discharge gas pulsations for much quieter operation.

Novation® Heat Exchangers with Micro-Channel coil Technology



Already utilised in the automobile and aeronautical industries for many years, the Novation™ MCHE micro-channel heat exchanger used in the AquaForce® is entirely made of aluminium. This one-piece concept significantly increases its corrosion resistance by eliminating the galvanic currents that are created when two different metals (copper and aluminium) come into contact in traditional heat exchangers. Unlike traditional heat exchangers the Novation™ MCHE heat exchanger can be used in moderate marine and urban environments (Carrier recommendation).

From an energy efficiency point-of-view the Novation™ MCHE heat exchanger is approximately 10% more efficient than a traditional coil and allows a 40% reduction in the amount of refrigerant used in the chiller. The low thickness of the Novation™ MCHE reduces air pressure losses by 50% and makes it susceptible to very little fouling (e.g. by sand). Cleaning of the Novation™ MCHE heat exchanger is very fast using a high-pressure washer.

To further enhance long-term performance, and to protect coils from early deterioration, Carrier offers (as options) dedicated treatments for installations in corrosive environments.

TECHNICAL INSIGHTS

New Generation of Flying Bird VI fans



The 30XB utilize Carrier's 6th generation Flying Bird™ fan technology, engineered for maximum efficiency, super low noise, and wide operating range. The fan includes Carrier patented rotating shroud technology and back-swept blades with a unique wave-serration trailing edge inspired from nature.

It was designed and optimized for the 30XB air management system configuration and heat exchanger technology and is offered with induction. The fan uses Carrier's robust and proven injection molded composite-thermoplastic construction.

OPTIONS

Options	No.	Description	Advantages	Use for 30XB
Corrosion protection, traditional coils	3A	Fins made of pre-treated aluminum (polyurethane and epoxy)	Improved corrosion resistance, recommended for moderate marine and urban environments	30XB 250-1700
Medium-temperature brine solution	5	Implementation of new control algorithms and redesigned evaporator to allow chilled brine solution production down to -12°C when ethylene glycol is used (-8°C with propylene glycol)	Covers specific applications such as ice storage and industrial processes	30XB 250-1700
Low-temperature brine solution	6	Implementation of new control algorithms and redesigned evaporator to allow chilled brine solution production down to -15°C when ethylene glycol is used (-10°C with propylene glycol)	Covers specific applications such as ice storage and industrial processes	30XB 250-1700
Light-brine solution, down to -3°C	8	Implementation of new control algorithms to allow chilled brine solution production down to -3°C when ethylene glycol is used (0°C with propylene glycol)	Matches with most application requirements for ground-sourced heat pumps and fits with many industrial processes requirements	30XB 250-1700
Unit equipped for air discharge ducting	10	Fans equipped with discharge connection flanges - maximum available pressure 60 Pa	Facilitates connections to the discharge ducts	30XB 250-1700
Low noise level	15	Aesthetic and sound absorbing compressor enclosure	Noise level reduction	30XB 250-1700
Very low noise level	15LS	Aesthetic and sound absorbing compressor enclosure associated with low-speed fans	Noise level reduction in sensitive environments	30XB 250-1700
Ultra low noise level	15LS+	Acoustic compressor enclosure, low-speed fans and enhanced sound insulation of main noise sources	Noise level reduction in sensitive environments	30XB 250-1700
Variable speed fans	17	Unit equipped with variable speed fans	Enhances the unit seasonal energy efficiency performance and reduces the noise emission thanks to a smooth fan speed variation.	30XB 250-1700
IP54 control box	20A	Increased leak tightness of the unit	Protects the inside of the electrical box from dust, water and sand. In general this option is recommended for installations in polluted environments	30XB 250-1700
Tropicalisation of the electrical box	22	Electrical box equipped with an electrical heater and a fan. Electrical connections on the compressors painted with a special varnish and covered with an anti-condensation foam.	Allows safe operation in typical "tropical" climate. This option is recommended for all applications where humidity inside the electrical box can reach 80% at 40°C and unit can remain in stand-by for a long time under these conditions.	30XB 250-1700
Grilles and enclosure panels	23	Metal grilles on the 4 unit sides, plus side enclosure panels at each end of each coil	Improves aesthetics, protection against intrusion to the unit interior, coil and piping protection against impacts.	30XB 250-1700
Enclosure panels	23A	Side enclosure panels at each end of each coil	Improves aesthetics, coil and piping protection against impacts.	30XB 250-1700
Low inrush current	25C	Specific compressor loading and unloading sequence to limit the unit start-up current	Reduced start-up current	30XB 250-1700
Winter operation down to -20°C	28	Fan speed control via frequency converter	Stable unit operation for air temperature down to -20°C	30XB 250-1700
Water exchanger frost protection	41A	Electric resistance heater on the water exchanger and discharge valve	Water exchanger frost protection down to -20°C outside temperature	30XB 250-1700
Evaporator & hydraulic module frost protection	41B	Electric resistance heater on water exchanger, discharge valve and hydraulic module	Water exchanger and hydraulic module frost protection down to -20°C outside temperature	30XB 250-500
Total heat recovery	50	Unit equipped with additional heat exchanger in parallel with the condenser coils.	Production of free hot-water simultaneously with chilled water production	30XB 250-1000
Master/slave operation	58	Unit equipped with supplementary water outlet temperature sensor kit (to be field installed) allowing master/slave operation of two units connected in parallel	Optimised operation of two units connected in parrallele operation with operating time equalisation	30XB 250-1700
Single power connection point	81	Unit power connection via one main supply connection	Quick and easy installation	30XB 1100-1500
Evap. and pumps with aluminum jacket	88A	Evaporator and pumps covered with an aluminum sheet for thermal insulation protection	Improved resistance to aggressive climate conditions	30XB 250-500
Service valve set	92	Liquid line valve (evaporator inlet), compressor suction and discharge line valves and economiser line valve	Allow isolation of various refrigerant circuit components for simplified service and maintenance	30XB 250-1700

OPTIONS

Options	No.	Description	Advantages	Use for 30XB
Compressor discharge valves	93A	Shut-off valve on the compressor discharge piping	Simplified maintenance	30XB 250-1700
Evaporator with one pass more	100A	Evaporator with one pass more on the water side	Optimise chiller operation when the chilled water circuit is designed with low waterflows (high evaporator delta T)	30XB 250-1700
Evaporator with one pass less	100C	Evaporator with one pass less on the water side. Evaporator inlet and outlet on opposite sides.	Easy to install, depending on site. Reduced pressure drops	30XB 250-1000
21 bar evaporator	104	Reinforced evaporator for extension of the maximum water-side service pressure to 21 bar (standard 10 bar)	Covers applications with a high water column evaporator side (typically high-rise buildings)	30XB 250-1700
Reversed evaporator water connections	107	Evaporator with reversed water inlet/outlet	Easy installation on sites with specific requirements	30XB 250-1700
HP single-pump hydraulic module	116R	Hydraulic module equipped with water filter, one high pressure pump, drain valve and pressure transducers (expansion tank & aluminum jacket not included).	Easy and fast installation (plug & play). Increased system reliability	30XB 250-500
HP dual-pump hydraulic module	116S	Hydraulic module equipped with water filter, two high pressure pumps, drain valve and pressure transducers (expansion tank & aluminum jacket not included).	Easy and fast installation (plug & play). Increased system reliability	30XB 250-500
LP single-pump hydraulic module	116T	Hydraulic module equipped with water filter, one low pressure pump, drain valve and pressure transducers (expansion tank & aluminum jacket not included).	Easy and fast installation (plug & play). Increased system reliability	30XB 250-500
LP dual-pump hydraulic module	116U	Hydraulic module equipped with water filter, two low pressure pumps, drain valve and pressure transducers (expansion tank & aluminum jacket not included).	Easy and fast installation (plug & play). Increased system reliability	30XB 250-500
Dx Free Cooling system on two circuits	118A	Patented Carrier free-cooling system with cooling micro-pump on both refrigerant circuits. Operation without glycol, no extra free-cooling coil. See Dx Free-cooling option chapter	Energy savings for applications with cooling demand throughout the entire year	30XB 250-1000
High Energy Efficiency	119	Additional condenser coil to improve unit energy efficiency	Enhances the unit energy efficiency performance	30XB 900-1100
Lon gateway	148D	Bi-directional communication board complying with Lon Talk protocol	Connects the unit by communication bus to a building management system	30XB 250-1700
Bacnet over IP	149	Bi-directional high-speed communication using BACnet protocol over Ethernet network (IP)	Easy and high-speed connection by ethernet line to a building management system. Allows access to multiple unit parameters	30XB 250-1700
Modbus over IP and RS485 communication gateway	149B	Bi-directional high-speed communication using the Modbus over Ethernet network (IP) protocol	Easy, quick connection via Ethernet line to a building technical management system. Allows access to several unit parameters.	30XB 250-1700
Energy Management Module	156	EMM Control board with additional inputs/ outputs. See Energy Management Module option chapter	Extended remote control capabilities (Set-point reset, ice storage end, demand limits, boiler on/off command...)	30XB 250-1700
7" user interface	158A	Control supplied with a 7 inch colour touch screen user interface	Enhanced ease of use.	30XB 250-1700
Input contact for Refrigerant leak detection	159	0-10 V signal to report any refrigerant leakage in the unit directly on the controller (the leak detector itself must be supplied by the customer)	Immediate customer notification of refrigerant losses to the atmosphere, allowing timely corrective actions	30XB 250-1700
Under voltage relay	159A	Under voltage relay is required in some key markets like UAE to protect the unit against low voltage supply	Electrical protection	30XB 250-1500
Dual relief valves on 3-way valve	194	Three-way valve upstream of dual relief valves on the evaporator and the oil separator	Valve replacement and inspection facilitated without refrigerant loss. Comforms to European standard EN378/BGVD4	30XB 250-1700
Compliance with Russian regulations	199	EAC certification	Conformance with Russian regulations	30XB 250-1700

