



# Reversible air-to-water scroll heat pumps

## **Model CXAO 120 to 290**

Cooling capacity: 420 - 1030 kW

Heating capacity: 475 - 1175 kW



**CG-PRC027A-GB**



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# Model number description

## Digit 1-4 — Unit Model

CXAO = Reversible air-to-water scroll heat pumps

## Digit 5-7 — Unit Model Nominal Tonnage

120 = 120Tons  
 130 = 130Tons  
 140 = 140Tons  
 150 = 150Tons  
 165 = 165Tons  
 175 = 175Tons  
 180 = 180Tons  
 190 = 190Tons  
 195 = 195Tons  
 205 = 205Tons  
 215 = 215Tons  
 220 = 220Tons  
 225 = 225Tons  
 250 = 250Tons  
 270 = 270Tons  
 290 = 290Tons

## Digit 8 — Acoustics

L = Low Noise  
 X = Standard Noise  
 S = Super Low Noise

## Digit 9 — Hydraulic Version - Pump Package

1 = Single pump - Low Head Pressure  
 2 = Single pump - Medium Head Pressure  
 3 = Single pump - High Head Pressure  
 4 = Dual Pump - Low Head Pressure  
 5 = Dual Pump - Medium Head Pressure  
 6 = Dual Pump - High Head Pressure  
 A = Single Pump & Water Tank - Low Head Pressure  
 B = Single Pump & Water Tank - Medium Head Pressure  
 C = Single Pump & Water Tank - High Head Pressure  
 D = Dual Pump & Water Tank - Low Head Pressure  
 E = Dual Pump & Water Tank - Medium Head Pressure  
 F = Dual Pump & Water Tank - High Head Pressure  
 X = Without (Standard)

## Digit 10 — Remote Control Display

1 = With Remote Control Display  
 X = Without (Standard)

## Digit 11 — Power Factor Correction

1 = Cos Phi = 0.91  
 X = Without (Standard)

## Digit 12 — Control Panel Electric Heater with Thermostat

1 = With  
 X = Without (Standard)

## Digit 13 — Phase Failure Protection Relay + Under Over Voltage Protection

1 = With  
 X = Without (Standard)

## Digit 14 — Communication Card

1 = RS485  
 2 = LON Adapter  
 3 = Bac Net Adapter  
 X = Without (Standard)

## Digit 15 — Soft starter

1 = With  
 X = Without (Standard)

## Digit 16 — Automatic Circuit Breakers (Fan and Compressors)

1 = With  
 X = Without (Standard)

## Digit 17 — Condensing control

1 = ON/OFF pressostatic control  
 2 = With variable fan speed modulation  
 3 = EC fans  
 X = ON/OFF AC fan (Standard)

## Digit 18 — Low Ambient Kit

1 = With  
 X = Without (Standard)

## Digit 19 — Flow Switch

1 = With  
 X = Without (Standard)

## Digit 20 — Automatic Water Filling

1 = With  
 X = Without (Standard)

## Digit 21 — Water Strainer

1 = Flanged Diameter  
 2 = Threaded Diameter FF  
 X = Without (Standard)

## Digit 22 — Water Gauges

1 = With  
 X = Without (Standard)

## Digit 23 — Gas Gauges

1 = With  
 X = Without (Standard)

## Digit 24 — Protection Grilles

1 = Full Protection Grilles  
 2 = Only Condenser Protection Grilles  
 X = Without (Standard)

## Digit 25 — Isolators

1 = Rubber anti vibration mounts  
 2 = Spring anti vibration mounts  
 X = Without (Standard)

## Digit 26 — Water Pump Automatic Change Over

1 = With  
 X = Without (Standard)

## Digit 27 — Condenser coil

1 = Aluminum epoxy coated condensing coils  
 2 = Aluminum pre-painted condensing coils  
 3 = Copper/Copper condensing coils  
 4 = Tinned copper/copper condensing coils  
 X = Aluminum (Standard)

## Digit 28 — Heat Recovery

H = With  
 X = Without (Standard)

## Digit 29 — Water Connection Type

1 = Flange adaptor  
 2 = Victaulic kit  
 X = Without (Standard)

## Digit 30 — With High Static Pressure Fans

1 = With  
 X = Without (Standard)

## Digit 31 — Sea Container Package

1 = With  
 X = Without (Standard)

## Digit 32 — Literature language

1 = English  
 2 = Turkish  
 3 = Dutch  
 4 = German  
 5 = Greek  
 6 = French  
 7 = Italian  
 8 = Polish  
 9 = Spanish

## Digit 33 — Special

1 = Special request  
 X = Without (Standard)

# Technical specifications

## Standard configuration

The units belonging to the CXAO range are air cooled packaged heat pumps, for outdoor installation, equipped with hermetic scroll compressors and axial fans, available in 16 sizes and in the following versions:

## Energy versions

**H version:** (partial recovery stainless steel brazed plate type desuperheater, externally insulated): the unit is equipped with an additional water/refrigerant heat exchanger fitted on the compressor discharge line, in series with the condensing coil. This solution enables desuperheating heat recovery of up to 25% of condensing heat, useful for sanitary or other applications.

## Acoustic versions

**L version:** units in low noise versions. The noise reduction is achieved by a sound jacket attenuator on compressors, fans with two speed motors and automatic switch over in accordance with the condensing pressure. Compared to standard versions, L versions allow a reduction of about 2 dB(A) in sound levels.

**S version:** units in super low noise versions. The noise reduction is achieved by a sound proofing box for compressors, oversized condensing coil, fans controlled by a variable speed electronic control in accordance with the condensing pressure, and a muffler on the compressor delivery lines. Compared to standard versions, S versions allow a reduction of about 5 dB(A) in sound levels.

## Hydraulic version (Packaged hydraulic kit)

### SINGLE PUMP AND EXPANSION VESSEL

Model Number

- 1** Low head pressure 150kPa
- 2** Medium head pressure 250kPa
- 3** High head pressure 450kPa

### DUAL PUMPS AND EXPANSION VESSELS

Model Number

- 4** Low head pressure 150kPa
- 5** Medium head pressure 250kPa
- 6** High head pressure 450kPa

### SINGLE PUMP, EXPANSION VESSEL AND A WATERTANK OF 500l

Model Number

- A** Low head pressure 150kPa
- B** Medium head pressure 250kPa
- C** High head pressure 450kPa

### DUAL PUMPS, EXPANSION VESSEL AND A WATERTANK OF 500l

Model Number

- D** Low head pressure 150kPa
- E** Medium head pressure 250kPa
- F** High head pressure 450kPa

## Casing

Casing made with heavy gauge structure in galvanized steel. The powder paint anti-corrosive treatment over the entire frame provides long lasting resistance for outdoor installation, even in aggressive environmental conditions. Its design allows these machines to be manufactured in modular units and, at the same time, it ensures a constant air flow through the finned coils and makes for easy maintenance and service.

## Compressor

Compressor of scroll hermetic type. These compressors are characterized by high performance with low noise and vibration levels. The high values of COP are obtained:

- By means of high volumetric efficiency in the whole operating range obtained through the continuous contact between the fix and rotating spirals which avoids the bad space and the re-expansion of the refrigerant;
- By means of low pressure losses due to the absence of suction and discharge valves and to the continuous compression;
- By means of the reduction of the heat exchange between the suction and discharge refrigerant, thanks to the complete separation of the refrigerant paths.

## Technical specifications

The acoustic features are obtained:

- Through the absence of the suction and discharge valves;
- Through the continuous and progressive compression process;
- Through the absence of pistons which ensures the low vibration level and pulsation of the refrigerant.

The electric motor is suction cooled and equipped with automatic reset thermal protection and electric heater to prevent the dilution of the refrigerant in the oil during the periods when the unit is stopped. The terminals are contained in a box with IP54 protection.

### Fans

The ECOPROFILE propeller fan technology has blades statically and dynamically balanced, driven directly by the electric motors, closed type, external rotor and thermal protection for outdoor installation. Class F windings have internal protection according to VDE 0730. Ecoprofile fans are characterized by low speed and "owlet" profile to reduce the effect of vortices, thereby reducing the energy consumed for operation and noise, reducing it by an average of 6dB (A) compared with standard fans. They are suitable for:

- Two speed operation by automatic speed change-over (chiller units in L setup);
- Variable speed control by means of additional electronic card (chiller units in S setup).

### User heat exchanger

FROM SIZE 120 to 165 and 270 - 290

Direct expansion, stainless steel AISI 316 brazed plate type with double circuit, externally insulated with closed cell anticondensation material and equipped with water differential pressure switch and antifreeze protection electric heater. Desuperheater (H version) heat exchanger is stainless steel AISI 316 brazed plate type.

FROM SIZE 175 to 250

Direct expansion shell and tube type. The steel shell is complete with flanged water connections and externally insulated with closed cell anticondensation neoprene layer. The U-bent inner copper tubes are mechanically expanded onto the steel tube plate and come with water baffles in order to improve the thermal exchange. The evaporator is protected against freezing through an antifreeze protection electric heater controlled by a thermostat, fitted around the exterior of the shell beneath the insulation and it is supplied with differential pressure.

### Source heat exchanger

Condenser coils with seamless copper tubes expanded into aluminum corrugated fins. They are of high efficiency type, complete with sub-cooling circuit which allows an increase of cooling capacity without an increase of the power input.

### Refrigerant circuit

The units are equipped with two, three or four independent refrigerant circuits entirely constructed with copper tubes, each supplied by its own compressor. Each circuit includes:

- Electronic expansion valve;
- Filter drier with replaceable cartridge;
- Sight glass;
- Liquid line solenoid valve;
- High pressure switch;
- Low pressure switch;
- Relief valve on high and low pressure line;
- 4-way reverse valve, liquid receiver and liquid accumulator on suction line.

### Electrical panel

Electrical control panel made in accordance with standards CEI 44-5/IEC 204-2, mounted inside the unit, including:

- Safety locked main switch;
- Fuses and contactors for compressors;
- Fuses and contactors for the fans;
- Fuses 220V auxiliary circuit;
- Fuses 24V auxiliary circuit;
- Transformer for 24Vac auxiliary circuit power supply;
- Low-voltage user terminals board.

## Technical specifications

### Electronic controls

All versions are controlled through a 16bit microprocessor with a 2MB storage memory, real time clock for alarms storage and multi-language control software.

Using only one terminal with 6 keys and LCD graphic display the user can manage each card in the net and can:

- Change the set point of the whole unit;
- Monitor the analog state variables of the system (in/out water temperature, pressures on each circuit);
- Monitor the state of the compressors, capacity control valves, heaters etc.;
- Read the text and the code of the occurred alarm;
- Turn on/off the whole unit and change its mode (summer/winter for the heat pumps);
- Modify the following parameters by entering the right password:
  - High/low pressure;
  - On/off compressor timings;
  - Defrost timings (for the heat pumps);
  - Antifreeze threshold;
  - Condensation control law as a function of the instantaneous high pressure;
  - Water pump pre-starting time.



There are three types of alarm:

- Serious alarms: managed by the master-addressed card, they deactivate the whole system, produce a text alarm on the display, activate the buzzer and the general alarm output relay fitted on the master card. They are:
  - No water flow across the evaporator;
  - Serious alarm signal given on the master card by digital input (see accessories for details);
- Circuit alarms: they deactivate only the circuit where they have occurred, produce a text alarm on the display, activate the buzzer and the general alarm output relay fitted on the master card. They are:
  - High/low pressure;
  - Compressor thermal protection;
  - Fans thermal protection;
  - Temperature or pressure probe failure.
- Signal-only alarms: they only produce a signal text on the display and activate the buzzer and the general alarm output relay fitted on the master card. They are:
  - Compressor maintenance time over limits;
  - Water pump maintenance time over limits;
  - Net self-control failure: for the multi-card cooling units, this means that one or more slave-addressed cards are off-line.

Through contacts (included) in the control panel you can manage the unit in its basic functions in the BMS system:

- Remote on/off selection;
- Remote summer/winter selection (for the heat pump versions);
- Additional water flow control (external flow switch);
- Fine-setting of the setpoint using an external 4-20mA or 0-1Vdc signal (for leaving water temperatures < - 4°C please refer to the ACCESSORIES section);
- External water pump on/off signal (for version without hydronic kit);
- General alarm relay contacts;
- On/off compressors status.

The electronic controller can be interfaced with supervision software on a local or remote PC that uses a manufacturer communication protocol, or with complex BMS systems using ModBus, BACnet, LonWorks, Trend or Johnson Metasys protocols.

# Options and accessories

## Options

- On/off condensing control
- Condensing control with variable fan speed modulation
- Power factor correction to cos phi 0.91
- Automatic circuit breakers for load (without pump)
- Numbered wires
- Control panel electric heater with thermostat
- Phase failure protection relay
- Water pumps automatic changeover
- Condensing coil protection grilles
- Condensing coil protection grilles - S version
- Anti intrusion grilles
- Anti intrusion grilles - S version
- Gas gauges
- Electronically Commutated (EC) ECO-PROFILE fans
- Electronically Commutated (EC) ECO-PROFILE fans - S version
- Soft starter
- Pre painted condensing coil
- Epoxy coated condensing coil fins
- Copper/copper condensing coils
- Tinned copper/copper condensing coils
- Pre painted condensing coils - S version
- Epoxy coated condensing coil fins - S version
- Copper/copper condensing coils - S version
- Tinned copper/copper condensing coils - S version
- High static pressure fans 100 Pa

## Accessories

- Remote control panel
- Communication card RS485
- LON adapter
- BacNet adapter
- Flow switch
- Automatic water filling
- Kit flanges
- Victaulic kit
- Victaulic adapter
- Water strainer - Threaded diameter FF
- Water strainer - Flanged diameter
- Water gauges
- Rubber anti vibration mounts
- Rubber anti vibration mounts - S version
- Rubber anti vibration mounts for hydraulic version
- Rubber anti vibration mounts for hydraulic version - S version
- Spring anti vibration mounts
- Spring anti vibration mounts - S version
- Spring anti vibration mounts for hydraulic version
- Spring anti vibration mounts for hydraulic version - S version

## Standards and certifications

### Reference standards

THE PRESSURE EQUIPMENT DIRECTIVE (97/23/EC)

UNI EN ISO 3744 ACOUSTIC REGULATION

UNI-EN-ISO 9001:2008: QUALITY MANAGEMENT SYSTEMS

LOW VOLTAGE DIRECTIVE (LVD) 2006/95/EC.

MACHINERY DIRECTIVE 2006/42/EC

DIRECTIVE FOR ELECTROMAGNETIC COMPATIBILITY 2004/108/CE

CEI-EN 60204-1 DIRECTIVE (CEI44-5; CEI EN 62061) MACHINERY SAFETY – ELECTRIC MACHINERY – EQUIPMENTS

ERP DIRECTIVE (ENERGY-RELATED-PRODUCTS ECODESIGN 2009/125/CE)

UNI EN 14511-1-2-3-4 TESTING CONDITIONS.

### Certifications

PED RELEASED FROM IMQ SPA - NOTIFIED BODY FOR REGULATION 97/23/EC (NO. 0051) ACCORDING TO THE FOLLOWING STATEMENTS:

- DECLARATION OF QUALITY SYSTEM APPROVAL - FORM H1 (QUALITY ASSURANCE WITH DESIGN CONTROL AND MONITORING OF FINAL CHECK DETAIL): CERTIFICATE N. PEC-0051-1105003
- CERTIFICATES OF EXAMINATION OF THE PROJECT N. 0051-PEC-1105004/05/06/07/08

QUALITY CERTIFICATION ACCORDING TO THE STANDARD UNI EN ISO 9001:2008 ISSUED BY CSQ (ACCREDITED BY ACCREDIA)

PERFORMANCE CERTIFICATION OF THE UNIT WITH THE PRESENCE OF RINA SPA DURING THE TESTING PROCESS (OPTIONAL)

GOST CERTIFICATION - (OPTIONAL) FOR PRESSURE RECIPIENTS OF THE RUSSIAN FEDERATION.

# Technical data

| CXAO                                          |       | 120    | 130    | 140    | 150    | 165    | 175          | 180    | 190    |
|-----------------------------------------------|-------|--------|--------|--------|--------|--------|--------------|--------|--------|
| <b>COOLING</b>                                |       |        |        |        |        |        |              |        |        |
| Total capacity in cooling mode                | kW    | 418.6  | 453.6  | 492.0  | 524.1  | 574.0  | 604.4        | 637.9  | 659.0  |
| Compressor power input in cooling mode        | kW    | 145.8  | 159.4  | 166.9  | 178.6  | 203.4  | 201.6        | 219.7  | 225.0  |
| Total EER                                     |       | 2.65   | 2.65   | 2.70   | 2.71   | 2.63   | 2.72         | 2.65   | 2.68   |
| ESEER                                         |       | 4.05   | 4.10   | 4.03   | 4.14   | 3.44   | 3.85         | 3.22   | 3.94   |
| <b>HEATING</b>                                |       |        |        |        |        |        |              |        |        |
| Total capacity in heating mode                | kW    | 474.0  | 502.1  | 556.7  | 591.3  | 659.1  | 698.1        | 728.5  | 758.0  |
| Compressor power input in heating mode        | kW    | 143.5  | 158.3  | 163.3  | 175.4  | 196.3  | 205.9        | 213.4  | 221.0  |
| Total COP                                     |       | 3.05   | 2.95   | 3.12   | 3.11   | 3.12   | 3.08         | 3.11   | 3.13   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |       |        |        |        |        |        |              |        |        |
| Desuperheater heating capacity                | kW    | 105.0  | 112.0  | 124.0  | 131.0  | 147.0  | 155.0        | 134.0  | 167.0  |
| Water flow                                    | m³/h  | 18.3   | 19.5   | 21.6   | 22.8   | 25.6   | 26.9         | 23.4   | 29.1   |
| Pressure drop                                 | kPa   | 18.0   | 17.0   | 18.0   | 18.0   | 18.0   | 18.0         | 15.0   | 18.0   |
| <b>COMPRESSORS</b>                            |       |        |        |        |        |        |              |        |        |
| Compressor number                             | n     | 5      | 6      | 5      | 6      | 6      | 8            | 7      | 7      |
| Refrigerant circuits                          | n     | 2      | 2      | 2      | 2      | 2      | 3            | 3      | 3      |
| Part load                                     | n     | 7      | 5      | 5      | 8      | 5      | 7            | 8      | 6      |
| Refrigerant charge                            | kg    | 65.2   | 65.2   | 74.2   | 74.6   | 82.9   | 109.2        | 117.0  | 128.2  |
| Oil charge                                    | kg    | 36.0   | 43.2   | 36.0   | 43.2   | 43.2   | 41.7         | 50.4   | 50.4   |
| <b>WATER EXCHANGER</b>                        |       |        |        |        |        |        |              |        |        |
| Type                                          |       | Plate  |        |        |        |        | Shell & Tube |        |        |
| Water flow                                    | m³/h  | 72     | 78     | 84     | 90     | 98     | 104          | 109    | 113    |
| Water pressure drop                           | kPa   | 97.4   | 114.8  | 96.3   | 95.5   | 102.6  | 44.9         | 50.1   | 30.2   |
| Water flow (PDC)                              | m³/h  | 83     | 87     | 97     | 103    | 115    | 122          | 127    | 132    |
| Water pressure drop (PDC)                     | kPa   | 124.9  | 140.7  | 123.3  | 121.5  | 135.4  | 60.0         | 65.3   | 39.9   |
| <b>FANS</b>                                   |       |        |        |        |        |        |              |        |        |
| Fan number                                    | n     | 8      | 8      | 10     | 10     | 10     | 14           | 14     | 14     |
| Air flow                                      | m³/h  | 178080 | 175200 | 222000 | 222000 | 219000 | 315520       | 320000 | 316320 |
| Power input for each fan                      | kW    | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50         | 1.50   | 1.50   |
| Absorbed current for each fan                 | A     | 3.00   | 3.00   | 3.00   | 3.00   | 3.00   | 3.00         | 3.00   | 3.00   |
| <b>SOUND LEVEL</b>                            |       |        |        |        |        |        |              |        |        |
| Sound power level (ISO 3744)                  | dB(A) | 93     | 92     | 91.8   | 94.2   | 95.5   | 94.4         | 95.6   | 95.9   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A) | 61     | 60     | 59.0   | 62.0   | 63.0   | 62.0         | 63.0   | 63.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |       |        |        |        |        |        |              |        |        |
| Length                                        | mm    | 4535   | 4535   | 5505   | 5505   | 5505   | 8005         | 8005   | 8005   |
| Width                                         | mm    | 2260   | 2260   | 2260   | 2260   | 2260   | 2260         | 2260   | 2260   |
| Height                                        | mm    | 2400   | 2400   | 2400   | 2400   | 2400   | 2400         | 2400   | 2400   |
| Weight                                        | kg    | 3732   | 3932   | 4112   | 4180   | 4564   | 6327         | 6624   | 6733   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

| CXAO                                          |                   | 195          | 205    | 215    | 220    | 225    | 250    | 270    | 290    |
|-----------------------------------------------|-------------------|--------------|--------|--------|--------|--------|--------|--------|--------|
| <b>COOLING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in cooling mode                | kW                | 683.7        | 718.3  | 758.2  | 779.1  | 795.3  | 872.6  | 945.3  | 1027.3 |
| Compressor power input in cooling mode        | kW                | 234.6        | 251.4  | 265.7  | 272.1  | 279.9  | 310.3  | 324.3  | 345.1  |
| Total EER                                     |                   | 2.67         | 2.64   | 2.64   | 2.66   | 2.64   | 2.63   | 2.71   | 2.76   |
| ESEER                                         |                   | 4.04         | 4.00   | 4.10   | 4.08   | 3.68   | 4.25   | 4.20   | 4.24   |
| <b>HEATING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in heating mode                | kW                | 776.5        | 812.2  | 851.3  | 879.8  | 923.9  | 986.1  | 1050.5 | 1175.3 |
| Compressor power input in heating mode        | kW                | 229.8        | 243.3  | 255.4  | 263.1  | 275.2  | 294.3  | 313.1  | 340.3  |
| Total COP                                     |                   | 3.10         | 3.07   | 3.08   | 3.10   | 3.12   | 3.13   | 3.12   | 3.20   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |                   |              |        |        |        |        |        |        |        |
| Desuperheater heating capacity                | kW                | 172.0        | 183.0  | 192.0  | 200.0  | 212.0  | 223.0  | 244.0  | 255.0  |
| Water flow                                    | m <sup>3</sup> /h | 29.2         | 31.9   | 33.4   | 34.9   | 37.0   | 38.9   | 42.5   | 44.4   |
| Pressure drop                                 | kPa               | 18.0         | 18.0   | 18.0   | 18.0   | 19.0   | 18.0   | 18.0   | 18.0   |
| <b>COMPRESSORS</b>                            |                   |              |        |        |        |        |        |        |        |
| Compressor number                             | n                 | 7            | 8      | 8      | 8      | 9      | 9      | 10     | 11     |
| Refrigerant circuits                          | n                 | 3            | 3      | 3      | 3      | 3      | 3      | 4      | 4      |
| Part load                                     | n                 | 7            | 6      | 8      | 7      | 8      | 6      | 8      | 8      |
| Refrigerant charge                            | kg                | 128.2        | 128.2  | 128.2  | 129.5  | 130.7  | 134.4  | 136.9  | 143.7  |
| Oil charge                                    | kg                | 50.4         | 57.6   | 57.6   | 57.6   | 64.8   | 64.8   | 72.0   | 79.2   |
| <b>WATER EXCHANGER</b>                        |                   |              |        |        |        |        |        |        |        |
| Type                                          |                   | Shell & Tube |        |        |        |        |        | Plate  |        |
| Water flow                                    | m <sup>3</sup> /h | 117          | 123    | 130    | 134    | 136    | 150    | 162    | 176    |
| Water pressure drop                           | kPa               | 32.5         | 35.8   | 39.9   | 42.2   | 43.9   | 36.4   | 102.6  | 102.6  |
| Water flow (PDC)                              | m <sup>3</sup> /h | 135          | 141    | 148    | 153    | 161    | 172    | 183    | 205    |
| Water pressure drop (PDC)                     | kPa               | 41.9         | 45.8   | 50.4   | 53.8   | 59.3   | 46.4   | 135.4  | 135.4  |
| <b>FANS</b>                                   |                   |              |        |        |        |        |        |        |        |
| Fan number                                    | n                 | 14           | 14     | 14     | 14     | 14     | 14     | 16     | 18     |
| Air flow                                      | m <sup>3</sup> /h | 315520       | 316320 | 313840 | 312000 | 309160 | 305200 | 342080 | 392200 |
| Power input for each fan                      | kW                | 1.50         | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   | 1.50   |
| Absorbed current for each fan                 | A                 | 3.00         | 3.00   | 3.00   | 3.00   | 3.00   | 3.00   | 3.00   | 3.00   |
| <b>SOUND LEVEL</b>                            |                   |              |        |        |        |        |        |        |        |
| Sound power level (ISO 3744)                  | dB(A)             | 96.2         | 96.1   | 96.4   | 96.7   | 96.3   | 97.2   | 97.2   | 97.4   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A)             | 64.0         | 63.0   | 64.0   | 64.0   | 64.0   | 64.0   | 64.0   | 65.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |                   |              |        |        |        |        |        |        |        |
| Length                                        | mm                | 8005         | 8005   | 8005   | 8005   | 8005   | 8005   | 8610   | 9580   |
| Width                                         | mm                | 2260         | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   |
| Height                                        | mm                | 2400         | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   |
| Weight                                        | kg                | 6856         | 7118   | 7204   | 7310   | 7494   | 7760   | 7348   | 7645   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

| CXAO L                                        |       | 120    | 130    | 140    | 150    | 165          | 175    | 180    | 190    |
|-----------------------------------------------|-------|--------|--------|--------|--------|--------------|--------|--------|--------|
| <b>COOLING</b>                                |       |        |        |        |        |              |        |        |        |
| Total capacity in cooling mode                | kW    | 401.2  | 433.7  | 473.2  | 500.6  | 553.0        | 600.2  | 615.3  | 635.6  |
| Compressor power input in cooling mode        | kW    | 151.8  | 165.7  | 172.8  | 186.7  | 211.2        | 209.7  | 226.2  | 231.2  |
| Total EER                                     |       | 2.50   | 2.48   | 2.57   | 2.53   | 2.49         | 2.66   | 2.54   | 2.57   |
| ESEER                                         |       | 3.89   | 3.95   | 3.90   | 3.95   | 3.31         | 3.83   | 3.15   | 3.84   |
| <b>HEATING</b>                                |       |        |        |        |        |              |        |        |        |
| Total capacity in heating mode                | kW    | 454.7  | 484.2  | 535.4  | 568.5  | 634.2        | 679.9  | 703.6  | 730.3  |
| Compressor power input in heating mode        | kW    | 143.0  | 157.8  | 162.8  | 174.8  | 195.6        | 205.4  | 212.9  | 220.3  |
| Total COP                                     |       | 2.99   | 2.90   | 3.08   | 3.05   | 3.07         | 3.07   | 3.08   | 3.09   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |       |        |        |        |        |              |        |        |        |
| Desuperheater heating capacity                | kW    | 105.0  | 112.0  | 124.0  | 130.0  | 147.0        | 154.0  | 134.0  | 166.0  |
| Water flow                                    | m³/h  | 18.2   | 19.4   | 21.5   | 22.7   | 25.5         | 26.8   | 23.3   | 28.9   |
| Pressure drop                                 | kPa   | 17.0   | 17.0   | 18.0   | 18.0   | 18.0         | 18.0   | 15.0   | 18.0   |
| <b>COMPRESSORS</b>                            |       |        |        |        |        |              |        |        |        |
| Compressor number                             | n     | 5      | 6      | 5      | 6      | 6            | 8      | 7      | 7      |
| Refrigerant circuits                          | n     | 2      | 2      | 2      | 2      | 2            | 3      | 3      | 3      |
| Part load                                     | n     | 7      | 5      | 5      | 8      | 5            | 7      | 8      | 6      |
| Refrigerant charge                            | kg    | 65.2   | 65.2   | 74.2   | 74.6   | 82.9         | 109.2  | 117.0  | 128.2  |
| Oil charge                                    | kg    | 36.0   | 43.2   | 36.0   | 43.2   | 43.2         | 41.7   | 50.4   | 50.4   |
| <b>WATER EXCHANGER</b>                        |       |        |        |        |        |              |        |        |        |
| Type                                          |       | Plate  |        |        |        | Shell & Tube |        |        |        |
| Water flow                                    | m³/h  | 69     | 74     | 81     | 86     | 95           | 103    | 106    | 109    |
| Water pressure drop                           | kPa   | 92.1   | 108.3  | 91.4   | 90.3   | 97.2         | 42.6   | 47.5   | 28.6   |
| Water flow (PDC)                              | m³/h  | 79     | 84     | 93     | 99     | 110          | 118    | 123    | 127    |
| Water pressure drop (PDC)                     | kPa   | 127.0  | 143.0  | 125.3  | 123.5  | 137.6        | 60.9   | 66.4   | 40.6   |
| <b>FANS</b>                                   |       |        |        |        |        |              |        |        |        |
| Fan number                                    | n     | 8      | 8      | 10     | 10     | 10           | 14     | 14     | 14     |
| Air flow                                      | m³/h  | 133560 | 131400 | 166500 | 166500 | 164250       | 236640 | 240000 | 237240 |
| Power input for each fan                      | kW    | 1.13   | 1.13   | 1.13   | 1.13   | 1.13         | 1.13   | 1.13   | 1.13   |
| Absorbed current for each fan                 | A     | 2.25   | 2.25   | 2.25   | 2.25   | 2.25         | 2.25   | 2.25   | 2.25   |
| <b>SOUND LEVEL</b>                            |       |        |        |        |        |              |        |        |        |
| Sound power level (ISO 3744)                  | dB(A) | 91     | 90     | 89.8   | 92.2   | 93.5         | 92.4   | 93.6   | 93.9   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A) | 59     | 58     | 57.0   | 60.0   | 61.0         | 60.0   | 61.0   | 61.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |       |        |        |        |        |              |        |        |        |
| Length                                        | mm    | 4535   | 4535   | 5505   | 5505   | 5505         | 8005   | 8005   | 8005   |
| Width                                         | mm    | 2260   | 2260   | 2260   | 2260   | 2260         | 2260   | 2260   | 2260   |
| Height                                        | mm    | 2400   | 2400   | 2400   | 2400   | 2400         | 2400   | 2400   | 2400   |
| Weight                                        | kg    | 3792   | 4004   | 4172   | 4252   | 4636         | 6411   | 6708   | 6817   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

| CXAO L                                        |                   | 195          | 205    | 215    | 220    | 225    | 250    | 270    | 290    |
|-----------------------------------------------|-------------------|--------------|--------|--------|--------|--------|--------|--------|--------|
| <b>COOLING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in cooling mode                | kW                | 658.8        | 700.0  | 732.3  | 748.5  | 764.0  | 824.9  | 900.9  | 961.1  |
| Compressor power input in cooling mode        | kW                | 241.4        | 266.4  | 274.6  | 285.5  | 290.1  | 318.9  | 341.0  | 358.1  |
| Total EER                                     |                   | 2.56         | 2.48   | 2.52   | 2.48   | 2.50   | 2.46   | 2.51   | 2.54   |
| ESEER                                         |                   | 3.93         | 3.82   | 3.98   | 3.91   | 3.50   | 4.06   | 3.98   | 3.98   |
| <b>HEATING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in heating mode                | kW                | 750.3        | 796.7  | 822.1  | 847.3  | 889.7  | 947.5  | 1022.7 | 1112.6 |
| Compressor power input in heating mode        | kW                | 229.1        | 248.1  | 254.6  | 262.1  | 274.3  | 293.1  | 312.1  | 339.2  |
| Total COP                                     |                   | 3.06         | 3.02   | 3.04   | 3.05   | 3.07   | 3.07   | 3.10   | 3.09   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |                   |              |        |        |        |        |        |        |        |
| Desuperheater heating capacity                | kW                | 171.0        | 182.0  | 191.0  | 199.0  | 211.0  | 222.0  | 243.0  | 254.0  |
| Water flow                                    | m <sup>3</sup> /h | 29.8         | 31.7   | 33.2   | 34.7   | 36.8   | 38.7   | 42.3   | 44.2   |
| Pressure drop                                 | kPa               | 18.0         | 17.0   | 18.0   | 18.0   | 19.0   | 18.0   | 18.0   | 18.0   |
| <b>COMPRESSORS</b>                            |                   |              |        |        |        |        |        |        |        |
| Compressor number                             | n                 | 7            | 8      | 8      | 8      | 9      | 9      | 10     | 11     |
| Refrigerant circuits                          | n                 | 3            | 3      | 3      | 3      | 3      | 3      | 4      | 4      |
| Part load                                     | n                 | 7            | 6      | 8      | 7      | 8      | 6      | 8      | 8      |
| Refrigerant charge                            | kg                | 128.2        | 128.2  | 128.2  | 129.5  | 130.7  | 134.4  | 136.9  | 143.7  |
| Oil charge                                    | kg                | 50.4         | 57.6   | 57.6   | 57.6   | 64.8   | 64.8   | 72.0   | 79.2   |
| <b>WATER EXCHANGER</b>                        |                   |              |        |        |        |        |        |        |        |
| Type                                          |                   | Shell & Tube |        |        |        |        |        | Plate  |        |
| Water flow                                    | m <sup>3</sup> /h | 113          | 120    | 126    | 128    | 131    | 142    | 155    | 165    |
| Water pressure drop                           | kPa               | 30.8         | 33.9   | 37.8   | 40.0   | 41.6   | 34.4   | 97.2   | 97.2   |
| Water flow (PDC)                              | m <sup>3</sup> /h | 131          | 139    | 143    | 148    | 155    | 165    | 178    | 194    |
| Water pressure drop (PDC)                     | kPa               | 42.6         | 46.6   | 51.2   | 54.7   | 60.3   | 47.2   | 137.6  | 137.6  |
| <b>FANS</b>                                   |                   |              |        |        |        |        |        |        |        |
| Fan number                                    | n                 | 14           | 14     | 14     | 14     | 14     | 14     | 16     | 18     |
| Air flow                                      | m <sup>3</sup> /h | 236640       | 237240 | 235380 | 234000 | 231870 | 228900 | 256560 | 294150 |
| Power input for each fan                      | kW                | 1.13         | 1.13   | 1.13   | 1.13   | 1.13   | 1.13   | 1.13   | 1.13   |
| Absorbed current for each fan                 | A                 | 2.25         | 2.25   | 2.25   | 2.25   | 2.25   | 2.25   | 2.25   | 2.25   |
| <b>SOUND LEVEL</b>                            |                   |              |        |        |        |        |        |        |        |
| Sound power level (ISO 3744)                  | dB(A)             | 94.2         | 94.1   | 94.4   | 94.7   | 94.3   | 95.2   | 95.2   | 95.4   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A)             | 62.0         | 61.0   | 62.0   | 62.0   | 62.0   | 62.0   | 62.0   | 63.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |                   |              |        |        |        |        |        |        |        |
| Length                                        | mm                | 8005         | 8005   | 8005   | 8005   | 8005   | 8005   | 8610   | 9580   |
| Width                                         | mm                | 2260         | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   |
| Height                                        | mm                | 2400         | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   |
| Weight                                        | kg                | 6940         | 7214   | 7300   | 7406   | 7602   | 7868   | 7468   | 7777   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

| CXAO S                                        |       | 120    | 130    | 140    | 150    | 165    | 175          | 180    | 190    |
|-----------------------------------------------|-------|--------|--------|--------|--------|--------|--------------|--------|--------|
| <b>COOLING</b>                                |       |        |        |        |        |        |              |        |        |
| Total capacity in cooling mode                | kW    | 396.9  | 423.5  | 465.3  | 493.8  | 552.8  | 563.4        | 611.6  | 630.1  |
| Compressor power input in cooling mode        | kW    | 154.9  | 172.5  | 178.1  | 191.6  | 211.4  | 233.2        | 228.3  | 235.0  |
| Total EER                                     |       | 2.43   | 2.31   | 2.47   | 2.42   | 2.47   | 2.27         | 2.52   | 2.52   |
| ESEER                                         |       | 3.90   | 3.74   | 3.82   | 3.76   | 3.21   | 3.36         | 3.04   | 3.67   |
| <b>HEATING</b>                                |       |        |        |        |        |        |              |        |        |
| Total capacity in heating mode                | kW    | 454.1  | 480.3  | 527.2  | 554.8  | 629.2  | 640.5        | 702.7  | 744.5  |
| Compressor power input in heating mode        | kW    | 143.0  | 157.8  | 162.3  | 174.2  | 195.3  | 203.6        | 212.8  | 221.0  |
| Total COP                                     |       | 3.00   | 2.85   | 3.05   | 2.97   | 3.03   | 2.93         | 3.09   | 3.16   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |       |        |        |        |        |        |              |        |        |
| Desuperheater heating capacity                | kW    | 102.0  | 108.0  | 107.0  | 125.0  | 141.0  | 147.0        | 136.0  | 171.0  |
| Water flow                                    | m³/h  | 17.7   | 18.8   | 18.6   | 21.7   | 24.6   | 25.7         | 23.6   | 29.8   |
| Pressure drop                                 | kPa   | 17.0   | 17.0   | 14.0   | 17.0   | 17.0   | 16.0         | 16.0   | 18.0   |
| <b>COMPRESSORS</b>                            |       |        |        |        |        |        |              |        |        |
| Compressor number                             | n     | 5      | 6      | 5      | 6      | 6      | 8            | 7      | 7      |
| Refrigerant circuits                          | n     | 2      | 2      | 2      | 2      | 2      | 3            | 3      | 3      |
| Part load                                     | n     | 7      | 5      | 5      | 8      | 5      | 7            | 8      | 6      |
| Refrigerant charge                            | kg    | 77.7   | 78.3   | 79.3   | 82.0   | 119.0  | 120.0        | 122.0  | 125.0  |
| Oil charge                                    | kg    | 36.0   | 43.2   | 36.0   | 43.2   | 43.2   | 41.7         | 50.4   | 50.4   |
| <b>WATER EXCHANGER</b>                        |       |        |        |        |        |        |              |        |        |
| Type                                          |       | Plate  |        |        |        |        | Shell & Tube |        |        |
| Water flow                                    | m³/h  | 68     | 73     | 80     | 85     | 95     | 97           | 105    | 108    |
| Water pressure drop                           | kPa   | 86.2   | 97.9   | 84.8   | 83.4   | 93.8   | 38.5         | 45.3   | 27.2   |
| Water flow (PDC)                              | m³/h  | 79     | 84     | 92     | 97     | 110    | 112          | 122    | 130    |
| Water pressure drop (PDC)                     | kPa   | 117.8  | 131.8  | 113.6  | 110.0  | 126.7  | 51.9         | 62.4   | 39.6   |
| <b>FANS</b>                                   |       |        |        |        |        |        |              |        |        |
| Fan number                                    | n     | 8      | 10     | 10     | 12     | 12     | 14           | 14     | 14     |
| Air flow                                      | m³/h  | 124656 | 122640 | 155400 | 155400 | 153300 | 220864       | 224000 | 221424 |
| Power input for each fan                      | kW    | 1.05   | 1.05   | 1.05   | 1.05   | 1.05   | 1.05         | 1.05   | 1.05   |
| Absorbed current for each fan                 | A     | 2.10   | 2.10   | 2.10   | 2.10   | 2.10   | 2.10         | 2.10   | 2.10   |
| <b>SOUND LEVEL</b>                            |       |        |        |        |        |        |              |        |        |
| Sound power level (ISO 3744)                  | dB(A) | 88     | 87     | 86.8   | 89.2   | 90.5   | 89.4         | 90.6   | 90.9   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A) | 56     | 55     | 54.0   | 57.0   | 58.0   | 57.0         | 58.0   | 58.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |       |        |        |        |        |        |              |        |        |
| Length                                        | mm    | 4535   | 5505   | 5505   | 6475   | 6475   | 8005         | 8005   | 8005   |
| Width                                         | mm    | 2260   | 2260   | 2260   | 2260   | 2260   | 2260         | 2260   | 2260   |
| Height                                        | mm    | 2400   | 2400   | 2400   | 2400   | 2400   | 2400         | 2400   | 2400   |
| Weight                                        | kg    | 3948   | 4356   | 4328   | 4695   | 5079   | 6567         | 6924   | 7033   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

| CXAO S                                        |                   | 195          | 205    | 215    | 220    | 225    | 250    | 270    | 290    |
|-----------------------------------------------|-------------------|--------------|--------|--------|--------|--------|--------|--------|--------|
| <b>COOLING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in cooling mode                | kW                | 649.2        | 691.9  | 723.9  | 738.2  | 780.9  | 846.6  | 873.0  | 975.2  |
| Compressor power input in cooling mode        | kW                | 248.1        | 271.9  | 280.1  | 289.6  | 287.2  | 317.6  | 330.6  | 349.3  |
| Total EER                                     |                   | 2.47         | 2.40   | 2.44   | 2.41   | 2.55   | 2.52   | 2.48   | 2.63   |
| ESEER                                         |                   | 3.81         | 3.62   | 3.74   | 3.73   | 3.47   | 3.94   | 4.05   | 3.83   |
| <b>HEATING</b>                                |                   |              |        |        |        |        |        |        |        |
| Total capacity in heating mode                | kW                | 738.5        | 786.6  | 810.4  | 830.2  | 893.6  | 954.9  | 995.0  | 1130.7 |
| Compressor power input in heating mode        | kW                | 228.5        | 247.6  | 253.9  | 261.1  | 276.1  | 293.5  | 312.6  | 340.1  |
| Total COP                                     |                   | 3.04         | 2.98   | 2.99   | 2.99   | 3.03   | 3.06   | 2.98   | 3.13   |
| <b>COOLING + PARTIAL RECOVERY (H VERSION)</b> |                   |              |        |        |        |        |        |        |        |
| Desuperheater heating capacity                | kW                | 169.0        | 186.0  | 193.0  | 188.0  | 209.0  | 224.0  | 211.0  | 268.0  |
| Water flow                                    | m <sup>3</sup> /h | 29.5         | 32.4   | 33.7   | 32.8   | 36.4   | 39.1   | 36.8   | 46.7   |
| Pressure drop                                 | kPa               | 17.0         | 18.0   | 18.0   | 17.0   | 19.0   | 19.0   | 15.0   | 19.0   |
| <b>COMPRESSORS</b>                            |                   |              |        |        |        |        |        |        |        |
| Compressor number                             | n                 | 7            | 8      | 8      | 8      | 9      | 9      | 10     | 11     |
| Refrigerant circuits                          | n                 | 3            | 3      | 3      | 3      | 3      | 3      | 4      | 4      |
| Part load                                     | n                 | 7            | 6      | 8      | 7      | 8      | 6      | 8      | 8      |
| Refrigerant charge                            | kg                | 127.6        | 132.3  | 135.0  | 139.6  | 151.5  | 193.7  | 195.0  | 196.7  |
| Oil charge                                    | kg                | 50.4         | 57.6   | 57.6   | 57.6   | 64.8   | 64.8   | 72.0   | 79.2   |
| <b>WATER EXCHANGER</b>                        |                   |              |        |        |        |        |        |        |        |
| Type                                          |                   | Shell & Tube |        |        |        |        |        | Plate  |        |
| Water flow                                    | m <sup>3</sup> /h | 111          | 119    | 124    | 127    | 134    | 145    | 150    | 167    |
| Water pressure drop                           | kPa               | 28.8         | 32.7   | 35.9   | 37.3   | 41.7   | 33.7   | 93.6   | 93.8   |
| Water flow (PDC)                              | m <sup>3</sup> /h | 129          | 137    | 141    | 145    | 156    | 166    | 173    | 197    |
| Water pressure drop (PDC)                     | kPa               | 38.9         | 44.2   | 46.9   | 49.2   | 57.0   | 44.7   | 126.7  | 126.7  |
| <b>FANS</b>                                   |                   |              |        |        |        |        |        |        |        |
| Fan number                                    | n                 | 14           | 16     | 16     | 16     | 18     | 18     | 20     | 20     |
| Air flow                                      | m <sup>3</sup> /h | 220864       | 221424 | 219688 | 218400 | 216412 | 213640 | 239456 | 274540 |
| Power input for each fan                      | kW                | 1.05         | 1.05   | 1.05   | 1.05   | 1.05   | 1.05   | 1.05   | 1.05   |
| Absorbed current for each fan                 | A                 | 2.10         | 2.10   | 2.10   | 2.10   | 2.10   | 2.10   | 2.10   | 2.10   |
| <b>SOUND LEVEL</b>                            |                   |              |        |        |        |        |        |        |        |
| Sound power level (ISO 3744)                  | dB(A)             | 91.2         | 91.1   | 91.4   | 91.7   | 91.3   | 92.2   | 92.2   | 92.4   |
| Sound pressure level at 10 m (ISO 3744)       | dB(A)             | 59.0         | 58.0   | 59.0   | 59.0   | 58.0   | 59.0   | 59.0   | 59.0   |
| <b>DIMENSIONS AND WEIGHT</b>                  |                   |              |        |        |        |        |        |        |        |
| Length                                        | mm                | 8005         | 8975   | 8975   | 8975   | 9580   | 9580   | 10550  | 10550  |
| Width                                         | mm                | 2260         | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   | 2260   |
| Height                                        | mm                | 2400         | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   | 2400   |
| Weight                                        | kg                | 7156         | 7567   | 7653   | 7965   | 8247   | 9178   | 8246   | 8358   |

Cooling: Outdoor air temperature 35°C; Chilled water temperature 12/7°C.

Heating: Outdoor air temperature 7°C - 90% R.H.; Outlet water temperature 40/45°C.

Water flow rate and sound pressure levels refer to summer period.

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO**

| Twout |     |      | 120                     |       |       |       |       |       |  | 130                     |       |       |       |       |       |  |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|--|-------------------------|-------|-------|-------|-------|-------|--|
|       |     |      | Outdoor air temperature |       |       |       |       |       |  | Outdoor air temperature |       |       |       |       |       |  |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    |  | 25                      | 30    | 32    | 35    | 40    | 43    |  |
| 5     | Pf  | kW   | 450.9                   | 424.9 | 414.0 | 397.1 | 368.6 | 350.1 |  | 490.3                   | 461.4 | 449.2 | 430.1 | 397.7 | 376.6 |  |
|       | Pa  | kW   | 118.4                   | 130.3 | 135.5 | 143.6 | 158.4 | 168.2 |  | 129.1                   | 142.2 | 147.9 | 157.0 | 173.7 | 184.8 |  |
|       | qw  | m³/h | 77.27                   | 72.83 | 70.95 | 68.05 | 63.16 | 59.99 |  | 84.03                   | 79.08 | 76.98 | 73.71 | 68.16 | 64.55 |  |
|       | dpw | kPa  | 112.8                   | 100.2 | 95.1  | 87.5  | 75.4  | 68.0  |  | 133.8                   | 118.5 | 112.3 | 103.0 | 88.1  | 79.0  |  |
| 6     | Pf  | kW   | 463.2                   | 436.5 | 425.2 | 407.7 | 378.3 | 359.2 |  | 503.8                   | 474.0 | 461.3 | 441.7 | 408.3 | 386.5 |  |
|       | Pa  | kW   | 119.3                   | 131.3 | 136.5 | 144.7 | 159.6 | 169.5 |  | 130.0                   | 143.3 | 149.0 | 158.2 | 175.0 | 186.2 |  |
|       | qw  | m³/h | 79.44                   | 74.84 | 72.91 | 69.92 | 64.87 | 61.60 |  | 86.40                   | 81.28 | 79.11 | 75.75 | 70.01 | 66.28 |  |
|       | dpw | kPa  | 119.2                   | 105.8 | 100.4 | 92.3  | 79.5  | 71.7  |  | 141.5                   | 125.2 | 118.6 | 108.8 | 92.9  | 83.3  |  |
| 7     | Pf  | kW   | 475.9                   | 448.2 | 436.5 | 418.6 | 388.2 | 368.5 |  | 517.6                   | 486.8 | 473.7 | 453.6 | 419.0 | 396.6 |  |
|       | Pa  | kW   | 120.1                   | 132.3 | 137.5 | 145.8 | 160.9 | 170.8 |  | 131.0                   | 144.4 | 150.2 | 159.4 | 176.4 | 187.6 |  |
|       | qw  | m³/h | 81.65                   | 76.90 | 74.90 | 71.82 | 66.60 | 63.23 |  | 88.81                   | 83.53 | 81.28 | 77.82 | 71.89 | 68.04 |  |
|       | dpw | kPa  | 125.9                   | 111.7 | 105.9 | 97.4  | 83.8  | 75.5  |  | 149.5                   | 132.2 | 125.2 | 114.8 | 98.0  | 87.8  |  |
| 8     | Pf  | kW   | 488.7                   | 460.1 | 448.1 | 429.6 | 398.2 | 378.0 |  | 531.7                   | 499.8 | 486.3 | 465.6 | 429.9 | 406.8 |  |
|       | Pa  | kW   | 121.0                   | 133.3 | 138.6 | 146.9 | 162.1 | 172.1 |  | 132.0                   | 145.5 | 151.3 | 160.6 | 177.7 | 189.0 |  |
|       | qw  | m³/h | 83.90                   | 78.99 | 76.93 | 73.76 | 68.37 | 64.89 |  | 91.28                   | 85.81 | 83.49 | 79.93 | 73.80 | 69.83 |  |
|       | dpw | kPa  | 132.9                   | 117.8 | 111.8 | 102.8 | 88.3  | 79.5  |  | 157.9                   | 139.6 | 132.1 | 121.1 | 103.2 | 92.4  |  |
| 9     | Pf  | kW   | 501.8                   | 472.3 | 459.8 | 440.9 | 408.5 | 387.6 |  | 545.9                   | 513.1 | 499.1 | 477.8 | 441.0 | 417.2 |  |
|       | Pa  | kW   | 121.9                   | 134.3 | 139.6 | 148.0 | 163.3 | 173.4 |  | 133.0                   | 146.6 | 152.5 | 161.8 | 179.0 | 190.5 |  |
|       | qw  | m³/h | 86.20                   | 81.12 | 78.99 | 75.74 | 70.17 | 66.59 |  | 93.78                   | 88.14 | 85.74 | 82.08 | 75.75 | 71.66 |  |
|       | dpw | kPa  | 140.3                   | 124.3 | 117.8 | 108.3 | 93.0  | 83.7  |  | 166.7                   | 147.2 | 139.4 | 127.7 | 108.8 | 97.3  |  |
| 10    | Pf  | kW   | 515.1                   | 484.6 | 471.8 | 452.4 | 418.9 | 397.5 |  | 560.5                   | 526.6 | 512.2 | 490.3 | 452.3 | 427.8 |  |
|       | Pa  | kW   | 122.7                   | 135.3 | 140.6 | 149.1 | 164.6 | 174.7 |  | 134.0                   | 147.7 | 153.6 | 163.0 | 180.4 | 191.9 |  |
|       | qw  | m³/h | 88.63                   | 83.39 | 81.18 | 77.83 | 72.08 | 68.39 |  | 96.44                   | 90.60 | 88.13 | 84.36 | 77.82 | 73.60 |  |
|       | dpw | kPa  | 148.4                   | 131.3 | 124.5 | 114.4 | 98.1  | 88.3  |  | 176.3                   | 155.6 | 147.2 | 134.9 | 114.8 | 102.7 |  |

| Twout |     |      | 140                     |       |       |       |       |       |  | 150                     |        |        |       |       |       |  |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|--|-------------------------|--------|--------|-------|-------|-------|--|
|       |     |      | Outdoor air temperature |       |       |       |       |       |  | Outdoor air temperature |        |        |       |       |       |  |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    |  | 25                      | 30     | 32     | 35    | 40    | 43    |  |
| 5     | Pf  | kW   | 527.2                   | 498.0 | 485.8 | 466.9 | 435.4 | 415.4 |  | 564.2                   | 531.9  | 518.3  | 497.2 | 461.8 | 438.9 |  |
|       | Pa  | kW   | 135.9                   | 149.6 | 155.3 | 164.4 | 180.7 | 191.4 |  | 145.1                   | 159.7  | 166.0  | 175.9 | 193.9 | 205.8 |  |
|       | qw  | m³/h | 90.36                   | 85.34 | 83.26 | 80.03 | 74.61 | 71.18 |  | 96.70                   | 91.16  | 88.82  | 85.22 | 79.15 | 75.22 |  |
|       | dpw | kPa  | 110.3                   | 98.4  | 93.7  | 86.5  | 75.2  | 68.5  |  | 110.4                   | 98.1   | 93.2   | 85.7  | 74.0  | 66.8  |  |
| 6     | Pf  | kW   | 541.6                   | 511.4 | 498.8 | 479.3 | 446.9 | 426.2 |  | 579.7                   | 546.2  | 532.2  | 510.5 | 474.0 | 450.4 |  |
|       | Pa  | kW   | 136.9                   | 150.7 | 156.5 | 165.7 | 182.2 | 192.9 |  | 146.1                   | 160.9  | 167.2  | 177.2 | 195.4 | 207.4 |  |
|       | qw  | m³/h | 92.88                   | 87.69 | 85.53 | 82.20 | 76.63 | 73.08 |  | 99.40                   | 93.67  | 91.26  | 87.55 | 81.28 | 77.23 |  |
|       | dpw | kPa  | 116.6                   | 103.9 | 98.9  | 91.3  | 79.4  | 72.2  |  | 116.7                   | 103.6  | 98.3   | 90.5  | 78.0  | 70.4  |  |
| 7     | Pf  | kW   | 556.3                   | 525.1 | 512.0 | 492.0 | 458.6 | 437.2 |  | 595.4                   | 560.9  | 546.4  | 524.1 | 486.3 | 462.0 |  |
|       | Pa  | kW   | 137.8                   | 151.8 | 157.7 | 166.9 | 183.6 | 194.4 |  | 147.2                   | 162.1  | 168.5  | 178.6 | 196.9 | 209.0 |  |
|       | qw  | m³/h | 95.45                   | 90.09 | 87.86 | 84.41 | 78.69 | 75.01 |  | 102.16                  | 96.23  | 93.74  | 89.92 | 83.45 | 79.27 |  |
|       | dpw | kPa  | 123.1                   | 109.7 | 104.3 | 96.3  | 83.7  | 76.0  |  | 123.2                   | 109.3  | 103.8  | 95.5  | 82.2  | 74.2  |  |
| 8     | Pf  | kW   | 571.2                   | 539.0 | 525.5 | 504.9 | 470.5 | 448.4 |  | 611.4                   | 575.7  | 560.8  | 537.9 | 498.9 | 473.8 |  |
|       | Pa  | kW   | 138.8                   | 152.9 | 158.9 | 168.2 | 185.0 | 196.0 |  | 148.2                   | 163.3  | 169.8  | 179.9 | 198.4 | 210.6 |  |
|       | qw  | m³/h | 98.06                   | 92.53 | 90.22 | 86.68 | 80.77 | 76.98 |  | 104.96                  | 98.84  | 96.27  | 92.34 | 85.65 | 81.35 |  |
|       | dpw | kPa  | 129.9                   | 115.7 | 110.0 | 101.5 | 88.2  | 80.1  |  | 130.1                   | 115.4  | 109.4  | 100.7 | 86.6  | 78.1  |  |
| 9     | Pf  | kW   | 586.4                   | 553.1 | 539.2 | 518.1 | 482.5 | 459.8 |  | 627.7                   | 590.9  | 575.4  | 551.9 | 511.7 | 485.9 |  |
|       | Pa  | kW   | 139.7                   | 154.0 | 160.0 | 169.5 | 186.5 | 197.5 |  | 149.3                   | 164.5  | 171.0  | 181.3 | 200.0 | 212.2 |  |
|       | qw  | m³/h | 100.74                  | 95.01 | 92.63 | 88.99 | 82.89 | 78.98 |  | 107.83                  | 101.50 | 98.85  | 94.80 | 87.90 | 83.47 |  |
|       | dpw | kPa  | 137.1                   | 122.0 | 115.9 | 107.0 | 92.8  | 84.3  |  | 137.3                   | 121.6  | 115.4  | 106.1 | 91.2  | 82.3  |  |
| 10    | Pf  | kW   | 601.9                   | 567.5 | 553.2 | 531.4 | 494.8 | 471.4 |  | 644.3                   | 606.3  | 590.3  | 566.2 | 524.7 | 498.2 |  |
|       | Pa  | kW   | 140.6                   | 155.1 | 161.2 | 170.7 | 187.9 | 199.0 |  | 150.3                   | 165.7  | 172.3  | 182.7 | 201.5 | 213.8 |  |
|       | qw  | m³/h | 103.57                  | 97.65 | 95.19 | 91.44 | 85.14 | 81.11 |  | 110.86                  | 104.32 | 101.57 | 97.42 | 90.29 | 85.72 |  |
|       | dpw | kPa  | 144.9                   | 128.8 | 122.4 | 113.0 | 97.9  | 88.9  |  | 145.1                   | 128.5  | 121.8  | 112.1 | 96.2  | 86.8  |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO**

| Twout |     |      | 165                     |        |        |        |       |       | 175                     |        |        |        |        |       |
|-------|-----|------|-------------------------|--------|--------|--------|-------|-------|-------------------------|--------|--------|--------|--------|-------|
|       |     |      | Outdoor air temperature |        |        |        |       |       | Outdoor air temperature |        |        |        |        |       |
|       |     |      | 25                      | 30     | 32     | 35     | 40    | 43    | 25                      | 30     | 32     | 35     | 40     | 43    |
| 5     | Pf  | kW   | 617.4                   | 582.0  | 567.2  | 544.6  | 506.6 | 482.1 | 648.7                   | 612.4  | 597.1  | 573.5  | 533.2  | 508.1 |
|       | Pa  | kW   | 165.7                   | 182.2  | 189.2  | 200.2  | 220.2 | 233.2 | 163.2                   | 179.9  | 187.1  | 198.5  | 219.2  | 232.8 |
|       | qw  | m³/h | 105.81                  | 99.74  | 97.21  | 93.34  | 86.82 | 82.63 | 111.17                  | 104.95 | 102.34 | 98.28  | 91.39  | 87.08 |
|       | dpw | kPa  | 118.5                   | 105.3  | 100.0  | 92.2   | 79.8  | 72.3  | 51.6                    | 46.0   | 43.8   | 40.4   | 34.9   | 31.7  |
| 6     | Pf  | kW   | 634.2                   | 597.6  | 582.4  | 559.2  | 519.9 | 494.7 | 666.5                   | 629.0  | 613.2  | 588.8  | 547.5  | 521.5 |
|       | Pa  | kW   | 166.9                   | 183.6  | 190.7  | 201.8  | 221.9 | 235.1 | 164.5                   | 181.3  | 188.6  | 200.0  | 220.9  | 234.6 |
|       | qw  | m³/h | 108.76                  | 102.48 | 99.87  | 95.89  | 89.15 | 84.83 | 114.29                  | 107.86 | 105.16 | 100.97 | 93.88  | 89.42 |
|       | dpw | kPa  | 125.2                   | 111.2  | 105.6  | 97.3   | 84.1  | 76.2  | 54.6                    | 48.6   | 46.2   | 42.6   | 36.8   | 33.4  |
| 7     | Pf  | kW   | 651.4                   | 613.6  | 597.8  | 574.0  | 533.4 | 507.4 | 684.6                   | 645.9  | 629.6  | 604.4  | 562.0  | 535.1 |
|       | Pa  | kW   | 168.1                   | 185.0  | 192.1  | 203.4  | 223.7 | 236.9 | 165.7                   | 182.7  | 190.0  | 201.6  | 222.6  | 236.4 |
|       | qw  | m³/h | 111.76                  | 105.28 | 102.57 | 98.48  | 91.52 | 87.07 | 117.47                  | 110.82 | 108.03 | 103.71 | 96.43  | 91.81 |
|       | dpw | kPa  | 132.2                   | 117.3  | 111.4  | 102.6  | 88.7  | 80.2  | 57.7                    | 51.3   | 48.8   | 44.9   | 38.9   | 35.2  |
| 8     | Pf  | kW   | 668.8                   | 629.8  | 613.5  | 589.0  | 547.2 | 520.5 | 703.1                   | 663.1  | 646.3  | 620.3  | 576.8  | 548.9 |
|       | Pa  | kW   | 169.3                   | 186.3  | 193.6  | 205.0  | 225.5 | 238.8 | 166.9                   | 184.1  | 191.5  | 203.1  | 224.3  | 238.2 |
|       | qw  | m³/h | 114.83                  | 108.12 | 105.33 | 101.12 | 93.94 | 89.35 | 120.70                  | 113.84 | 110.96 | 106.49 | 99.03  | 94.23 |
|       | dpw | kPa  | 139.6                   | 123.7  | 117.4  | 108.2  | 93.4  | 84.5  | 60.9                    | 54.2   | 51.4   | 47.4   | 41.0   | 37.1  |
| 9     | Pf  | kW   | 686.6                   | 646.3  | 629.5  | 604.4  | 561.2 | 533.8 | 721.8                   | 680.6  | 663.3  | 636.6  | 591.8  | 563.0 |
|       | Pa  | kW   | 170.4                   | 187.7  | 195.0  | 206.5  | 227.2 | 240.7 | 168.2                   | 185.5  | 192.9  | 204.7  | 226.0  | 240.0 |
|       | qw  | m³/h | 117.95                  | 111.02 | 108.14 | 103.82 | 96.40 | 91.70 | 124.00                  | 116.91 | 113.94 | 109.35 | 101.66 | 96.71 |
|       | dpw | kPa  | 147.3                   | 130.5  | 123.8  | 114.1  | 98.4  | 89.0  | 64.2                    | 57.1   | 54.2   | 50.0   | 43.2   | 39.1  |
| 10    | Pf  | kW   | 704.8                   | 663.1  | 645.8  | 620.0  | 575.4 | 547.6 | 741.0                   | 698.4  | 680.6  | 653.1  | 607.0  | 577.3 |
|       | Pa  | kW   | 171.5                   | 189.0  | 196.5  | 208.1  | 229.0 | 242.6 | 169.4                   | 186.9  | 194.4  | 206.2  | 227.8  | 241.9 |
|       | qw  | m³/h | 121.27                  | 114.10 | 111.12 | 106.68 | 99.01 | 94.21 | 127.49                  | 120.17 | 117.10 | 112.37 | 104.44 | 99.34 |
|       | dpw | kPa  | 155.6                   | 137.8  | 130.7  | 120.5  | 103.8 | 93.9  | 67.9                    | 60.3   | 57.3   | 52.8   | 45.6   | 41.2  |

| Twout |     |      | 180                     |        |        |        |        |        | 190                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 680.9                   | 644.6  | 629.3  | 605.4  | 564.3  | 539.2  | 707.1                   | 667.5  | 650.9  | 625.3  | 582.4  | 554.9  |
|       | Pa  | kW   | 178.4                   | 196.6  | 204.3  | 216.4  | 238.4  | 252.9  | 183.2                   | 201.5  | 209.3  | 221.6  | 243.8  | 258.3  |
|       | qw  | m³/h | 116.70                  | 110.47 | 107.84 | 103.76 | 96.72  | 92.40  | 121.19                  | 114.40 | 111.56 | 107.16 | 99.81  | 95.10  |
|       | dpw | kPa  | 56.9                    | 51.0   | 48.6   | 45.0   | 39.1   | 35.7   | 34.7                    | 30.9   | 29.4   | 27.1   | 23.5   | 21.3   |
| 6     | Pf  | kW   | 699.5                   | 662.0  | 646.2  | 621.6  | 579.3  | 553.2  | 726.5                   | 685.5  | 668.4  | 641.9  | 597.8  | 569.4  |
|       | Pa  | kW   | 179.6                   | 198.0  | 205.8  | 218.1  | 240.3  | 254.8  | 184.5                   | 203.0  | 210.9  | 223.3  | 245.7  | 260.3  |
|       | qw  | m³/h | 119.96                  | 113.52 | 110.80 | 106.58 | 99.33  | 94.87  | 124.58                  | 117.55 | 114.62 | 110.08 | 102.52 | 97.63  |
|       | dpw | kPa  | 60.1                    | 53.8   | 51.3   | 47.5   | 41.2   | 37.6   | 36.6                    | 32.6   | 31.0   | 28.6   | 24.8   | 22.5   |
| 7     | Pf  | kW   | 718.5                   | 679.7  | 663.4  | 637.9  | 594.4  | 567.5  | 746.2                   | 703.9  | 686.2  | 659.0  | 613.4  | 584.1  |
|       | Pa  | kW   | 180.9                   | 199.4  | 207.3  | 219.7  | 242.1  | 256.8  | 185.8                   | 204.5  | 212.5  | 225.0  | 247.6  | 262.4  |
|       | qw  | m³/h | 123.29                  | 116.62 | 113.82 | 109.46 | 101.99 | 97.37  | 128.03                  | 120.77 | 117.73 | 113.07 | 105.25 | 100.22 |
|       | dpw | kPa  | 63.5                    | 56.8   | 54.1   | 50.1   | 43.5   | 39.6   | 38.7                    | 34.4   | 32.7   | 30.2   | 26.1   | 23.7   |
| 8     | Pf  | kW   | 737.9                   | 697.7  | 680.8  | 654.6  | 609.9  | 582.1  | 766.3                   | 722.5  | 704.3  | 676.3  | 629.3  | 599.1  |
|       | Pa  | kW   | 182.1                   | 200.9  | 208.8  | 221.3  | 244.0  | 258.8  | 187.0                   | 206.0  | 214.1  | 226.7  | 249.6  | 264.5  |
|       | qw  | m³/h | 126.68                  | 119.79 | 116.89 | 112.38 | 104.71 | 99.93  | 131.55                  | 124.04 | 120.91 | 116.11 | 108.04 | 102.85 |
|       | dpw | kPa  | 67.1                    | 60.0   | 57.1   | 52.8   | 45.8   | 41.7   | 40.8                    | 36.3   | 34.5   | 31.8   | 27.5   | 25.0   |
| 9     | Pf  | kW   | 757.6                   | 716.1  | 698.7  | 671.6  | 625.7  | 596.9  | 786.7                   | 741.5  | 722.7  | 693.9  | 645.4  | 614.3  |
|       | Pa  | kW   | 183.3                   | 202.3  | 210.3  | 223.0  | 245.8  | 260.7  | 188.3                   | 207.5  | 215.7  | 228.5  | 251.5  | 266.5  |
|       | qw  | m³/h | 130.14                  | 123.01 | 120.01 | 115.36 | 107.48 | 102.53 | 135.14                  | 127.38 | 124.14 | 119.20 | 110.87 | 105.53 |
|       | dpw | kPa  | 70.8                    | 63.2   | 60.2   | 55.6   | 48.3   | 43.9   | 43.1                    | 38.3   | 36.4   | 33.5   | 29.0   | 26.3   |
| 10    | Pf  | kW   | 777.6                   | 734.8  | 716.8  | 688.8  | 641.7  | 612.0  | 807.5                   | 760.9  | 741.4  | 711.9  | 661.9  | 629.9  |
|       | Pa  | kW   | 184.6                   | 203.7  | 211.8  | 224.6  | 247.7  | 262.7  | 189.5                   | 209.0  | 217.2  | 230.2  | 253.4  | 268.6  |
|       | qw  | m³/h | 133.80                  | 126.42 | 123.33 | 118.52 | 110.42 | 105.30 | 138.95                  | 130.92 | 127.57 | 122.49 | 113.89 | 108.38 |
|       | dpw | kPa  | 74.8                    | 66.8   | 63.6   | 58.7   | 50.9   | 46.3   | 45.6                    | 40.5   | 38.4   | 35.4   | 30.6   | 27.7   |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO**

| Twout |     |      | 195                     |        |        |        |        |        | 205                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 734.2                   | 692.7  | 675.5  | 648.8  | 604.4  | 575.7  | 774.2                   | 729.2  | 710.4  | 681.6  | 632.8  | 601.4  |
|       | Pa  | kW   | 191.1                   | 210.2  | 218.3  | 231.0  | 254.0  | 269.0  | 204.5                   | 225.0  | 233.7  | 247.5  | 272.6  | 289.0  |
|       | qw  | m³/h | 125.82                  | 118.72 | 115.76 | 111.20 | 103.59 | 98.67  | 132.69                  | 124.98 | 121.75 | 116.82 | 108.45 | 103.07 |
|       | dpw | kPa  | 37.4                    | 33.3   | 31.6   | 29.2   | 25.3   | 23.0   | 41.6                    | 36.9   | 35.0   | 32.2   | 27.8   | 25.1   |
| 6     | Pf  | kW   | 754.2                   | 711.4  | 693.5  | 666.1  | 620.2  | 590.7  | 795.3                   | 748.8  | 729.4  | 699.8  | 649.4  | 617.0  |
|       | Pa  | kW   | 192.5                   | 211.8  | 220.0  | 232.8  | 256.0  | 271.2  | 206.0                   | 226.7  | 235.5  | 249.5  | 274.7  | 291.3  |
|       | qw  | m³/h | 129.32                  | 121.98 | 118.92 | 114.22 | 106.36 | 101.30 | 136.38                  | 128.41 | 125.07 | 120.00 | 111.36 | 105.80 |
|       | dpw | kPa  | 39.5                    | 35.1   | 33.4   | 30.8   | 26.7   | 24.2   | 43.9                    | 38.9   | 36.9   | 34.0   | 29.3   | 26.4   |
| 7     | Pf  | kW   | 774.5                   | 730.3  | 711.9  | 683.7  | 636.3  | 605.9  | 816.8                   | 768.8  | 748.7  | 718.3  | 666.2  | 632.9  |
|       | Pa  | kW   | 193.8                   | 213.4  | 221.6  | 234.6  | 258.1  | 273.3  | 207.5                   | 228.4  | 237.3  | 251.4  | 276.9  | 293.6  |
|       | qw  | m³/h | 132.90                  | 125.31 | 122.14 | 117.31 | 109.18 | 103.97 | 140.15                  | 131.91 | 128.46 | 123.24 | 114.32 | 108.60 |
|       | dpw | kPa  | 41.7                    | 37.1   | 35.2   | 32.5   | 28.1   | 25.5   | 46.4                    | 41.1   | 38.9   | 35.8   | 30.8   | 27.8   |
| 8     | Pf  | kW   | 795.3                   | 749.6  | 730.5  | 701.6  | 652.7  | 621.4  | 838.7                   | 789.1  | 768.3  | 737.1  | 683.4  | 649.1  |
|       | Pa  | kW   | 195.1                   | 214.9  | 223.3  | 236.4  | 260.1  | 275.5  | 208.9                   | 230.1  | 239.1  | 253.3  | 279.0  | 295.9  |
|       | qw  | m³/h | 136.54                  | 128.69 | 125.42 | 120.45 | 112.06 | 106.69 | 143.98                  | 135.47 | 131.90 | 126.55 | 117.33 | 111.44 |
|       | dpw | kPa  | 44.0                    | 39.1   | 37.1   | 34.2   | 29.6   | 26.9   | 48.9                    | 43.3   | 41.1   | 37.8   | 32.5   | 29.3   |
| 9     | Pf  | kW   | 816.4                   | 769.2  | 749.6  | 719.9  | 669.4  | 637.2  | 861.0                   | 809.7  | 788.3  | 756.3  | 700.9  | 665.9  |
|       | Pa  | kW   | 196.4                   | 216.5  | 224.9  | 238.2  | 262.1  | 277.6  | 210.4                   | 231.8  | 240.9  | 255.3  | 281.2  | 298.2  |
|       | qw  | m³/h | 140.25                  | 132.14 | 128.76 | 123.66 | 115.00 | 109.46 | 147.90                  | 139.10 | 135.42 | 129.92 | 120.39 | 114.39 |
|       | dpw | kPa  | 46.4                    | 41.2   | 39.1   | 36.1   | 31.2   | 28.3   | 51.6                    | 45.7   | 43.3   | 39.8   | 34.2   | 30.9   |
| 10    | Pf  | kW   | 837.9                   | 789.2  | 768.9  | 738.4  | 686.5  | 653.3  | 883.7                   | 830.8  | 808.7  | 775.8  | 718.6  | 683.0  |
|       | Pa  | kW   | 197.7                   | 218.0  | 226.6  | 240.0  | 264.1  | 279.8  | 211.8                   | 233.5  | 242.7  | 257.2  | 283.4  | 300.5  |
|       | qw  | m³/h | 144.18                  | 135.80 | 132.30 | 127.06 | 118.11 | 112.41 | 152.05                  | 142.94 | 139.14 | 133.49 | 123.65 | 117.52 |
|       | dpw | kPa  | 49.1                    | 43.5   | 41.3   | 38.1   | 32.9   | 29.8   | 54.6                    | 48.2   | 45.7   | 42.1   | 36.1   | 32.6   |