OPTIONS

Options	No.	Description	Advantages	Use for 30XB
Traditional coils (Cu/Al)	254	Coils made of copper tubes with aluminum fins	None	30XB 250-1700 (not available for size 1500)
Traditional coils (Cu/Al) without slots	255	Coils made of copper tubes with aluminum fins without slots	None	30XB 250-1700 (not available for size 1500)
Insulation of the evap. in/out ref.lines	256	Thermal insulation of the evaporator entering/leaving refrigerant lines with flexible, UV resistant insulation	Prevents condensation on the evaporator entering/leaving refrigerant lines	30XB 250-1700
Enviro-Shield anti-corrosion protection	262	Coating by conversion process which modifies the surface of the aluminum producing a coating that is integral to the coil. Complete immersion in a bath to ensure 100% coverage. No heat transfer variation, tested 4000 hours salt spray per ASTM B117	Improved corrosion resistance, recommended for use in moderately corrosive environments	30XB 250-1700
Super Enviro-Shield anti-corrosion protection	263	Extremely durable and flexible epoxy polymer coating applied on micro channel heat exchangers by electro coating process, final UV protective topcoat. Minimal heat transfer variation, tested 6000 hours constant neutral salt spray per ASTM B117, superior impact resistance per ASTM D2794	Improved corrosion resistance, recommended for use in extremely corrosive environments	30XB 250-1700
Welded evaporator connection kit	266	Victaulic pipe adapters for welded joints	Easy installation	30XB 250-1700
Compressor enclosure	279a	Compressor enclosure	Improved aesthetic, compressor protection against external elements (dust, sand, water...)	30XB 250-1700
Evaporator with aluminum jacket	281	Evaporator covered with an aluminum sheet for thermal insulation protection	Improved resistance to aggressive climate conditions	30XB 250-1700
230V electrical plug	284	230V AC power supply source provided with plug socket and transformer (180 VA, 0,8 Amps)	Permits connection of a laptop or an electrical device during unit commissioning or servicing	30XB 250-1700
Expansion tank	293	6 bar expansion tank integrated in the hydraulic module (requires hydraulic module option)	Easy and fast installation (plug & play), & Protection of closed water systems from excessive pressure	30XB 250-500
Mexico screw compressor	297	Screw compressor made in Mexico		30XB 500-1700
Variable Water Flow control	299	Hydraulic control function package that permits control of the water flow rate based on different possible logics (at customer choice): constant ΔT , constant outlet pressure and "fixed-speed" control	When variable-speed pumps on the primary circuit, the VWF control modulates flow rate through the evaporator, minimising pump consumption while ensuring safe/optimised chiller operation	30XB 250-1700
Free-cooling dry-cooler control	313	Remote control of 09PE or 09VE dry-cooler based on a 0-10V signal.	Easy system management, extended control capabilities of a remote dry-cooler used in free-cooling mode	30XB 250-1700
Compliance with UAE regulation	318	Additional label on the unit with rated power input, rated current and EER following AHRI 550/590	Compliance with ESMA standard UAE.S 5010-5:2019.	30XB 250-1700
Compliance with Qatar regulation	319	Specific nameplate on the unit with power supply 415 V+/-6%	Compliance with KAHRAMAA regulation in Qatar.	30XB 250-1700
Compliance with Morocco regulation	327	Specifics documents according Morocco regulation	Conformance with Morocco regulations	30XB 250-1700
Plastic tarp	331	Plastic tarp covering units with strapping and camped on the wooden pallet.	Allow unit to avoid dust and dirt from the outside environment during stocking and shipping.	30XB 250-1700
Compliance with Turkish regulations	332	Specific CE labelling according Turkish regulation. This CE marking is valid for use of the equipment in Turkey only as it does not cover Ecodesign Directive 2009/125/CE	CE marking compliant with Turkey regulations	30XB 250-1700

PHYSICAL DATA, SIZES 30XB-250 TO 800

30XB		250	300	350	400	450	500	600	700	750	800			
Cooling														
Standard unit		Nominal capacity	kW		274	299	327	393	444	496	615	682	726	788
Full load performances*	CA1	EER	kW/kW		3,14	3,11	3,11	3,22	3,11	3,1	3,15	3,34	3,11	3,14
Unit with option 15LS (+)		Nominal capacity	kW		270	294	321	382	430	485	607	661	698	767
Full load performances*	CA1	EER	kW/kW		3,1	3,05	3,07	3,17	2,98	2,93	3,12	3,2	3	2,97
Standard unit		SEER _{12/7°C} Comfort low temp.	kWh/kWh		4,12	4,16	4,24	4,00	-	-	-	4,26	-	4,17
Seasonal energy efficiency **		$\eta_{s\ cool}$ _{12/7°C}	%		162	164	166	157	-	-	-	167	-	164
		SEPR _{12/7°C} Process high temp.	kWh/kWh		4,74	5,15	5,51	4,95	5,33	5,00	5,20	5,50	5,07	5,09
Unit with Option 5		SEPR _{-2/-8°C} Process medium temp.***	kWh/kWh		-	2,89	2,97	2,6	3,43	2,94	3,57	3,71	3,39	3,33
Seasonal energy efficiency **		SEER _{12/7°C} Comfort low temp.	kWh/kWh		4,12	4,16	4,23	4,28	4,27	4,09	4,13	4,47	4,21	4,36
Seasonal energy efficiency **		$\eta_{s\ cool}$ _{12/7°C}	%		162	164	166	168	168	161	162	176	166	171
		SEPR _{12/7°C} Process high temp.	kWh/kWh		4,75	5,16	5,54	4,99	5,21	5,02	5,25	5,55	5,10	5,13
Unit with Option 5&17		SEPR _{-2/-8°C} Process medium temp.***	kWh/kWh		2,79	3,1	3,27	2,93	3,66	3,71	3,82	3,93	3,59	3,49
Seasonal energy efficiency **		SEER _{12/7°C} Comfort low temp.	kWh/kWh		4,26	4,29	4,51	4,26	4,18	4,13	-	4,34	-	-
Seasonal energy efficiency **		$\eta_{s\ cool}$ _{12/7°C}	%		167	169	177	167	164	162	-	171	-	-
		SEPR _{12/7°C} Process high temp.	kWh/kWh		5,03	5,24	5,98	5,17	5,50	5,13	5,66	5,69	5,40	5,52
Unit with Option 5 & 15LS (+)		SEPR _{-2/-8°C} Process medium temp.***	kWh/kWh		2,67	2,96	3,08	-	3,59	3,12	3,92	3,94	3,66	3,70
Seasonal energy efficiency **		SEER _{12/7°C} Comfort low temp.	kWh/kWh		4,15	4,17	4,39	4,37	4,30	4,20	4,21	4,41	4,23	4,23
Seasonal energy efficiency **		$\eta_{s\ cool}$ _{12/7°C}	%		163	164	173	172	169	165	165	174	166	166
		SEPR _{12/7°C} Process high temp.	kWh/kWh		5,69	5,80	6,10	5,61	5,58	5,78	5,73	5,91	5,52	5,57
Unit with Option 5, 17, 15LS(+)		SEPR _{-2/-8°C} Process medium temp.***	kWh/kWh		2,80	3,17	3,39	2,95	3,69	3,83	3,96	3,99	3,69	3,72
Seasonal energy efficiency **														
Sound levels														
Standard unit														
Sound power ⁽¹⁾		dB(A)		99	99	99	99	101	99	101	99	103	103	
Sound pressure at 10 m ⁽²⁾		dB(A)		67	67	67	67	69	67	68	67	70	70	
Unit + option 15⁽³⁾														
Sound power ⁽¹⁾		dB(A)		93	93	94	95	95	95	97	96	97	98	
Sound pressure at 10 m ⁽²⁾		dB(A)		61	61	62	63	63	63	65	63	64	65	
Unit + option 15LS⁽³⁾														
Sound power ⁽¹⁾		dB(A)		87	87	87	90	91	91	93	92	94	94	
Sound pressure at 10 m ⁽²⁾		dB(A)		55	55	55	58	59	59	60	59	61	61	
Unit + option 15LS+⁽³⁾														
Sound power ⁽¹⁾		dB(A)		-	-	-	-	89	89	91	90	91	92	
Sound pressure at 10 m ⁽²⁾		dB(A)		-	-	-	-	56	56	57	56	58	58	
Dimensions														
Standard unit														
Length		mm		3604	3604	3604	4798	4798	4798	7186	7186	7186	7186	
Width		mm		2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	
Height		mm		2322	2322	2322	2322	2322	2322	2322	2322	2322	2322	

* In accordance with standard EN14511-3:2018.
 ** In accordance with standard EN14825:2018, average climate
 *** With EG 30%
 CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator frosting factor 0 m².K/W
 - Not applicable