| Twout |     |      | 215                     |        |        |        |        |        | 220                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 816.2                   | 769.2  | 749.6  | 719.5  | 668.9  | 636.3  | 838.3                   | 790.2  | 770.1  | 739.5  | 687.7  | 654.5  |
|       | Pa  | kW   | 216.3                   | 238.0  | 247.2  | 261.6  | 287.9  | 305.1  | 221.7                   | 243.8  | 253.2  | 267.9  | 294.6  | 312.0  |
|       | qw  | m³/h | 139.87                  | 131.83 | 128.47 | 123.32 | 114.63 | 109.05 | 143.68                  | 135.43 | 131.99 | 126.73 | 117.87 | 112.17 |
|       | dpw | kPa  | 46.2                    | 41.0   | 38.9   | 35.9   | 31.0   | 28.1   | 48.7                    | 43.3   | 41.1   | 37.9   | 32.8   | 29.7   |
| 6     | Pf  | kW   | 838.4                   | 789.9  | 769.6  | 738.7  | 686.4  | 652.8  | 861.1                   | 811.4  | 790.7  | 759.1  | 705.7  | 671.5  |
|       | Pa  | kW   | 217.9                   | 239.8  | 249.1  | 263.7  | 290.2  | 307.5  | 223.3                   | 245.6  | 255.1  | 270.0  | 297.0  | 314.5  |
|       | qw  | m³/h | 143.77                  | 135.45 | 131.97 | 126.67 | 117.70 | 111.94 | 147.67                  | 139.14 | 135.58 | 130.17 | 121.02 | 115.14 |
|       | dpw | kPa  | 48.8                    | 43.3   | 41.1   | 37.9   | 32.7   | 29.6   | 51.5                    | 45.7   | 43.4   | 40.0   | 34.6   | 31.3   |
| 7     | Pf  | kW   | 861.0                   | 810.9  | 790.0  | 758.2  | 704.2  | 669.6  | 884.4                   | 833.0  | 811.5  | 779.1  | 724.0  | 688.8  |
|       | Pa  | kW   | 219.4                   | 241.6  | 251.0  | 265.7  | 292.5  | 309.9  | 224.8                   | 247.5  | 257.1  | 272.1  | 299.3  | 317.1  |
|       | qw  | m³/h | 147.73                  | 139.13 | 135.54 | 130.09 | 120.83 | 114.89 | 151.74                  | 142.92 | 139.24 | 133.69 | 124.23 | 118.18 |
|       | dpw | kPa  | 51.5                    | 45.7   | 43.4   | 39.9   | 34.5   | 31.2   | 54.3                    | 48.2   | 45.8   | 42.2   | 36.4   | 33.0   |
| 8     | Pf  | kW   | 884.1                   | 832.3  | 810.7  | 778.1  | 722.4  | 686.7  | 908.0                   | 854.9  | 832.8  | 799.5  | 742.7  | 706.4  |
|       | Pa  | kW   | 221.0                   | 243.3  | 252.8  | 267.8  | 294.8  | 312.4  | 226.4                   | 249.3  | 259.0  | 274.2  | 301.7  | 319.6  |
|       | qw  | m³/h | 151.78                  | 142.89 | 139.18 | 133.58 | 124.01 | 117.90 | 155.89                  | 146.77 | 142.97 | 137.27 | 127.50 | 121.27 |
|       | dpw | kPa  | 54.4                    | 48.2   | 45.7   | 42.1   | 36.3   | 32.8   | 57.3                    | 50.8   | 48.2   | 44.5   | 38.4   | 34.7   |
| 9     | Pf  | kW   | 907.6                   | 854.1  | 831.8  | 798.3  | 740.8  | 704.4  | 932.1                   | 877.3  | 854.4  | 820.3  | 761.6  | 724.6  |
|       | Pa  | kW   | 222.5                   | 245.1  | 254.7  | 269.8  | 297.1  | 314.8  | 227.9                   | 251.1  | 260.9  | 276.3  | 304.0  | 322.1  |
|       | qw  | m³/h | 155.90                  | 146.71 | 142.88 | 137.14 | 127.26 | 120.99 | 160.12                  | 150.70 | 146.77 | 140.91 | 130.83 | 124.48 |
|       | dpw | kPa  | 57.4                    | 50.8   | 48.2   | 44.4   | 38.2   | 34.5   | 60.5                    | 53.6   | 50.8   | 46.9   | 40.4   | 36.6   |
| 10    | Pf  | kW   | 931.5                   | 876.3  | 853.2  | 818.9  | 759.6  | 722.4  | 956.7                   | 900.0  | 876.5  | 841.5  | 780.9  | 743.1  |
|       | Pa  | kW   | 224.0                   | 246.9  | 256.6  | 271.8  | 299.3  | 317.3  | 229.4                   | 252.9  | 262.8  | 278.4  | 306.4  | 324.6  |
|       | qw  | m³/h | 160.27                  | 150.77 | 146.81 | 140.91 | 130.70 | 124.30 | 164.60                  | 154.86 | 150.81 | 144.79 | 134.36 | 127.87 |
|       | dpw | kPa  | 60.6                    | 53.6   | 50.9   | 46.9   | 40.3   | 36.5   | 63.9                    | 56.6   | 53.7   | 49.5   | 42.6   | 38.6   |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO**

| Twout |     |      | 225                     |        |        |        |        |        |  | 250                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 857.0                   | 807.4  | 786.6  | 754.7  | 700.7  | 665.9  |  | 940.3                   | 885.6  | 862.8  | 828.2  | 769.3  | 731.5  |  |
|       | Pa  | kW   | 227.6                   | 250.4  | 260.2  | 275.6  | 303.6  | 322.0  |  | 252.8                   | 278.0  | 288.7  | 305.5  | 336.0  | 355.9  |  |
|       | qw  | m³/h | 146.87                  | 138.37 | 134.81 | 129.34 | 120.09 | 114.12 |  | 161.16                  | 151.78 | 147.87 | 141.94 | 131.84 | 125.37 |  |
|       | dpw | kPa  | 50.9                    | 45.2   | 42.9   | 39.5   | 34.0   | 30.7   |  | 42.1                    | 37.4   | 35.5   | 32.7   | 28.2   | 25.5   |  |
| 6     | Pf  | kW   | 880.4                   | 829.1  | 807.6  | 774.8  | 719.1  | 683.2  |  | 965.9                   | 909.3  | 885.7  | 850.2  | 789.4  | 750.5  |  |
|       | Pa  | kW   | 229.2                   | 252.3  | 262.2  | 277.8  | 306.0  | 324.5  |  | 254.6                   | 280.1  | 290.9  | 307.9  | 338.7  | 358.8  |  |
|       | qw  | m³/h | 150.97                  | 142.18 | 138.49 | 132.86 | 123.31 | 117.16 |  | 165.63                  | 155.93 | 151.89 | 145.79 | 135.37 | 128.70 |  |
|       | dpw | kPa  | 53.8                    | 47.7   | 45.3   | 41.7   | 35.9   | 32.4   |  | 44.5                    | 39.4   | 37.4   | 34.5   | 29.7   | 26.9   |  |
| 7     | Pf  | kW   | 904.2                   | 851.2  | 829.0  | 795.3  | 737.8  | 700.8  |  | 991.9                   | 933.5  | 909.1  | 872.6  | 809.8  | 770.0  |  |
|       | Pa  | kW   | 230.9                   | 254.2  | 264.2  | 279.9  | 308.4  | 327.1  |  | 256.5                   | 282.2  | 293.1  | 310.3  | 341.4  | 361.6  |  |
|       | qw  | m³/h | 155.14                  | 146.06 | 142.25 | 136.46 | 126.59 | 120.25 |  | 170.19                  | 160.16 | 155.98 | 149.72 | 138.95 | 132.12 |  |
|       | dpw | kPa  | 56.8                    | 50.3   | 47.8   | 43.9   | 37.8   | 34.1   |  | 47.0                    | 41.6   | 39.5   | 36.4   | 31.3   | 28.3   |  |
| 8     | Pf  | kW   | 928.4                   | 873.7  | 850.8  | 816.2  | 756.8  | 718.8  |  | 1018.4                  | 958.0  | 932.9  | 895.4  | 830.6  | 790.0  |  |
|       | Pa  | kW   | 232.5                   | 256.1  | 266.2  | 282.0  | 310.8  | 329.6  |  | 258.2                   | 284.3  | 295.4  | 312.7  | 344.1  | 364.5  |  |
|       | qw  | m³/h | 159.40                  | 150.00 | 146.07 | 140.12 | 129.93 | 123.40 |  | 174.84                  | 164.47 | 160.16 | 153.73 | 142.60 | 135.62 |  |
|       | dpw | kPa  | 60.0                    | 53.1   | 50.4   | 46.3   | 39.8   | 35.9   |  | 49.6                    | 43.9   | 41.6   | 38.3   | 33.0   | 29.8   |  |
| 9     | Pf  | kW   | 953.2                   | 896.7  | 873.0  | 837.5  | 776.2  | 737.1  |  | 1045.4                  | 983.0  | 957.2  | 918.7  | 851.8  | 810.4  |  |
|       | Pa  | kW   | 234.1                   | 258.0  | 268.2  | 284.2  | 313.2  | 332.2  |  | 260.0                   | 286.4  | 297.6  | 315.1  | 346.8  | 367.3  |  |
|       | qw  | m³/h | 163.73                  | 154.03 | 149.97 | 143.86 | 133.33 | 126.61 |  | 179.57                  | 168.86 | 164.43 | 157.81 | 146.32 | 139.20 |  |
|       | dpw | kPa  | 63.3                    | 56.0   | 53.1   | 48.8   | 42.0   | 37.8   |  | 52.3                    | 46.3   | 43.9   | 40.4   | 34.7   | 31.4   |  |
| 10    | Pf  | kW   | 978.3                   | 920.0  | 895.6  | 859.1  | 795.9  | 756.1  |  | 1072.8                  | 1008.5 | 981.9  | 942.3  | 873.3  | 831.2  |  |
|       | Pa  | kW   | 235.8                   | 259.9  | 270.1  | 286.3  | 315.6  | 334.7  |  | 261.7                   | 288.4  | 299.7  | 317.5  | 349.4  | 370.2  |  |
|       | qw  | m³/h | 168.33                  | 158.29 | 154.10 | 147.82 | 136.94 | 130.09 |  | 184.59                  | 173.52 | 168.94 | 162.14 | 150.27 | 143.02 |  |
|       | dpw | kPa  | 66.9                    | 59.1   | 56.0   | 51.6   | 44.3   | 39.9   |  | 55.3                    | 48.8   | 46.3   | 42.6   | 36.6   | 33.2   |  |

| Twout |     |      | 270                     |        |        |        |        |        |  | 290                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 1016.5                  | 958.6  | 934.4  | 897.1  | 834.6  | 794.2  |  | 1103.5                  | 1041.2 | 1015.1 | 974.6  | 906.9  | 863.3  |  |
|       | Pa  | kW   | 263.8                   | 290.3  | 301.6  | 319.3  | 351.5  | 372.5  |  | 280.7                   | 308.9  | 320.9  | 339.8  | 374.1  | 396.6  |  |
|       | qw  | m³/h | 174.21                  | 164.30 | 160.14 | 153.75 | 143.04 | 136.12 |  | 189.12                  | 178.44 | 173.96 | 167.03 | 155.43 | 147.96 |  |
|       | dpw | kPa  | 118.4                   | 105.3  | 100.1  | 92.2   | 79.8   | 72.3   |  | 118.2                   | 105.2  | 100.0  | 92.2   | 79.8   | 72.3   |  |
| 6     | Pf  | kW   | 1044.2                  | 984.4  | 959.4  | 921.0  | 856.4  | 814.9  |  | 1133.7                  | 1069.3 | 1042.3 | 1000.7 | 931.0  | 885.9  |  |
|       | Pa  | kW   | 265.7                   | 292.5  | 303.9  | 321.8  | 354.2  | 375.4  |  | 282.8                   | 311.2  | 323.4  | 342.5  | 377.1  | 399.7  |  |
|       | qw  | m³/h | 179.06                  | 168.80 | 164.52 | 157.93 | 146.86 | 139.73 |  | 194.41                  | 183.37 | 178.74 | 171.60 | 159.64 | 151.91 |  |
|       | dpw | kPa  | 125.1                   | 111.2  | 105.6  | 97.3   | 84.2   | 76.2   |  | 124.9                   | 111.1  | 105.6  | 97.3   | 84.2   | 76.2   |  |
| 7     | Pf  | kW   | 1072.4                  | 1010.6 | 984.8  | 945.3  | 878.7  | 835.8  |  | 1164.5                  | 1098.0 | 1070.1 | 1027.3 | 955.3  | 908.8  |  |
|       | Pa  | kW   | 267.6                   | 294.7  | 306.2  | 324.3  | 357.0  | 378.4  |  | 284.8                   | 313.6  | 325.8  | 345.1  | 380.0  | 402.9  |  |
|       | qw  | m³/h | 184.00                  | 173.40 | 168.97 | 162.20 | 150.76 | 143.41 |  | 199.81                  | 188.39 | 183.61 | 176.26 | 163.91 | 155.94 |  |
|       | dpw | kPa  | 132.1                   | 117.3  | 111.4  | 102.6  | 88.7   | 80.2   |  | 131.9                   | 117.3  | 111.4  | 102.6  | 88.8   | 80.3   |  |
| 8     | Pf  | kW   | 1101.1                  | 1037.3 | 1010.6 | 970.1  | 901.3  | 857.2  |  | 1195.9                  | 1127.2 | 1098.4 | 1054.3 | 980.0  | 932.2  |  |
|       | Pa  | kW   | 269.4                   | 296.8  | 308.5  | 326.7  | 359.8  | 381.4  |  | 286.8                   | 315.9  | 328.3  | 347.7  | 383.0  | 406.0  |  |
|       | qw  | m³/h | 189.04                  | 178.08 | 173.50 | 166.54 | 154.74 | 147.16 |  | 205.31                  | 193.51 | 188.57 | 181.01 | 168.25 | 160.04 |  |
|       | dpw | kPa  | 139.4                   | 123.7  | 117.5  | 108.2  | 93.4   | 84.5   |  | 139.3                   | 123.7  | 117.5  | 108.3  | 93.5   | 84.6   |  |
| 9     | Pf  | kW   | 1130.3                  | 1064.5 | 1036.9 | 995.3  | 924.4  | 879.0  |  | 1227.9                  | 1156.9 | 1127.2 | 1081.9 | 1005.2 | 956.0  |  |
|       | Pa  | kW   | 271.3                   | 299.0  | 310.7  | 329.2  | 362.6  | 384.3  |  | 288.7                   | 318.2  | 330.7  | 350.4  | 386.0  | 409.2  |  |
|       | qw  | m³/h | 194.17                  | 182.85 | 178.12 | 170.97 | 158.79 | 150.99 |  | 210.92                  | 198.73 | 193.62 | 185.85 | 172.67 | 164.21 |  |
|       | dpw | kPa  | 147.1                   | 130.5  | 123.8  | 114.1  | 98.4   | 89.0   |  | 147.0                   | 130.5  | 123.9  | 114.1  | 98.5   | 89.1   |  |
| 10    | Pf  | kW   | 1160.1                  | 1092.1 | 1063.7 | 1021.0 | 947.8  | 901.2  |  | 1260.4                  | 1187.1 | 1156.5 | 1110.0 | 1030.9 | 980.2  |  |
|       | Pa  | kW   | 273.1                   | 301.1  | 313.0  | 331.7  | 365.3  | 387.3  |  | 290.7                   | 320.5  | 333.1  | 353.0  | 388.9  | 412.4  |  |
|       | qw  | m³/h | 199.61                  | 187.91 | 183.02 | 175.67 | 163.08 | 155.05 |  | 216.87                  | 204.26 | 198.98 | 190.98 | 177.37 | 168.65 |  |
|       | dpw | kPa  | 155.5                   | 137.8  | 130.7  | 120.4  | 103.8  | 93.8   |  | 155.4                   | 137.8  | 130.8  | 120.5  | 103.9  | 94.0   |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO**

| Ta    |     |      | 120<br>Twout |       |       |       |       |       | 130<br>Twout |       |       |       |       |       |
|-------|-----|------|--------------|-------|-------|-------|-------|-------|--------------|-------|-------|-------|-------|-------|
|       |     |      | 30           | 35    | 40    | 45    | 50    | 55    | 30           | 35    | 40    | 45    | 50    | 55    |
| -5 °C | Pt  | kW   | 373.5        | 368.0 | 362.5 | 357.2 | 353.0 | 349.2 | 395.7        | 389.9 | 384.2 | 378.8 | 374.6 | 371.0 |
|       | Pat | kW   | 106.0        | 116.6 | 128.4 | 141.7 | 156.9 | 174.1 | 116.9        | 128.9 | 142.4 | 157.7 | 175.2 | 195.2 |
|       | qw  | m³/h | 64.66        | 63.85 | 63.02 | 62.23 | 62.73 | 61.06 | 68.51        | 67.65 | 66.79 | 65.98 | 66.56 | 64.88 |
|       | dpw | kPa  | 76.6         | 74.7  | 72.8  | 71.0  | 72.1  | 68.3  | 86.3         | 84.2  | 82.0  | 80.1  | 81.5  | 77.4  |
| -2 °C | Pt  | kW   | 404.0        | 397.2 | 390.2 | 383.2 | 377.2 | 371.5 | 428.0        | 420.8 | 413.4 | 406.1 | 399.9 | 394.1 |
|       | Pat | kW   | 106.5        | 117.1 | 128.9 | 142.1 | 157.2 | 174.3 | 117.1        | 129.1 | 142.5 | 157.7 | 175.0 | 194.8 |
|       | qw  | m³/h | 69.95        | 68.92 | 67.84 | 66.76 | 67.03 | 64.95 | 74.10        | 73.01 | 71.87 | 70.74 | 71.06 | 68.90 |
|       | dpw | kPa  | 89.7         | 87.0  | 84.3  | 81.7  | 82.3  | 77.3  | 101.0        | 98.0  | 95.0  | 92.0  | 92.8  | 87.3  |
| 0 °C  | Pt  | kW   | 426.4        | 418.6 | 410.4 | 402.3 | 395.0 | 387.8 | 451.6        | 443.4 | 434.8 | 426.1 | 418.5 | 411.1 |
|       | Pat | kW   | 106.8        | 117.4 | 129.2 | 142.5 | 157.4 | 174.4 | 117.3        | 129.3 | 142.6 | 157.8 | 175.0 | 194.6 |
|       | qw  | m³/h | 73.82        | 72.63 | 71.36 | 70.08 | 70.18 | 67.81 | 78.19        | 76.94 | 75.59 | 74.23 | 74.36 | 71.87 |
|       | dpw | kPa  | 99.9         | 96.6  | 93.3  | 90.0  | 90.3  | 84.2  | 112.4        | 108.9 | 105.1 | 101.3 | 101.7 | 95.0  |
| 5 °C  | Pt  | kW   | 484.4        | 474.0 | 463.0 | 451.7 | 441.2 | 430.6 | 513.2        | 502.3 | 490.6 | 478.4 | 467.1 | 455.7 |
|       | Pat | kW   | 107.3        | 118.1 | 130.0 | 143.2 | 158.1 | 174.9 | 117.8        | 129.8 | 143.1 | 158.1 | 175.1 | 194.5 |
|       | qw  | m³/h | 83.86        | 82.25 | 80.50 | 78.69 | 78.40 | 75.28 | 88.86        | 87.15 | 85.29 | 83.34 | 83.00 | 79.68 |
|       | dpw | kPa  | 128.9        | 123.9 | 118.7 | 113.5 | 112.6 | 103.8 | 145.2        | 139.7 | 133.8 | 127.7 | 126.7 | 116.7 |
| 7 °C  | Pt  | kW   | 510.4        | 498.9 | 486.6 | 474.0 | 462.1 | 449.9 | 540.9        | 528.8 | 515.7 | 502.1 | 489.1 | 476.0 |
|       | Pat | kW   | 107.4        | 118.3 | 130.3 | 143.5 | 158.4 | 175.2 | 118.0        | 130.0 | 143.3 | 158.3 | 175.2 | 194.5 |
|       | qw  | m³/h | 88.36        | 86.56 | 84.61 | 82.57 | 82.10 | 78.66 | 93.65        | 91.75 | 89.66 | 87.46 | 86.91 | 83.22 |
|       | dpw | kPa  | 143.1        | 137.3 | 131.2 | 124.9 | 123.5 | 113.4 | 161.3        | 154.8 | 147.8 | 140.7 | 138.9 | 127.4 |

| Ta    |     |      | 140<br>Twout |        |       |       |       |       | 150<br>Twout |        |        |        |        |       |
|-------|-----|------|--------------|--------|-------|-------|-------|-------|--------------|--------|--------|--------|--------|-------|
|       |     |      | 30           | 35     | 40    | 45    | 50    | 55    | 30           | 35     | 40     | 45     | 50     | 55    |
| -5 °C | Pt  | kW   | 438.8        | 432.1  | 425.5 | 418.9 | 413.5 | 408.1 | 465.8        | 458.9  | 451.9  | 445.2  | 439.7  | 434.5 |
|       | Pat | kW   | 120.8        | 132.4  | 145.2 | 159.6 | 175.8 | 194.2 | 129.6        | 142.4  | 156.7  | 172.8  | 191.1  | 211.9 |
|       | qw  | m³/h | 75.97        | 74.98  | 73.97 | 72.98 | 73.47 | 71.35 | 80.65        | 79.62  | 78.57  | 77.55  | 78.12  | 75.96 |
|       | dpw | kPa  | 75.7         | 73.7   | 71.7  | 69.8  | 70.8  | 66.7  | 74.5         | 72.6   | 70.7   | 68.9   | 69.9   | 66.1  |
| -2 °C | Pt  | kW   | 474.8        | 466.6  | 458.2 | 449.8 | 442.4 | 435.0 | 504.1        | 495.5  | 486.6  | 477.7  | 470.1  | 462.5 |
|       | Pat | kW   | 121.6        | 133.3  | 146.3 | 160.7 | 176.8 | 195.0 | 130.2        | 143.1  | 157.4  | 173.5  | 191.6  | 212.2 |
|       | qw  | m³/h | 82.21        | 80.96  | 79.66 | 78.36 | 78.62 | 76.06 | 87.27        | 85.97  | 84.60  | 83.22  | 83.53  | 80.86 |
|       | dpw | kPa  | 88.6         | 85.9   | 83.2  | 80.5  | 81.0  | 75.8  | 87.2         | 84.7   | 82.0   | 79.3   | 79.9   | 74.9  |
| 0 °C  | Pt  | kW   | 501.1        | 491.7  | 482.1 | 472.3 | 463.6 | 454.7 | 532.0        | 522.2  | 511.9  | 501.6  | 492.3  | 483.0 |
|       | Pat | kW   | 122.0        | 133.9  | 146.9 | 161.3 | 177.5 | 195.6 | 130.6        | 143.6  | 157.9  | 173.9  | 192.0  | 212.5 |
|       | qw  | m³/h | 86.76        | 85.32  | 83.81 | 82.28 | 82.37 | 79.50 | 92.10        | 90.60  | 89.00  | 87.37  | 87.48  | 84.46 |
|       | dpw | kPa  | 98.7         | 95.4   | 92.1  | 88.7  | 88.9  | 82.9  | 97.2         | 94.0   | 90.7   | 87.4   | 87.7   | 81.7  |
| 5 °C  | Pt  | kW   | 569.0        | 556.7  | 543.8 | 530.6 | 518.4 | 505.8 | 604.3        | 591.4  | 577.6  | 563.5  | 550.3  | 536.7 |
|       | Pat | kW   | 122.6        | 134.9  | 148.2 | 162.8 | 179.0 | 197.1 | 131.2        | 144.5  | 158.9  | 175.0  | 193.0  | 213.3 |
|       | qw  | m³/h | 98.51        | 96.59  | 94.55 | 92.43 | 92.11 | 88.44 | 104.63       | 102.61 | 100.43 | 98.15  | 97.78  | 93.84 |
|       | dpw | kPa  | 127.2        | 122.3  | 117.2 | 112.0 | 111.2 | 102.5 | 125.4        | 120.6  | 115.5  | 110.4  | 109.5  | 100.9 |
| 7 °C  | Pt  | kW   | 599.3        | 585.7  | 571.4 | 556.7 | 543.0 | 528.8 | 636.8        | 622.4  | 607.1  | 591.3  | 576.4  | 561.0 |
|       | Pat | kW   | 122.7        | 135.2  | 148.6 | 163.3 | 179.6 | 197.7 | 131.4        | 144.7  | 159.3  | 175.4  | 193.4  | 213.7 |
|       | qw  | m³/h | 103.77       | 101.63 | 99.35 | 96.98 | 96.48 | 92.46 | 110.25       | 107.99 | 105.55 | 103.00 | 102.41 | 98.08 |
|       | dpw | kPa  | 141.2        | 135.4  | 129.4 | 123.3 | 122.0 | 112.1 | 139.2        | 133.6  | 127.6  | 121.5  | 120.1  | 110.2 |

**Ta** = Outdoor temperature (°C)  
**Twout** = Leaving water temperature (°C)  
**Pt** = Heating capacity (kW)  
**Pat** = Compressors power input (kW)  
**qw** = Water flow (m³/h)  
**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO**

| Ta   |     |      | 165    |        |        |        |        |        | 175    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 518.9  | 511.3  | 503.6  | 496.2  | 490.0  | 484.0  | 550.8  | 542.3  | 533.7  | 525.3  | 518.4  | 511.7  |
|      | Pat | kW   | 145.0  | 159.0  | 174.4  | 191.7  | 211.3  | 233.4  | 151.5  | 167.0  | 184.2  | 203.5  | 225.1  | 249.5  |
|      | qw  | m³/h | 89.84  | 88.71  | 87.55  | 86.43  | 87.06  | 84.63  | 95.37  | 94.09  | 92.79  | 91.51  | 92.11  | 89.48  |
|      | dpw | kPa  | 82.9   | 80.8   | 78.7   | 76.7   | 77.8   | 73.5   | 36.9   | 35.9   | 34.9   | 34.0   | 34.4   | 32.5   |
| -2°C | Pt  | kW   | 561.5  | 552.0  | 542.3  | 532.6  | 524.2  | 515.8  | 596.1  | 585.6  | 574.7  | 563.9  | 554.5  | 545.2  |
|      | Pat | kW   | 146.0  | 160.1  | 175.7  | 193.0  | 212.5  | 234.4  | 152.1  | 167.6  | 184.8  | 204.1  | 225.7  | 250.0  |
|      | qw  | m³/h | 97.22  | 95.78  | 94.28  | 92.79  | 93.14  | 90.18  | 103.21 | 101.60 | 99.92  | 98.24  | 98.52  | 95.32  |
|      | dpw | kPa  | 97.1   | 94.2   | 91.3   | 88.4   | 89.1   | 83.5   | 43.2   | 41.8   | 40.5   | 39.1   | 39.3   | 36.8   |
| 0°C  | Pt  | kW   | 592.6  | 581.7  | 570.5  | 559.3  | 549.2  | 539.0  | 629.2  | 617.2  | 604.7  | 592.1  | 580.8  | 569.6  |
|      | Pat | kW   | 146.6  | 160.9  | 176.5  | 193.8  | 213.3  | 235.1  | 152.5  | 168.0  | 185.3  | 204.5  | 226.1  | 250.4  |
|      | qw  | m³/h | 102.60 | 100.93 | 99.19  | 97.42  | 97.58  | 94.25  | 108.94 | 107.08 | 105.13 | 103.15 | 103.21 | 99.60  |
|      | dpw | kPa  | 108.1  | 104.6  | 101.0  | 97.5   | 97.8   | 91.2   | 48.1   | 46.5   | 44.8   | 43.1   | 43.2   | 40.2   |
| 5°C  | Pt  | kW   | 673.0  | 658.6  | 643.5  | 628.2  | 614.0  | 599.4  | 715.0  | 699.1  | 682.3  | 665.3  | 649.4  | 633.3  |
|      | Pat | kW   | 147.4  | 162.2  | 178.1  | 195.7  | 215.1  | 236.9  | 153.2  | 168.9  | 186.2  | 205.5  | 227.1  | 251.3  |
|      | qw  | m³/h | 116.51 | 114.27 | 111.89 | 109.43 | 109.10 | 104.81 | 123.79 | 121.29 | 118.63 | 115.89 | 115.39 | 110.74 |
|      | dpw | kPa  | 139.4  | 134.1  | 128.6  | 123.0  | 122.2  | 112.8  | 62.1   | 59.6   | 57.1   | 54.4   | 54.0   | 49.7   |
| 7°C  | Pt  | kW   | 708.9  | 693.0  | 676.3  | 659.1  | 643.1  | 626.6  | 753.4  | 735.8  | 717.2  | 698.1  | 680.3  | 662.1  |
|      | Pat | kW   | 147.5  | 162.5  | 178.6  | 196.3  | 215.8  | 237.6  | 153.5  | 169.2  | 186.6  | 205.9  | 227.5  | 251.7  |
|      | qw  | m³/h | 122.74 | 120.24 | 117.58 | 114.82 | 114.27 | 109.57 | 130.45 | 127.66 | 124.69 | 121.61 | 120.87 | 115.76 |
|      | dpw | kPa  | 154.7  | 148.5  | 142.0  | 135.4  | 134.1  | 123.3  | 69.0   | 66.1   | 63.0   | 60.0   | 59.2   | 54.3   |

| Ta   |     |      | 180    |        |        |        |        |        | 190    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 573.8  | 564.9  | 555.9  | 546.9  | 539.4  | 532.1  | 596.6  | 587.7  | 578.8  | 570.2  | 563.0  | 556.0  |
|      | Pat | kW   | 157.8  | 173.4  | 190.8  | 210.2  | 232.2  | 257.2  | 163.3  | 179.1  | 196.7  | 216.4  | 238.6  | 263.8  |
|      | qw  | m³/h | 99.34  | 98.02  | 96.65  | 95.28  | 95.85  | 93.04  | 103.29 | 101.98 | 100.64 | 99.32  | 100.04 | 97.21  |
|      | dpw | kPa  | 40.0   | 38.9   | 37.9   | 36.8   | 37.2   | 35.1   | 24.4   | 23.8   | 23.2   | 22.6   | 22.9   | 21.6   |
| -2°C | Pt  | kW   | 621.1  | 610.3  | 599.0  | 587.5  | 577.4  | 567.1  | 645.7  | 634.7  | 623.4  | 612.2  | 602.4  | 592.5  |
|      | Pat | kW   | 158.5  | 174.3  | 191.6  | 211.0  | 232.9  | 257.7  | 164.4  | 180.3  | 198.0  | 217.6  | 239.7  | 264.7  |
|      | qw  | m³/h | 107.53 | 105.88 | 104.14 | 102.34 | 102.59 | 99.16  | 111.79 | 110.12 | 108.39 | 106.64 | 107.04 | 103.59 |
|      | dpw | kPa  | 46.9   | 45.5   | 44.0   | 42.5   | 42.7   | 39.9   | 28.6   | 27.8   | 26.9   | 26.0   | 26.2   | 24.6   |
| 0°C  | Pt  | kW   | 655.6  | 643.3  | 630.4  | 617.1  | 605.1  | 592.8  | 681.5  | 668.9  | 656.0  | 642.9  | 631.2  | 619.2  |
|      | Pat | kW   | 158.9  | 174.8  | 192.2  | 211.6  | 233.4  | 258.1  | 164.9  | 181.1  | 198.8  | 218.5  | 240.6  | 265.4  |
|      | qw  | m³/h | 113.51 | 111.62 | 109.60 | 107.50 | 107.52 | 103.65 | 117.98 | 116.06 | 114.05 | 111.98 | 112.15 | 108.26 |
|      | dpw | kPa  | 52.2   | 50.5   | 48.7   | 46.8   | 46.9   | 43.6   | 31.9   | 30.8   | 29.8   | 28.7   | 28.8   | 26.8   |
| 5°C  | Pt  | kW   | 745.0  | 729.0  | 711.8  | 693.9  | 677.2  | 659.7  | 774.1  | 757.5  | 740.2  | 722.3  | 705.8  | 688.7  |
|      | Pat | kW   | 159.6  | 175.8  | 193.4  | 212.9  | 234.7  | 259.3  | 165.8  | 182.4  | 200.5  | 220.3  | 242.4  | 267.2  |
|      | qw  | m³/h | 128.98 | 126.48 | 123.76 | 120.88 | 120.32 | 115.36 | 134.02 | 131.44 | 128.69 | 125.83 | 125.42 | 120.42 |
|      | dpw | kPa  | 67.4   | 64.9   | 62.1   | 59.2   | 58.7   | 53.9   | 41.1   | 39.6   | 37.9   | 36.3   | 36.0   | 33.2   |
| 7°C  | Pt  | kW   | 785.0  | 767.3  | 748.4  | 728.5  | 709.6  | 689.9  | 815.5  | 797.2  | 777.9  | 758.0  | 739.4  | 720.0  |
|      | Pat | kW   | 159.7  | 176.0  | 193.8  | 213.4  | 235.2  | 259.7  | 165.9  | 182.8  | 201.0  | 221.0  | 243.2  | 267.9  |
|      | qw  | m³/h | 135.92 | 133.14 | 130.11 | 126.90 | 126.09 | 120.64 | 141.19 | 138.32 | 135.25 | 132.04 | 131.38 | 125.90 |
|      | dpw | kPa  | 74.9   | 71.9   | 68.6   | 65.3   | 64.4   | 59.0   | 45.6   | 43.8   | 41.9   | 39.9   | 39.5   | 36.3   |

Ta = Outdoor temperature (°C)

Twout = Leaving water temperature (°C)

Pt = Heating capacity (kW)

Pat = Compressors power input (kW)

qw = Water flow (m³/h)

dpw = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO**

| Ta    |     |      | 195    |        |        |        |        |        | 205    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 610.0  | 601.1  | 592.1  | 583.4  | 576.1  | 568.8  | 637.3  | 628.3  | 619.2  | 610.4  | 603.3  | 596.2  |
|       | Pat | kW   | 169.8  | 186.2  | 204.2  | 224.4  | 247.2  | 273.0  | 179.8  | 197.3  | 216.7  | 238.5  | 263.2  | 291.2  |
|       | qw  | m³/h | 105.61 | 104.29 | 102.95 | 101.62 | 102.37 | 99.45  | 110.35 | 109.01 | 107.66 | 106.33 | 107.19 | 104.25 |
|       | dpw | kPa  | 25.5   | 24.9   | 24.3   | 23.6   | 24.0   | 22.6   | 27.9   | 27.2   | 26.5   | 25.9   | 26.3   | 24.9   |
| -2 °C | Pt  | kW   | 660.3  | 649.3  | 638.0  | 626.6  | 616.7  | 606.5  | 689.9  | 678.6  | 667.0  | 655.5  | 645.5  | 635.3  |
|       | Pat | kW   | 171.0  | 187.5  | 205.7  | 225.9  | 248.6  | 274.2  | 180.8  | 198.5  | 218.0  | 239.8  | 264.3  | 292.1  |
|       | qw  | m³/h | 114.32 | 112.65 | 110.92 | 109.15 | 109.58 | 106.05 | 119.44 | 117.74 | 115.97 | 114.18 | 114.69 | 111.09 |
|       | dpw | kPa  | 29.9   | 29.1   | 28.2   | 27.3   | 27.5   | 25.8   | 32.7   | 31.7   | 30.8   | 29.8   | 30.1   | 28.3   |
| 0 °C  | Pt  | kW   | 697.0  | 684.4  | 671.4  | 658.2  | 646.4  | 634.1  | 728.3  | 715.4  | 702.0  | 688.4  | 676.4  | 664.0  |
|       | Pat | kW   | 171.7  | 188.4  | 206.6  | 226.9  | 249.6  | 275.0  | 181.5  | 199.3  | 218.9  | 240.7  | 265.2  | 292.8  |
|       | qw  | m³/h | 120.68 | 118.75 | 116.73 | 114.65 | 114.85 | 110.88 | 126.09 | 124.12 | 122.04 | 119.92 | 120.18 | 116.10 |
|       | dpw | kPa  | 33.3   | 32.3   | 31.2   | 30.1   | 30.2   | 28.1   | 36.4   | 35.3   | 34.1   | 32.9   | 33.1   | 30.9   |
| 5 °C  | Pt  | kW   | 792.0  | 775.4  | 757.9  | 739.9  | 723.3  | 705.9  | 827.8  | 810.6  | 792.5  | 773.8  | 756.6  | 738.6  |
|       | Pat | kW   | 172.6  | 189.9  | 208.5  | 229.0  | 251.8  | 277.2  | 182.5  | 200.8  | 220.6  | 242.6  | 267.1  | 294.6  |
|       | qw  | m³/h | 137.13 | 134.53 | 131.77 | 128.89 | 128.52 | 123.42 | 143.32 | 140.64 | 137.79 | 134.80 | 134.44 | 129.14 |
|       | dpw | kPa  | 43.1   | 41.4   | 39.8   | 38.0   | 37.8   | 34.9   | 47.0   | 45.3   | 43.5   | 41.6   | 41.4   | 38.2   |
| 7 °C  | Pt  | kW   | 834.5  | 816.1  | 796.6  | 776.5  | 757.8  | 738.2  | 872.3  | 853.3  | 833.1  | 812.2  | 792.7  | 772.2  |
|       | Pat | kW   | 172.6  | 190.2  | 209.1  | 229.8  | 252.6  | 278.0  | 182.6  | 201.2  | 221.2  | 243.3  | 267.8  | 295.3  |
|       | qw  | m³/h | 144.48 | 141.59 | 138.50 | 135.27 | 134.66 | 129.07 | 151.03 | 148.05 | 144.85 | 141.48 | 140.85 | 135.02 |
|       | dpw | kPa  | 47.8   | 45.9   | 43.9   | 41.9   | 41.5   | 38.1   | 52.2   | 50.2   | 48.0   | 45.8   | 45.4   | 41.7   |

| Ta    |     |      | 215    |        |        |        |        |        | 220    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 669.1  | 659.3  | 649.3  | 639.6  | 631.6  | 623.5  | 692.5  | 682.0  | 671.4  | 660.9  | 652.0  | 643.1  |
|       | Pat | kW   | 188.8  | 207.0  | 227.2  | 249.9  | 275.4  | 304.4  | 194.6  | 213.3  | 233.9  | 257.0  | 283.0  | 312.5  |
|       | qw  | m³/h | 115.85 | 114.38 | 112.89 | 111.42 | 112.22 | 109.02 | 119.89 | 118.33 | 116.72 | 115.12 | 115.86 | 112.44 |
|       | dpw | kPa  | 30.7   | 30.0   | 29.2   | 28.4   | 28.8   | 27.2   | 32.9   | 32.1   | 31.2   | 30.3   | 30.7   | 28.9   |
| -2 °C | Pt  | kW   | 724.3  | 712.1  | 699.6  | 687.0  | 676.0  | 664.7  | 749.6  | 736.7  | 723.4  | 709.9  | 698.1  | 685.9  |
|       | Pat | kW   | 190.0  | 208.4  | 228.7  | 251.4  | 276.8  | 305.6  | 195.8  | 214.8  | 235.6  | 258.7  | 284.7  | 313.9  |
|       | qw  | m³/h | 125.40 | 123.55 | 121.63 | 119.67 | 120.12 | 116.23 | 129.78 | 127.82 | 125.76 | 123.67 | 124.05 | 119.93 |
|       | dpw | kPa  | 36.0   | 35.0   | 33.9   | 32.8   | 33.0   | 30.9   | 38.6   | 37.4   | 36.2   | 35.0   | 35.2   | 32.9   |
| 0 °C  | Pt  | kW   | 764.6  | 750.7  | 736.2  | 721.6  | 708.5  | 694.9  | 791.2  | 776.5  | 761.2  | 745.7  | 731.7  | 717.2  |
|       | Pat | kW   | 190.6  | 209.3  | 229.7  | 252.4  | 277.8  | 306.4  | 196.5  | 215.7  | 236.7  | 259.9  | 285.8  | 314.9  |
|       | qw  | m³/h | 132.38 | 130.24 | 128.00 | 125.69 | 125.89 | 121.50 | 136.99 | 134.73 | 132.35 | 129.90 | 130.02 | 125.41 |
|       | dpw | kPa  | 40.1   | 38.8   | 37.5   | 36.2   | 36.3   | 33.8   | 43.0   | 41.6   | 40.1   | 38.6   | 38.7   | 36.0   |
| 5 °C  | Pt  | kW   | 868.7  | 850.4  | 831.1  | 811.2  | 792.7  | 773.4  | 898.8  | 879.5  | 859.2  | 838.3  | 818.9  | 798.6  |
|       | Pat | kW   | 191.6  | 210.8  | 231.7  | 254.6  | 280.1  | 308.6  | 197.4  | 217.3  | 238.7  | 262.2  | 288.3  | 317.3  |
|       | qw  | m³/h | 150.41 | 147.55 | 144.49 | 141.30 | 140.85 | 135.22 | 155.61 | 152.59 | 149.38 | 146.03 | 145.51 | 139.63 |
|       | dpw | kPa  | 51.8   | 49.8   | 47.8   | 45.7   | 45.4   | 41.9   | 55.4   | 53.3   | 51.1   | 48.8   | 48.5   | 44.6   |
| 7 °C  | Pt  | kW   | 915.4  | 895.1  | 873.6  | 851.3  | 830.5  | 808.7  | 946.9  | 925.5  | 903.1  | 879.8  | 858.0  | 835.2  |
|       | Pat | kW   | 191.7  | 211.2  | 232.3  | 255.4  | 280.9  | 309.4  | 197.4  | 217.6  | 239.3  | 263.1  | 289.2  | 318.3  |
|       | qw  | m³/h | 158.48 | 155.30 | 151.88 | 148.30 | 147.58 | 141.40 | 163.94 | 160.59 | 157.01 | 153.26 | 152.46 | 146.03 |
|       | dpw | kPa  | 57.5   | 55.2   | 52.8   | 50.4   | 49.9   | 45.8   | 61.5   | 59.0   | 56.4   | 53.8   | 53.2   | 48.8   |

Ta = Outdoor temperature (°C)

Twout = Leaving water temperature (°C)

Pt = Heating capacity (kW)

Pat = Compressors power input (kW)

qw = Water flow (m³/h)

dpw = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO**

| Ta   |     |      | 225    |        |        |        |        |        | 250    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 728.9  | 717.4  | 705.7  | 694.0  | 684.2  | 674.3  | 775.4  | 763.9  | 752.2  | 740.8  | 731.2  | 721.5  |
|      | Pat | kW   | 203.7  | 223.6  | 245.7  | 270.5  | 298.4  | 330.1  | 217.6  | 238.5  | 261.6  | 287.4  | 316.6  | 349.5  |
|      | qw  | m³/h | 126.20 | 124.48 | 122.69 | 120.90 | 121.57 | 117.89 | 134.25 | 132.53 | 130.78 | 129.04 | 129.92 | 126.15 |
|      | dpw | kPa  | 36.5   | 35.5   | 34.5   | 33.5   | 33.8   | 31.8   | 28.4   | 27.6   | 26.9   | 26.2   | 26.6   | 25.0   |
| -2°C | Pt  | kW   | 789.0  | 774.9  | 760.3  | 745.5  | 732.4  | 718.9  | 839.4  | 825.1  | 810.5  | 795.7  | 782.8  | 769.5  |
|      | Pat | kW   | 204.7  | 224.8  | 247.0  | 271.8  | 299.6  | 331.1  | 219.0  | 240.2  | 263.5  | 289.4  | 318.4  | 351.1  |
|      | qw  | m³/h | 136.60 | 134.45 | 132.19 | 129.86 | 130.13 | 125.70 | 145.33 | 143.16 | 140.91 | 138.61 | 139.10 | 134.55 |
|      | dpw | kPa  | 42.7   | 41.4   | 40.0   | 38.6   | 38.8   | 36.2   | 33.2   | 32.3   | 31.2   | 30.2   | 30.4   | 28.5   |
| 0°C  | Pt  | kW   | 832.7  | 816.8  | 800.1  | 783.0  | 767.6  | 751.5  | 886.0  | 869.8  | 852.9  | 835.8  | 820.5  | 804.6  |
|      | Pat | kW   | 205.2  | 225.6  | 247.9  | 272.6  | 300.4  | 331.8  | 219.8  | 241.3  | 264.7  | 290.6  | 319.6  | 352.2  |
|      | qw  | m³/h | 144.17 | 141.72 | 139.11 | 136.40 | 136.39 | 131.41 | 153.40 | 150.91 | 148.29 | 145.60 | 145.79 | 140.68 |
|      | dpw | kPa  | 47.6   | 46.0   | 44.3   | 42.6   | 42.6   | 39.5   | 37.0   | 35.8   | 34.6   | 33.4   | 33.5   | 31.1   |
| 5°C  | Pt  | kW   | 945.8  | 925.1  | 903.1  | 880.3  | 858.9  | 836.5  | 1006.6 | 985.2  | 962.7  | 939.6  | 918.2  | 895.7  |
|      | Pat | kW   | 206.0  | 226.9  | 249.6  | 274.6  | 302.4  | 333.6  | 220.9  | 243.1  | 267.0  | 293.3  | 322.4  | 354.9  |
|      | qw  | m³/h | 163.75 | 160.51 | 157.02 | 153.34 | 152.62 | 146.26 | 174.28 | 170.94 | 167.39 | 163.68 | 163.15 | 156.62 |
|      | dpw | kPa  | 61.4   | 59.0   | 56.4   | 53.8   | 53.3   | 49.0   | 47.8   | 46.0   | 44.1   | 42.2   | 41.9   | 38.6   |
| 7°C  | Pt  | kW   | 996.4  | 973.6  | 949.3  | 923.9  | 900.0  | 874.8  | 1060.5 | 1036.9 | 1011.9 | 986.1  | 962.0  | 936.7  |
|      | Pat | kW   | 206.0  | 227.2  | 250.1  | 275.2  | 303.1  | 334.3  | 220.9  | 243.5  | 267.8  | 294.3  | 323.5  | 356.0  |
|      | qw  | m³/h | 172.52 | 168.92 | 165.04 | 160.94 | 159.91 | 152.96 | 183.62 | 179.90 | 175.93 | 171.78 | 170.94 | 163.79 |
|      | dpw | kPa  | 68.1   | 65.3   | 62.4   | 59.3   | 58.6   | 53.6   | 53.1   | 50.9   | 48.7   | 46.4   | 46.0   | 42.2   |

| Ta   |     |      | 270    |        |        |        |        |        | 290    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 830.6  | 817.3  | 803.8  | 790.4  | 779.1  | 767.9  | 926.8  | 912.9  | 898.9  | 885.4  | 874.1  | 863.6  |
|      | Pat | kW   | 231.7  | 254.2  | 279.2  | 307.1  | 338.6  | 374.3  | 251.5  | 276.0  | 303.3  | 334.0  | 368.7  | 408.1  |
|      | qw  | m³/h | 143.81 | 141.81 | 139.75 | 137.69 | 138.43 | 134.26 | 160.47 | 158.39 | 156.28 | 154.23 | 155.32 | 150.99 |
|      | dpw | kPa  | 83.6   | 81.3   | 78.9   | 76.6   | 77.5   | 72.9   | 83.2   | 81.0   | 78.9   | 76.8   | 77.9   | 73.6   |
| -2°C | Pt  | kW   | 898.7  | 882.5  | 865.6  | 848.7  | 833.7  | 818.5  | 1002.8 | 985.5  | 967.8  | 950.2  | 934.7  | 919.6  |
|      | Pat | kW   | 232.9  | 255.7  | 280.8  | 308.8  | 340.2  | 375.6  | 252.9  | 277.7  | 305.0  | 335.7  | 370.2  | 409.2  |
|      | qw  | m³/h | 155.60 | 153.11 | 150.50 | 147.84 | 148.13 | 143.11 | 173.62 | 170.99 | 168.26 | 165.52 | 166.09 | 160.79 |
|      | dpw | kPa  | 97.9   | 94.8   | 91.6   | 88.4   | 88.7   | 82.8   | 97.3   | 94.4   | 91.4   | 88.5   | 89.1   | 83.5   |
| 0°C  | Pt  | kW   | 948.4  | 929.9  | 910.7  | 891.2  | 873.5  | 855.5  | 1058.2 | 1038.5 | 1018.0 | 997.5  | 979.0  | 960.7  |
|      | Pat | kW   | 233.6  | 256.7  | 281.9  | 309.9  | 341.3  | 376.6  | 253.7  | 278.7  | 306.2  | 336.8  | 371.3  | 410.1  |
|      | qw  | m³/h | 164.20 | 161.35 | 158.34 | 155.25 | 155.21 | 149.58 | 183.21 | 180.19 | 176.99 | 173.76 | 173.96 | 167.97 |
|      | dpw | kPa  | 109.0  | 105.2  | 101.3  | 97.4   | 97.4   | 90.4   | 108.4  | 104.8  | 101.2  | 97.5   | 97.7   | 91.1   |
| 5°C  | Pt  | kW   | 1076.5 | 1052.6 | 1027.3 | 1001.2 | 976.8  | 951.7  | 1201.6 | 1175.6 | 1148.2 | 1120.2 | 1094.1 | 1067.6 |
|      | Pat | kW   | 234.5  | 258.2  | 284.0  | 312.3  | 343.7  | 378.9  | 255.1  | 280.7  | 308.5  | 339.4  | 373.8  | 412.4  |
|      | qw  | m³/h | 186.39 | 182.63 | 178.60 | 174.41 | 173.57 | 166.41 | 208.04 | 203.98 | 199.63 | 195.14 | 194.40 | 186.67 |
|      | dpw | kPa  | 140.4  | 134.8  | 128.9  | 123.0  | 121.8  | 111.9  | 139.8  | 134.4  | 128.7  | 123.0  | 122.0  | 112.5  |
| 7°C  | Pt  | kW   | 1133.9 | 1107.5 | 1079.5 | 1050.5 | 1023.3 | 995.1  | 1265.8 | 1237.1 | 1206.6 | 1175.3 | 1145.8 | 1115.9 |
|      | Pat | kW   | 234.5  | 258.6  | 284.6  | 313.1  | 344.6  | 379.8  | 255.3  | 281.2  | 309.3  | 340.3  | 374.8  | 413.4  |
|      | qw  | m³/h | 196.32 | 192.15 | 187.68 | 183.00 | 181.82 | 173.99 | 219.16 | 214.64 | 209.78 | 204.74 | 203.60 | 195.11 |
|      | dpw | kPa  | 155.8  | 149.2  | 142.4  | 135.4  | 133.6  | 122.4  | 155.1  | 148.8  | 142.1  | 135.4  | 133.9  | 122.9  |

Ta = Outdoor temperature (°C)

Twout = Leaving water temperature (°C)

Pt = Heating capacity (kW)

Pat = Compressors power input (kW)

qw = Water flow (m³/h)

dpw = Pressure drop (kPa)

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO L**

| Twout |     |      | 120                     |       |       |       |       |       |  | 130                     |       |       |       |       |       |  |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|--|-------------------------|-------|-------|-------|-------|-------|--|
|       |     |      | Outdoor air temperature |       |       |       |       |       |  | Outdoor air temperature |       |       |       |       |       |  |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    |  | 25                      | 30    | 32    | 35    | 40    | 43    |  |
| 5     | Pf  | kW   | 434.6                   | 408.4 | 397.3 | 380.6 | 363.2 | 345.0 |  | 471.9                   | 442.6 | 430.2 | 411.3 | 391.5 | 370.8 |  |
|       | Pa  | kW   | 123.2                   | 135.6 | 141.0 | 149.4 | 159.0 | 168.8 |  | 134.0                   | 147.7 | 153.7 | 163.2 | 174.0 | 185.1 |  |
|       | qw  | m³/h | 74.49                   | 69.99 | 68.10 | 65.23 | 62.25 | 59.12 |  | 80.88                   | 75.86 | 73.73 | 70.49 | 67.10 | 63.54 |  |
|       | dpw | kPa  | 107.9                   | 95.3  | 90.2  | 82.7  | 75.4  | 68.0  |  | 127.9                   | 112.5 | 106.3 | 97.2  | 88.1  | 79.0  |  |
| 6     | Pf  | kW   | 446.5                   | 419.4 | 408.0 | 390.8 | 372.8 | 354.0 |  | 484.9                   | 454.6 | 441.8 | 422.4 | 401.9 | 380.5 |  |
|       | Pa  | kW   | 124.1                   | 136.6 | 142.0 | 150.6 | 160.2 | 170.1 |  | 135.0                   | 148.8 | 154.9 | 164.4 | 175.3 | 186.5 |  |
|       | qw  | m³/h | 76.57                   | 71.92 | 69.96 | 67.01 | 63.93 | 60.71 |  | 83.15                   | 77.96 | 75.76 | 72.43 | 68.92 | 65.25 |  |
|       | dpw | kPa  | 114.0                   | 100.6 | 95.2  | 87.3  | 79.5  | 71.7  |  | 135.2                   | 118.9 | 112.3 | 102.6 | 92.9  | 83.3  |  |
| 7     | Pf  | kW   | 458.6                   | 430.6 | 418.8 | 401.2 | 382.6 | 363.2 |  | 498.1                   | 466.8 | 453.6 | 433.7 | 412.5 | 390.4 |  |
|       | Pa  | kW   | 125.0                   | 137.7 | 143.1 | 151.8 | 161.5 | 171.4 |  | 136.0                   | 150.0 | 156.0 | 165.7 | 176.6 | 187.9 |  |
|       | qw  | m³/h | 78.69                   | 73.88 | 71.86 | 68.83 | 65.64 | 62.32 |  | 85.47                   | 80.10 | 77.82 | 74.41 | 70.77 | 66.98 |  |
|       | dpw | kPa  | 120.4                   | 106.2 | 100.4 | 92.1  | 83.8  | 75.5  |  | 142.9                   | 125.5 | 118.5 | 108.3 | 98.0  | 87.8  |  |
| 8     | Pf  | kW   | 471.0                   | 442.0 | 429.9 | 411.7 | 392.5 | 372.5 |  | 511.6                   | 479.3 | 465.6 | 445.1 | 423.2 | 400.4 |  |
|       | Pa  | kW   | 125.9                   | 138.7 | 144.2 | 152.9 | 162.7 | 172.8 |  | 137.0                   | 151.1 | 157.2 | 166.9 | 178.0 | 189.3 |  |
|       | qw  | m³/h | 80.85                   | 75.89 | 73.81 | 70.69 | 67.38 | 63.95 |  | 87.83                   | 82.28 | 79.94 | 76.42 | 72.65 | 68.75 |  |
|       | dpw | kPa  | 127.1                   | 112.0 | 105.9 | 97.2  | 88.3  | 79.5  |  | 150.9                   | 132.4 | 125.0 | 114.2 | 103.2 | 92.4  |  |
| 9     | Pf  | kW   | 483.5                   | 453.6 | 441.2 | 422.5 | 402.6 | 382.0 |  | 525.3                   | 491.9 | 477.9 | 456.8 | 434.1 | 410.7 |  |
|       | Pa  | kW   | 126.8                   | 139.7 | 145.3 | 154.1 | 164.0 | 174.1 |  | 138.1                   | 152.3 | 158.4 | 168.2 | 179.3 | 190.7 |  |
|       | qw  | m³/h | 83.06                   | 77.92 | 75.78 | 72.57 | 69.15 | 65.62 |  | 90.23                   | 84.50 | 82.10 | 78.47 | 74.57 | 70.55 |  |
|       | dpw | kPa  | 134.1                   | 118.1 | 111.7 | 102.4 | 93.0  | 83.7  |  | 159.2                   | 139.6 | 131.8 | 120.4 | 108.8 | 97.3  |  |
| 10    | Pf  | kW   | 496.3                   | 465.4 | 452.6 | 433.4 | 412.9 | 391.7 |  | 539.2                   | 504.7 | 490.4 | 468.7 | 445.2 | 421.1 |  |
|       | Pa  | kW   | 127.7                   | 140.8 | 146.4 | 155.3 | 165.2 | 175.4 |  | 139.1                   | 153.4 | 159.6 | 169.5 | 180.7 | 192.2 |  |
|       | qw  | m³/h | 85.39                   | 80.08 | 77.88 | 74.58 | 71.04 | 67.40 |  | 92.77                   | 86.85 | 84.38 | 80.64 | 76.61 | 72.46 |  |
|       | dpw | kPa  | 141.8                   | 124.7 | 118.0 | 108.2 | 98.1  | 88.3  |  | 168.3                   | 147.5 | 139.3 | 127.2 | 114.8 | 102.7 |  |

| Twout |     |      | 140                     |       |       |       |       |       |  | 150                     |       |       |       |       |       |  |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|--|-------------------------|-------|-------|-------|-------|-------|--|
|       |     |      | Outdoor air temperature |       |       |       |       |       |  | Outdoor air temperature |       |       |       |       |       |  |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    |  | 25                      | 30    | 32    | 35    | 40    | 43    |  |
| 5     | Pf  | kW   | 509.6                   | 480.1 | 467.8 | 449.1 | 429.9 | 410.2 |  | 542.0                   | 509.5 | 495.8 | 475.1 | 453.6 | 431.0 |  |
|       | Pa  | kW   | 140.8                   | 154.8 | 160.7 | 170.1 | 180.6 | 191.2 |  | 151.6                   | 166.9 | 173.4 | 183.8 | 195.5 | 207.4 |  |
|       | qw  | m³/h | 87.34                   | 82.29 | 80.18 | 76.97 | 73.68 | 70.30 |  | 92.89                   | 87.31 | 84.96 | 81.42 | 77.73 | 73.87 |  |
|       | dpw | kPa  | 105.7                   | 93.8  | 89.1  | 82.1  | 75.2  | 68.5  |  | 105.6                   | 93.3  | 88.4  | 81.1  | 74.0  | 66.8  |  |
| 6     | Pf  | kW   | 523.4                   | 493.0 | 480.3 | 461.1 | 441.3 | 420.8 |  | 556.8                   | 523.1 | 509.0 | 487.7 | 465.5 | 442.3 |  |
|       | Pa  | kW   | 141.8                   | 156.0 | 162.0 | 171.5 | 182.0 | 192.8 |  | 152.7                   | 168.1 | 174.8 | 185.2 | 197.0 | 209.1 |  |
|       | qw  | m³/h | 89.76                   | 84.54 | 82.36 | 79.06 | 75.68 | 72.17 |  | 95.48                   | 89.71 | 87.28 | 83.64 | 79.82 | 75.84 |  |
|       | dpw | kPa  | 111.6                   | 99.0  | 94.0  | 86.6  | 79.4  | 72.2  |  | 111.6                   | 98.5  | 93.3  | 85.6  | 78.0  | 70.4  |  |
| 7     | Pf  | kW   | 537.6                   | 506.1 | 493.0 | 473.2 | 452.9 | 431.7 |  | 571.8                   | 537.1 | 522.5 | 500.6 | 477.6 | 453.7 |  |
|       | Pa  | kW   | 142.8                   | 157.1 | 163.2 | 172.8 | 183.5 | 194.3 |  | 153.8                   | 169.4 | 176.1 | 186.7 | 198.5 | 210.7 |  |
|       | qw  | m³/h | 92.23                   | 86.84 | 84.58 | 81.20 | 77.71 | 74.07 |  | 98.12                   | 92.15 | 89.64 | 85.90 | 81.95 | 77.85 |  |
|       | dpw | kPa  | 117.9                   | 104.5 | 99.1  | 91.4  | 83.7  | 76.0  |  | 117.9                   | 104.0 | 98.4  | 90.3  | 82.2  | 74.2  |  |
| 8     | Pf  | kW   | 551.9                   | 519.4 | 505.9 | 485.6 | 464.6 | 442.8 |  | 587.2                   | 551.2 | 536.2 | 513.8 | 490.0 | 465.3 |  |
|       | Pa  | kW   | 143.8                   | 158.3 | 164.5 | 174.1 | 184.9 | 195.8 |  | 154.9                   | 170.7 | 177.4 | 188.1 | 200.1 | 212.3 |  |
|       | qw  | m³/h | 94.76                   | 89.17 | 86.85 | 83.37 | 79.77 | 76.02 |  | 100.80                  | 94.64 | 92.05 | 88.20 | 84.12 | 79.89 |  |
|       | dpw | kPa  | 124.4                   | 110.2 | 104.5 | 96.3  | 88.2  | 80.1  |  | 124.4                   | 109.6 | 103.7 | 95.2  | 86.6  | 78.1  |  |
| 9     | Pf  | kW   | 566.6                   | 533.0 | 519.0 | 498.2 | 476.5 | 454.0 |  | 602.7                   | 565.7 | 550.2 | 527.1 | 502.5 | 477.2 |  |
|       | Pa  | kW   | 144.8                   | 159.4 | 165.7 | 175.4 | 186.3 | 197.3 |  | 156.1                   | 171.9 | 178.8 | 189.5 | 201.6 | 213.9 |  |
|       | qw  | m³/h | 97.33                   | 91.56 | 89.16 | 85.59 | 81.86 | 78.00 |  | 103.54                  | 97.17 | 94.52 | 90.55 | 86.33 | 81.97 |  |
|       | dpw | kPa  | 131.2                   | 116.2 | 110.1 | 101.5 | 92.8  | 84.3  |  | 131.2                   | 115.6 | 109.4 | 100.4 | 91.2  | 82.3  |  |
| 10    | Pf  | kW   | 581.5                   | 546.8 | 532.5 | 511.1 | 488.6 | 465.5 |  | 618.6                   | 580.3 | 564.5 | 540.8 | 515.3 | 489.2 |  |
|       | Pa  | kW   | 145.7                   | 160.6 | 166.9 | 176.8 | 187.7 | 198.9 |  | 157.2                   | 173.2 | 180.1 | 191.0 | 203.1 | 215.6 |  |
|       | qw  | m³/h | 100.05                  | 94.09 | 91.63 | 87.94 | 84.08 | 80.10 |  | 106.44                  | 99.85 | 97.13 | 93.04 | 88.67 | 84.18 |  |
|       | dpw | kPa  | 138.7                   | 122.7 | 116.3 | 107.1 | 97.9  | 88.9  |  | 138.7                   | 122.1 | 115.5 | 106.0 | 96.2  | 86.8  |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO L**

| Twout |     |      | 165                     |        |        |        |       |       | 175                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|-------|-------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |       |       | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40    | 43    | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 597.8                   | 562.1  | 547.1  | 524.9  | 501.5 | 477.3 | 647.9                   | 609.9  | 593.9  | 569.4  | 544.1  | 518.5  |
|       | Pa  | kW   | 172.1                   | 189.2  | 196.5  | 207.9  | 220.7 | 233.8 | 169.7                   | 187.2  | 194.7  | 206.5  | 219.9  | 233.5  |
|       | qw  | m³/h | 102.46                  | 96.33  | 93.76  | 89.95  | 85.95 | 81.80 | 111.03                  | 104.52 | 101.79 | 97.58  | 93.26  | 88.86  |
|       | dpw | kPa  | 113.4                   | 100.2  | 94.9   | 87.4   | 79.8  | 72.3  | 49.5                    | 43.8   | 41.6   | 38.2   | 34.9   | 31.7   |
| 6     | Pf  | kW   | 614.1                   | 577.1  | 561.7  | 538.8  | 514.7 | 489.7 | 665.6                   | 626.3  | 609.9  | 584.7  | 558.7  | 532.1  |
|       | Pa  | kW   | 173.4                   | 190.6  | 198.0  | 209.6  | 222.5 | 235.7 | 171.0                   | 188.6  | 196.2  | 208.1  | 221.6  | 235.3  |
|       | qw  | m³/h | 105.30                  | 98.96  | 96.32  | 92.40  | 88.26 | 83.98 | 114.13                  | 107.41 | 104.58 | 100.26 | 95.81  | 91.25  |
|       | dpw | kPa  | 119.8                   | 105.8  | 100.2  | 92.2   | 84.1  | 76.2  | 52.3                    | 46.3   | 43.9   | 40.3   | 36.8   | 33.4   |
| 7     | Pf  | kW   | 630.6                   | 592.4  | 576.6  | 553.0  | 528.1 | 502.4 | 683.6                   | 643.1  | 626.1  | 600.2  | 573.5  | 546.0  |
|       | Pa  | kW   | 174.7                   | 192.1  | 199.5  | 211.2  | 224.3 | 237.6 | 172.3                   | 190.1  | 197.7  | 209.7  | 223.3  | 237.1  |
|       | qw  | m³/h | 108.20                  | 101.64 | 98.93  | 94.89  | 90.61 | 86.20 | 117.29                  | 110.34 | 107.43 | 102.98 | 98.40  | 93.69  |
|       | dpw | kPa  | 126.4                   | 111.6  | 105.7  | 97.2   | 88.7  | 80.2  | 55.2                    | 48.9   | 46.3   | 42.6   | 38.9   | 35.2   |
| 8     | Pf  | kW   | 647.4                   | 608.0  | 591.8  | 567.5  | 541.7 | 515.3 | 701.9                   | 660.1  | 642.6  | 616.0  | 588.6  | 560.1  |
|       | Pa  | kW   | 175.9                   | 193.6  | 201.1  | 212.9  | 226.1 | 239.5 | 173.6                   | 191.5  | 199.2  | 211.4  | 225.0  | 238.9  |
|       | qw  | m³/h | 111.15                  | 104.38 | 101.59 | 97.43  | 93.00 | 88.46 | 120.51                  | 113.33 | 110.32 | 105.76 | 101.05 | 96.16  |
|       | dpw | kPa  | 133.4                   | 117.6  | 111.5  | 102.5  | 93.4  | 84.5  | 58.3                    | 51.5   | 48.8   | 44.9   | 41.0   | 37.1   |
| 9     | Pf  | kW   | 664.6                   | 623.8  | 607.2  | 582.3  | 555.6 | 528.5 | 720.6                   | 677.5  | 659.4  | 632.1  | 603.9  | 574.5  |
|       | Pa  | kW   | 177.1                   | 195.0  | 202.6  | 214.5  | 227.8 | 241.3 | 174.9                   | 193.0  | 200.7  | 213.0  | 226.7  | 240.8  |
|       | qw  | m³/h | 114.16                  | 107.16 | 104.31 | 100.03 | 95.44 | 90.78 | 123.79                  | 116.38 | 113.27 | 108.59 | 103.74 | 98.69  |
|       | dpw | kPa  | 140.7                   | 124.0  | 117.5  | 108.0  | 98.4  | 89.0  | 61.5                    | 54.3   | 51.5   | 47.3   | 43.2   | 39.1   |
| 10    | Pf  | kW   | 682.0                   | 640.0  | 622.9  | 597.3  | 569.7 | 542.1 | 739.6                   | 695.1  | 676.5  | 648.5  | 619.4  | 589.2  |
|       | Pa  | kW   | 178.4                   | 196.4  | 204.1  | 216.2  | 229.6 | 243.2 | 176.2                   | 194.4  | 202.2  | 214.6  | 228.5  | 242.6  |
|       | qw  | m³/h | 117.35                  | 110.11 | 107.18 | 102.78 | 98.02 | 93.27 | 127.26                  | 119.61 | 116.40 | 111.59 | 106.58 | 101.37 |
|       | dpw | kPa  | 148.7                   | 130.9  | 124.1  | 114.1  | 103.8 | 93.9  | 65.0                    | 57.4   | 54.4   | 50.0   | 45.6   | 41.2   |