Eurovent certified values

PHYSICAL DATA, SIZES 30XB-250 TO 800

30XB		250	300	350	400	450	500	600	700	750	800
Operating weight⁽⁴⁾											
Standard unit	l	2992	3023	3042	3620	3684	3746	4717	4849	5115	5431
Unit + option 15 ⁽³⁾	l	3237	3268	3287	3889	3952	4015	5005	5134	5400	5716
Unit + option 118 a ⁽³⁾	l	3053	3084	3103	3694	3757	4100	4806	4935	5216	5532
Unit + option 50 ⁽³⁾	l	3314	3345	3364	4023	4164	4515	5428	5657	5923	6245
Compressors											
06T semi-hermetic screw compressor, 50 r/s											
Circuit A		1	1	1	1	1	1	1	1	1	1
Circuit B		1	1	1	1	1	1	1	1	1	1
No. of control stages											
Refrigerant⁽⁴⁾											
R134a											
Circuit A	kg	37	35	35	51	52	54	58	58	65	69
	teqCO ₂	52,9	50,1	50,1	72,2	74,4	76,5	82,9	82,9	93,0	98,7
Circuit B	kg	39	36	37	37	37	33	59	62	58	65
	teqCO ₂	55,1	51,5	52,9	52,2	52,9	46,5	84,4	88,7	82,9	93,0
Oil											
For more information, contact Carrier ERCD											
Circuit A	l	20,8	20,8	20,8	23,5	23,5	23,5	23,5	23,5	27,6	27,6
Circuit B	l	20,8	20,8	20,8	20,8	20,8	20,8	23,5	23,5	23,5	23,5
Capacity control											
SmartVu™, , Electronic Expansion Valve (EXV)											
Minimum capacity	%	15	15	15	15	15	15	15	15	15	15
Air heat exchanger											
Aluminum micro-channel coils (MCHE)											
Fans											
FLYING-BIRD 6, axial fan with rotating impeller											
Standard unit											
Quantity		6	6	6	8	8	8	11	12	12	12
Maximum total air flow	l/s	28920	28920	28920	38560	38560	38560	53020	57840	57840	57840
Maximum rotation speed	r/s	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7
Unit + option 15LS											
Maximum total air flow	l/s	23580	23580	23580	31440	31440	31440	43230	47160	47160	47160
Maximum rotation speed	r/s	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7
Water heat exchanger											
Flooded multi-tube type											
Water volume	l	58	61	61	66	70	77	79	94	98	119
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Hydraulic module (option)											
Pump, Victaulic screen filter, relief valve, water and air drain valve, pressure sensors, expansion tank (option)											
Pump		Centrifugal pump, monocoil, 48,3r/s, low or high pressure (as required), single or dual (as required)									
Expansion vessel volume	l	50	50	50	50	50	80				
Max. water-side operating pressure with hydraulic module	kPa	400	400	400	400	400	400				
Water connections without or with hydraulic module											
Victaulic® type											
Standard & option 8, without option 116											
Nominal diameter	in	5	5	5	5	5	5	5	6	6	6
Actual outside diameter	mm	141,3	141,3	141,3	141,3	141,3	141,3	141,3	168,3	168,3	168,3
Options 5, 6 et 100A											
Nominal diameter	in	4	4	4	4	4	4	5	5	5	5
Actual outside diameter	mm	114,3	114,3	114,3	114,3	114,3	114,3	141,3	141,3	141,3	141,3
Options 100C											
Nominal diameter	in	5	5	5	5	5	5	6	6	6	6
Actual outside diameter	mm	141,3	141,3	141,3	141,3	141,3	141,3	168,3	168,3	168,3	168,3
Options 116											
Nominal diameter	in	4	4	4	4	4	4	-	-	-	-
Actual outside diameter	mm	114,3	114,3	114,3	114,3	114,3	114,3	-	-	-	-
Casing paint											
Colour code RAL 7035											

(3) Options : 15 = Low noise, 15LS = Very Low noise, 118a = Dx freecooling option, 50 = heat recovery.

(4) Values are guidelines only. Refer to the unit name plate.

PHYSICAL DATA, SIZES 30XB-850 TO 1700

30XB	850	900	1000	1100	1200	1300	1400	1500	1550	1700
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Cooling

Standard unit		Nominal capacity	kW	828	890	965	1126	1244	1332	1440	1492	1532	1689
Full load performances*	CA1	EER	kW/kW	3,13	3,13	2,97	3,08	3,1	3,18	3,08	3,12	3,23	3,25
Unit with option 15LS (+)		Nominal capacity	kW	775	859	929	1111	1211	1298	1391	1418	1457	1627
Full load performances*	CA1	EER	kW/kW	2,8	2,97	2,96	2,9	3,03	2,9	2,77	2,94	2,96	3,1
Standard unit		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	-	4,12	-	-	4,18	-	4,16	-	-	-
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	-	162	-	-	164	-	163	-	-	-
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	5,18	5,08	5,13	5,31	5,46	5,33	5,43	5,17	5,31	5,24
Unit with Option 5		SEPR ^{-2/-8°C} Process medium temp.***	kWh/kWh	-	-	3,49	3,50	3,39	3,36	3,40	-	3,57	3,77
Seasonal energy efficiency **		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	4,10	4,20	3,98	4,10	4,26	4,16	4,19	4,10	-	4,22
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	161	165	156	161	167	164	165	161	-	166
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	5,58	5,33	5,22	5,47	5,55	5,61	5,58	5,20	-	5,38
Unit with Option 17 & 299 & 119		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	-	-	3,98	4,10	-	-	-	-	-	-
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	-	-	156	161	-	-	-	-	-	-
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	-	-	5,22	5,47	-	-	-	-	-	-
Unit with Option 5 & 17		SEPR ^{-2/-8°C} Process medium temp.***	kWh/kWh	3,76	3,70	3,60	3,68	3,61	3,68	3,67	3,48	-	3,89
Seasonal energy efficiency **		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	-	-	-	-	-	-	-	-	-	-
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	-	-	-	-	-	-	-	-	-	-
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	5,23	5,37	5,31	5,10	5,34	-	-	-	5,39	5,23
Unit with Option 5 & 15LS (+)		SEPR ^{-2/-8°C} Process medium temp.***	kWh/kWh	3,27	-	3,82	3,50	3,47	3,24	3,27	-	3,70	3,97
Seasonal energy efficiency **		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	4,10	4,10	3,80	3,76	4,09	-	-	4,09	-	4,09
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	161	161	149	147	161	-	-	161	-	161
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	5,64	5,48	5,20	5,15	5,43	5,06	5,05	5,21	-	5,30
Unit with Option 17 & 299 & 15LS (+) & 119		SEER ^{12/17°C} Comfort low temp.	kWh/kWh	-	-	4,14	4,02	-	-	-	-	-	-
Seasonal energy efficiency **		$\eta_{s\ cool}$ ^{12/17°C}	%	-	-	162	157	-	-	-	-	-	-
		SEPR ^{12/17°C} Process high temp.	kWh/kWh	-	-	5,64	5,40	-	-	-	-	-	-
Unit with Option 5, 17, 15LS(+)		SEPR ^{-2/-8°C} Process medium temp.***	kWh/kWh	3,80	3,83	3,81	3,55	3,52	3,28	3,33	3,63	-	3,97
Seasonal energy efficiency **													
Sound levels													
Standard unit													
Sound power ⁽¹⁾		dB(A)		101	104	102	103	102	104	104	104	104	104
Sound pressure at 10 m ⁽²⁾		dB(A)		70	71	69	70	69	71	71	71	71	70
Unit + option 15⁽³⁾													
Sound power ⁽¹⁾		dB(A)		97	99	98	98	98	100	99	99	100	100
Sound pressure at 10 m ⁽²⁾		dB(A)		65	66	65	65	65	67	65	65	67	66
Unit + option 15LS⁽³⁾													
Sound power ⁽¹⁾		dB(A)		94	95	94	94	94	99	95	96	96	96
Sound pressure at 10 m ⁽²⁾		dB(A)		61	62	61	61	61	66	62	63	63	62
Unit + option 15LS+⁽³⁾													
Sound power ⁽¹⁾		dB(A)		91	93	92	93	93	97	94	95	93	93
Sound pressure at 10 m ⁽²⁾		dB(A)		58	60	59	60	60	66	61	62	60	60

* In accordance with standard EN14511-3:2018.
 ** In accordance with standard EN14825:2018, average climate
 *** With EG 30%
 + SEER calculated with the option 119
 CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m².K/W
 - Not applicable



Eurovent certified values

PHYSICAL DATA, SIZES 30XB-850 TO 1700

30XB		850	900	1000	1100	1200	1300	1400	1500	1550	1700
Dimensions											
Standard unit											
Length	mm	7186	7186	8380	9574	10770	11962	11962	13157	9574/ 4798	8380/ 8380
Width	mm	2253	2253	2253	2253	2253	2253	2253	2253	2253	2253
Height	mm	2322	2322	2322	2322	2322	2322	2322	2322	2322	2322
Operating weight⁽⁴⁾											
Standard unit	kg	5480	5749	6244	7202	7650	8545	8622	8928	3356/ 6612	5835/ 5835
Unit + option 15 ⁽³⁾	kg	5765	6034	6521	7511	7952	8840	8917	9215	3557/ 6985	6234/ 6234
Unit + option 118 ⁽³⁾	kg	5868	6157	6643	-	-	-	-	-	-	-
Unit + option 50 ⁽³⁾	kg	6294	6660	7144	-	-	-	-	-	-	-
Compressors											
06T semi-hermetic screw compressor, 50 r/s											
Circuit A		1	1	1	1	1	1	1	1	1	1
Circuit B		1	1	1	1	1	1	1	1	1	1
Circuit C										1	1
Circuit D											1
No. of control stages											
Refrigerant⁽⁴⁾											
R134a											
Circuit A	kg	69	67	71	76	76	110	116	132	85	72
	teqCO ₂	98,7	95,8	100,8	108,7	108,7	157,3	165,9	188,8	121,6	103,0
Circuit B	kg	65	67	72	108	120	116	124	120	88	63
	teqCO ₂	93,0	95,8	103,0	154,4	171,6	165,9	177,3	171,6	125,8	90,1
Circuit C	kg									80,0	72,0
	teqCO ₂									114,4	103,0
Circuit D	kg										63,0
	teqCO ₂										90,1
Oil											
For more information, contact Carrier ERCD											
Circuit A	l	27,6	27,6	27,6	27,6	27,6	36,0	36,0	36,0	27,6	27,6
Circuit B	l	23,5	27,6	27,6	36,0	36,0	36,0	36,0	36,0	27,6	23,5
Circuit C	l									27,6	27,6
Circuit D	l										23,5
Capacity control											
SmartVu™, Electronic Expansion Valve (EXV)											
Minimum capacity	%	15	15	15	15	15	15	15	15	10	8
Air heat exchanger											
Aluminum micro-channel coils (MCHE)											
Fans											
FLYING-BIRD 6, axial fan with rotating impeller											
Standard unit											
Quantity		12	12	14	16	18	20	20	22	24	28
Maximum total air flow	l/s	57840	57840	67480	77120	86760	96400	96400	106040	115680	134960
Maximum rotation speed	r/s	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7	15,7
Unit + option 15LS											
Maximum total air flow	l/s	47160	47160	55020	62880	70740	78600	78600	86460	94320	110040
Maximum rotation speed	r/s	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7	11,7
Water heat exchanger											
Flooded multi-tube type											
Water volume	l	119	130	140	164	174	180	189	189	240	240
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Water connections without or with hydraulic module											
Victaulic® type											
Standard & option 8											
Nominal diameter	in	6	6	8	6	6	6	6	6	8/6	6
Actual outside diameter	mm	168,3	168,3	219,1	168,3	168,3	168,3	168,3	168,3	219,1/ 168,3	168,3
Options 5, 6 et 100A											
Nominal diameter	in	5	5	6	6	6	6	6	6	8/5	6/6
Actual outside diameter	mm	141,3	141,3	168,3	168,3	168,3	168,3	168,3	168,3	219,1/ 141,3	168,3/ 168,3
Options 100C											
Nominal diameter	in	6	6	8	-	-	-	-	-	-	-
Actual outside diameter	mm	168,3	168,3	219,1	-	-	-	-	-	-	-
Casing paint											
Colour code RAL 7035											

(3) Options : 15 = Low noise, 15LS = Very Low noise, 118a = Dx freecooling option, 50 = heat recovery.