| Twout |     |      | 180                     |        |        |        |        |        | 190                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 661.0                   | 623.9  | 608.3  | 584.1  | 559.1  | 534.1  | 685.5                   | 645.4  | 628.6  | 603.1  | 576.9  | 549.7  |
|       | Pa  | kW   | 183.7                   | 202.3  | 210.2  | 222.8  | 236.8  | 251.1  | 188.2                   | 207.0  | 215.0  | 227.6  | 241.7  | 256.1  |
|       | qw  | m³/h | 113.28                  | 106.92 | 104.25 | 100.11 | 95.82  | 91.54  | 117.48                  | 110.60 | 107.73 | 103.36 | 98.87  | 94.21  |
|       | dpw | kPa  | 54.6                    | 48.7   | 46.3   | 42.7   | 39.1   | 35.7   | 33.2                    | 29.4   | 27.9   | 25.7   | 23.5   | 21.3   |
| 6     | Pf  | kW   | 679.0                   | 640.6  | 624.5  | 599.6  | 573.9  | 548.1  | 704.2                   | 662.7  | 645.3  | 619.2  | 592.2  | 564.0  |
|       | Pa  | kW   | 185.0                   | 203.8  | 211.8  | 224.5  | 238.6  | 253.1  | 189.6                   | 208.5  | 216.6  | 229.4  | 243.6  | 258.1  |
|       | qw  | m³/h | 116.43                  | 109.86 | 107.10 | 102.81 | 98.41  | 93.98  | 120.75                  | 113.64 | 110.67 | 106.18 | 101.56 | 96.72  |
|       | dpw | kPa  | 57.7                    | 51.4   | 48.8   | 45.0   | 41.2   | 37.6   | 35.1                    | 31.1   | 29.5   | 27.1   | 24.8   | 22.5   |
| 7     | Pf  | kW   | 697.3                   | 657.7  | 641.1  | 615.3  | 588.9  | 562.2  | 723.2                   | 680.3  | 662.4  | 635.6  | 607.7  | 578.6  |
|       | Pa  | kW   | 186.3                   | 205.3  | 213.4  | 226.2  | 240.5  | 255.0  | 190.9                   | 210.1  | 218.3  | 231.2  | 245.5  | 260.2  |
|       | qw  | m³/h | 119.64                  | 112.85 | 110.00 | 105.58 | 101.04 | 96.47  | 124.09                  | 116.73 | 113.66 | 109.05 | 104.27 | 99.28  |
|       | dpw | kPa  | 60.9                    | 54.2   | 51.5   | 47.5   | 43.5   | 39.6   | 37.0                    | 32.8   | 31.1   | 28.6   | 26.1   | 23.7   |
| 8     | Pf  | kW   | 715.9                   | 675.1  | 657.9  | 631.4  | 604.2  | 576.7  | 742.6                   | 698.3  | 679.8  | 652.2  | 623.4  | 593.5  |
|       | Pa  | kW   | 187.6                   | 206.8  | 215.0  | 227.9  | 242.3  | 257.0  | 192.3                   | 211.7  | 220.0  | 233.0  | 247.5  | 262.2  |
|       | qw  | m³/h | 122.91                  | 115.89 | 112.95 | 108.41 | 103.73 | 99.00  | 127.49                  | 119.88 | 116.71 | 111.97 | 107.02 | 101.89 |
|       | dpw | kPa  | 64.3                    | 57.2   | 54.3   | 50.0   | 45.8   | 41.7   | 39.1                    | 34.6   | 32.8   | 30.2   | 27.5   | 25.0   |
| 9     | Pf  | kW   | 734.9                   | 692.7  | 675.0  | 647.8  | 619.8  | 591.3  | 762.3                   | 716.6  | 697.6  | 669.2  | 639.4  | 608.6  |
|       | Pa  | kW   | 188.9                   | 208.3  | 216.6  | 229.6  | 244.1  | 259.0  | 193.6                   | 213.3  | 221.6  | 234.7  | 249.4  | 264.3  |
|       | qw  | m³/h | 126.24                  | 119.00 | 115.95 | 111.28 | 106.47 | 101.58 | 130.95                  | 123.09 | 119.83 | 114.95 | 109.83 | 104.54 |
|       | dpw | kPa  | 67.9                    | 60.3   | 57.2   | 52.7   | 48.3   | 43.9   | 41.2                    | 36.4   | 34.5   | 31.8   | 29.0   | 26.3   |
| 10    | Pf  | kW   | 754.2                   | 710.7  | 692.4  | 664.5  | 635.7  | 606.3  | 782.4                   | 735.2  | 715.6  | 686.5  | 655.7  | 624.0  |
|       | Pa  | kW   | 190.2                   | 209.8  | 218.1  | 231.3  | 246.0  | 260.9  | 194.9                   | 214.8  | 223.2  | 236.5  | 251.3  | 266.3  |
|       | qw  | m³/h | 129.78                  | 122.28 | 119.14 | 114.34 | 109.39 | 104.31 | 134.62                  | 126.49 | 123.13 | 118.12 | 112.82 | 107.36 |
|       | dpw | kPa  | 71.7                    | 63.7   | 60.4   | 55.7   | 50.9   | 46.3   | 43.6                    | 38.5   | 36.5   | 33.6   | 30.6   | 27.7   |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO L**

| Twout |     |      | 195                     |        |        |        |        |        | 205                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 710.9                   | 669.1  | 651.6  | 625.3  | 598.2  | 569.8  | 758.6                   | 712.4  | 693.2  | 664.4  | 634.0  | 602.5  |
|       | Pa  | kW   | 196.7                   | 216.2  | 224.5  | 237.7  | 252.3  | 267.2  | 216.7                   | 238.4  | 247.7  | 262.3  | 278.8  | 295.6  |
|       | qw  | m³/h | 121.84                  | 114.66 | 111.67 | 107.16 | 102.52 | 97.65  | 130.01                  | 122.10 | 118.80 | 113.86 | 108.66 | 103.26 |
|       | dpw | kPa  | 35.8                    | 31.7   | 30.0   | 27.7   | 25.3   | 23.0   | 39.7                    | 35.0   | 33.2   | 30.5   | 27.8   | 25.1   |
| 6     | Pf  | kW   | 730.2                   | 686.9  | 668.9  | 641.9  | 613.8  | 584.6  | 779.1                   | 731.5  | 711.6  | 682.0  | 650.6  | 618.2  |
|       | Pa  | kW   | 198.1                   | 217.9  | 226.3  | 239.5  | 254.3  | 269.3  | 218.3                   | 240.2  | 249.6  | 264.4  | 281.0  | 297.9  |
|       | qw  | m³/h | 125.22                  | 117.80 | 114.70 | 110.07 | 105.26 | 100.25 | 133.61                  | 125.43 | 122.03 | 116.96 | 111.57 | 106.01 |
|       | dpw | kPa  | 37.8                    | 33.4   | 31.7   | 29.2   | 26.7   | 24.2   | 42.0                    | 37.0   | 35.0   | 32.2   | 29.3   | 26.4   |
| 7     | Pf  | kW   | 749.9                   | 705.1  | 686.5  | 658.8  | 629.8  | 599.7  | 800.1                   | 750.8  | 730.5  | 700.0  | 667.5  | 634.1  |
|       | Pa  | kW   | 199.5                   | 219.5  | 228.0  | 241.4  | 256.3  | 271.5  | 219.9                   | 242.1  | 251.5  | 266.4  | 283.2  | 300.2  |
|       | qw  | m³/h | 128.66                  | 120.99 | 117.79 | 113.04 | 108.05 | 102.89 | 137.28                  | 128.83 | 125.34 | 120.11 | 114.53 | 108.80 |
|       | dpw | kPa  | 39.9                    | 35.3   | 33.4   | 30.8   | 28.1   | 25.5   | 44.3                    | 39.0   | 36.9   | 33.9   | 30.8   | 27.8   |
| 8     | Pf  | kW   | 769.9                   | 723.7  | 704.5  | 676.0  | 646.0  | 615.0  | 821.4                   | 770.5  | 749.7  | 718.3  | 684.7  | 650.4  |
|       | Pa  | kW   | 200.9                   | 221.2  | 229.8  | 243.3  | 258.3  | 273.6  | 221.5                   | 243.9  | 253.4  | 268.5  | 285.4  | 302.6  |
|       | qw  | m³/h | 132.17                  | 124.24 | 120.94 | 116.06 | 110.90 | 105.59 | 141.02                  | 132.29 | 128.70 | 123.32 | 117.55 | 111.65 |
|       | dpw | kPa  | 42.1                    | 37.2   | 35.2   | 32.5   | 29.6   | 26.9   | 46.8                    | 41.1   | 38.9   | 35.8   | 32.5   | 29.3   |
| 9     | Pf  | kW   | 790.2                   | 742.5  | 722.9  | 693.6  | 662.5  | 630.7  | 843.1                   | 790.6  | 769.2  | 737.0  | 702.2  | 667.2  |
|       | Pa  | kW   | 202.3                   | 222.8  | 231.5  | 245.1  | 260.3  | 275.8  | 223.1                   | 245.7  | 255.3  | 270.6  | 287.6  | 304.9  |
|       | qw  | m³/h | 135.74                  | 127.55 | 124.17 | 119.14 | 113.81 | 108.33 | 144.83                  | 135.81 | 132.14 | 126.60 | 120.62 | 114.61 |
|       | dpw | kPa  | 44.4                    | 39.2   | 37.2   | 34.2   | 31.2   | 28.3   | 49.3                    | 43.4   | 41.0   | 37.7   | 34.2   | 30.9   |
| 10    | Pf  | kW   | 810.9                   | 761.7  | 741.6  | 711.4  | 679.4  | 646.6  | 865.2                   | 811.0  | 789.1  | 756.0  | 720.0  | 684.3  |
|       | Pa  | kW   | 203.7                   | 224.4  | 233.2  | 247.0  | 262.3  | 277.9  | 224.6                   | 247.5  | 257.3  | 272.6  | 289.8  | 307.3  |
|       | qw  | m³/h | 139.53                  | 131.06 | 127.59 | 122.41 | 116.89 | 111.25 | 148.87                  | 139.55 | 135.78 | 130.09 | 123.88 | 117.74 |
|       | dpw | kPa  | 46.9                    | 41.4   | 39.2   | 36.1   | 32.9   | 29.8   | 52.1                    | 45.8   | 43.3   | 39.8   | 36.1   | 32.6   |

| Twout |     |      | 215                     |        |        |        |        |        | 220                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 792.3                   | 744.6  | 724.7  | 695.0  | 663.9  | 631.5  | 809.3                   | 760.8  | 740.5  | 710.4  | 678.8  | 646.0  |
|       | Pa  | kW   | 223.5                   | 245.8  | 255.3  | 270.3  | 287.1  | 304.2  | 232.6                   | 255.7  | 265.5  | 281.0  | 298.4  | 316.0  |
|       | qw  | m³/h | 135.78                  | 127.62 | 124.20 | 119.12 | 113.77 | 108.23 | 138.71                  | 130.39 | 126.91 | 121.76 | 116.33 | 110.71 |
|       | dpw | kPa  | 44.2                    | 39.0   | 37.0   | 34.0   | 31.0   | 28.1   | 46.6                    | 41.2   | 39.0   | 35.9   | 32.8   | 29.7   |
| 6     | Pf  | kW   | 813.8                   | 764.5  | 744.0  | 713.5  | 681.2  | 647.9  | 831.2                   | 781.1  | 760.3  | 729.3  | 696.5  | 662.7  |
|       | Pa  | kW   | 225.2                   | 247.7  | 257.3  | 272.4  | 289.4  | 306.6  | 234.3                   | 257.7  | 267.6  | 283.3  | 300.8  | 318.6  |
|       | qw  | m³/h | 139.54                  | 131.10 | 127.58 | 122.35 | 116.82 | 111.10 | 142.54                  | 133.94 | 130.37 | 125.06 | 119.44 | 113.64 |
|       | dpw | kPa  | 46.7                    | 41.2   | 39.0   | 35.9   | 32.7   | 29.6   | 49.2                    | 43.5   | 41.2   | 37.9   | 34.6   | 31.3   |
| 7     | Pf  | kW   | 835.6                   | 784.7  | 763.7  | 732.3  | 698.9  | 664.6  | 853.5                   | 801.7  | 780.4  | 748.5  | 714.6  | 679.8  |
|       | Pa  | kW   | 226.8                   | 249.6  | 259.3  | 274.6  | 291.7  | 309.1  | 236.0                   | 259.6  | 269.7  | 285.5  | 303.2  | 321.1  |
|       | qw  | m³/h | 143.38                  | 134.65 | 131.04 | 125.64 | 119.92 | 114.03 | 146.45                  | 137.56 | 133.89 | 128.42 | 122.61 | 116.64 |
|       | dpw | kPa  | 49.3                    | 43.4   | 41.1   | 37.8   | 34.5   | 31.2   | 52.0                    | 45.8   | 43.4   | 40.0   | 36.4   | 33.0   |
| 8     | Pf  | kW   | 857.9                   | 805.3  | 783.7  | 751.4  | 716.9  | 681.6  | 876.2                   | 822.7  | 800.8  | 768.0  | 733.0  | 697.2  |
|       | Pa  | kW   | 228.4                   | 251.4  | 261.2  | 276.7  | 293.9  | 311.5  | 237.7                   | 261.6  | 271.7  | 287.7  | 305.5  | 323.7  |
|       | qw  | m³/h | 147.28                  | 138.26 | 134.55 | 129.00 | 123.08 | 117.01 | 150.43                  | 141.25 | 137.48 | 131.85 | 125.84 | 119.69 |
|       | dpw | kPa  | 52.0                    | 45.8   | 43.4   | 39.9   | 36.3   | 32.8   | 54.8                    | 48.3   | 45.8   | 42.1   | 38.4   | 34.7   |
| 9     | Pf  | kW   | 880.5                   | 826.3  | 804.2  | 770.9  | 735.2  | 699.1  | 899.4                   | 844.1  | 821.7  | 787.9  | 751.7  | 715.2  |
|       | Pa  | kW   | 230.0                   | 253.3  | 263.2  | 278.8  | 296.2  | 313.9  | 239.3                   | 263.5  | 273.8  | 289.9  | 307.9  | 326.2  |
|       | qw  | m³/h | 151.26                  | 141.94 | 138.14 | 132.43 | 126.30 | 120.08 | 154.49                  | 145.00 | 141.14 | 135.35 | 129.13 | 122.86 |
|       | dpw | kPa  | 54.8                    | 48.3   | 45.7   | 42.0   | 38.2   | 34.5   | 57.8                    | 50.9   | 48.3   | 44.4   | 40.4   | 36.6   |
| 10    | Pf  | kW   | 903.6                   | 847.7  | 825.0  | 790.8  | 753.9  | 717.0  | 922.9                   | 865.9  | 842.9  | 808.3  | 770.7  | 733.5  |
|       | Pa  | kW   | 231.6                   | 255.1  | 265.2  | 280.9  | 298.5  | 316.4  | 241.0                   | 265.4  | 275.8  | 292.1  | 310.3  | 328.7  |
|       | qw  | m³/h | 155.48                  | 145.85 | 141.95 | 136.07 | 129.71 | 123.37 | 158.80                  | 148.99 | 145.03 | 139.07 | 132.62 | 126.20 |
|       | dpw | kPa  | 57.9                    | 51.0   | 48.3   | 44.4   | 40.3   | 36.5   | 61.1                    | 53.8   | 51.0   | 46.9   | 42.6   | 38.6   |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO L**

| Twout |     |      | 225                     |        |        |        |        |        |  | 250                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 827.7                   | 777.5  | 756.5  | 725.1  | 692.0  | 657.6  |  | 893.3                   | 839.0  | 816.5  | 783.0  | 747.4  | 710.7  |  |
|       | Pa  | kW   | 235.8                   | 259.5  | 269.6  | 285.6  | 303.6  | 322.0  |  | 259.8                   | 285.6  | 296.6  | 313.9  | 333.3  | 353.1  |  |
|       | qw  | m³/h | 141.86                  | 133.26 | 129.65 | 124.26 | 118.60 | 112.71 |  | 153.10                  | 143.79 | 139.94 | 134.19 | 128.09 | 121.80 |  |
|       | dpw | kPa  | 48.7                    | 43.0   | 40.7   | 37.4   | 34.0   | 30.7   |  | 40.3                    | 35.5   | 33.7   | 30.9   | 28.2   | 25.5   |  |
| 6     | Pf  | kW   | 850.2                   | 798.3  | 777.0  | 744.3  | 710.1  | 674.7  |  | 917.5                   | 861.3  | 838.3  | 803.7  | 766.9  | 729.1  |  |
|       | Pa  | kW   | 237.6                   | 261.5  | 271.7  | 287.9  | 306.0  | 324.5  |  | 261.7                   | 287.8  | 298.9  | 316.4  | 336.0  | 355.9  |  |
|       | qw  | m³/h | 145.80                  | 136.90 | 133.24 | 127.64 | 121.77 | 115.70 |  | 157.33                  | 147.70 | 143.75 | 137.83 | 131.51 | 125.03 |  |
|       | dpw | kPa  | 51.4                    | 45.4   | 43.0   | 39.4   | 35.9   | 32.4   |  | 42.5                    | 37.5   | 35.5   | 32.6   | 29.7   | 26.9   |  |
| 7     | Pf  | kW   | 873.1                   | 819.5  | 797.3  | 764.0  | 728.6  | 692.1  |  | 942.0                   | 884.1  | 860.4  | 824.9  | 786.8  | 748.1  |  |
|       | Pa  | kW   | 239.3                   | 263.5  | 273.8  | 290.1  | 308.4  | 327.1  |  | 263.6                   | 290.0  | 301.2  | 318.9  | 338.6  | 358.7  |  |
|       | qw  | m³/h | 149.81                  | 140.61 | 136.80 | 131.08 | 125.01 | 118.75 |  | 161.63                  | 151.69 | 147.63 | 141.53 | 134.99 | 128.36 |  |
|       | dpw | kPa  | 54.3                    | 47.8   | 45.3   | 41.6   | 37.8   | 34.1   |  | 44.9                    | 39.5   | 37.5   | 34.4   | 31.3   | 28.3   |  |
| 8     | Pf  | kW   | 896.4                   | 841.1  | 818.2  | 784.0  | 747.4  | 709.9  |  | 967.1                   | 907.2  | 882.9  | 846.4  | 807.0  | 767.5  |  |
|       | Pa  | kW   | 241.0                   | 265.4  | 275.9  | 292.3  | 310.8  | 329.6  |  | 265.5                   | 292.2  | 303.5  | 321.4  | 341.3  | 361.6  |  |
|       | qw  | m³/h | 153.89                  | 144.40 | 140.48 | 134.60 | 128.32 | 121.87 |  | 166.02                  | 155.75 | 151.58 | 145.32 | 138.54 | 131.76 |  |
|       | dpw | kPa  | 57.3                    | 50.5   | 47.8   | 43.8   | 39.8   | 35.9   |  | 47.4                    | 41.7   | 39.5   | 36.3   | 33.0   | 29.8   |  |
| 9     | Pf  | kW   | 920.1                   | 863.0  | 839.6  | 804.4  | 766.5  | 727.9  |  | 992.6                   | 930.8  | 905.9  | 868.4  | 827.5  | 787.3  |  |
|       | Pa  | kW   | 242.8                   | 267.4  | 278.0  | 294.6  | 313.2  | 332.2  |  | 267.4                   | 294.4  | 305.8  | 323.9  | 344.0  | 364.4  |  |
|       | qw  | m³/h | 158.06                  | 148.25 | 144.22 | 138.17 | 131.67 | 125.04 |  | 170.50                  | 159.88 | 155.62 | 149.18 | 142.15 | 135.24 |  |
|       | dpw | kPa  | 60.5                    | 53.2   | 50.3   | 46.2   | 42.0   | 37.8   |  | 50.0                    | 43.9   | 41.6   | 38.2   | 34.7   | 31.4   |  |
| 10    | Pf  | kW   | 944.3                   | 885.3  | 861.3  | 825.2  | 786.0  | 746.7  |  | 1018.5                  | 954.8  | 929.3  | 890.8  | 848.5  | 807.5  |  |
|       | Pa  | kW   | 244.5                   | 269.4  | 280.0  | 296.8  | 315.6  | 334.7  |  | 269.2                   | 296.5  | 308.1  | 326.3  | 346.6  | 367.2  |  |
|       | qw  | m³/h | 162.47                  | 152.33 | 148.20 | 141.98 | 135.24 | 128.48 |  | 175.25                  | 164.29 | 159.90 | 153.27 | 145.99 | 138.95 |  |
|       | dpw | kPa  | 63.9                    | 56.2   | 53.1   | 48.8   | 44.3   | 39.9   |  | 52.8                    | 46.4   | 43.9   | 40.4   | 36.6   | 33.2   |  |

| Twout |     |      | 270                     |        |        |        |        |        |  | 290                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 973.7                   | 915.8  | 891.5  | 855.1  | 817.2  | 777.7  |  | 1037.9                  | 976.6  | 950.9  | 911.9  | 871.8  | 829.9  |  |
|       | Pa  | kW   | 277.5                   | 305.2  | 317.1  | 335.8  | 356.7  | 378.1  |  | 291.3                   | 320.4  | 332.9  | 352.6  | 374.6  | 397.1  |  |
|       | qw  | m³/h | 166.88                  | 156.95 | 152.80 | 146.55 | 140.06 | 133.29 |  | 177.87                  | 167.37 | 162.96 | 156.29 | 149.40 | 142.23 |  |
|       | dpw | kPa  | 113.3                   | 100.2  | 95.0   | 87.4   | 79.8   | 72.3   |  | 113.1                   | 100.2  | 95.0   | 87.3   | 79.8   | 72.3   |  |
| 6     | Pf  | kW   | 1000.2                  | 940.3  | 915.2  | 877.8  | 838.6  | 797.9  |  | 1066.2                  | 1002.8 | 976.3  | 936.3  | 894.9  | 851.5  |  |
|       | Pa  | kW   | 279.5                   | 307.6  | 319.5  | 338.4  | 359.5  | 381.1  |  | 293.4                   | 322.9  | 335.5  | 355.3  | 377.6  | 400.3  |  |
|       | qw  | m³/h | 171.51                  | 161.24 | 156.94 | 150.52 | 143.81 | 136.83 |  | 182.83                  | 171.97 | 167.42 | 160.56 | 153.46 | 146.02 |  |
|       | dpw | kPa  | 119.7                   | 105.8  | 100.2  | 92.2   | 84.2   | 76.2   |  | 119.5                   | 105.7  | 100.2  | 92.2   | 84.2   | 76.2   |  |
| 7     | Pf  | kW   | 1027.1                  | 965.2  | 939.3  | 900.9  | 860.4  | 818.5  |  | 1095.1                  | 1029.6 | 1002.2 | 961.1  | 918.3  | 873.6  |  |
|       | Pa  | kW   | 281.5                   | 309.9  | 322.0  | 341.0  | 362.4  | 384.1  |  | 295.6                   | 325.3  | 338.0  | 358.1  | 380.5  | 403.4  |  |
|       | qw  | m³/h | 176.23                  | 165.61 | 161.17 | 154.58 | 147.63 | 140.43 |  | 187.89                  | 176.66 | 171.95 | 164.90 | 157.55 | 149.90 |  |
|       | dpw | kPa  | 126.4                   | 111.6  | 105.7  | 97.2   | 88.7   | 80.2   |  | 126.2                   | 111.6  | 105.7  | 97.2   | 88.8   | 80.3   |  |
| 8     | Pf  | kW   | 1054.4                  | 990.5  | 964.0  | 924.4  | 882.6  | 839.4  |  | 1124.5                  | 1056.8 | 1028.5 | 986.3  | 942.0  | 896.1  |  |
|       | Pa  | kW   | 283.5                   | 312.2  | 324.4  | 343.7  | 365.2  | 387.1  |  | 297.7                   | 327.8  | 340.6  | 360.9  | 383.5  | 406.6  |  |
|       | qw  | m³/h | 181.03                  | 170.05 | 165.50 | 158.71 | 151.52 | 144.10 |  | 193.05                  | 181.43 | 176.57 | 169.34 | 161.73 | 153.84 |  |
|       | dpw | kPa  | 133.4                   | 117.7  | 111.5  | 102.5  | 93.4   | 84.5   |  | 133.3                   | 117.7  | 111.5  | 102.5  | 93.5   | 84.6   |  |
| 9     | Pf  | kW   | 1082.3                  | 1016.3 | 989.1  | 948.4  | 905.1  | 860.7  |  | 1154.4                  | 1084.5 | 1055.4 | 1012.1 | 966.2  | 918.9  |  |
|       | Pa  | kW   | 285.5                   | 314.5  | 326.9  | 346.3  | 368.0  | 390.1  |  | 299.8                   | 330.2  | 343.2  | 363.6  | 386.5  | 409.7  |  |
|       | qw  | m³/h | 185.92                  | 174.58 | 169.91 | 162.92 | 155.48 | 147.85 |  | 198.30                  | 186.30 | 181.29 | 173.85 | 165.98 | 157.85 |  |
|       | dpw | kPa  | 140.7                   | 124.0  | 117.5  | 108.0  | 98.4   | 89.0   |  | 140.6                   | 124.1  | 117.5  | 108.1  | 98.5   | 89.1   |  |
| 10    | Pf  | kW   | 1110.7                  | 1042.6 | 1014.7 | 972.8  | 928.1  | 882.4  |  | 1184.8                  | 1112.7 | 1082.8 | 1038.2 | 990.9  | 942.2  |  |
|       | Pa  | kW   | 287.5                   | 316.8  | 329.3  | 348.9  | 370.8  | 393.1  |  | 301.9                   | 332.6  | 345.7  | 366.4  | 389.4  | 412.9  |  |
|       | qw  | m³/h | 191.10                  | 179.39 | 174.59 | 167.39 | 159.69 | 151.83 |  | 203.86                  | 191.45 | 186.32 | 178.64 | 170.50 | 162.12 |  |
|       | dpw | kPa  | 148.6                   | 130.9  | 124.0  | 114.0  | 103.8  | 93.8   |  | 148.6                   | 131.1  | 124.1  | 114.1  | 103.9  | 94.0   |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO L**

| Ta    |     |      | 120<br>Twout |       |       |       |       |       | 130<br>Twout |       |       |       |       |       |
|-------|-----|------|--------------|-------|-------|-------|-------|-------|--------------|-------|-------|-------|-------|-------|
|       |     |      | 30           | 35    | 40    | 45    | 50    | 55    | 30           | 35    | 40    | 45    | 50    | 55    |
| -5 °C | Pt  | kW   | 358.5        | 353.2 | 347.8 | 342.6 | 338.4 | 334.6 | 381.9        | 376.2 | 370.5 | 365.2 | 361.0 | 357.3 |
|       | Pat | kW   | 105.7        | 116.2 | 128.0 | 141.2 | 156.3 | 173.4 | 116.6        | 128.5 | 142.0 | 157.3 | 174.7 | 194.6 |
|       | qw  | m³/h | 62.08        | 61.28 | 60.47 | 59.68 | 60.13 | 58.50 | 66.12        | 65.28 | 64.42 | 63.61 | 64.14 | 62.48 |
|       | dpw | kPa  | 78.0         | 76.0  | 74.0  | 72.1  | 73.2  | 69.3  | 87.9         | 85.6  | 83.4  | 81.3  | 82.7  | 78.5  |
| -2 °C | Pt  | kW   | 387.9        | 381.2 | 374.4 | 367.6 | 361.7 | 356.0 | 413.1        | 406.0 | 398.8 | 391.6 | 385.4 | 379.6 |
|       | Pat | kW   | 106.1        | 116.7 | 128.4 | 141.7 | 156.6 | 173.6 | 116.8        | 128.7 | 142.1 | 157.3 | 174.5 | 194.2 |
|       | qw  | m³/h | 67.16        | 66.15 | 65.09 | 64.03 | 64.27 | 62.24 | 71.52        | 70.45 | 69.33 | 68.21 | 68.48 | 66.37 |
|       | dpw | kPa  | 91.3         | 88.6  | 85.8  | 83.0  | 83.6  | 78.4  | 102.8        | 99.8  | 96.6  | 93.5  | 94.3  | 88.5  |
| 0 °C  | Pt  | kW   | 409.3        | 401.8 | 393.8 | 385.9 | 378.7 | 371.7 | 435.9        | 427.9 | 419.4 | 410.9 | 403.4 | 396.0 |
|       | Pat | kW   | 106.4        | 117.0 | 128.8 | 142.0 | 156.9 | 173.8 | 117.0        | 128.9 | 142.2 | 157.3 | 174.5 | 194.0 |
|       | qw  | m³/h | 70.87        | 69.71 | 68.47 | 67.22 | 67.29 | 64.99 | 75.47        | 74.24 | 72.92 | 71.58 | 71.67 | 69.24 |
|       | dpw | kPa  | 101.7        | 98.3  | 94.9  | 91.4  | 91.7  | 85.5  | 114.5        | 110.8 | 106.9 | 103.0 | 103.2 | 96.4  |
| 5 °C  | Pt  | kW   | 465.0        | 454.9 | 444.3 | 433.3 | 423.1 | 412.7 | 495.3        | 484.7 | 473.2 | 461.4 | 450.3 | 439.1 |
|       | Pat | kW   | 106.9        | 117.7 | 129.5 | 142.7 | 157.6 | 174.3 | 117.5        | 129.4 | 142.7 | 157.6 | 174.6 | 193.9 |
|       | qw  | m³/h | 80.50        | 78.93 | 77.24 | 75.49 | 75.18 | 72.16 | 85.76        | 84.09 | 82.28 | 80.38 | 80.01 | 76.77 |
|       | dpw | kPa  | 131.2        | 126.1 | 120.8 | 115.3 | 114.4 | 105.4 | 147.8        | 142.1 | 136.1 | 129.8 | 128.7 | 118.5 |
| 7 °C  | Pt  | kW   | 489.9        | 478.8 | 466.9 | 454.7 | 443.1 | 431.3 | 522.0        | 510.2 | 497.5 | 484.2 | 471.5 | 458.7 |
|       | Pat | kW   | 107.0        | 117.9 | 129.8 | 143.0 | 157.8 | 174.5 | 117.7        | 129.6 | 142.9 | 157.8 | 174.7 | 193.9 |
|       | qw  | m³/h | 84.82        | 83.08 | 81.18 | 79.21 | 78.73 | 75.41 | 90.38        | 88.53 | 86.49 | 84.34 | 83.79 | 80.20 |
|       | dpw | kPa  | 145.6        | 139.7 | 133.4 | 127.0 | 125.5 | 115.1 | 164.2        | 157.5 | 150.3 | 143.0 | 141.1 | 129.3 |

| Ta    |     |      | 140<br>Twout |       |       |       |       |       | 150<br>Twout |        |        |       |       |       |
|-------|-----|------|--------------|-------|-------|-------|-------|-------|--------------|--------|--------|-------|-------|-------|
|       |     |      | 30           | 35    | 40    | 45    | 50    | 55    | 30           | 35     | 40     | 45    | 50    | 55    |
| -5 °C | Pt  | kW   | 422.4        | 415.9 | 409.3 | 402.9 | 397.5 | 392.1 | 448.3        | 441.5  | 434.6  | 428.0 | 422.5 | 417.3 |
|       | Pat | kW   | 120.4        | 132.0 | 144.8 | 159.1 | 175.2 | 193.5 | 129.2        | 142.0  | 156.3  | 172.3 | 190.5 | 211.1 |
|       | qw  | m³/h | 73.12        | 72.15 | 71.16 | 70.18 | 70.63 | 68.56 | 77.61        | 76.60  | 75.56  | 74.55 | 75.07 | 72.96 |
|       | dpw | kPa  | 77.0         | 75.0  | 73.0  | 71.0  | 71.9  | 67.7  | 75.9         | 73.9   | 71.9   | 70.0  | 71.0  | 67.0  |
| -2 °C | Pt  | kW   | 457.0        | 449.0 | 440.8 | 432.6 | 425.3 | 418.0 | 485.1        | 476.7  | 468.0  | 459.3 | 451.8 | 444.3 |
|       | Pat | kW   | 121.2        | 132.9 | 145.8 | 160.1 | 176.2 | 194.3 | 129.8        | 142.7  | 156.9  | 172.9 | 191.0 | 211.5 |
|       | qw  | m³/h | 79.13        | 77.91 | 76.64 | 75.36 | 75.58 | 73.09 | 83.98        | 82.70  | 81.36  | 80.01 | 80.27 | 77.68 |
|       | dpw | kPa  | 90.2         | 87.4  | 84.6  | 81.8  | 82.3  | 77.0  | 88.8         | 86.1   | 83.4   | 80.6  | 81.2  | 76.0  |
| 0 °C  | Pt  | kW   | 482.3        | 473.2 | 463.8 | 454.3 | 445.7 | 437.0 | 511.9        | 502.3  | 492.4  | 482.2 | 473.2 | 464.0 |
|       | Pat | kW   | 121.6        | 133.4 | 146.4 | 160.8 | 176.9 | 195.0 | 130.2        | 143.1  | 157.4  | 173.4 | 191.4 | 211.8 |
|       | qw  | m³/h | 83.51        | 82.11 | 80.63 | 79.13 | 79.19 | 76.40 | 88.63        | 87.16  | 85.60  | 84.01 | 84.08 | 81.14 |
|       | dpw | kPa  | 100.5        | 97.1  | 93.7  | 90.2  | 90.3  | 84.1  | 98.9         | 95.7   | 92.3   | 88.9  | 89.0  | 82.9  |
| 5 °C  | Pt  | kW   | 547.6        | 535.7 | 523.1 | 510.3 | 498.4 | 486.1 | 581.5        | 568.9  | 555.5  | 541.7 | 528.9 | 515.7 |
|       | Pat | kW   | 122.1        | 134.4 | 147.7 | 162.3 | 178.4 | 196.4 | 130.8        | 144.0  | 158.4  | 174.4 | 192.4 | 212.6 |
|       | qw  | m³/h | 94.81        | 92.94 | 90.95 | 88.90 | 88.56 | 85.00 | 100.67       | 98.70  | 96.59  | 94.37 | 93.98 | 90.17 |
|       | dpw | kPa  | 129.5        | 124.4 | 119.2 | 113.8 | 113.0 | 104.1 | 127.6        | 122.7  | 117.5  | 112.2 | 111.2 | 102.4 |
| 7 °C  | Pt  | kW   | 576.8        | 563.6 | 549.7 | 535.4 | 522.1 | 508.3 | 612.6        | 598.7  | 583.9  | 568.5 | 554.0 | 539.0 |
|       | Pat | kW   | 122.2        | 134.7 | 148.1 | 162.8 | 179.0 | 197.0 | 130.9        | 144.3  | 158.8  | 174.8 | 192.8 | 213.0 |
|       | qw  | m³/h | 99.86        | 97.79 | 95.57 | 93.27 | 92.77 | 88.87 | 106.07       | 103.88 | 101.51 | 99.03 | 98.44 | 94.24 |
|       | dpw | kPa  | 143.7        | 137.7 | 131.6 | 125.3 | 124.0 | 113.8 | 141.7        | 135.9  | 129.8  | 123.5 | 122.0 | 111.9 |

**Ta** = Outdoor temperature (°C)  
**Twout** = Leaving water temperature (°C)  
**Pt** = Heating capacity (kW)  
**Pat** = Compressors power input (kW)  
**qw** = Water flow (m³/h)  
**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO L**

| Ta   |     |      | 165    |        |        |        |        |        | 175    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 499.7  | 492.2  | 484.7  | 477.4  | 471.2  | 465.3  | 536.9  | 528.4  | 519.9  | 511.5  | 504.5  | 497.9  |
|      | Pat | kW   | 144.5  | 158.4  | 173.8  | 191.1  | 210.5  | 232.5  | 151.2  | 166.6  | 183.8  | 203.0  | 224.6  | 248.9  |
|      | qw  | m³/h | 86.52  | 85.41  | 84.27  | 83.16  | 83.73  | 81.35  | 92.95  | 91.69  | 90.39  | 89.11  | 89.65  | 87.05  |
|      | dpw | kPa  | 84.4   | 82.2   | 80.1   | 78.0   | 79.0   | 74.6   | 37.5   | 36.5   | 35.5   | 34.5   | 34.9   | 32.9   |
| -2°C | Pt  | kW   | 540.8  | 531.5  | 522.0  | 512.5  | 504.2  | 495.9  | 581.1  | 570.6  | 559.9  | 549.2  | 539.7  | 530.4  |
|      | Pat | kW   | 145.5  | 159.6  | 175.1  | 192.3  | 211.7  | 233.5  | 151.7  | 167.2  | 184.4  | 203.6  | 225.2  | 249.4  |
|      | qw  | m³/h | 93.62  | 92.21  | 90.75  | 89.28  | 89.59  | 86.70  | 100.60 | 99.01  | 97.34  | 95.66  | 95.90  | 92.75  |
|      | dpw | kPa  | 98.8   | 95.9   | 92.8   | 89.9   | 90.5   | 84.7   | 44.0   | 42.6   | 41.2   | 39.8   | 40.0   | 37.4   |
| 0°C  | Pt  | kW   | 570.7  | 560.1  | 549.1  | 538.1  | 528.2  | 518.3  | 613.3  | 601.4  | 589.0  | 576.6  | 565.4  | 554.3  |
|      | Pat | kW   | 146.1  | 160.3  | 175.9  | 193.1  | 212.5  | 234.2  | 152.1  | 167.6  | 184.8  | 204.0  | 225.6  | 249.7  |
|      | qw  | m³/h | 98.80  | 97.18  | 95.47  | 93.74  | 93.86  | 90.62  | 106.18 | 104.35 | 102.41 | 100.45 | 100.47 | 96.92  |
|      | dpw | kPa  | 110.1  | 106.5  | 102.8  | 99.1   | 99.3   | 92.6   | 49.0   | 47.3   | 45.6   | 43.8   | 43.9   | 40.8   |
| 5°C  | Pt  | kW   | 648.0  | 634.0  | 619.4  | 604.5  | 590.6  | 576.4  | 696.8  | 681.1  | 664.7  | 647.9  | 632.2  | 616.4  |
|      | Pat | kW   | 146.8  | 161.5  | 177.4  | 194.9  | 214.3  | 236.0  | 152.8  | 168.5  | 185.8  | 205.0  | 226.5  | 250.7  |
|      | qw  | m³/h | 112.19 | 110.01 | 107.69 | 105.30 | 104.94 | 100.79 | 120.64 | 118.18 | 115.56 | 112.86 | 112.34 | 107.77 |
|      | dpw | kPa  | 141.9  | 136.4  | 130.7  | 125.0  | 124.1  | 114.5  | 63.2   | 60.7   | 58.0   | 55.3   | 54.8   | 50.5   |
| 7°C  | Pt  | kW   | 682.6  | 667.1  | 650.9  | 634.2  | 618.6  | 602.6  | 734.2  | 716.9  | 698.6  | 679.9  | 662.3  | 644.4  |
|      | Pat | kW   | 146.9  | 161.9  | 177.9  | 195.6  | 215.0  | 236.7  | 153.1  | 168.8  | 186.1  | 205.4  | 226.9  | 251.0  |
|      | qw  | m³/h | 118.18 | 115.75 | 113.16 | 110.48 | 109.92 | 105.36 | 127.12 | 124.39 | 121.46 | 118.44 | 117.68 | 112.67 |
|      | dpw | kPa  | 157.4  | 151.0  | 144.4  | 137.6  | 136.2  | 125.1  | 70.2   | 67.2   | 64.1   | 60.9   | 60.2   | 55.2   |

| Ta   |     |      | 180    |        |        |        |        |        | 190    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 554.6  | 546.0  | 537.1  | 528.2  | 520.7  | 513.4  | 575.3  | 566.6  | 557.9  | 549.3  | 542.2  | 535.1  |
|      | Pat | kW   | 157.5  | 173.0  | 190.3  | 209.7  | 231.6  | 256.5  | 162.9  | 178.6  | 196.1  | 215.7  | 237.9  | 262.9  |
|      | qw  | m³/h | 96.03  | 94.73  | 93.38  | 92.02  | 92.53  | 89.77  | 99.60  | 98.31  | 96.99  | 95.68  | 96.34  | 93.57  |
|      | dpw | kPa  | 40.7   | 39.6   | 38.5   | 37.4   | 37.8   | 35.6   | 24.9   | 24.2   | 23.6   | 23.0   | 23.3   | 21.9   |
| -2°C | Pt  | kW   | 600.4  | 589.8  | 578.7  | 567.4  | 557.4  | 547.3  | 622.6  | 611.9  | 600.9  | 589.8  | 580.2  | 570.3  |
|      | Pat | kW   | 158.1  | 173.8  | 191.2  | 210.5  | 232.3  | 257.1  | 163.9  | 179.8  | 197.4  | 217.0  | 239.0  | 263.9  |
|      | qw  | m³/h | 103.94 | 102.33 | 100.61 | 98.85  | 99.05  | 95.70  | 107.79 | 106.16 | 104.47 | 102.74 | 103.09 | 99.72  |
|      | dpw | kPa  | 47.7   | 46.3   | 44.7   | 43.2   | 43.3   | 40.5   | 29.1   | 28.3   | 27.4   | 26.5   | 26.6   | 24.9   |
| 0°C  | Pt  | kW   | 633.7  | 621.7  | 609.1  | 596.0  | 584.2  | 572.1  | 657.1  | 644.9  | 632.2  | 619.4  | 607.9  | 596.1  |
|      | Pat | kW   | 158.5  | 174.4  | 191.7  | 211.1  | 232.9  | 257.5  | 164.4  | 180.5  | 198.2  | 217.8  | 239.8  | 264.6  |
|      | qw  | m³/h | 109.72 | 107.87 | 105.89 | 103.83 | 103.81 | 100.04 | 113.77 | 111.89 | 109.92 | 107.89 | 108.02 | 104.23 |
|      | dpw | kPa  | 53.2   | 51.4   | 49.5   | 47.6   | 47.6   | 44.2   | 32.4   | 31.4   | 30.3   | 29.2   | 29.3   | 27.2   |
| 5°C  | Pt  | kW   | 720.0  | 704.4  | 687.7  | 670.3  | 653.8  | 636.8  | 746.3  | 730.2  | 713.3  | 695.9  | 679.9  | 663.1  |
|      | Pat | kW   | 159.1  | 175.3  | 192.9  | 212.4  | 234.1  | 258.6  | 165.2  | 181.8  | 199.8  | 219.7  | 241.7  | 266.4  |
|      | qw  | m³/h | 124.66 | 122.22 | 119.57 | 116.76 | 116.18 | 111.34 | 129.21 | 126.70 | 124.02 | 121.23 | 120.80 | 115.95 |
|      | dpw | kPa  | 68.7   | 66.0   | 63.2   | 60.2   | 59.6   | 54.8   | 41.9   | 40.2   | 38.6   | 36.8   | 36.6   | 33.7   |
| 7°C  | Pt  | kW   | 758.7  | 741.5  | 723.0  | 703.6  | 685.2  | 666.0  | 786.2  | 768.4  | 749.7  | 730.3  | 712.2  | 693.3  |
|      | Pat | kW   | 159.2  | 175.6  | 193.3  | 212.9  | 234.6  | 259.1  | 165.3  | 182.2  | 200.4  | 220.3  | 242.4  | 267.1  |
|      | qw  | m³/h | 131.36 | 128.65 | 125.70 | 122.56 | 121.75 | 116.45 | 136.12 | 133.33 | 130.34 | 127.22 | 126.55 | 121.22 |
|      | dpw | kPa  | 76.2   | 73.1   | 69.8   | 66.4   | 65.5   | 59.9   | 46.5   | 44.6   | 42.6   | 40.6   | 40.2   | 36.8   |

**Ta** = Outdoor temperature (°C)

**Twout** = Leaving water temperature (°C)

**Pt** = Heating capacity (kW)

**Pat** = Compressors power input (kW)

**qw** = Water flow (m³/h)

**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO L**

| Ta    |     |      | 195    |        |        |        |        |        | 205    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 589.9  | 581.1  | 572.3  | 563.6  | 556.4  | 549.1  | 625.7  | 616.7  | 607.6  | 598.7  | 591.5  | 584.3  |
|       | Pat | kW   | 169.4  | 185.7  | 203.7  | 223.8  | 246.5  | 272.2  | 183.4  | 201.2  | 221.0  | 243.3  | 268.4  | 297.0  |
|       | qw  | m³/h | 102.13 | 100.83 | 99.50  | 98.18  | 98.87  | 96.01  | 108.34 | 107.00 | 105.63 | 104.29 | 105.10 | 102.16 |
|       | dpw | kPa  | 26.0   | 25.3   | 24.7   | 24.0   | 24.4   | 23.0   | 28.4   | 27.7   | 27.0   | 26.3   | 26.7   | 25.2   |
| -2 °C | Pt  | kW   | 638.6  | 627.7  | 616.6  | 605.5  | 595.7  | 585.6  | 677.3  | 666.1  | 654.5  | 642.9  | 632.9  | 622.7  |
|       | Pat | kW   | 170.6  | 187.1  | 205.2  | 225.3  | 247.9  | 273.4  | 184.5  | 202.5  | 222.4  | 244.6  | 269.6  | 297.9  |
|       | qw  | m³/h | 110.56 | 108.92 | 107.21 | 105.47 | 105.85 | 102.39 | 117.27 | 115.57 | 113.80 | 112.00 | 112.46 | 108.88 |
|       | dpw | kPa  | 30.5   | 29.6   | 28.7   | 27.7   | 27.9   | 26.1   | 33.3   | 32.3   | 31.3   | 30.3   | 30.6   | 28.7   |
| 0 °C  | Pt  | kW   | 674.1  | 661.7  | 648.9  | 636.0  | 624.3  | 612.3  | 715.0  | 702.2  | 688.8  | 675.3  | 663.2  | 650.8  |
|       | Pat | kW   | 171.2  | 187.9  | 206.1  | 226.3  | 248.9  | 274.3  | 185.1  | 203.3  | 223.2  | 245.5  | 270.4  | 298.6  |
|       | qw  | m³/h | 116.70 | 114.81 | 112.83 | 110.78 | 110.94 | 107.06 | 123.79 | 121.83 | 119.76 | 117.63 | 117.85 | 113.79 |
|       | dpw | kPa  | 34.0   | 32.9   | 31.7   | 30.6   | 30.7   | 28.6   | 37.1   | 35.9   | 34.7   | 33.5   | 33.6   | 31.3   |
| 5 °C  | Pt  | kW   | 765.8  | 749.6  | 732.5  | 714.9  | 698.7  | 681.6  | 812.6  | 795.6  | 777.6  | 759.1  | 741.9  | 724.0  |
|       | Pat | kW   | 172.0  | 189.3  | 208.0  | 228.4  | 251.1  | 276.4  | 186.0  | 204.7  | 225.0  | 247.4  | 272.4  | 300.4  |
|       | qw  | m³/h | 132.59 | 130.05 | 127.35 | 124.54 | 124.15 | 119.18 | 140.69 | 138.04 | 135.20 | 132.23 | 131.84 | 126.59 |
|       | dpw | kPa  | 43.8   | 42.2   | 40.4   | 38.7   | 38.4   | 35.4   | 47.9   | 46.1   | 44.2   | 42.3   | 42.0   | 38.8   |
| 7 °C  | Pt  | kW   | 806.8  | 788.9  | 769.9  | 750.3  | 732.0  | 712.8  | 856.3  | 837.4  | 817.5  | 796.7  | 777.3  | 757.0  |
|       | Pat | kW   | 172.1  | 189.6  | 208.5  | 229.1  | 251.9  | 277.2  | 186.2  | 205.1  | 225.6  | 248.1  | 273.1  | 301.1  |
|       | qw  | m³/h | 139.69 | 136.87 | 133.86 | 130.71 | 130.08 | 124.64 | 148.25 | 145.30 | 142.12 | 138.79 | 138.13 | 132.36 |
|       | dpw | kPa  | 48.6   | 46.7   | 44.7   | 42.6   | 42.2   | 38.7   | 53.2   | 51.1   | 48.9   | 46.6   | 46.1   | 42.4   |

| Ta    |     |      | 215    |        |        |        |        |        | 220    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 646.7  | 637.0  | 627.2  | 617.6  | 609.6  | 601.5  | 667.5  | 657.2  | 646.7  | 636.4  | 627.7  | 618.7  |
|       | Pat | kW   | 188.3  | 206.5  | 226.6  | 249.2  | 274.6  | 303.5  | 194.0  | 212.6  | 233.2  | 256.2  | 282.1  | 311.4  |
|       | qw  | m³/h | 111.96 | 110.52 | 109.05 | 107.58 | 108.31 | 105.17 | 115.56 | 114.02 | 112.44 | 110.86 | 111.53 | 108.19 |
|       | dpw | kPa  | 31.3   | 30.5   | 29.7   | 28.9   | 29.3   | 27.6   | 33.5   | 32.6   | 31.7   | 30.8   | 31.2   | 29.4   |
| -2 °C | Pt  | kW   | 700.0  | 688.1  | 675.7  | 663.4  | 652.5  | 641.4  | 722.5  | 709.9  | 696.8  | 683.7  | 672.1  | 660.1  |
|       | Pat | kW   | 189.4  | 207.8  | 228.1  | 250.7  | 276.0  | 304.7  | 195.2  | 214.1  | 234.9  | 257.9  | 283.7  | 312.8  |
|       | qw  | m³/h | 121.19 | 119.38 | 117.49 | 115.56 | 115.94 | 112.14 | 125.09 | 123.17 | 121.15 | 119.10 | 119.42 | 115.41 |
|       | dpw | kPa  | 36.7   | 35.6   | 34.5   | 33.3   | 33.6   | 31.4   | 39.3   | 38.1   | 36.8   | 35.6   | 35.8   | 33.4   |
| 0 °C  | Pt  | kW   | 738.9  | 725.3  | 711.1  | 696.8  | 683.9  | 670.5  | 762.6  | 748.2  | 733.3  | 718.2  | 704.5  | 690.2  |
|       | Pat | kW   | 190.0  | 208.7  | 229.1  | 251.7  | 277.0  | 305.5  | 195.8  | 215.0  | 235.9  | 259.0  | 284.8  | 313.8  |
|       | qw  | m³/h | 127.93 | 125.84 | 123.64 | 121.37 | 121.52 | 117.24 | 132.03 | 129.82 | 127.50 | 125.10 | 125.18 | 120.69 |
|       | dpw | kPa  | 40.9   | 39.5   | 38.2   | 36.8   | 36.9   | 34.3   | 43.7   | 42.3   | 40.8   | 39.3   | 39.3   | 36.6   |
| 5 °C  | Pt  | kW   | 839.5  | 821.6  | 802.7  | 783.3  | 765.2  | 746.3  | 866.1  | 847.4  | 827.7  | 807.3  | 788.4  | 768.6  |
|       | Pat | kW   | 190.9  | 210.2  | 231.0  | 253.8  | 279.2  | 307.6  | 196.6  | 216.5  | 237.9  | 261.3  | 287.3  | 316.2  |
|       | qw  | m³/h | 145.34 | 142.55 | 139.56 | 136.45 | 135.97 | 130.49 | 149.96 | 147.02 | 143.90 | 140.63 | 140.09 | 134.39 |
|       | dpw | kPa  | 52.7   | 50.7   | 48.6   | 46.5   | 46.1   | 42.5   | 56.4   | 54.2   | 52.0   | 49.6   | 49.3   | 45.3   |
| 7 °C  | Pt  | kW   | 884.5  | 864.7  | 843.8  | 822.1  | 801.8  | 780.5  | 912.4  | 891.7  | 869.9  | 847.3  | 826.1  | 803.8  |
|       | Pat | kW   | 191.0  | 210.5  | 231.6  | 254.6  | 280.1  | 308.5  | 196.5  | 216.8  | 238.5  | 262.1  | 288.2  | 317.2  |
|       | qw  | m³/h | 153.13 | 150.03 | 146.70 | 143.20 | 142.47 | 136.46 | 157.97 | 154.72 | 151.24 | 147.59 | 146.79 | 140.55 |
|       | dpw | kPa  | 58.5   | 56.2   | 53.7   | 51.2   | 50.7   | 46.5   | 62.6   | 60.1   | 57.4   | 54.7   | 54.1   | 49.6   |

**Ta** = Outdoor temperature (°C)

**Twout** = Leaving water temperature (°C)

**Pt** = Heating capacity (kW)

**Pat** = Compressors power input (kW)

**qw** = Water flow (m³/h)

**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO L**

| Ta   |     |      | 225    |        |        |        |        |        | 250    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 702.6  | 691.3  | 679.8  | 668.4  | 658.6  | 648.7  | 745.7  | 734.4  | 723.0  | 711.7  | 702.2  | 692.6  |
|      | Pat | kW   | 203.0  | 222.9  | 244.9  | 269.6  | 297.4  | 329.0  | 216.8  | 237.7  | 260.7  | 286.4  | 315.4  | 348.2  |
|      | qw  | m³/h | 121.64 | 119.95 | 118.19 | 116.43 | 117.02 | 113.43 | 129.10 | 127.42 | 125.70 | 123.98 | 124.78 | 121.10 |
|      | dpw | kPa  | 37.1   | 36.1   | 35.1   | 34.0   | 34.4   | 32.3   | 28.9   | 28.1   | 27.4   | 26.6   | 27.0   | 25.4   |
| -2°C | Pt  | kW   | 760.4  | 746.7  | 732.4  | 717.9  | 705.0  | 691.7  | 807.2  | 793.3  | 779.0  | 764.6  | 751.9  | 738.8  |
|      | Pat | kW   | 204.0  | 224.1  | 246.3  | 270.9  | 298.6  | 330.0  | 218.2  | 239.4  | 262.5  | 288.3  | 317.2  | 349.7  |
|      | qw  | m³/h | 131.65 | 129.56 | 127.34 | 125.06 | 125.27 | 120.95 | 139.75 | 137.64 | 135.43 | 133.18 | 133.60 | 129.17 |
|      | dpw | kPa  | 43.5   | 42.1   | 40.7   | 39.3   | 39.4   | 36.7   | 33.8   | 32.8   | 31.8   | 30.7   | 30.9   | 28.9   |
| 0°C  | Pt  | kW   | 802.5  | 787.0  | 770.8  | 754.1  | 738.9  | 723.2  | 852.0  | 836.2  | 819.8  | 803.1  | 788.1  | 772.5  |
|      | Pat | kW   | 204.5  | 224.9  | 247.1  | 271.8  | 299.5  | 330.7  | 219.0  | 240.4  | 263.7  | 289.6  | 318.4  | 350.9  |
|      | qw  | m³/h | 138.95 | 136.56 | 134.01 | 131.36 | 131.30 | 126.45 | 147.51 | 145.08 | 142.53 | 139.89 | 140.03 | 135.07 |
|      | dpw | kPa  | 48.5   | 46.8   | 45.1   | 43.3   | 43.3   | 40.1   | 37.7   | 36.5   | 35.2   | 33.9   | 34.0   | 31.6   |
| 5°C  | Pt  | kW   | 911.4  | 891.3  | 869.9  | 847.7  | 826.9  | 805.1  | 967.8  | 947.1  | 925.3  | 902.8  | 881.9  | 860.1  |
|      | Pat | kW   | 205.2  | 226.1  | 248.8  | 273.7  | 301.4  | 332.5  | 219.9  | 242.1  | 266.0  | 292.2  | 321.2  | 353.6  |
|      | qw  | m³/h | 157.80 | 154.65 | 151.25 | 147.67 | 146.93 | 140.77 | 167.56 | 164.32 | 160.87 | 157.27 | 156.71 | 150.39 |
|      | dpw | kPa  | 62.5   | 60.0   | 57.4   | 54.7   | 54.2   | 49.7   | 48.7   | 46.8   | 44.8   | 42.9   | 42.6   | 39.2   |
| 7°C  | Pt  | kW   | 960.2  | 938.0  | 914.4  | 889.7  | 866.5  | 842.0  | 1019.6 | 996.7  | 972.5  | 947.5  | 924.1  | 899.5  |
|      | Pat | kW   | 205.2  | 226.4  | 249.3  | 274.3  | 302.1  | 333.2  | 219.9  | 242.5  | 266.7  | 293.1  | 322.2  | 354.6  |
|      | qw  | m³/h | 166.24 | 162.75 | 158.98 | 154.99 | 153.96 | 147.22 | 176.53 | 172.93 | 169.08 | 165.05 | 164.20 | 157.28 |
|      | dpw | kPa  | 69.4   | 66.5   | 63.4   | 60.3   | 59.5   | 54.4   | 54.0   | 51.8   | 49.5   | 47.2   | 46.7   | 42.9   |

| Ta   |     |      | 270    |        |        |        |        |        | 290    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 809.3  | 796.1  | 782.7  | 769.5  | 758.1  | 746.8  | 878.1  | 864.7  | 851.1  | 838.0  | 827.0  | 816.6  |
|      | Pat | kW   | 231.0  | 253.5  | 278.4  | 306.2  | 337.6  | 373.1  | 250.7  | 275.2  | 302.4  | 333.0  | 367.6  | 406.8  |
|      | qw  | m³/h | 140.12 | 138.13 | 136.08 | 134.04 | 134.70 | 130.58 | 152.03 | 150.03 | 147.98 | 145.98 | 146.95 | 142.79 |
|      | dpw | kPa  | 85.1   | 82.7   | 80.3   | 77.9   | 78.7   | 73.9   | 84.7   | 82.4   | 80.2   | 78.1   | 79.1   | 74.7   |
| -2°C | Pt  | kW   | 875.6  | 859.6  | 843.0  | 826.2  | 811.2  | 796.1  | 950.1  | 933.5  | 916.4  | 899.4  | 884.4  | 869.8  |
|      | Pat | kW   | 232.2  | 255.0  | 280.0  | 307.9  | 339.2  | 374.5  | 252.2  | 276.9  | 304.2  | 334.7  | 369.0  | 407.9  |
|      | qw  | m³/h | 151.60 | 149.14 | 146.56 | 143.92 | 144.15 | 139.20 | 164.49 | 161.96 | 159.32 | 156.68 | 157.15 | 152.08 |
|      | dpw | kPa  | 99.6   | 96.4   | 93.1   | 89.8   | 90.1   | 84.0   | 99.1   | 96.1   | 93.0   | 89.9   | 90.5   | 84.7   |
| 0°C  | Pt  | kW   | 924.0  | 905.8  | 886.8  | 867.6  | 850.0  | 832.2  | 1002.5 | 983.7  | 964.0  | 944.2  | 926.4  | 908.7  |
|      | Pat | kW   | 232.9  | 255.9  | 281.1  | 309.0  | 340.2  | 375.4  | 253.0  | 277.9  | 305.3  | 335.8  | 370.1  | 408.8  |
|      | qw  | m³/h | 159.97 | 157.16 | 154.19 | 151.13 | 151.05 | 145.51 | 173.58 | 170.67 | 167.60 | 164.49 | 164.61 | 158.88 |
|      | dpw | kPa  | 110.9  | 107.1  | 103.1  | 99.0   | 98.9   | 91.8   | 110.4  | 106.7  | 102.9  | 99.1   | 99.2   | 92.5   |
| 5°C  | Pt  | kW   | 1048.7 | 1025.2 | 1000.3 | 974.7  | 950.7  | 925.9  | 1138.3 | 1113.5 | 1087.2 | 1060.4 | 1035.3 | 1010.0 |
|      | Pat | kW   | 233.7  | 257.4  | 283.1  | 311.3  | 342.7  | 377.7  | 254.2  | 279.8  | 307.6  | 338.3  | 372.6  | 411.1  |
|      | qw  | m³/h | 181.57 | 177.87 | 173.91 | 169.78 | 168.92 | 161.89 | 197.08 | 193.19 | 189.03 | 184.73 | 183.97 | 176.59 |
|      | dpw | kPa  | 142.9  | 137.2  | 131.1  | 125.0  | 123.7  | 113.6  | 142.3  | 136.7  | 130.9  | 125.0  | 124.0  | 114.2  |
| 7°C  | Pt  | kW   | 1104.5 | 1078.6 | 1051.1 | 1022.7 | 995.9  | 968.1  | 1199.1 | 1171.6 | 1142.5 | 1112.6 | 1084.4 | 1055.7 |
|      | Pat | kW   | 233.6  | 257.7  | 283.7  | 312.1  | 343.6  | 378.6  | 254.4  | 280.3  | 308.3  | 339.2  | 373.6  | 412.0  |
|      | qw  | m³/h | 191.23 | 187.14 | 182.74 | 178.15 | 176.96 | 169.28 | 207.60 | 203.28 | 198.63 | 193.81 | 192.68 | 184.58 |
|      | dpw | kPa  | 158.5  | 151.8  | 144.8  | 137.6  | 135.8  | 124.2  | 157.9  | 151.4  | 144.5  | 137.6  | 136.0  | 124.8  |

Ta = Outdoor temperature (°C)

Twout = Leaving water temperature (°C)

Pt = Heating capacity (kW)

Pat = Compressors power input (kW)

qw = Water flow (m³/h)

dpw = Pressure drop (kPa)

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO S**

| Twout |     |      | 120                     |       |       |       |       |       | 130                     |       |       |       |       |       |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|-------------------------|-------|-------|-------|-------|-------|
|       |     |      | Outdoor air temperature |       |       |       |       |       | Outdoor air temperature |       |       |       |       |       |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    | 25                      | 30    | 32    | 35    | 40    | 43    |
| 5     | Pf  | kW   | 432.2                   | 405.0 | 393.7 | 376.6 | 354.4 | 340.8 | 465.1                   | 434.0 | 421.3 | 401.9 | 375.8 | 360.4 |
|       | Pa  | kW   | 125.6                   | 138.4 | 143.9 | 152.6 | 164.5 | 171.9 | 139.2                   | 153.7 | 159.9 | 170.0 | 183.7 | 192.3 |
|       | qw  | m³/h | 74.07                   | 69.41 | 67.47 | 64.55 | 60.73 | 58.41 | 79.71                   | 74.39 | 72.21 | 68.87 | 64.40 | 61.76 |
|       | dpw | kPa  | 102.0                   | 89.5  | 84.6  | 77.4  | 68.5  | 63.4  | 117.9                   | 102.7 | 96.7  | 88.0  | 77.0  | 70.8  |
| 6     | Pf  | kW   | 443.9                   | 415.8 | 404.2 | 386.7 | 363.6 | 349.7 | 477.8                   | 445.7 | 432.6 | 412.6 | 385.6 | 369.9 |
|       | Pa  | kW   | 126.6                   | 139.4 | 145.0 | 153.8 | 165.7 | 173.2 | 140.3                   | 154.8 | 161.1 | 171.2 | 185.1 | 193.8 |
|       | qw  | m³/h | 76.13                   | 71.31 | 69.32 | 66.31 | 62.36 | 59.96 | 81.93                   | 76.43 | 74.19 | 70.76 | 66.13 | 63.43 |
|       | dpw | kPa  | 107.7                   | 94.5  | 89.3  | 81.7  | 72.3  | 66.8  | 124.5                   | 108.4 | 102.1 | 92.9  | 81.1  | 74.6  |
| 7     | Pf  | kW   | 455.9                   | 426.9 | 414.9 | 396.9 | 373.1 | 358.8 | 490.7                   | 457.6 | 444.2 | 423.5 | 395.6 | 379.6 |
|       | Pa  | kW   | 127.5                   | 140.5 | 146.1 | 154.9 | 167.0 | 174.5 | 141.3                   | 156.0 | 162.4 | 172.5 | 186.5 | 195.2 |
|       | qw  | m³/h | 78.22                   | 73.24 | 71.20 | 68.10 | 64.01 | 61.56 | 84.19                   | 78.52 | 76.21 | 72.66 | 67.88 | 65.14 |
|       | dpw | kPa  | 113.7                   | 99.7  | 94.2  | 86.2  | 76.1  | 70.4  | 131.5                   | 114.4 | 107.8 | 97.9  | 85.5  | 78.7  |
| 8     | Pf  | kW   | 468.1                   | 438.1 | 425.9 | 407.3 | 382.7 | 368.1 | 503.8                   | 469.8 | 455.9 | 434.5 | 405.8 | 389.6 |
|       | Pa  | kW   | 128.5                   | 141.6 | 147.2 | 156.1 | 168.3 | 175.9 | 142.4                   | 157.2 | 163.6 | 173.8 | 187.9 | 196.7 |
|       | qw  | m³/h | 80.36                   | 75.21 | 73.11 | 69.93 | 65.69 | 63.19 | 86.49                   | 80.65 | 78.27 | 74.59 | 69.66 | 66.88 |
|       | dpw | kPa  | 120.0                   | 105.1 | 99.3  | 90.9  | 80.2  | 74.2  | 138.8                   | 120.7 | 113.7 | 103.2 | 90.0  | 83.0  |
| 9     | Pf  | kW   | 480.5                   | 449.6 | 437.0 | 418.0 | 392.4 | 377.6 | 517.1                   | 482.1 | 467.8 | 445.7 | 416.1 | 399.7 |
|       | Pa  | kW   | 129.4                   | 142.6 | 148.3 | 157.3 | 169.6 | 177.2 | 143.5                   | 158.4 | 164.8 | 175.2 | 189.3 | 198.2 |
|       | qw  | m³/h | 82.53                   | 77.23 | 75.07 | 71.80 | 67.41 | 64.86 | 88.83                   | 82.82 | 80.36 | 76.56 | 71.48 | 68.66 |
|       | dpw | kPa  | 126.6                   | 110.8 | 104.7 | 95.8  | 84.4  | 78.2  | 146.4                   | 127.2 | 119.8 | 108.7 | 94.8  | 87.5  |
| 10    | Pf  | kW   | 493.1                   | 461.2 | 448.3 | 428.7 | 402.4 | 387.3 | 530.7                   | 494.7 | 480.0 | 457.1 | 426.7 | 410.1 |
|       | Pa  | kW   | 130.4                   | 143.7 | 149.4 | 158.5 | 170.9 | 178.6 | 144.6                   | 159.6 | 166.1 | 176.5 | 190.8 | 199.7 |
|       | qw  | m³/h | 84.84                   | 79.36 | 77.14 | 73.76 | 69.23 | 66.64 | 91.32                   | 85.11 | 82.58 | 78.65 | 73.41 | 70.56 |
|       | dpw | kPa  | 133.8                   | 117.0 | 110.6 | 101.1 | 89.1  | 82.5  | 154.7                   | 134.4 | 126.5 | 114.8 | 100.0 | 92.4  |

| Twout |     |      | 140                     |       |       |       |       |       | 150                     |       |       |       |       |       |
|-------|-----|------|-------------------------|-------|-------|-------|-------|-------|-------------------------|-------|-------|-------|-------|-------|
|       |     |      | Outdoor air temperature |       |       |       |       |       | Outdoor air temperature |       |       |       |       |       |
|       |     |      | 25                      | 30    | 32    | 35    | 40    | 43    | 25                      | 30    | 32    | 35    | 40    | 43    |
| 5     | Pf  | kW   | 502.6                   | 472.8 | 460.3 | 441.7 | 417.9 | 403.3 | 537.1                   | 503.5 | 489.6 | 468.6 | 441.3 | 424.6 |
|       | Pa  | kW   | 145.1                   | 159.5 | 165.7 | 175.4 | 188.4 | 196.5 | 155.5                   | 171.2 | 178.0 | 188.7 | 203.3 | 212.3 |
|       | qw  | m³/h | 86.14                   | 81.02 | 78.89 | 75.69 | 71.62 | 69.12 | 92.05                   | 86.29 | 83.90 | 80.31 | 75.62 | 72.77 |
|       | dpw | kPa  | 98.8                    | 87.4  | 82.8  | 76.3  | 68.3  | 63.6  | 98.5                    | 86.5  | 81.8  | 75.0  | 66.5  | 61.5  |
| 6     | Pf  | kW   | 516.2                   | 485.4 | 472.5 | 453.4 | 428.8 | 413.8 | 551.6                   | 516.9 | 502.6 | 481.1 | 452.8 | 435.6 |
|       | Pa  | kW   | 146.2                   | 160.8 | 167.0 | 176.7 | 189.9 | 198.1 | 156.7                   | 172.5 | 179.4 | 190.2 | 204.9 | 214.0 |
|       | qw  | m³/h | 88.53                   | 83.23 | 81.02 | 77.74 | 73.53 | 70.95 | 94.59                   | 88.65 | 86.19 | 82.50 | 77.64 | 74.70 |
|       | dpw | kPa  | 104.3                   | 92.2  | 87.4  | 80.4  | 72.0  | 67.0  | 104.0                   | 91.3  | 86.3  | 79.1  | 70.0  | 64.8  |
| 7     | Pf  | kW   | 530.1                   | 498.2 | 484.9 | 465.3 | 439.9 | 424.4 | 566.4                   | 530.6 | 515.9 | 493.8 | 464.4 | 446.8 |
|       | Pa  | kW   | 147.2                   | 162.0 | 168.2 | 178.1 | 191.4 | 199.6 | 157.8                   | 173.9 | 180.7 | 191.6 | 206.5 | 215.6 |
|       | qw  | m³/h | 90.95                   | 85.48 | 83.21 | 79.83 | 75.47 | 72.82 | 97.19                   | 91.04 | 88.52 | 84.72 | 79.69 | 76.66 |
|       | dpw | kPa  | 110.1                   | 97.2  | 92.1  | 84.8  | 75.8  | 70.6  | 109.8                   | 96.3  | 91.1  | 83.4  | 73.8  | 68.3  |
| 8     | Pf  | kW   | 544.2                   | 511.2 | 497.7 | 477.4 | 451.2 | 435.2 | 581.5                   | 544.5 | 529.5 | 506.7 | 476.4 | 458.5 |
|       | Pa  | kW   | 148.2                   | 163.2 | 169.5 | 179.5 | 192.9 | 201.2 | 159.0                   | 175.2 | 182.1 | 193.1 | 208.0 | 217.3 |
|       | qw  | m³/h | 93.43                   | 87.77 | 85.44 | 81.96 | 77.46 | 74.72 | 99.83                   | 93.48 | 90.90 | 86.99 | 81.78 | 78.71 |
|       | dpw | kPa  | 116.2                   | 102.5 | 97.2  | 89.4  | 79.9  | 74.3  | 115.8                   | 101.5 | 96.0  | 87.9  | 77.7  | 72.0  |
| 9     | Pf  | kW   | 558.5                   | 524.5 | 510.6 | 489.8 | 462.7 | 446.3 | 596.9                   | 558.8 | 543.3 | 519.8 | 488.5 | 470.3 |
|       | Pa  | kW   | 149.3                   | 164.4 | 170.8 | 180.9 | 194.4 | 202.8 | 160.2                   | 176.5 | 183.5 | 194.6 | 209.6 | 219.0 |
|       | qw  | m³/h | 95.94                   | 90.10 | 87.71 | 84.13 | 79.47 | 76.66 | 102.53                  | 95.98 | 93.32 | 89.30 | 83.91 | 80.79 |
|       | dpw | kPa  | 122.5                   | 108.1 | 102.4 | 94.2  | 84.1  | 78.2  | 122.1                   | 107.0 | 101.2 | 92.7  | 81.8  | 75.8  |
| 10    | Pf  | kW   | 573.1                   | 538.1 | 523.8 | 502.4 | 474.3 | 457.6 | 612.5                   | 573.2 | 557.3 | 533.2 | 500.8 | 482.4 |
|       | Pa  | kW   | 150.3                   | 165.6 | 172.1 | 182.2 | 195.9 | 204.4 | 161.3                   | 177.8 | 184.9 | 196.1 | 211.3 | 220.7 |
|       | qw  | m³/h | 98.62                   | 92.58 | 90.12 | 86.44 | 81.62 | 78.73 | 105.38                  | 98.62 | 95.89 | 91.74 | 86.17 | 83.00 |
|       | dpw | kPa  | 129.4                   | 114.1 | 108.1 | 99.5  | 88.7  | 82.5  | 129.0                   | 113.0 | 106.8 | 97.8  | 86.3  | 80.0  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO S**