(4) Values are guidelines only. Refer to the unit name plate.

ELECTRICAL DATA, 30XB-250 TO 1000

30XB		250	300	350	400	450	500	600	700	750	800	850	900	1000	
Power circuit supply															
Nominal voltage	V-ph-Hz	400-3-50													
Voltage range	V	360-440													
Control circuit supply		24 V via internal transformer													
Maximum operating input power⁽¹⁾ - 30XB															
Standard unit	kW	127	137	148	173	193	212	259	279	310	328	359	377	442	
Unit + option 15LS	kW	121	132	142	166	186	204	249	268	299	317	348	366	428	
Power factor at maximum power⁽¹⁾ - 30XB															
Standard unit															
Displacement Power Factor (Cos Phi)		0,88	0,87	0,87	0,88	0,88	0,88	0,88	0,88	0,87	0,87	0,88	0,87	0,88	
Unit + option 15LS															
Displacement Power Factor (Cos Phi)		0,88	0,87	0,87	0,88	0,88	0,88	0,88	0,88	0,87	0,87	0,88	0,87	0,88	
Nominal operating current draw⁽²⁾ - 30XB															
Standard unit	A	151	167	183	211	242	263	327	351	402	423	439	495	535	
Unit + option 15LS	A	142	158	174	199	230	251	310	333	384	405	421	477	513	
Maximum operating current draw (Un)⁽¹⁾ - 30XB															
Standard unit	A	209	227	245	285	318	348	426	459	514	544	590	629	729	
Unit + option 15LS	A	200	218	236	273	306	336	409	441	496	526	572	611	707	
Maximum current (Un-10%)⁽¹⁾ - 30XB															
Standard unit	A	221	240	259	301	336	368	450	485	544	576	625	667	773	
Unit + option 15LS	A	212	231	250	289	324	356	433	467	526	558	607	649	751	
Nominal start-up current⁽³⁾ - 30XB															
Standard unit	A	246	246	262	379	480	480	539	564	738	759	759	835	835	
Unit + option 15LS	A	241	241	257	374	475	475	531	555	730	751	751	826	844	
Unit + option 25C	A	184	177	193	317	411	411	413	438	631	637	637	666	659	
Maximum start-up current(Un)⁽²⁾ - 30XB															
Standard unit	A	275	293	293	408	511	511	618	618	783	813	813	902	952	
Unit + option 15LS	A	270	288	288	403	506	506	610	609	775	805	805	893	941	
Unit + option 25C	A	213	224	224	346	442	442	492	492	676	691	691	733	756	

(1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.

ELECTRICAL DATA, 30XB-1100 TO 1700

30XB		1100	1200	1300	1400	1500	1550	1700
Power circuit supply								
Nominal voltage	V-ph-Hz	400-3-50						
Voltage range	V	360-440						
Control circuit supply								
24 V via internal transformer								
Maximum operating input power⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	kW	192	221	263	283	307	445	363
Circuit 2 ^(a)	kW	280	307	281	304	307	223	363
Option 081	kW	471	527	544	587	613		
Unit + option 15LS								
Circuit 1 ^(a)	kW	186	214	254	274	296	431	350
Circuit 2 ^(a)	kW	271	297	272	295	296	215	350
Option 081	kW	457	510	526	568	592		
Power factor at maximum power⁽¹⁾ - 30XB								
Standard unit								
Displacement Power Factor (Cos Phi)		0,87	0,87	0,87	0,87	0,87	0,87	0,88
Unit + option 15LS								
Displacement Power Factor (Cos Phi)		0,87	0,87	0,87	0,87	0,87	0,87	0,88
Nominal operating current draw⁽²⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	252	268	340	353	389	542	447
Circuit 2 ^(a)	A	349	389	353	385	389	271	447
Option 081	A	600	656	692	737	777	-	-
Unit + option 15LS								
Circuit 1 ^(a)	A	241	257	324	337	372	518	425
Circuit 2 ^(a)	A	335	372	337	369	372	259	425
Option 081	A	576	628	661	706	743	-	-
Maximum operating current draw (Un)⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	319	365	438	468	507	736	598
Circuit 2 ^(a)	A	464	507	468	503	507	368	598
Option 081	A	782	871	905	970	1013	-	-
Unit + option 15LS								
Circuit 1 ^(a)	A	308	354	422	452	490	712	576
Circuit 2 ^(a)	A	450	490	452	487	490	356	576
Option 081	A	758	843	874	939	979	-	-

(1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.

(a) When the machines are equipped with two power supplies, circuit 1 supplies the refrigerant circuit A and circuit 2 supplies the refrigerant circuit B or for units 30XB1550 to 1700 units: Circuit 1 supplies circuits A and B, circuit 2 supplies circuits C and D.

ELECTRICAL DATA, 30XB-1100 TO 1700

30XB		1100	1200	1300	1400	1500	1550	1700
Maximum current (Un-10%)(¹) - 30XB								
Standard unit								
Circuit 1(^a)	A	338	387	474	506	538	780	633
Circuit 2(^a)	A	502	538	506	534	538	390	633
Option 081	A	839	924	979	1039	1075	-	-
Unit + option 15LS								
Circuit 1(^a)	A	327	376	458	490	521	756	611
Circuit 2(^a)	A	488	521	490	518	521	378	611
Option 081	A	815	896	948	1008	1041	-	-
Nominal start-up current (³) - 30XB								
Standard unit								
Circuit 1(^a)	A	587	587	629	629	629	828	759
Circuit 2(^a)	A	629	629	629	629	629	587	759
Option 081	A	936	976	982	1014	1018	-	-
Option 081 & Opt 25c	A	687	702	729	744	744	-	-
Unit + option 15LS								
Circuit 1(^a)	A	587	587	629	629	629	828	751
Circuit 2(^a)	A	629	629	629	629	629	587	751
Option 081	A	922	959	966	998	1001	-	-
Option 081 & Opt 25c	A	674	685	714	729	727	-	-
Maximum start-up current(Un)(²) - 30XB								
Standard unit								
Circuit 1(^a)	A	587	587	629	629	629	828	813
Circuit 2(^a)	A	629	629	629	629	629	587	813
Option 081	A	1051	1094	1097	1132	1136	-	-
Option 081 & Opt 25c	A	802	820	844	862	862	-	-
Unit + option 15LS								
Circuit 1(^a)	A	587	587	629	629	629	828	805
Circuit 2(^a)	A	629	629	629	629	629	587	805
Option 081	A	1037	1077	1081	1116	1119	-	-
Option 081 & Opt 25c	A	789	803	829	847	845	-	-

(1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.

(a) When the machines are equipped with two power supplies, circuit 1 supplies the refrigerant circuit A and circuit 2 supplies the refrigerant circuit B or for units 30XB1550 to 1700 units: Circuit 1 supplies circuits A and B, circuit 2 supplies circuits C and D.

ELECTRICAL DATA, 30XB WITH OPTION CU/AL HEAT EXCHANGER

30XB with option 254 or 255	250	300	350	400	450	500	600	700	750	800	850	900	1000	
Power circuit supply														
Nominal voltage	V-ph-Hz	400-3-50												
Voltage range	V	360-440												
Control circuit supply														
24 V via internal transformer														
Maximum operating input power⁽¹⁾ - 30XB														
Standard unit	kW	127	137	150	173	193	214	259	279	312	331	363	384	446
Unit + option 15LS	kW	121	132	144	166	186	207	249	268	301	320	352	373	433
Power factor at maximum power⁽¹⁾ - 30XB														
Standard unit														
Displacement Power Factor (Cos Phi)		0,88	0,87	0,87	0,88	0,88	0,88	0,88	0,88	0,87	0,87	0,88	0,87	0,88
Unit + option 15LS														
Displacement Power Factor (Cos Phi)		0,88	0,87	0,87	0,88	0,88	0,88	0,88	0,88	0,87	0,87	0,88	0,87	0,88
Nominal operating current draw⁽²⁾ - 30XB														
Standard unit	A	151	167	187	211	242	267	327	351	406	427	447	506	542
Unit + option 15LS	A	142	158	177	199	230	255	310	333	388	409	428	488	521
Maximum operating current draw (Un)⁽¹⁾ - 30XB														
Standard unit	A	209	227	249	285	318	352	426	459	518	548	598	640	736
Unit + option 15LS	A	200	218	239	273	306	340	409	441	500	530	579	622	715
Maximum current (Un-10%)⁽¹⁾ - 30XB														
Standard unit	A	221	240	263	301	336	372	450	485	548	580	633	678	780
Unit + option 15LS	A	212	231	253	289	324	360	433	467	530	562	614	660	759
Nominal start-up current⁽³⁾ - 30XB														
Standard unit	A	246	246	262	379	480	480	539	564	738	759	759	835	835
Unit + option 15LS	A	241	241	257	374	475	475	531	555	730	751	751	826	844
Unit + option 25C	A	184	177	193	317	411	411	413	438	631	637	637	666	659
Maximum start-up current(Un)⁽²⁾ - 30XB														
Standard unit	A	275	293	293	408	511	511	618	618	783	813	813	902	952
Unit + option 15LS	A	270	288	288	403	506	506	610	609	775	805	805	893	941
Unit + option 25C	A	213	224	224	346	442	442	492	492	676	691	691	733	756

(1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.