| Twout |     |      | 165                     |        |        |        |       |       |  | 175                     |        |        |        |       |       |  |
|-------|-----|------|-------------------------|--------|--------|--------|-------|-------|--|-------------------------|--------|--------|--------|-------|-------|--|
|       |     |      | Outdoor air temperature |        |        |        |       |       |  | Outdoor air temperature |        |        |        |       |       |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40    | 43    |  | 25                      | 30     | 32     | 35     | 40    | 43    |  |
| 5     | Pf  | kW   | 597.9                   | 562.0  | 547.0  | 524.7  | 496.0 | 478.4 |  | 609.2                   | 572.9  | 557.7  | 534.5  | 505.4 | 487.4 |  |
|       | Pa  | kW   | 172.2                   | 189.3  | 196.6  | 208.1  | 223.6 | 233.2 |  | 188.7                   | 208.1  | 216.4  | 229.6  | 247.6 | 258.7 |  |
|       | qw  | m³/h | 102.48                  | 96.31  | 93.75  | 89.92  | 85.00 | 81.99 |  | 104.40                  | 98.19  | 95.58  | 91.60  | 86.61 | 83.54 |  |
|       | dpw | kPa  | 109.5                   | 96.7   | 91.6   | 84.3   | 75.3  | 70.1  |  | 44.8                    | 39.7   | 37.6   | 34.5   | 30.9  | 28.7  |  |
| 6     | Pf  | kW   | 614.1                   | 577.0  | 561.6  | 538.6  | 508.9 | 490.8 |  | 625.8                   | 588.4  | 572.7  | 548.8  | 518.8 | 500.3 |  |
|       | Pa  | kW   | 173.5                   | 190.8  | 198.1  | 209.7  | 225.4 | 235.1 |  | 190.1                   | 209.7  | 218.1  | 231.4  | 249.5 | 260.7 |  |
|       | qw  | m³/h | 105.31                  | 98.94  | 96.30  | 92.36  | 87.27 | 84.17 |  | 107.32                  | 100.90 | 98.21  | 94.11  | 88.96 | 85.79 |  |
|       | dpw | kPa  | 115.6                   | 102.0  | 96.7   | 88.9   | 79.4  | 73.8  |  | 47.4                    | 41.9   | 39.7   | 36.4   | 32.6  | 30.3  |  |
| 7     | Pf  | kW   | 630.6                   | 592.2  | 576.4  | 552.8  | 522.1 | 503.5 |  | 642.8                   | 604.1  | 587.9  | 563.4  | 532.4 | 513.3 |  |
|       | Pa  | kW   | 174.8                   | 192.2  | 199.7  | 211.4  | 227.2 | 236.9 |  | 191.6                   | 211.3  | 219.7  | 233.2  | 251.4 | 262.7 |  |
|       | qw  | m³/h | 108.20                  | 101.62 | 98.90  | 94.85  | 89.59 | 86.39 |  | 110.29                  | 103.66 | 100.88 | 96.67  | 91.35 | 88.08 |  |
|       | dpw | kPa  | 122.0                   | 107.6  | 102.0  | 93.8   | 83.7  | 77.8  |  | 50.0                    | 44.2   | 41.9   | 38.5   | 34.3  | 31.9  |  |
| 8     | Pf  | kW   | 647.4                   | 607.8  | 591.6  | 567.3  | 535.5 | 516.4 |  | 660.0                   | 620.2  | 603.4  | 578.3  | 546.3 | 526.6 |  |
|       | Pa  | kW   | 176.0                   | 193.7  | 201.2  | 213.0  | 229.0 | 238.8 |  | 193.0                   | 212.9  | 221.4  | 235.0  | 253.4 | 264.7 |  |
|       | qw  | m³/h | 111.15                  | 104.34 | 101.56 | 97.39  | 91.94 | 88.66 |  | 113.32                  | 106.47 | 103.60 | 99.28  | 93.78 | 90.41 |  |
|       | dpw | kPa  | 128.8                   | 113.5  | 107.5  | 98.9   | 88.1  | 81.9  |  | 52.8                    | 46.6   | 44.2   | 40.6   | 36.2  | 33.6  |  |
| 9     | Pf  | kW   | 664.5                   | 623.6  | 607.0  | 582.0  | 549.2 | 529.6 |  | 677.6                   | 636.5  | 619.2  | 593.4  | 560.4 | 540.2 |  |
|       | Pa  | kW   | 177.3                   | 195.1  | 202.7  | 214.7  | 230.8 | 240.7 |  | 194.5                   | 214.5  | 223.1  | 236.8  | 255.3 | 266.8 |  |
|       | qw  | m³/h | 114.15                  | 107.12 | 104.27 | 99.98  | 94.34 | 90.98 |  | 116.40                  | 109.33 | 106.37 | 101.94 | 96.26 | 92.79 |  |
|       | dpw | kPa  | 135.8                   | 119.6  | 113.3  | 104.2  | 92.8  | 86.3  |  | 55.8                    | 49.2   | 46.6   | 42.8   | 38.1  | 35.4  |  |
| 10    | Pf  | kW   | 682.0                   | 639.7  | 622.7  | 597.1  | 563.1 | 543.3 |  | 695.5                   | 653.1  | 635.4  | 608.9  | 574.7 | 553.9 |  |
|       | Pa  | kW   | 178.5                   | 196.6  | 204.2  | 216.3  | 232.6 | 242.6 |  | 195.9                   | 216.1  | 224.8  | 238.6  | 257.3 | 268.8 |  |
|       | qw  | m³/h | 117.34                  | 110.07 | 107.14 | 102.73 | 96.89 | 93.48 |  | 119.67                  | 112.37 | 109.32 | 104.76 | 98.89 | 95.31 |  |
|       | dpw | kPa  | 143.5                   | 126.3  | 119.7  | 110.0  | 97.9  | 91.1  |  | 58.9                    | 52.0   | 49.2   | 45.2   | 40.2  | 37.4  |  |

| Twout |     |      | 180                     |        |        |        |        |        |  | 190                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 654.3                   | 618.8  | 603.8  | 580.5  | 550.8  | 533.5  |  | 676.7                   | 638.5  | 622.6  | 598.0  | 567.2  | 548.9  |  |
|       | Pa  | kW   | 185.4                   | 204.3  | 212.3  | 224.9  | 242.0  | 252.6  |  | 191.3                   | 210.4  | 218.6  | 231.4  | 248.7  | 259.3  |  |
|       | qw  | m³/h | 112.13                  | 106.04 | 103.48 | 99.49  | 94.40  | 91.43  |  | 115.98                  | 109.43 | 106.70 | 102.49 | 97.20  | 94.07  |  |
|       | dpw | kPa  | 51.8                    | 46.3   | 44.1   | 40.8   | 36.7   | 34.4   |  | 31.3                    | 27.9   | 26.5   | 24.4   | 22.0   | 20.6   |  |
| 6     | Pf  | kW   | 672.2                   | 635.4  | 620.0  | 595.9  | 565.4  | 547.6  |  | 695.2                   | 655.8  | 639.3  | 613.9  | 582.2  | 563.3  |  |
|       | Pa  | kW   | 186.7                   | 205.8  | 213.9  | 226.6  | 243.9  | 254.5  |  | 192.7                   | 212.0  | 220.2  | 233.2  | 250.7  | 261.4  |  |
|       | qw  | m³/h | 115.26                  | 108.96 | 106.31 | 102.19 | 96.95  | 93.90  |  | 119.22                  | 112.45 | 109.62 | 105.27 | 99.85  | 96.59  |  |
|       | dpw | kPa  | 54.7                    | 48.9   | 46.5   | 43.0   | 38.7   | 36.3   |  | 33.1                    | 29.4   | 27.9   | 25.8   | 23.2   | 21.7   |  |
| 7     | Pf  | kW   | 690.4                   | 652.4  | 636.4  | 611.6  | 580.2  | 561.9  |  | 714.1                   | 673.3  | 656.3  | 630.1  | 597.6  | 577.9  |  |
|       | Pa  | kW   | 188.0                   | 207.3  | 215.5  | 228.3  | 245.7  | 256.5  |  | 194.0                   | 213.6  | 221.9  | 235.0  | 252.6  | 263.5  |  |
|       | qw  | m³/h | 118.45                  | 111.94 | 109.20 | 104.94 | 99.56  | 96.41  |  | 122.52                  | 115.52 | 112.60 | 108.12 | 102.54 | 99.16  |  |
|       | dpw | kPa  | 57.8                    | 51.6   | 49.1   | 45.3   | 40.8   | 38.3   |  | 34.9                    | 31.0   | 29.5   | 27.2   | 24.5   | 22.9   |  |
| 8     | Pf  | kW   | 708.9                   | 669.7  | 653.2  | 627.6  | 595.3  | 576.5  |  | 733.3                   | 691.1  | 673.6  | 646.7  | 613.3  | 592.8  |  |
|       | Pa  | kW   | 189.3                   | 208.8  | 217.0  | 230.0  | 247.6  | 258.4  |  | 195.4                   | 215.2  | 223.6  | 236.8  | 254.6  | 265.5  |  |
|       | qw  | m³/h | 121.71                  | 114.97 | 112.14 | 107.74 | 102.21 | 98.97  |  | 125.89                  | 118.66 | 115.64 | 111.03 | 105.29 | 101.78 |  |
|       | dpw | kPa  | 61.0                    | 54.4   | 51.8   | 47.8   | 43.0   | 40.3   |  | 36.9                    | 32.7   | 31.1   | 28.7   | 25.8   | 24.1   |  |
| 9     | Pf  | kW   | 727.8                   | 687.2  | 670.2  | 643.8  | 610.7  | 591.2  |  | 752.8                   | 709.3  | 691.2  | 663.6  | 629.2  | 608.0  |  |
|       | Pa  | kW   | 190.6                   | 210.3  | 218.6  | 231.7  | 249.5  | 260.4  |  | 196.7                   | 216.7  | 225.2  | 238.6  | 256.6  | 267.6  |  |
|       | qw  | m³/h | 125.03                  | 118.05 | 115.13 | 110.59 | 104.91 | 101.56 |  | 129.32                  | 121.85 | 118.73 | 113.99 | 108.08 | 104.44 |  |
|       | dpw | kPa  | 64.4                    | 57.4   | 54.6   | 50.4   | 45.3   | 42.5   |  | 38.9                    | 34.5   | 32.8   | 30.2   | 27.2   | 25.4   |  |
| 10    | Pf  | kW   | 747.0                   | 705.1  | 687.6  | 660.4  | 626.4  | 606.2  |  | 772.7                   | 727.8  | 709.1  | 680.8  | 645.3  | 623.4  |  |
|       | Pa  | kW   | 191.9                   | 211.8  | 220.2  | 233.4  | 251.3  | 262.4  |  | 198.0                   | 218.3  | 226.9  | 240.4  | 258.5  | 269.7  |  |
|       | qw  | m³/h | 128.53                  | 121.33 | 118.31 | 113.63 | 107.78 | 104.30 |  | 132.96                  | 125.23 | 122.00 | 117.13 | 111.02 | 107.26 |  |
|       | dpw | kPa  | 68.0                    | 60.6   | 57.6   | 53.2   | 47.8   | 44.8   |  | 41.1                    | 36.5   | 34.6   | 31.9   | 28.7   | 26.8   |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO S**

| Twout |     |      | 195                     |        |        |        |        |        | 205                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 701.0                   | 659.5  | 642.2  | 616.2  | 583.2  | 562.9  | 749.5                   | 704.0  | 685.0  | 656.7  | 620.1  | 597.7  |
|       | Pa  | kW   | 202.2                   | 222.2  | 230.8  | 244.3  | 262.5  | 273.7  | 221.2                   | 243.3  | 252.8  | 267.7  | 288.0  | 300.6  |
|       | qw  | m³/h | 120.14                  | 113.03 | 110.06 | 105.61 | 99.95  | 96.48  | 128.45                  | 120.66 | 117.40 | 112.54 | 106.27 | 102.43 |
|       | dpw | kPa  | 33.6                    | 29.7   | 28.2   | 25.9   | 23.2   | 21.6   | 38.3                    | 33.8   | 32.0   | 29.4   | 26.2   | 24.4   |
| 6     | Pf  | kW   | 720.0                   | 677.1  | 659.2  | 632.6  | 598.5  | 577.6  | 769.8                   | 722.9  | 703.3  | 674.1  | 636.3  | 613.2  |
|       | Pa  | kW   | 203.6                   | 223.9  | 232.6  | 246.2  | 264.6  | 275.9  | 222.8                   | 245.2  | 254.7  | 269.8  | 290.3  | 302.9  |
|       | qw  | m³/h | 123.47                  | 116.12 | 113.05 | 108.48 | 102.62 | 99.04  | 132.01                  | 123.96 | 120.60 | 115.60 | 109.11 | 105.15 |
|       | dpw | kPa  | 35.4                    | 31.3   | 29.7   | 27.4   | 24.5   | 22.8   | 40.5                    | 35.7   | 33.8   | 31.0   | 27.7   | 25.7   |
| 7     | Pf  | kW   | 739.4                   | 695.1  | 676.7  | 649.2  | 614.0  | 592.5  | 790.5                   | 742.0  | 721.9  | 691.9  | 652.8  | 629.0  |
|       | Pa  | kW   | 205.1                   | 225.6  | 234.4  | 248.1  | 266.7  | 278.1  | 224.4                   | 247.0  | 256.7  | 271.9  | 292.6  | 305.3  |
|       | qw  | m³/h | 126.87                  | 119.26 | 116.11 | 111.40 | 105.35 | 101.65 | 135.64                  | 127.31 | 123.87 | 118.71 | 112.00 | 107.92 |
|       | dpw | kPa  | 37.4                    | 33.1   | 31.3   | 28.8   | 25.8   | 24.0   | 42.8                    | 37.7   | 35.7   | 32.7   | 29.1   | 27.1   |
| 8     | Pf  | kW   | 759.1                   | 713.3  | 694.4  | 666.2  | 629.8  | 607.6  | 811.6                   | 761.5  | 740.9  | 710.0  | 669.5  | 645.1  |
|       | Pa  | kW   | 206.5                   | 227.3  | 236.2  | 250.1  | 268.8  | 280.3  | 226.1                   | 248.9  | 258.6  | 274.0  | 294.9  | 307.7  |
|       | qw  | m³/h | 130.32                  | 122.46 | 119.21 | 114.37 | 108.12 | 104.31 | 139.34                  | 130.73 | 127.20 | 121.89 | 114.95 | 110.75 |
|       | dpw | kPa  | 39.5                    | 34.9   | 33.0   | 30.4   | 27.2   | 25.3   | 45.1                    | 39.7   | 37.6   | 34.5   | 30.7   | 28.5   |
| 9     | Pf  | kW   | 779.2                   | 731.9  | 712.5  | 683.5  | 645.8  | 623.1  | 833.1                   | 781.3  | 760.2  | 728.4  | 686.6  | 661.5  |
|       | Pa  | kW   | 208.0                   | 229.0  | 237.9  | 252.0  | 270.9  | 282.5  | 227.7                   | 250.7  | 260.6  | 276.1  | 297.1  | 310.1  |
|       | qw  | m³/h | 133.84                  | 125.72 | 122.39 | 117.41 | 110.94 | 107.03 | 143.10                  | 134.22 | 130.59 | 125.13 | 117.95 | 113.63 |
|       | dpw | kPa  | 41.6                    | 36.7   | 34.8   | 32.0   | 28.6   | 26.6   | 47.6                    | 41.9   | 39.6   | 36.4   | 32.3   | 30.0   |
| 10    | Pf  | kW   | 799.6                   | 750.8  | 730.9  | 701.1  | 662.2  | 638.8  | 854.9                   | 801.5  | 779.9  | 747.2  | 704.0  | 678.6  |
|       | Pa  | kW   | 209.4                   | 230.7  | 239.7  | 253.9  | 273.0  | 284.7  | 229.3                   | 252.6  | 262.5  | 278.2  | 299.4  | 312.5  |
|       | qw  | m³/h | 137.58                  | 129.18 | 125.76 | 120.63 | 113.94 | 109.91 | 147.10                  | 137.91 | 134.19 | 128.57 | 121.13 | 116.76 |
|       | dpw | kPa  | 44.0                    | 38.8   | 36.8   | 33.8   | 30.2   | 28.1   | 50.3                    | 44.2   | 41.8   | 38.4   | 34.1   | 31.7   |

| Twout |     |      | 215                     |        |        |        |        |        | 220                     |        |        |        |        |        |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|-------------------------|--------|--------|--------|--------|--------|
|       |     |      | Outdoor air temperature |        |        |        |        |        | Outdoor air temperature |        |        |        |        |        |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     | 25                      | 30     | 32     | 35     | 40     | 43     |
| 5     | Pf  | kW   | 782.7                   | 735.9  | 716.4  | 687.1  | 649.7  | 626.8  | 799.8                   | 750.9  | 730.8  | 700.7  | 661.6  | 637.8  |
|       | Pa  | kW   | 228.1                   | 250.8  | 260.5  | 275.8  | 296.5  | 309.3  | 235.9                   | 259.3  | 269.3  | 285.1  | 306.4  | 319.5  |
|       | qw  | m³/h | 134.14                  | 126.13 | 122.77 | 117.76 | 111.35 | 107.41 | 137.06                  | 128.70 | 125.25 | 120.09 | 113.38 | 109.30 |
|       | dpw | kPa  | 41.8                    | 37.0   | 35.0   | 32.2   | 28.8   | 26.8   | 43.7                    | 38.5   | 36.5   | 33.5   | 29.9   | 27.8   |
| 6     | Pf  | kW   | 804.0                   | 755.6  | 735.4  | 705.4  | 666.7  | 643.0  | 821.3                   | 770.9  | 750.3  | 719.3  | 678.8  | 654.3  |
|       | Pa  | kW   | 229.7                   | 252.7  | 262.5  | 278.0  | 298.9  | 311.8  | 237.7                   | 261.3  | 271.4  | 287.3  | 308.8  | 322.1  |
|       | qw  | m³/h | 137.86                  | 129.57 | 126.11 | 120.96 | 114.32 | 110.27 | 140.85                  | 132.20 | 128.65 | 123.34 | 116.40 | 112.20 |
|       | dpw | kPa  | 44.2                    | 39.0   | 37.0   | 34.0   | 30.4   | 28.3   | 46.1                    | 40.6   | 38.5   | 35.4   | 31.5   | 29.3   |
| 7     | Pf  | kW   | 825.6                   | 775.6  | 754.9  | 723.9  | 684.0  | 659.6  | 843.3                   | 791.3  | 770.1  | 738.2  | 696.3  | 671.2  |
|       | Pa  | kW   | 231.4                   | 254.6  | 264.5  | 280.1  | 301.2  | 314.2  | 239.4                   | 263.3  | 273.5  | 289.6  | 311.3  | 324.6  |
|       | qw  | m³/h | 141.65                  | 133.08 | 129.52 | 124.21 | 117.36 | 113.18 | 144.70                  | 135.76 | 132.13 | 126.66 | 119.47 | 115.16 |
|       | dpw | kPa  | 46.6                    | 41.2   | 39.0   | 35.9   | 32.0   | 29.8   | 48.7                    | 42.8   | 40.6   | 37.3   | 33.2   | 30.8   |
| 8     | Pf  | kW   | 847.6                   | 796.0  | 774.7  | 742.9  | 701.6  | 676.5  | 865.7                   | 812.0  | 790.2  | 757.5  | 714.2  | 688.7  |
|       | Pa  | kW   | 233.0                   | 256.5  | 266.5  | 282.3  | 303.6  | 316.7  | 241.1                   | 265.3  | 275.6  | 291.8  | 313.7  | 327.2  |
|       | qw  | m³/h | 145.51                  | 136.66 | 133.00 | 127.54 | 120.45 | 116.14 | 148.63                  | 139.40 | 135.67 | 130.05 | 122.61 | 118.24 |
|       | dpw | kPa  | 49.2                    | 43.4   | 41.1   | 37.8   | 33.7   | 31.4   | 51.3                    | 45.2   | 42.8   | 39.3   | 34.9   | 32.5   |
| 9     | Pf  | kW   | 870.0                   | 816.7  | 794.9  | 762.2  | 719.5  | 693.7  | 888.6                   | 833.1  | 810.8  | 777.2  | 732.4  | 706.5  |
|       | Pa  | kW   | 234.7                   | 258.4  | 268.6  | 284.5  | 306.0  | 319.2  | 242.8                   | 267.3  | 277.7  | 294.1  | 316.2  | 329.8  |
|       | qw  | m³/h | 149.45                  | 140.30 | 136.54 | 130.92 | 123.59 | 119.16 | 152.64                  | 143.12 | 139.28 | 133.50 | 125.80 | 121.36 |
|       | dpw | kPa  | 51.9                    | 45.7   | 43.3   | 39.8   | 35.5   | 33.0   | 54.1                    | 47.6   | 45.1   | 41.4   | 36.8   | 34.2   |
| 10    | Pf  | kW   | 892.8                   | 837.8  | 815.4  | 781.8  | 737.7  | 711.2  | 911.8                   | 854.6  | 831.7  | 797.1  | 750.9  | 724.7  |
|       | Pa  | kW   | 236.3                   | 260.3  | 270.5  | 286.6  | 308.3  | 321.7  | 244.5                   | 269.3  | 279.8  | 296.3  | 318.6  | 332.4  |
|       | qw  | m³/h | 153.62                  | 144.16 | 140.31 | 134.52 | 126.93 | 122.37 | 156.88                  | 147.05 | 143.11 | 137.15 | 129.19 | 124.68 |
|       | dpw | kPa  | 54.8                    | 48.3   | 45.8   | 42.1   | 37.4   | 34.8   | 57.2                    | 50.3   | 47.6   | 43.7   | 38.8   | 36.1   |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### COOLING CAPACITY PERFORMANCES

**CXAO S**

| Twout |     |      | 225                     |        |        |        |        |        |  | 250                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 845.0                   | 794.3  | 773.0  | 741.0  | 700.2  | 675.2  |  | 916.7                   | 861.0  | 838.0  | 803.6  | 759.1  | 731.9  |  |
|       | Pa  | kW   | 233.5                   | 256.9  | 266.9  | 282.8  | 304.3  | 317.6  |  | 258.7                   | 284.4  | 295.3  | 312.6  | 335.9  | 350.3  |  |
|       | qw  | m³/h | 144.81                  | 136.13 | 132.48 | 127.00 | 120.01 | 115.71 |  | 157.10                  | 147.57 | 143.62 | 137.73 | 130.09 | 125.44 |  |
|       | dpw | kPa  | 48.7                    | 43.1   | 40.8   | 37.5   | 33.5   | 31.1   |  | 39.4                    | 34.8   | 32.9   | 30.3   | 27.0   | 25.1   |  |
| 6     | Pf  | kW   | 868.0                   | 815.6  | 793.6  | 760.8  | 718.6  | 692.7  |  | 941.4                   | 884.0  | 860.3  | 824.9  | 778.9  | 750.9  |  |
|       | Pa  | kW   | 235.2                   | 258.9  | 269.0  | 285.0  | 306.7  | 320.1  |  | 260.6                   | 286.6  | 297.6  | 315.1  | 338.6  | 353.2  |  |
|       | qw  | m³/h | 148.84                  | 139.85 | 136.09 | 130.46 | 123.23 | 118.79 |  | 161.44                  | 151.58 | 147.53 | 141.46 | 133.56 | 128.77 |  |
|       | dpw | kPa  | 51.5                    | 45.5   | 43.0   | 39.6   | 35.3   | 32.8   |  | 41.6                    | 36.7   | 34.8   | 32.0   | 28.5   | 26.5   |  |
| 7     | Pf  | kW   | 891.4                   | 837.2  | 814.7  | 780.9  | 737.3  | 710.6  |  | 966.7                   | 907.3  | 883.0  | 846.6  | 799.0  | 770.3  |  |
|       | Pa  | kW   | 236.9                   | 260.8  | 271.1  | 287.2  | 309.1  | 322.6  |  | 262.5                   | 288.8  | 299.9  | 317.6  | 341.3  | 356.0  |  |
|       | qw  | m³/h | 152.94                  | 143.65 | 139.78 | 133.98 | 126.50 | 121.93 |  | 165.86                  | 155.67 | 151.51 | 145.26 | 137.09 | 132.17 |  |
|       | dpw | kPa  | 54.4                    | 48.0   | 45.4   | 41.7   | 37.2   | 34.5   |  | 43.9                    | 38.7   | 36.7   | 33.7   | 30.0   | 27.9   |  |
| 8     | Pf  | kW   | 915.2                   | 859.3  | 836.0  | 801.3  | 756.3  | 728.8  |  | 992.4                   | 931.0  | 906.2  | 868.7  | 819.5  | 790.4  |  |
|       | Pa  | kW   | 238.6                   | 262.8  | 273.1  | 289.4  | 311.5  | 325.2  |  | 264.4                   | 290.9  | 302.2  | 320.0  | 344.0  | 358.8  |  |
|       | qw  | m³/h | 157.12                  | 147.52 | 143.53 | 137.57 | 129.84 | 125.12 |  | 170.37                  | 159.84 | 155.57 | 149.15 | 140.68 | 135.69 |  |
|       | dpw | kPa  | 57.4                    | 50.6   | 47.9   | 44.0   | 39.2   | 36.4   |  | 46.4                    | 40.8   | 38.7   | 35.5   | 31.6   | 29.4   |  |
| 9     | Pf  | kW   | 939.4                   | 881.7  | 857.9  | 822.2  | 775.6  | 747.4  |  | 1018.5                  | 955.2  | 929.7  | 891.3  | 840.3  | 810.6  |  |
|       | Pa  | kW   | 240.3                   | 264.8  | 275.2  | 291.6  | 313.9  | 327.7  |  | 266.3                   | 293.1  | 304.5  | 322.5  | 346.7  | 361.6  |  |
|       | qw  | m³/h | 161.37                  | 151.46 | 147.36 | 141.23 | 133.24 | 128.38 |  | 174.96                  | 164.09 | 159.71 | 153.11 | 144.35 | 139.24 |  |
|       | dpw | kPa  | 60.5                    | 53.3   | 50.5   | 46.3   | 41.3   | 38.3   |  | 48.9                    | 43.0   | 40.7   | 37.4   | 33.3   | 31.0   |  |
| 10    | Pf  | kW   | 964.1                   | 904.6  | 880.1  | 843.4  | 795.3  | 766.3  |  | 1045.2                  | 979.8  | 953.8  | 914.3  | 861.6  | 831.4  |  |
|       | Pa  | kW   | 242.0                   | 266.7  | 277.2  | 293.8  | 316.3  | 330.2  |  | 268.1                   | 295.3  | 306.8  | 324.9  | 349.4  | 364.4  |  |
|       | qw  | m³/h | 165.89                  | 155.64 | 151.43 | 145.11 | 136.84 | 131.85 |  | 179.83                  | 168.59 | 164.11 | 157.32 | 148.25 | 143.05 |  |
|       | dpw | kPa  | 63.9                    | 56.3   | 53.3   | 48.9   | 43.5   | 40.4   |  | 51.7                    | 45.4   | 43.0   | 39.5   | 35.1   | 32.7   |  |

| Twout |     |      | 270                     |        |        |        |        |        |  | 290                     |        |        |        |        |        |  |
|-------|-----|------|-------------------------|--------|--------|--------|--------|--------|--|-------------------------|--------|--------|--------|--------|--------|--|
|       |     |      | Outdoor air temperature |        |        |        |        |        |  | Outdoor air temperature |        |        |        |        |        |  |
|       |     |      | 25                      | 30     | 32     | 35     | 40     | 43     |  | 25                      | 30     | 32     | 35     | 40     | 43     |  |
| 5     | Pf  | kW   | 956.2                   | 893.7  | 868.5  | 829.5  | 778.1  | 750.5  |  | 1044.7                  | 987.0  | 962.8  | 925.3  | 878.0  | 850.4  |  |
|       | Pa  | kW   | 268.7                   | 295.6  | 307.2  | 325.5  | 350.3  | 365.7  |  | 284.2                   | 312.7  | 324.9  | 344.0  | 369.9  | 385.8  |  |
|       | qw  | m³/h | 163.88                  | 153.17 | 148.85 | 142.17 | 133.36 | 128.62 |  | 179.05                  | 169.16 | 165.01 | 158.59 | 150.47 | 145.75 |  |
|       | dpw | kPa  | 112.0                   | 97.9   | 92.4   | 84.3   | 74.2   | 69.0   |  | 107.4                   | 95.9   | 91.2   | 84.3   | 75.9   | 71.2   |  |
| 6     | Pf  | kW   | 981.6                   | 917.3  | 891.4  | 851.1  | 798.6  | 770.4  |  | 1073.5                  | 1013.8 | 988.8  | 950.1  | 901.4  | 872.9  |  |
|       | Pa  | kW   | 270.7                   | 297.9  | 309.6  | 328.0  | 353.1  | 368.6  |  | 286.2                   | 315.1  | 327.4  | 346.7  | 372.8  | 388.9  |  |
|       | qw  | m³/h | 168.33                  | 157.30 | 152.86 | 145.94 | 136.94 | 132.11 |  | 184.09                  | 173.85 | 169.56 | 162.92 | 154.57 | 149.69 |  |
|       | dpw | kPa  | 118.2                   | 103.2  | 97.5   | 88.8   | 78.2   | 72.8   |  | 113.6                   | 101.3  | 96.3   | 88.9   | 80.1   | 75.1   |  |
| 7     | Pf  | kW   | 1007.5                  | 941.3  | 914.7  | 873.0  | 819.3  | 790.8  |  | 1102.8                  | 1041.1 | 1015.2 | 975.2  | 925.2  | 895.7  |  |
|       | Pa  | kW   | 272.7                   | 300.2  | 312.0  | 330.6  | 355.9  | 371.5  |  | 288.2                   | 317.4  | 329.8  | 349.3  | 375.7  | 391.9  |  |
|       | qw  | m³/h | 172.87                  | 161.51 | 156.94 | 149.78 | 140.58 | 135.69 |  | 189.22                  | 178.63 | 174.20 | 167.33 | 158.75 | 153.69 |  |
|       | dpw | kPa  | 124.7                   | 108.8  | 102.7  | 93.6   | 82.4   | 76.8   |  | 120.0                   | 106.9  | 101.7  | 93.8   | 84.4   | 79.2   |  |
| 8     | Pf  | kW   | 1033.9                  | 965.8  | 938.4  | 895.2  | 840.5  | 811.7  |  | 1132.6                  | 1068.8 | 1042.2 | 1001.0 | 949.5  | 918.9  |  |
|       | Pa  | kW   | 274.7                   | 302.5  | 314.4  | 333.2  | 358.6  | 374.4  |  | 290.2                   | 319.8  | 332.3  | 352.0  | 378.6  | 395.0  |  |
|       | qw  | m³/h | 177.49                  | 165.81 | 161.11 | 153.69 | 144.30 | 139.36 |  | 194.45                  | 183.50 | 178.92 | 171.86 | 163.01 | 157.76 |  |
|       | dpw | kPa  | 131.4                   | 114.7  | 108.3  | 98.5   | 86.9   | 81.0   |  | 126.7                   | 112.8  | 107.3  | 99.0   | 89.0   | 83.4   |  |
| 9     | Pf  | kW   | 1060.7                  | 990.7  | 962.6  | 917.9  | 862.2  | 833.1  |  | 1163.0                  | 1097.1 | 1069.6 | 1027.1 | 974.3  | 942.6  |  |
|       | Pa  | kW   | 276.7                   | 304.7  | 316.8  | 335.7  | 361.4  | 377.3  |  | 292.2                   | 322.1  | 334.7  | 354.7  | 381.5  | 398.0  |  |
|       | qw  | m³/h | 182.20                  | 170.18 | 165.36 | 157.67 | 148.10 | 143.11 |  | 199.77                  | 188.46 | 183.73 | 176.44 | 167.36 | 161.91 |  |
|       | dpw | kPa  | 138.5                   | 120.8  | 114.1  | 103.7  | 91.5   | 85.4   |  | 133.7                   | 119.0  | 113.1  | 104.3  | 93.9   | 87.8   |  |
| 10    | Pf  | kW   | 1087.9                  | 1016.1 | 987.2  | 940.9  | 884.3  | 855.1  |  | 1193.9                  | 1125.9 | 1097.4 | 1053.8 | 999.5  | 966.6  |  |
|       | Pa  | kW   | 278.7                   | 307.0  | 319.1  | 338.3  | 364.2  | 380.2  |  | 294.2                   | 324.4  | 337.2  | 357.3  | 384.4  | 401.1  |  |
|       | qw  | m³/h | 187.19                  | 174.83 | 169.86 | 161.90 | 152.15 | 147.13 |  | 205.42                  | 193.72 | 188.83 | 181.32 | 171.98 | 166.32 |  |
|       | dpw | kPa  | 146.2                   | 127.5  | 120.4  | 109.3  | 96.6   | 90.3   |  | 141.4                   | 125.8  | 119.5  | 110.2  | 99.1   | 92.7   |  |

**Twout** = Leaving water temperature (°C) ; **Pf** = Cooling capacity (kW); **Pa** = Compressors power input (kW);  
**qw** = Water flow (m³/h); **dpw** = Pressure drop (kPa).