ELECTRICAL DATA, 30XB WITH OPTION CU/AL HEAT EXCHANGER

30XB with option 254 or 255	1100	1200	1300	1400	1500	1550	1700	
Power circuit supply								
Nominal voltage	V-ph-Hz	400-3-50						
Voltage range	V	360-440						
Control circuit supply								
24 V via internal transformer								
Maximum operating input power⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	kW	194	223	263	283	307	445	363
Circuit 2 ^(a)	kW	284	309	281	304	307	223	363
Option 081	kW	478	531	544	587	613	-	-
Unit + option 15LS								
Circuit 1 ^(a)	kW	188	217	254	274	296	431	350
Circuit 2 ^(a)	kW	276	298	272	295	296	215	350
Option 081	kW	464	515	526	568	592	-	-
Power factor at maximum power⁽¹⁾ - 30XB								
Standard unit								
Displacement Power Factor (Cos Phi)		0,87	0,87	0,87	0,87	0,87	0,87	0,88
Unit + option 15LS								
Displacement Power Factor (Cos Phi)		0,87	0,87	0,87	0,87	0,87	0,87	0,88
Nominal operating current draw⁽²⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	255	271	340	353	389	542	447
Circuit 2 ^(a)	A	357	392	353	385	389	271	447
Option 081	A	611	663	692	737	777	-	-
Unit + option 15LS								
Circuit 1 ^(a)	A	245	261	324	337	372	518	425
Circuit 2 ^(a)	A	343	375	337	369	372	259	425
Option 081	A	587	636	661	706	743		
Maximum operating current draw (Un)⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	322	368	438	468	507	736	598
Circuit 2 ^(a)	A	472	510	468	503	507	368	598
Option 081	A	793	878	905	970	1013		
Unit + option 15LS								
Circuit 1 ^(a)	A	312	358	422	452	490	712	576
Circuit 2 ^(a)	A	458	493	452	487	490	356	576
Option 081	A	769	851	874	939	979		
Maximum current (Un-10%)⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	341	390	474	506	538	780	633
Circuit 2 ^(a)	A	510	541	506	534	538	390	633
Option 081	A	850	931	979	1039	1075		
Unit + option 15LS								
Circuit 1 ^(a)	A	331	380	458	490	521	756	611
Circuit 2 ^(a)	A	496	524	490	518	521	378	611
Option 081	A	826	904	948	1008	1041		
Nominal start-up current⁽³⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	587	587	629	629	629	828	759
Circuit 2 ^(a)	A	629	629	629	629	629	587	759
Option 081	A	936	976	982	1014	1018		
Option 081 & Opt 25c	A	687	702	729	744	744		
Unit + option 15LS								
Circuit 1 ^(a)	A	587	587	629	629	629	828	751
Circuit 2 ^(a)	A	629	629	629	629	629	587	751
Option 081	A	922	959	966	998	1001		
Option 081 & Opt 25c	A	674	685	714	729	727		

- (1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)
(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.
(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.
(a) When the machines are equipped with two power supplies, circuit 1 supplies the refrigerant circuit A and circuit 2 supplies the refrigerant circuit B or for units 30XB1550 to 1700 units: Circuit 1 supplies circuits A and B, circuit 2 supplies circuits C and D.

ELECTRICAL DATA, 30XB WITH OPTION CU/AL HEAT EXCHANGER

30XB with option 254 or 255		1100	1200	1300	1400	1500	1550	1700
Maximum start-up current(Un)⁽²⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	587	587	629	629	629	828	813
Circuit 2 ^(a)	A	629	629	629	629	629	587	813
Option 081	A	1051	1094	1097	1132	1136		
Option 081 & Opt 25c	A	802	820	844	862	862		
Unit + option 15LS								
Circuit 1 ^(a)	A	587	587	629	629	629	828	805
Circuit 2 ^(a)	A	629	629	629	629	629	587	805
Option 081	A	1037	1077	1081	1116	1119		
Option 081 & Opt 25c	A	789	803	829	847	845		

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(a) When the machines are equipped with two power supplies, circuit 1 supplies the refrigerant circuit A and circuit 2 supplies the refrigerant circuit B or for units 30XB1550 to 1700 units: Circuit 1 supplies circuits A and B, circuit 2 supplies circuits C and D.

ELECTRICAL DATA

Electrical data notes and operating conditions for 30XB units:

- 30XB 250 to 1000 units have a single power connection point; 30XB 1100 to 1700 units have two connection points.
- The control box includes the following standard features:
 - One general disconnect switch per circuit
 - Starter and motor protection devices for each compressor, the fan(s) and the pump
 - Control devices

Field connections:

- All connections to the system and the electrical installations must be in full accordance with all applicable local codes.
- The Carrier 30XB units are designed and built to ensure conformance with these codes. The recommendations of European standard EN 60204-1 (corresponds to IEC 60204-1) (machine safety - electrical machine components - part 1: General regulations) are specifically taken into account, when designing the electrical equipment.

IMPORTANT:

- Generally the recommendations of IEC 60364 are accepted as compliance with the requirements of the installation regulations.
- Conformance with EN 60204 is the best means of ensuring compliance with the Machines Directive ~ 1.5.1. Annex B of EN 60204-1 describes the electrical characteristics used for the operation of the machines.
 1. Environment* . Environment as classified in EN 60364 (corresponds to IEC 60364):
 - Outdoor installation*
 - Ambient temperature range: from -20°C to +55°C**
 - Altitude less than or equal to 2000 m (for hydraulic module, see paragraph 4.7 in the IOM)
 - Presence of hard solids, class AE3 (no significant dust present)*
 - Presence of corrosive and polluting substances, class AF1 (negligible)
 - Units shall not be located in places open to all persons, which can include children.
 2. Compatibility for low-frequency conducted disturbances according to IEC61000-2-2 and to class 2 levels per IEC61000-2-4 standard:
 - Power supply frequency variation : +-2Hz
 - Phase imbalance : 2%
 - Total Voltage Harmonic Distortion (THDV) : 8%**
 3. The neutral (N) line must not be connected directly to the unit (if necessary use a transformer).

4. Overcurrent protection of the power supply conductors is not provided with the unit.
5. The factory installed disconnect switch(es)/circuit breaker(s) is (are) of a type suitable for power interruption in accordance with EN 60947-3 (corresponds to IEC 60947-3).

6. The units are designed for simplified connection on TN(s) networks (IEC 60364). For IT networks provide a local earth and consult competent local organisations to complete the electrical installation. Units delivered with variable frequency drive(s) (options : 28, 17) are not compatible with IT network. 30XB units are designed to use for domestic / residential and industrial environments:

Machines that are not equipped with variable frequency drive(s) are in accordance with the codes :

- 61000-6-3: Generic standards - Standard emission for residential, commercial and light industry.
- 61000-6-2: Generic standards - Immunity for industrial environments. Machines that are equipped with variable frequency drive(s) (options 28, 17) are in accordance with the codes
- 61000-6-4: Generic standards - Emission standard for industrial environments.
- 61000-6-2: Generic standards - Immunity for industrial environments.

- Leakage currents: If protection by monitoring the leakage currents is necessary to ensure the safety of the installation, the presence of circuitry with DC component as well as additional leakage currents introduced by the use of variable frequency drive(s) in the unit must be considered (options 28, 17). In particular these protection devices shall be

- Suitable for protection of circuitry with AC and DC components
- Of reinforced immunity types and have a threshold not lower than 150mA.

- Capacitors that are integrated as part of the option 231 can generate electrical disturbances in the installation the unit is connected to. Presence of these capacitors must be considered during the electrical study prior to the start-up.

NOTE: If particular aspects of an actual installation do not conform to the conditions described above, or if there are other conditions which should be considered, always contact your local Carrier representative.

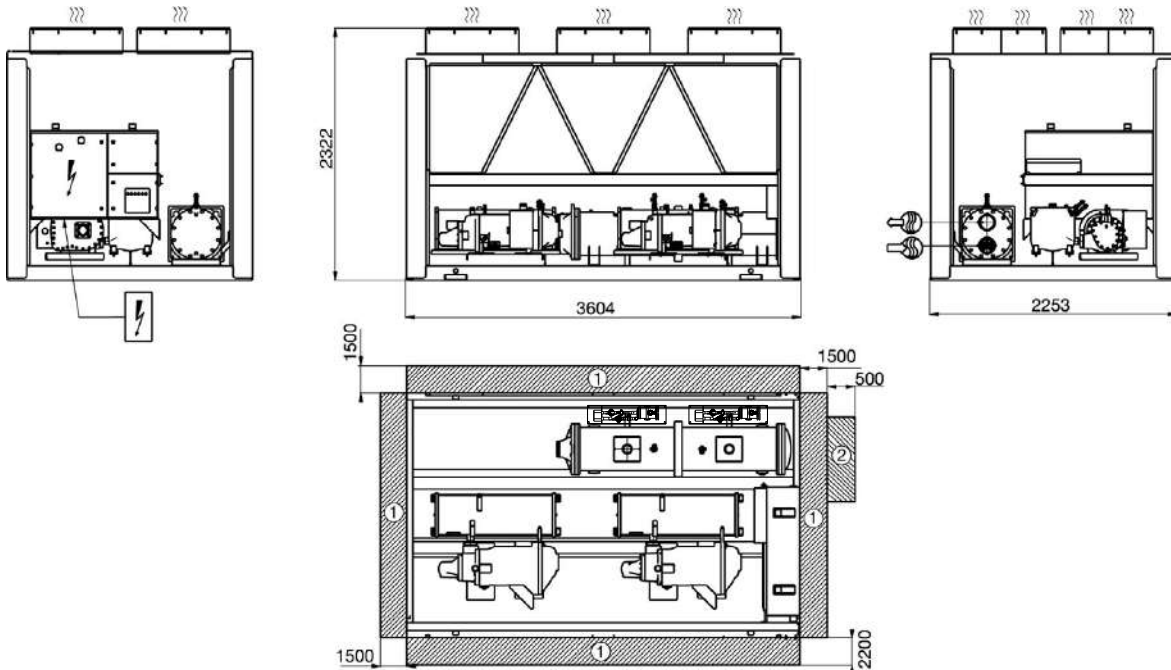
* The required protection level for this class is IP43BW (according to reference document IEC 60529). All 30XB units are protected to IP44CW and fulfil this protection condition.

**These limits are modified for machines equipped with option/QM 231:
 Maximum ambient temperature : 45°C
 Total Voltage harmonic distortion : 3%

DIMENSIONS / CLEARANCES

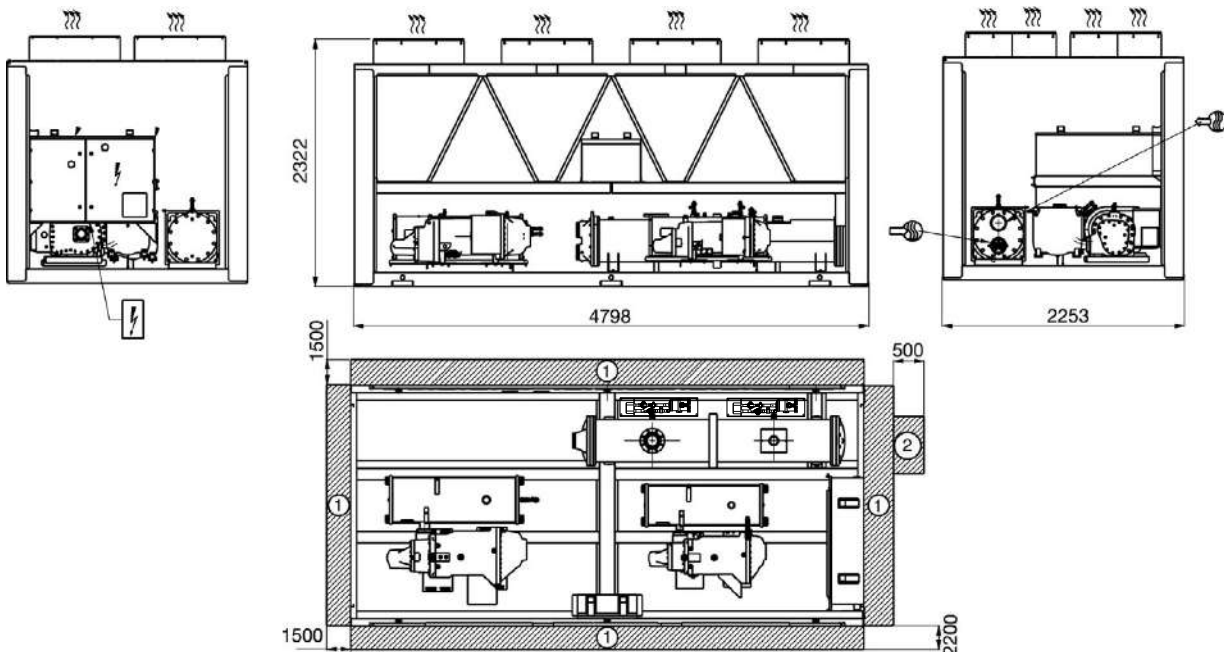
30XB250 to 350

30XB250 to 300 with option 254/255



30XB400 to 500

30XB350 to 450 with option 254/255



Legend

All dimensions are given in mm.

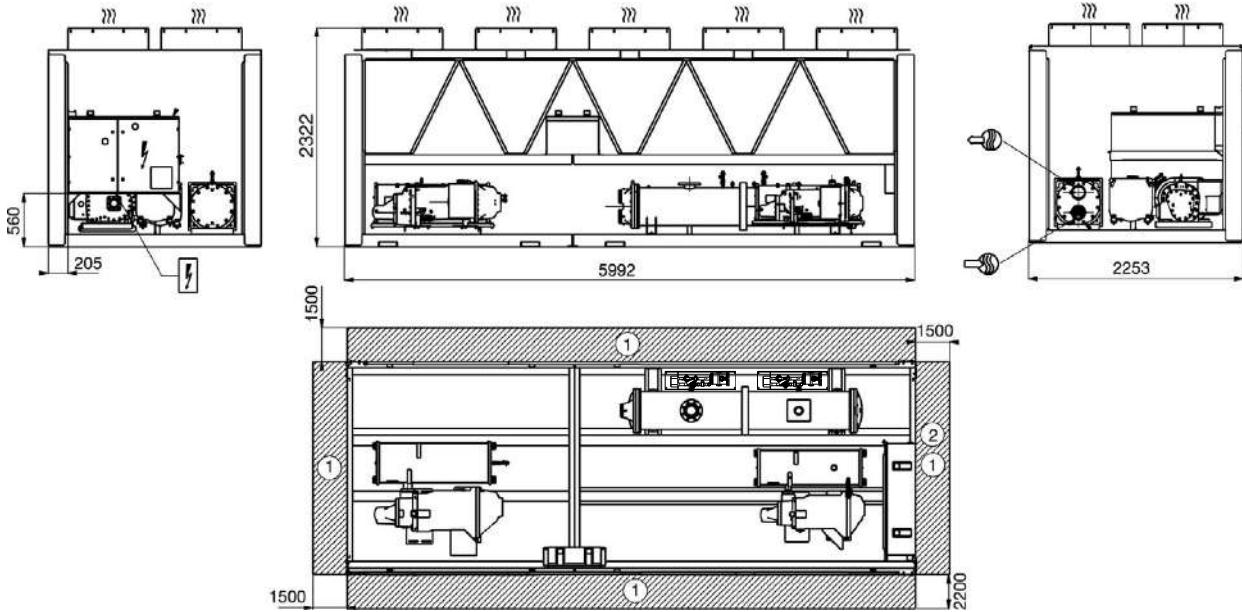
- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
- Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Air outlet – do not obstruct
- Power supply and control connection

NOTES:

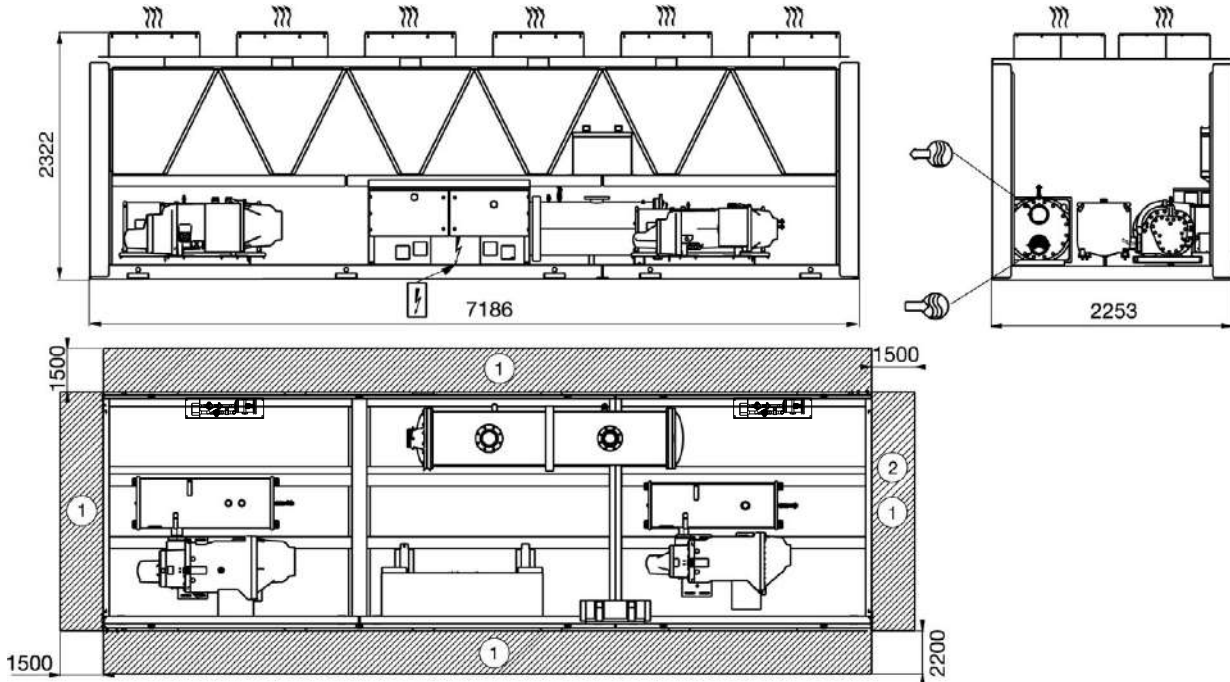
- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required

DIMENSIONS / CLEARANCES

30XB500 with options 254/255, 50 (heat recovery) or 118A (free cooling)







30XB600 to 900, 30XB600 to 700 with option 254/255



Legend

All dimensions are given in mm.

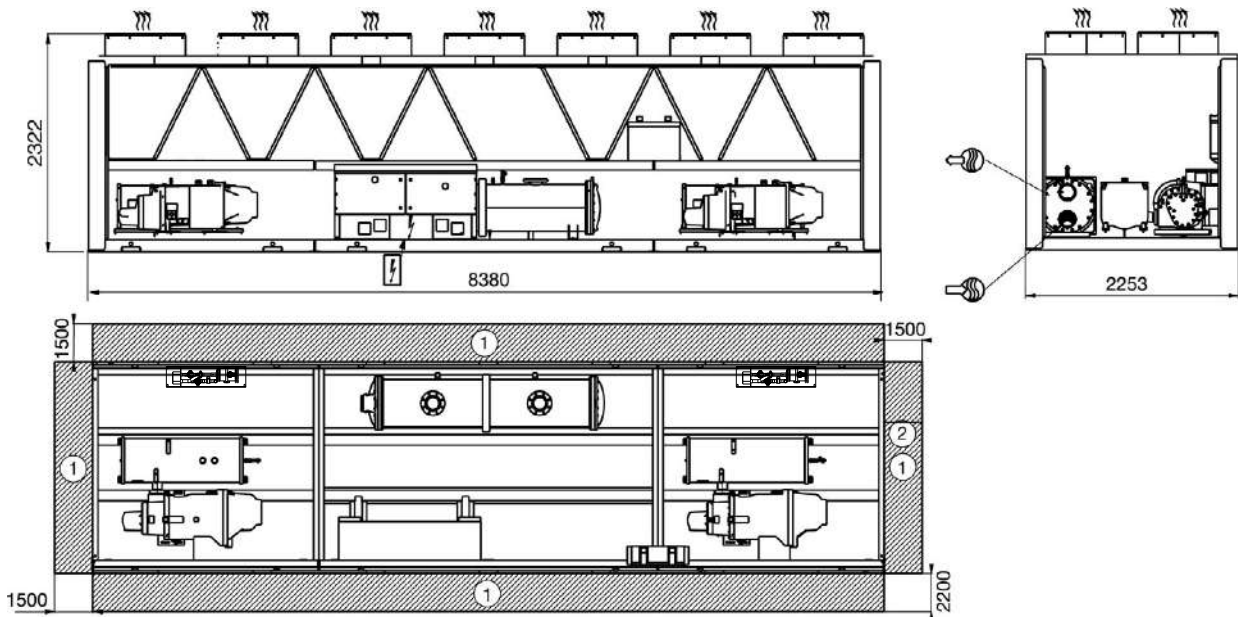
- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
-  Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
-  Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
-  Air outlet – do not obstruct
-  Power supply and control connection

NOTES:

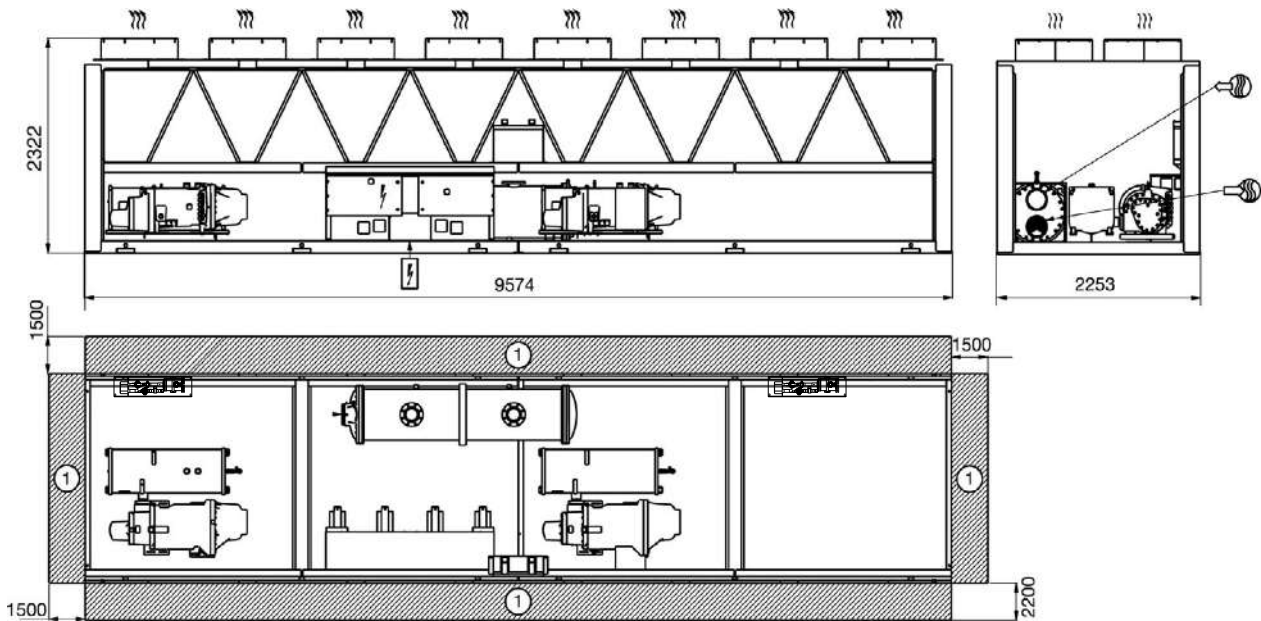
- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required

DIMENSIONS / CLEARANCES

**30XB1000, 30XB750 to 850 with option 254/255,
30XB850 & 900 with options 50 or 118A, 30XB900 with option 119**



**30XB900 option 254/255,
30XB1000 with options 50 (heat recovery) & 118 (free cooling) & Option 119 (high efficiency)**



Legend

All dimensions are given in mm.

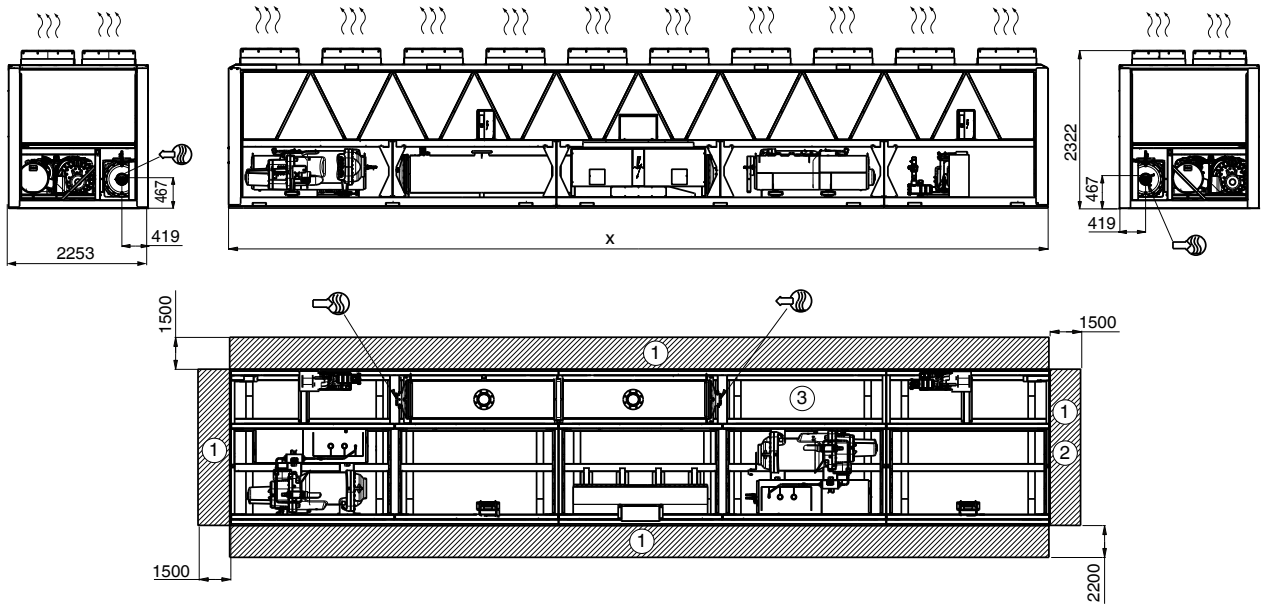
- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
- Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Air outlet – do not obstruct
- Power supply and control connection

NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required

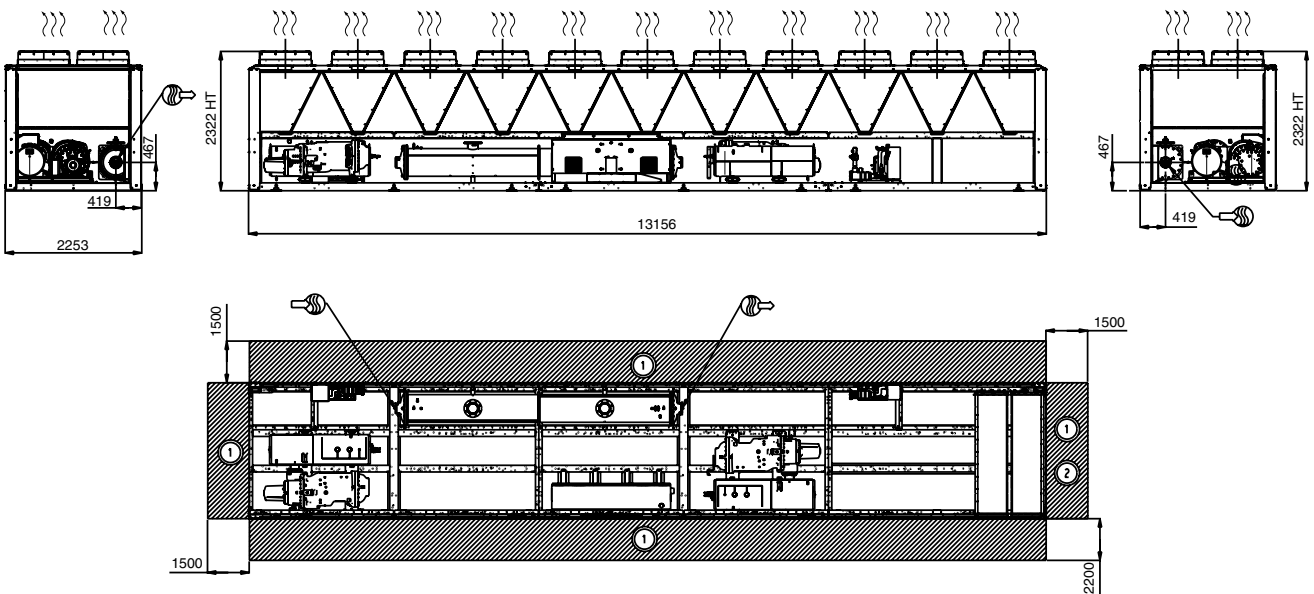
DIMENSIONS / CLEARANCES

30XB1100 to 1400



30XB1100 : X = 9574
 30XB1200 : X = 10770
 30XB1100 option 119 or 254/255, 30XB1200 option 254/255, 30XB1300, 30XB1400 : X = 11962

30XB1500



Legend

All dimensions are given in mm.

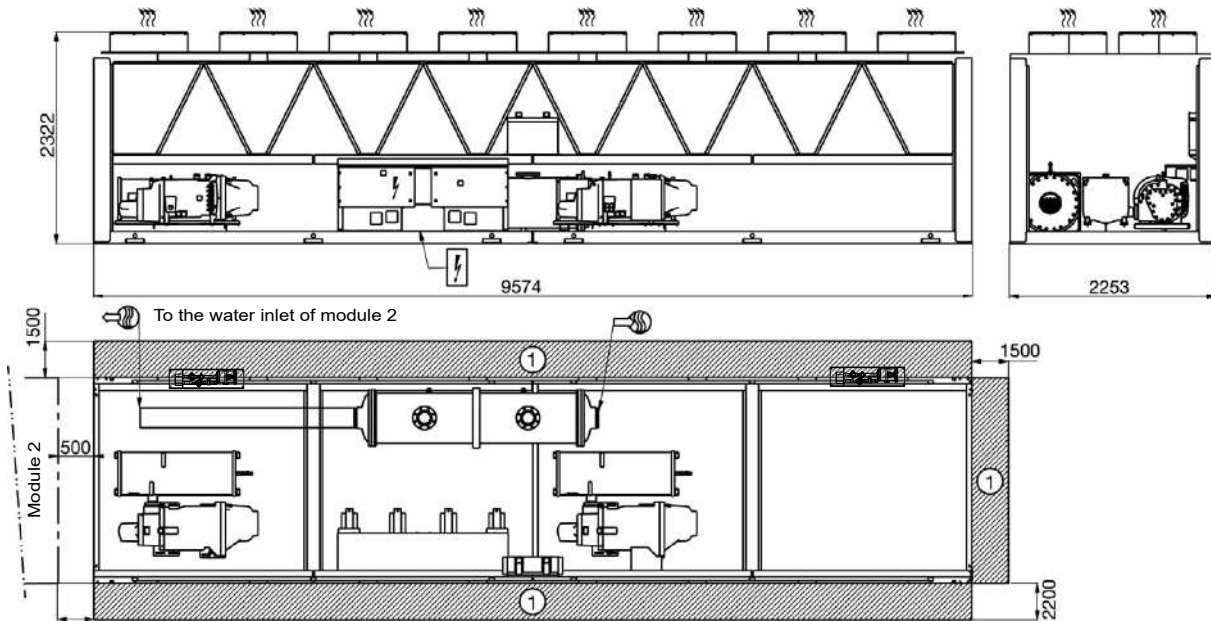
- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
- Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Air outlet – do not obstruct
- Power supply and control connection

NOTES:

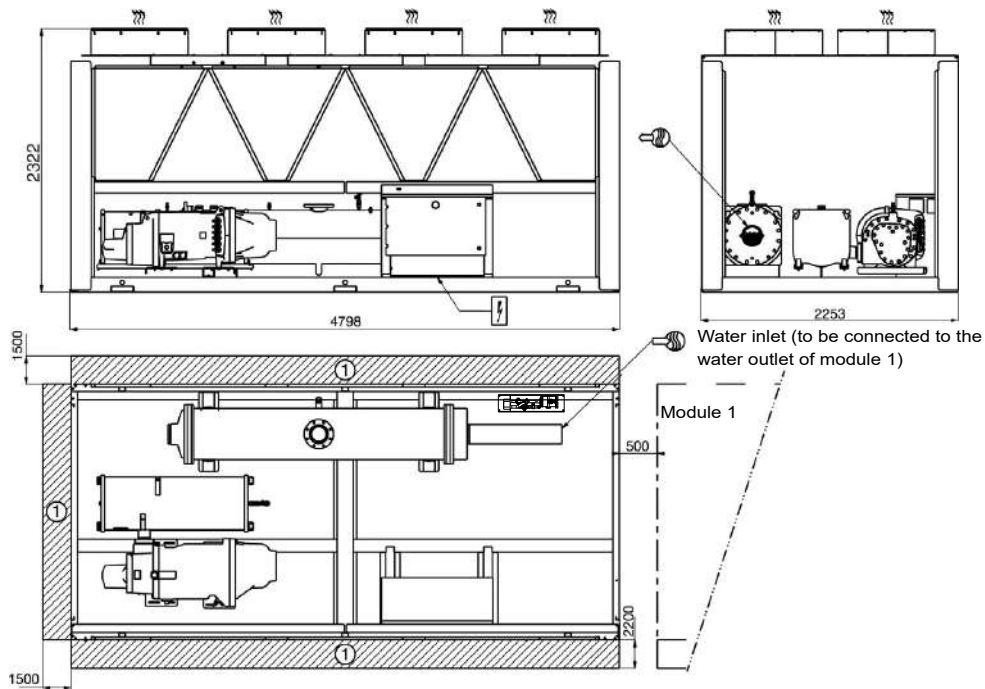
- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required

DIMENSIONS / CLEARANCES

30XB1550 module 1/2



30XB1550 module 2/2



Legend

All dimensions are given in mm.

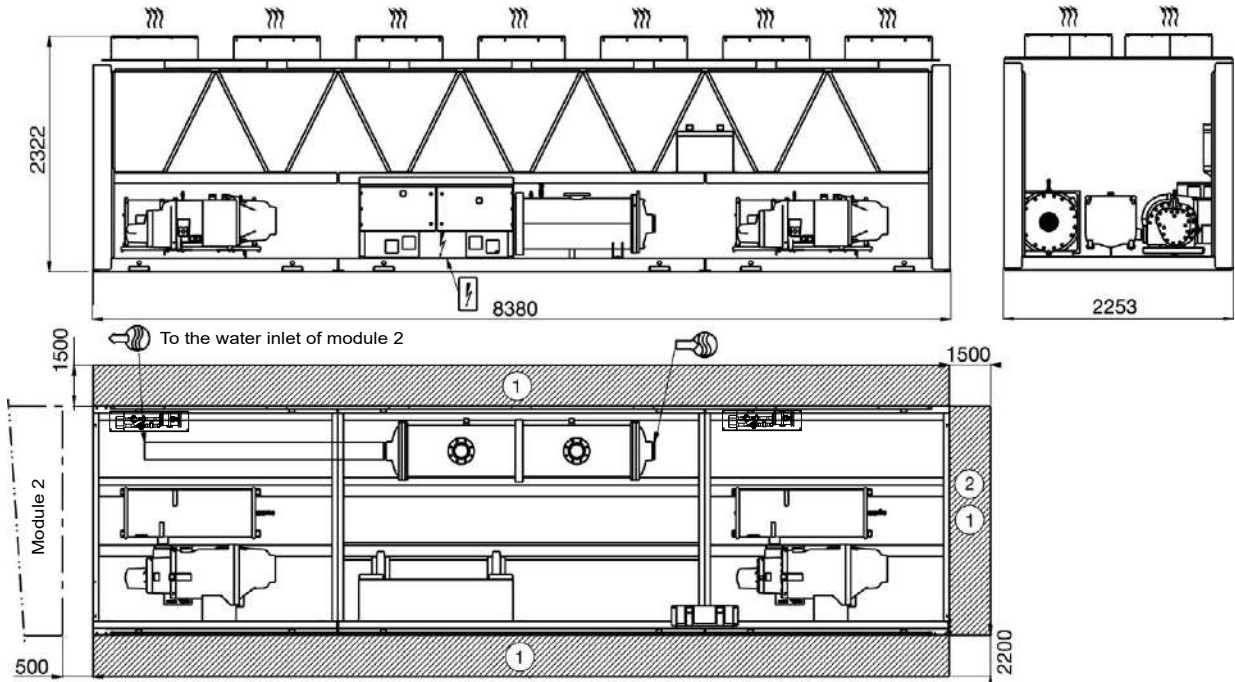
- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
- ☰ Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- ☷ Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- ☸ Air outlet – do not obstruct
- ⚡ Power supply and control connection

NOTES:

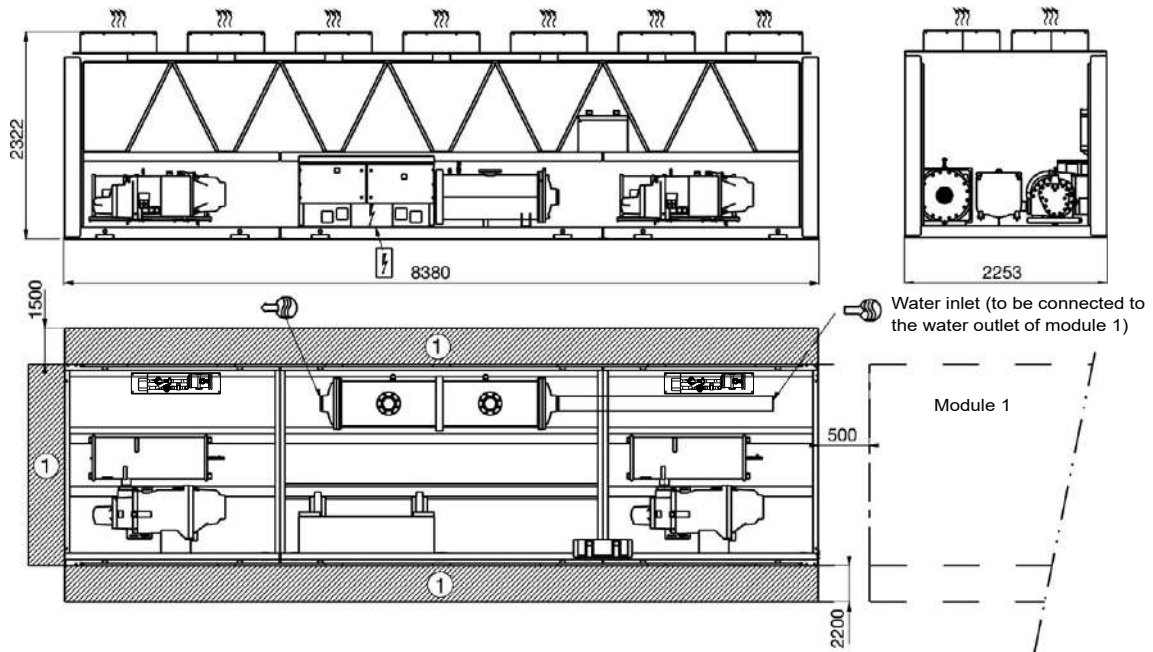
- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required

DIMENSIONS / CLEARANCES

30XB1700 module 1/2



30XB1700 module 2/2



Legend

All dimensions are given in mm.

- ① Required clearances for maintenance (see note)
- ② Recommended space for evaporator tube removal
- Water inlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Water outlet for standard unit - for options 100A, 100C, 107 refer to the certified drawing.
- Air outlet – do not obstruct
- Power supply and control connection

NOTES:

- Drawings are not contractually binding.
- Before designing an installation, consult the certified dimensional drawings, available on request.
- If the installation includes several units or if this (these) is (are) close to walls, please refer to chapters 3.13 - "Multiple chiller installation" and 3.14 - "Distance to the wall" of the installation manual to determine the space required