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO S**

| Ta    |     |      | 120<br>Twout |       |       |       |       |       | 130<br>Twout |       |       |       |       |       |
|-------|-----|------|--------------|-------|-------|-------|-------|-------|--------------|-------|-------|-------|-------|-------|
|       |     |      | 30           | 35    | 40    | 45    | 50    | 55    | 30           | 35    | 40    | 45    | 50    | 55    |
| -5 °C | Pt  | kW   | 357.3        | 352.2 | 347.1 | 342.3 | 338.4 | 335.0 | 377.9        | 372.6 | 367.3 | 362.5 | 358.8 | 355.7 |
|       | Pat | kW   | 105.6        | 116.1 | 127.9 | 141.2 | 156.3 | 173.5 | 116.6        | 128.6 | 142.1 | 157.4 | 174.8 | 194.8 |
|       | qw  | m³/h | 61.87        | 61.11 | 60.35 | 59.62 | 60.14 | 58.57 | 65.43        | 64.65 | 63.87 | 63.14 | 63.75 | 62.20 |
|       | dpw | kPa  | 72.1         | 70.3  | 68.6  | 66.9  | 68.1  | 64.6  | 80.6         | 78.7  | 76.8  | 75.1  | 76.5  | 72.8  |
| -2 °C | Pt  | kW   | 386.6        | 380.2 | 373.6 | 367.2 | 361.6 | 356.3 | 408.8        | 402.1 | 395.2 | 388.5 | 382.9 | 377.7 |
|       | Pat | kW   | 106.1        | 116.6 | 128.4 | 141.6 | 156.6 | 173.6 | 116.8        | 128.8 | 142.2 | 157.3 | 174.6 | 194.4 |
|       | qw  | m³/h | 66.93        | 65.96 | 64.96 | 63.96 | 64.25 | 62.30 | 70.77        | 69.77 | 68.72 | 67.68 | 68.04 | 66.04 |
|       | dpw | kPa  | 84.3         | 81.9  | 79.4  | 77.0  | 77.7  | 73.1  | 94.3         | 91.6  | 88.9  | 86.3  | 87.2  | 82.1  |
| 0 °C  | Pt  | kW   | 408.0        | 400.7 | 393.0 | 385.4 | 378.6 | 371.9 | 431.4        | 423.7 | 415.7 | 407.7 | 400.7 | 393.9 |
|       | Pat | kW   | 106.4        | 117.0 | 128.7 | 141.9 | 156.9 | 173.8 | 117.0        | 128.9 | 142.3 | 157.4 | 174.6 | 194.2 |
|       | qw  | m³/h | 70.64        | 69.51 | 68.33 | 67.13 | 67.27 | 65.03 | 74.69        | 73.52 | 72.28 | 71.02 | 71.20 | 68.88 |
|       | dpw | kPa  | 93.9         | 91.0  | 87.9  | 84.8  | 85.2  | 79.6  | 105.0        | 101.8 | 98.4  | 95.0  | 95.4  | 89.3  |
| 5 °C  | Pt  | kW   | 463.5        | 453.8 | 443.4 | 432.8 | 422.9 | 412.9 | 490.3        | 480.0 | 469.1 | 457.7 | 447.2 | 436.6 |
|       | Pat | kW   | 106.9        | 117.7 | 129.5 | 142.7 | 157.5 | 174.3 | 117.5        | 129.4 | 142.7 | 157.7 | 174.7 | 194.0 |
|       | qw  | m³/h | 80.25        | 78.73 | 77.09 | 75.39 | 75.14 | 72.19 | 84.88        | 83.29 | 81.55 | 79.74 | 79.46 | 76.33 |
|       | dpw | kPa  | 121.3        | 116.7 | 111.9 | 107.0 | 106.3 | 98.1  | 135.7        | 130.6 | 125.2 | 119.7 | 118.9 | 109.7 |
| 7 °C  | Pt  | kW   | 488.5        | 477.6 | 466.0 | 454.1 | 442.8 | 431.4 | 516.8        | 505.4 | 493.1 | 480.3 | 468.2 | 455.9 |
|       | Pat | kW   | 107.1        | 117.9 | 129.8 | 143.0 | 157.8 | 174.5 | 117.7        | 129.6 | 142.9 | 157.8 | 174.8 | 194.0 |
|       | qw  | m³/h | 84.57        | 82.87 | 81.03 | 79.10 | 78.69 | 75.42 | 89.47        | 87.69 | 85.73 | 83.67 | 83.20 | 79.72 |
|       | dpw | kPa  | 134.7        | 129.3 | 123.6 | 117.8 | 116.6 | 107.1 | 150.7        | 144.8 | 138.4 | 131.8 | 130.3 | 119.7 |

| Ta    |     |      | 140<br>Twout |       |       |       |       |       | 150<br>Twout |        |       |       |       |       |
|-------|-----|------|--------------|-------|-------|-------|-------|-------|--------------|--------|-------|-------|-------|-------|
|       |     |      | 30           | 35    | 40    | 45    | 50    | 55    | 30           | 35     | 40    | 45    | 50    | 55    |
| -5 °C | Pt  | kW   | 409.0        | 404.6 | 400.4 | 396.6 | 394.2 | 391.8 | 435.8        | 429.7  | 423.6 | 417.8 | 413.3 | 409.0 |
|       | Pat | kW   | 119.4        | 130.8 | 143.7 | 158.2 | 174.6 | 193.3 | 128.7        | 141.4  | 155.6 | 171.6 | 189.8 | 210.5 |
|       | qw  | m³/h | 70.82        | 70.20 | 69.62 | 69.09 | 70.04 | 68.51 | 75.45        | 74.55  | 73.65 | 72.78 | 73.43 | 71.52 |
|       | dpw | kPa  | 67.6         | 66.4  | 65.3  | 64.3  | 66.1  | 63.2  | 67.0         | 65.4   | 63.8  | 62.3  | 63.5  | 60.2  |
| -2 °C | Pt  | kW   | 443.0        | 437.2 | 431.4 | 425.8 | 421.5 | 417.2 | 471.5        | 463.9  | 456.1 | 448.3 | 441.7 | 435.2 |
|       | Pat | kW   | 120.4        | 132.0 | 144.8 | 159.2 | 175.5 | 194.0 | 129.3        | 142.1  | 156.3 | 172.3 | 190.3 | 210.8 |
|       | qw  | m³/h | 76.70        | 75.85 | 75.00 | 74.17 | 74.90 | 72.94 | 81.64        | 80.49  | 79.29 | 78.09 | 78.49 | 76.10 |
|       | dpw | kPa  | 79.3         | 77.5  | 75.8  | 74.1  | 75.6  | 71.7  | 78.5         | 76.3   | 74.0  | 71.8  | 72.5  | 68.2  |
| 0 °C  | Pt  | kW   | 467.8        | 460.9 | 453.9 | 447.0 | 441.5 | 435.7 | 497.7        | 488.9  | 479.8 | 470.6 | 462.6 | 454.5 |
|       | Pat | kW   | 121.1        | 132.7 | 145.5 | 159.9 | 176.2 | 194.5 | 129.7        | 142.5  | 156.8 | 172.7 | 190.7 | 211.1 |
|       | qw  | m³/h | 80.99        | 79.96 | 78.92 | 77.87 | 78.44 | 76.18 | 86.17        | 84.83  | 83.42 | 81.99 | 82.20 | 79.47 |
|       | dpw | kPa  | 88.4         | 86.1  | 83.9  | 81.7  | 82.9  | 78.2  | 87.4         | 84.7   | 81.9  | 79.1  | 79.5  | 74.3  |
| 5 °C  | Pt  | kW   | 532.2        | 522.5 | 512.5 | 502.3 | 493.4 | 484.0 | 565.6        | 553.9  | 541.5 | 528.7 | 517.0 | 504.8 |
|       | Pat | kW   | 122.3        | 134.2 | 147.2 | 161.7 | 177.8 | 196.0 | 130.4        | 143.5  | 157.8 | 173.8 | 191.7 | 211.9 |
|       | qw  | m³/h | 92.14        | 90.66 | 89.11 | 87.51 | 87.67 | 84.63 | 97.93        | 96.10  | 94.15 | 92.10 | 91.86 | 88.27 |
|       | dpw | kPa  | 114.4        | 110.7 | 107.0 | 103.2 | 103.6 | 96.5  | 112.9        | 108.7  | 104.3 | 99.9  | 99.3  | 91.7  |
| 7 °C  | Pt  | kW   | 561.2        | 550.3 | 538.9 | 527.2 | 516.8 | 505.8 | 596.1        | 583.1  | 569.2 | 554.8 | 541.5 | 527.6 |
|       | Pat | kW   | 122.6        | 134.7 | 147.8 | 162.3 | 178.5 | 196.6 | 130.6        | 143.8  | 158.2 | 174.2 | 192.1 | 212.3 |
|       | qw  | m³/h | 97.16        | 95.47 | 93.69 | 91.84 | 91.83 | 88.44 | 103.20       | 101.16 | 98.96 | 96.65 | 96.21 | 92.24 |
|       | dpw | kPa  | 127.2        | 122.8 | 118.3 | 113.6 | 113.6 | 105.4 | 125.4        | 120.5  | 115.3 | 110.0 | 109.0 | 100.2 |

**Ta** = Outdoor temperature (°C)

**Twout** = Leaving water temperature (°C)

**Pt** = Heating capacity (kW)

**Pat** = Compressors power input (kW)

**qw** = Water flow (m³/h)

**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO S**

| Ta    |     |      | 165    |        |        |        |        |        | 175    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 494.2  | 487.2  | 480.3  | 473.6  | 468.1  | 462.8  | 504.3  | 496.9  | 489.5  | 482.5  | 476.7  | 471.5  |
|       | Pat | kW   | 144.2  | 158.0  | 173.4  | 190.6  | 210.1  | 232.2  | 149.8  | 165.1  | 182.1  | 201.2  | 222.7  | 246.8  |
|       | qw  | m³/h | 85.56  | 84.53  | 83.50  | 82.49  | 83.18  | 80.93  | 87.31  | 86.22  | 85.11  | 84.05  | 84.71  | 82.44  |
|       | dpw | kPa  | 77.2   | 75.4   | 73.6   | 71.8   | 73.0   | 69.1   | 31.8   | 31.0   | 30.2   | 29.4   | 29.9   | 28.3   |
| -2 °C | Pt  | kW   | 534.8  | 526.1  | 517.2  | 508.4  | 500.7  | 493.1  | 545.7  | 536.5  | 527.0  | 517.7  | 509.7  | 502.0  |
|       | Pat | kW   | 145.2  | 159.2  | 174.7  | 191.9  | 211.3  | 233.2  | 150.3  | 165.7  | 182.7  | 201.8  | 223.3  | 247.3  |
|       | qw  | m³/h | 92.60  | 91.28  | 89.92  | 88.56  | 88.98  | 86.23  | 94.48  | 93.08  | 91.62  | 90.19  | 90.56  | 87.77  |
|       | dpw | kPa  | 90.5   | 87.9   | 85.3   | 82.7   | 83.5   | 78.4   | 37.2   | 36.1   | 35.0   | 33.9   | 34.2   | 32.1   |
| 0 °C  | Pt  | kW   | 564.5  | 554.5  | 544.1  | 533.8  | 524.6  | 515.3  | 576.0  | 565.4  | 554.4  | 543.5  | 533.8  | 524.3  |
|       | Pat | kW   | 145.8  | 160.0  | 175.5  | 192.7  | 212.1  | 233.9  | 150.7  | 166.1  | 183.2  | 202.2  | 223.7  | 247.7  |
|       | qw  | m³/h | 97.73  | 96.20  | 94.60  | 92.98  | 93.21  | 90.10  | 99.73  | 98.10  | 96.39  | 94.68  | 94.84  | 91.68  |
|       | dpw | kPa  | 100.8  | 97.6   | 94.4   | 91.2   | 91.7   | 85.7   | 41.4   | 40.1   | 38.7   | 37.3   | 37.5   | 35.0   |
| 5 °C  | Pt  | kW   | 641.3  | 627.9  | 613.9  | 599.6  | 586.5  | 573.0  | 654.6  | 640.4  | 625.5  | 610.4  | 596.4  | 582.5  |
|       | Pat | kW   | 146.8  | 161.4  | 177.2  | 194.6  | 214.0  | 235.7  | 151.5  | 167.0  | 184.1  | 203.2  | 224.6  | 248.6  |
|       | qw  | m³/h | 111.03 | 108.94 | 106.73 | 104.45 | 104.21 | 100.19 | 113.33 | 111.11 | 108.75 | 106.33 | 105.98 | 101.85 |
|       | dpw | kPa  | 130.1  | 125.2  | 120.2  | 115.1  | 114.6  | 105.9  | 53.5   | 51.4   | 49.3   | 47.1   | 46.8   | 43.2   |
| 7 °C  | Pt  | kW   | 675.6  | 660.8  | 645.2  | 629.2  | 614.3  | 599.0  | 689.8  | 674.0  | 657.4  | 640.5  | 624.6  | 608.8  |
|       | Pat | kW   | 146.9  | 161.7  | 177.7  | 195.3  | 214.7  | 236.4  | 151.8  | 167.3  | 184.5  | 203.6  | 225.0  | 249.0  |
|       | qw  | m³/h | 116.97 | 114.64 | 112.17 | 109.60 | 109.15 | 104.73 | 119.43 | 116.95 | 114.30 | 111.58 | 110.99 | 106.44 |
|       | dpw | kPa  | 144.4  | 138.7  | 132.8  | 126.7  | 125.7  | 115.7  | 59.4   | 57.0   | 54.4   | 51.9   | 51.3   | 47.2   |

| Ta    |     |      | 180    |        |        |        |        |        | 190    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 555.5  | 546.4  | 537.0  | 527.6  | 519.5  | 511.4  | 589.2  | 579.6  | 569.8  | 560.1  | 551.8  | 543.5  |
|       | Pat | kW   | 157.5  | 173.1  | 190.3  | 209.7  | 231.6  | 256.4  | 163.6  | 179.5  | 197.0  | 216.7  | 238.8  | 263.8  |
|       | qw  | m³/h | 96.18  | 94.81  | 93.37  | 91.91  | 92.31  | 89.42  | 102.02 | 100.57 | 99.07  | 97.57  | 98.04  | 95.02  |
|       | dpw | kPa  | 38.5   | 37.4   | 36.3   | 35.2   | 35.5   | 33.3   | 24.5   | 23.8   | 23.1   | 22.4   | 22.6   | 21.2   |
| -2 °C | Pt  | kW   | 601.2  | 590.2  | 578.6  | 566.8  | 556.2  | 545.3  | 637.5  | 625.8  | 613.7  | 601.4  | 590.5  | 579.4  |
|       | Pat | kW   | 158.1  | 173.9  | 191.2  | 210.5  | 232.3  | 256.9  | 164.5  | 180.6  | 198.2  | 217.9  | 239.9  | 264.8  |
|       | qw  | m³/h | 104.09 | 102.40 | 100.60 | 98.73  | 98.82  | 95.35  | 110.38 | 108.58 | 106.69 | 104.77 | 104.93 | 101.31 |
|       | dpw | kPa  | 45.1   | 43.7   | 42.2   | 40.6   | 40.7   | 37.9   | 28.7   | 27.7   | 26.8   | 25.8   | 25.9   | 24.1   |
| 0 °C  | Pt  | kW   | 634.6  | 622.1  | 609.0  | 595.4  | 582.9  | 570.2  | 672.7  | 659.4  | 645.6  | 631.6  | 618.8  | 605.7  |
|       | Pat | kW   | 158.5  | 174.3  | 191.7  | 211.1  | 232.8  | 257.4  | 165.0  | 181.2  | 199.0  | 218.7  | 240.7  | 265.5  |
|       | qw  | m³/h | 109.86 | 107.94 | 105.87 | 103.71 | 103.58 | 99.69  | 116.47 | 114.42 | 112.25 | 110.02 | 109.95 | 105.91 |
|       | dpw | kPa  | 50.3   | 48.5   | 46.7   | 44.8   | 44.7   | 41.4   | 31.9   | 30.8   | 29.6   | 28.5   | 28.4   | 26.4   |
| 5 °C  | Pt  | kW   | 720.7  | 704.7  | 687.5  | 669.5  | 652.5  | 634.8  | 763.5  | 746.3  | 728.2  | 709.5  | 692.1  | 674.0  |
|       | Pat | kW   | 159.0  | 175.2  | 192.8  | 212.3  | 234.1  | 258.5  | 165.5  | 182.3  | 200.5  | 220.4  | 242.5  | 267.2  |
|       | qw  | m³/h | 124.78 | 122.26 | 119.52 | 116.62 | 115.94 | 110.99 | 132.18 | 129.48 | 126.60 | 123.60 | 122.97 | 117.86 |
|       | dpw | kPa  | 64.9   | 62.3   | 59.5   | 56.7   | 56.0   | 51.3   | 41.1   | 39.4   | 37.7   | 35.9   | 35.6   | 32.7   |
| 7 °C  | Pt  | kW   | 759.3  | 741.6  | 722.7  | 702.7  | 683.8  | 664.0  | 804.0  | 785.1  | 765.1  | 744.5  | 725.0  | 704.8  |
|       | Pat | kW   | 159.0  | 175.4  | 193.2  | 212.8  | 234.5  | 258.9  | 165.4  | 182.5  | 200.9  | 221.0  | 243.2  | 267.9  |
|       | qw  | m³/h | 131.46 | 128.68 | 125.64 | 122.41 | 121.50 | 116.09 | 139.21 | 136.22 | 133.03 | 129.68 | 128.82 | 123.23 |
|       | dpw | kPa  | 72.0   | 69.0   | 65.8   | 62.4   | 61.5   | 56.2   | 45.6   | 43.7   | 41.6   | 39.6   | 39.0   | 35.7   |

**Ta** = Outdoor temperature (°C)

**Twout** = Leaving water temperature (°C)

**Pt** = Heating capacity (kW)

**Pat** = Compressors power input (kW)

**qw** = Water flow (m³/h)

**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

**CXAO S**

| Ta    |     |      | 195    |        |        |        |        |        | 205    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 580.5  | 571.9  | 563.3  | 554.8  | 547.7  | 540.5  | 619.8  | 610.2  | 600.5  | 590.9  | 582.8  | 574.7  |
|       | Pat | kW   | 168.9  | 185.1  | 203.1  | 223.2  | 245.8  | 271.4  | 183.1  | 201.0  | 220.8  | 242.9  | 267.9  | 296.2  |
|       | qw  | m³/h | 100.51 | 99.23  | 97.93  | 96.64  | 97.32  | 94.51  | 107.31 | 105.88 | 104.40 | 102.93 | 103.56 | 100.49 |
|       | dpw | kPa  | 23.8   | 23.2   | 22.6   | 22.0   | 22.3   | 21.0   | 27.1   | 26.4   | 25.6   | 24.9   | 25.2   | 23.8   |
| -2 °C | Pt  | kW   | 628.4  | 617.8  | 606.9  | 595.9  | 586.3  | 576.4  | 670.9  | 659.1  | 647.0  | 634.7  | 623.9  | 612.8  |
|       | Pat | kW   | 170.1  | 186.5  | 204.6  | 224.6  | 247.2  | 272.6  | 184.1  | 202.2  | 222.0  | 244.2  | 269.1  | 297.2  |
|       | qw  | m³/h | 108.80 | 107.19 | 105.51 | 103.81 | 104.18 | 100.79 | 116.15 | 114.36 | 112.48 | 110.57 | 110.86 | 107.14 |
|       | dpw | kPa  | 27.9   | 27.0   | 26.2   | 25.4   | 25.5   | 23.9   | 31.7   | 30.8   | 29.8   | 28.8   | 28.9   | 27.0   |
| 0 °C  | Pt  | kW   | 663.4  | 651.2  | 638.7  | 625.9  | 614.5  | 602.7  | 708.1  | 694.8  | 680.9  | 666.7  | 653.9  | 640.6  |
|       | Pat | kW   | 170.7  | 187.3  | 205.5  | 225.6  | 248.2  | 273.5  | 184.7  | 202.9  | 222.9  | 245.0  | 269.9  | 297.9  |
|       | qw  | m³/h | 114.85 | 112.99 | 111.04 | 109.04 | 109.20 | 105.38 | 122.59 | 120.55 | 118.38 | 116.13 | 116.18 | 112.01 |
|       | dpw | kPa  | 31.0   | 30.0   | 29.0   | 28.0   | 28.1   | 26.1   | 35.4   | 34.2   | 33.0   | 31.7   | 31.8   | 29.5   |
| 5 °C  | Pt  | kW   | 753.7  | 737.7  | 720.9  | 703.7  | 687.7  | 671.0  | 804.3  | 787.0  | 768.5  | 749.4  | 731.6  | 713.0  |
|       | Pat | kW   | 171.5  | 188.7  | 207.3  | 227.7  | 250.4  | 275.6  | 185.4  | 204.2  | 224.5  | 246.9  | 271.8  | 299.7  |
|       | qw  | m³/h | 130.49 | 127.99 | 125.34 | 122.58 | 122.20 | 117.32 | 139.26 | 136.54 | 133.62 | 130.55 | 130.01 | 124.67 |
|       | dpw | kPa  | 40.1   | 38.5   | 37.0   | 35.4   | 35.1   | 32.4   | 45.6   | 43.9   | 42.0   | 40.1   | 39.8   | 36.6   |
| 7 °C  | Pt  | kW   | 794.1  | 776.4  | 757.8  | 738.5  | 720.5  | 701.7  | 847.4  | 828.2  | 807.8  | 786.6  | 766.6  | 745.6  |
|       | Pat | kW   | 171.6  | 189.1  | 207.9  | 228.5  | 251.2  | 276.4  | 185.5  | 204.5  | 225.1  | 247.6  | 272.5  | 300.4  |
|       | qw  | m³/h | 137.48 | 134.71 | 131.75 | 128.65 | 128.03 | 122.68 | 146.72 | 143.70 | 140.45 | 137.02 | 136.22 | 130.37 |
|       | dpw | kPa  | 44.5   | 42.7   | 40.8   | 38.9   | 38.6   | 35.4   | 50.7   | 48.6   | 46.4   | 44.2   | 43.7   | 40.0   |

| Ta    |     |      | 215    |        |        |        |        |        | 220    |        |        |        |        |        |
|-------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|       |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|       |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5 °C | Pt  | kW   | 639.0  | 629.0  | 618.8  | 608.8  | 600.2  | 591.5  | 650.6  | 641.6  | 632.5  | 623.8  | 616.7  | 609.6  |
|       | Pat | kW   | 187.9  | 206.1  | 226.2  | 248.7  | 274.0  | 302.7  | 192.8  | 211.3  | 231.8  | 254.8  | 280.8  | 310.2  |
|       | qw  | m³/h | 110.64 | 109.14 | 107.59 | 106.04 | 106.65 | 103.42 | 112.65 | 111.32 | 109.98 | 108.66 | 109.58 | 106.58 |
|       | dpw | kPa  | 28.8   | 28.0   | 27.2   | 26.5   | 26.8   | 25.2   | 29.9   | 29.2   | 28.5   | 27.8   | 28.3   | 26.7   |
| -2 °C | Pt  | kW   | 691.7  | 679.4  | 666.8  | 654.0  | 642.6  | 630.9  | 704.4  | 693.0  | 681.5  | 669.9  | 660.0  | 649.8  |
|       | Pat | kW   | 189.0  | 207.4  | 227.7  | 250.2  | 275.4  | 303.9  | 194.2  | 213.0  | 233.6  | 256.6  | 282.4  | 311.6  |
|       | qw  | m³/h | 119.76 | 117.89 | 115.93 | 113.92 | 114.18 | 110.31 | 121.95 | 120.25 | 118.48 | 116.70 | 117.28 | 113.62 |
|       | dpw | kPa  | 33.7   | 32.7   | 31.6   | 30.5   | 30.7   | 28.6   | 35.0   | 34.0   | 33.0   | 32.0   | 32.4   | 30.4   |
| 0 °C  | Pt  | kW   | 730.0  | 716.2  | 701.7  | 686.9  | 673.5  | 659.7  | 743.6  | 730.6  | 717.2  | 703.7  | 691.7  | 679.3  |
|       | Pat | kW   | 189.6  | 208.2  | 228.6  | 251.2  | 276.4  | 304.8  | 195.0  | 214.0  | 234.7  | 257.7  | 283.5  | 312.6  |
|       | qw  | m³/h | 126.40 | 124.26 | 122.00 | 119.66 | 119.68 | 115.34 | 128.75 | 126.77 | 124.69 | 122.58 | 122.91 | 118.78 |
|       | dpw | kPa  | 37.6   | 36.3   | 35.0   | 33.7   | 33.7   | 31.3   | 39.0   | 37.8   | 36.6   | 35.4   | 35.5   | 33.2   |
| 5 °C  | Pt  | kW   | 829.1  | 811.0  | 791.9  | 772.2  | 753.8  | 734.5  | 845.2  | 827.9  | 809.7  | 791.1  | 773.9  | 756.0  |
|       | Pat | kW   | 190.3  | 209.6  | 230.4  | 253.2  | 278.6  | 306.9  | 196.3  | 215.8  | 237.0  | 260.2  | 286.1  | 315.0  |
|       | qw  | m³/h | 143.55 | 140.72 | 137.69 | 134.51 | 133.94 | 128.42 | 146.34 | 143.64 | 140.78 | 137.80 | 137.51 | 132.18 |
|       | dpw | kPa  | 48.5   | 46.6   | 44.6   | 42.6   | 42.2   | 38.8   | 50.4   | 48.5   | 46.6   | 44.7   | 44.5   | 41.1   |
| 7 °C  | Pt  | kW   | 873.4  | 853.5  | 832.4  | 810.4  | 789.8  | 768.1  | 890.7  | 871.4  | 851.2  | 830.2  | 810.8  | 790.4  |
|       | Pat | kW   | 190.2  | 209.8  | 230.9  | 253.9  | 279.4  | 307.7  | 196.4  | 216.3  | 237.7  | 261.1  | 287.1  | 316.0  |
|       | qw  | m³/h | 151.22 | 148.08 | 144.71 | 141.17 | 140.34 | 134.31 | 154.21 | 151.20 | 147.98 | 144.63 | 144.07 | 138.21 |
|       | dpw | kPa  | 53.8   | 51.6   | 49.3   | 46.9   | 46.3   | 42.4   | 56.0   | 53.8   | 51.5   | 49.2   | 48.8   | 44.9   |

**Ta** = Outdoor temperature (°C)  
**Twout** = Leaving water temperature (°C)  
**Pt** = Heating capacity (kW)  
**Pat** = Compressors power input (kW)  
**qw** = Water flow (m³/h)  
**dpw** = Pressure drop (kPa)

## Technical data

### HEATING CAPACITY PERFORMANCES

### CXAO S

| Ta   |     |      | 225    |        |        |        |        |        | 250    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 705.5  | 694.3  | 682.7  | 671.3  | 661.5  | 651.6  | 752.9  | 741.1  | 729.1  | 717.2  | 707.1  | 696.7  |
|      | Pat | kW   | 204.3  | 224.3  | 246.5  | 271.3  | 299.3  | 331.1  | 217.3  | 238.2  | 261.2  | 287.0  | 315.9  | 348.7  |
|      | qw  | m³/h | 122.16 | 120.46 | 118.70 | 116.93 | 117.54 | 113.94 | 130.35 | 128.58 | 126.76 | 124.94 | 125.64 | 121.82 |
|      | dpw | kPa  | 35.1   | 34.1   | 33.2   | 32.2   | 32.5   | 30.5   | 27.5   | 26.7   | 26.0   | 25.2   | 25.5   | 24.0   |
| -2°C | Pt  | kW   | 763.6  | 749.9  | 735.6  | 721.1  | 708.1  | 694.8  | 815.0  | 800.5  | 785.6  | 770.5  | 757.1  | 743.3  |
|      | Pat | kW   | 205.3  | 225.6  | 247.8  | 272.6  | 300.5  | 332.1  | 218.6  | 239.8  | 263.1  | 288.9  | 317.7  | 350.3  |
|      | qw  | m³/h | 132.21 | 130.11 | 127.89 | 125.61 | 125.83 | 121.49 | 141.10 | 138.89 | 136.59 | 134.22 | 134.54 | 129.97 |
|      | dpw | kPa  | 41.1   | 39.8   | 38.5   | 37.1   | 37.3   | 34.7   | 32.2   | 31.2   | 30.2   | 29.1   | 29.3   | 27.3   |
| 0°C  | Pt  | kW   | 806.0  | 790.4  | 774.1  | 757.4  | 742.2  | 726.4  | 860.1  | 843.8  | 826.7  | 809.4  | 793.7  | 777.3  |
|      | Pat | kW   | 205.8  | 226.3  | 248.7  | 273.5  | 301.4  | 332.8  | 219.3  | 240.8  | 264.2  | 290.1  | 319.0  | 351.4  |
|      | qw  | m³/h | 139.54 | 137.14 | 134.58 | 131.93 | 131.88 | 127.02 | 148.92 | 146.40 | 143.74 | 140.99 | 141.03 | 135.91 |
|      | dpw | kPa  | 45.8   | 44.3   | 42.6   | 41.0   | 40.9   | 38.0   | 35.9   | 34.7   | 33.4   | 32.1   | 32.2   | 29.9   |
| 5°C  | Pt  | kW   | 915.3  | 895.2  | 873.7  | 851.4  | 830.5  | 808.7  | 976.8  | 955.5  | 933.0  | 909.8  | 888.3  | 865.7  |
|      | Pat | kW   | 206.5  | 227.6  | 250.3  | 275.4  | 303.3  | 334.6  | 220.0  | 242.3  | 266.4  | 292.6  | 321.7  | 354.1  |
|      | qw  | m³/h | 158.48 | 155.31 | 151.90 | 148.32 | 147.58 | 141.39 | 169.11 | 165.77 | 162.21 | 158.49 | 157.84 | 151.36 |
|      | dpw | kPa  | 59.1   | 56.8   | 54.3   | 51.8   | 51.2   | 47.0   | 46.3   | 44.4   | 42.6   | 40.6   | 40.3   | 37.0   |
| 7°C  | Pt  | kW   | 964.3  | 942.0  | 918.3  | 893.6  | 870.3  | 845.7  | 1028.9 | 1005.4 | 980.6  | 954.9  | 930.7  | 905.4  |
|      | Pat | kW   | 206.5  | 227.9  | 250.9  | 276.1  | 304.1  | 335.3  | 219.9  | 242.7  | 267.0  | 293.5  | 322.7  | 355.1  |
|      | qw  | m³/h | 166.95 | 163.45 | 159.66 | 155.67 | 154.64 | 147.87 | 178.14 | 174.44 | 170.48 | 166.33 | 165.38 | 158.31 |
|      | dpw | kPa  | 65.6   | 62.9   | 60.0   | 57.0   | 56.3   | 51.4   | 51.3   | 49.2   | 47.0   | 44.7   | 44.2   | 40.5   |

| Ta   |     |      | 270    |        |        |        |        |        | 290    |        |        |        |        |        |
|------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      |     |      | Twout  |        |        |        |        |        | Twout  |        |        |        |        |        |
|      |     |      | 30     | 35     | 40     | 45     | 50     | 55     | 30     | 35     | 40     | 45     | 50     | 55     |
| -5°C | Pt  | kW   | 780.1  | 770.6  | 761.4  | 753.7  | 747.5  | 744.0  | 899.1  | 883.6  | 867.6  | 851.8  | 837.9  | 824.6  |
|      | Pat | kW   | 230.1  | 252.6  | 277.9  | 306.5  | 339.0  | 375.9  | 251.9  | 276.5  | 303.8  | 334.4  | 368.8  | 407.7  |
|      | qw  | m³/h | 135.06 | 133.70 | 132.39 | 131.29 | 132.83 | 130.09 | 155.67 | 153.30 | 150.84 | 148.39 | 148.88 | 144.18 |
|      | dpw | kPa  | 76.9   | 75.4   | 73.9   | 72.7   | 74.4   | 71.4   | 79.2   | 76.8   | 74.3   | 71.9   | 72.4   | 67.9   |
| -2°C | Pt  | kW   | 843.6  | 831.1  | 818.7  | 807.4  | 797.6  | 790.3  | 972.4  | 953.6  | 934.0  | 914.4  | 896.4  | 878.8  |
|      | Pat | kW   | 231.7  | 254.3  | 279.6  | 308.0  | 340.2  | 376.7  | 253.0  | 278.0  | 305.4  | 336.0  | 370.3  | 409.0  |
|      | qw  | m³/h | 146.05 | 144.21 | 142.34 | 140.65 | 141.72 | 138.18 | 168.36 | 165.46 | 162.39 | 159.28 | 159.28 | 153.66 |
|      | dpw | kPa  | 89.9   | 87.7   | 85.4   | 83.4   | 84.7   | 80.5   | 92.6   | 89.4   | 86.1   | 82.9   | 82.9   | 77.1   |
| 0°C  | Pt  | kW   | 889.9  | 875.4  | 860.5  | 846.7  | 834.2  | 824.2  | 1025.7 | 1004.6 | 982.3  | 959.9  | 939.1  | 918.5  |
|      | Pat | kW   | 232.8  | 255.5  | 280.7  | 309.1  | 341.1  | 377.4  | 253.7  | 278.9  | 306.5  | 337.1  | 371.4  | 410.0  |
|      | qw  | m³/h | 154.07 | 151.88 | 149.61 | 147.50 | 148.23 | 144.11 | 177.59 | 174.30 | 170.79 | 167.22 | 166.86 | 160.59 |
|      | dpw | kPa  | 100.1  | 97.3   | 94.4   | 91.7   | 92.6   | 87.6   | 103.0  | 99.2   | 95.3   | 91.3   | 90.9   | 84.2   |
| 5°C  | Pt  | kW   | 1010.4 | 990.3  | 969.4  | 949.0  | 929.7  | 912.8  | 1163.4 | 1136.2 | 1107.4 | 1077.9 | 1049.8 | 1021.6 |
|      | Pat | kW   | 234.8  | 257.9  | 283.3  | 311.6  | 343.4  | 379.3  | 254.3  | 280.3  | 308.4  | 339.4  | 373.8  | 412.2  |
|      | qw  | m³/h | 174.94 | 171.83 | 168.54 | 165.32 | 165.20 | 159.61 | 201.43 | 197.14 | 192.53 | 187.76 | 186.54 | 178.63 |
|      | dpw | kPa  | 129.1  | 124.5  | 119.8  | 115.3  | 115.1  | 107.4  | 132.5  | 126.9  | 121.1  | 115.2  | 113.7  | 104.2  |
| 7°C  | Pt  | kW   | 1064.5 | 1041.9 | 1018.2 | 995.0  | 972.7  | 952.9  | 1225.0 | 1195.1 | 1163.3 | 1130.7 | 1099.5 | 1068.1 |
|      | Pat | kW   | 235.4  | 258.7  | 284.2  | 312.6  | 344.4  | 380.2  | 254.2  | 280.5  | 309.0  | 340.1  | 374.6  | 413.1  |
|      | qw  | m³/h | 184.30 | 180.77 | 177.03 | 173.33 | 172.84 | 166.61 | 212.08 | 207.35 | 202.26 | 196.97 | 195.38 | 186.75 |
|      | dpw | kPa  | 143.2  | 137.8  | 132.2  | 126.7  | 126.0  | 117.1  | 146.9  | 140.4  | 133.6  | 126.7  | 124.7  | 113.9  |

Ta = Outdoor temperature (°C)

Twout = Leaving water temperature (°C)

Pt = Heating capacity (kW)

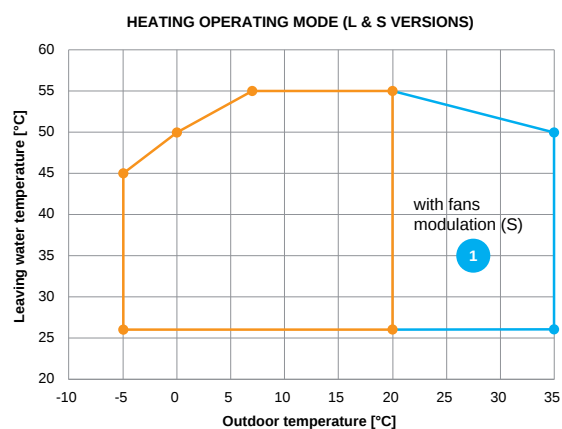
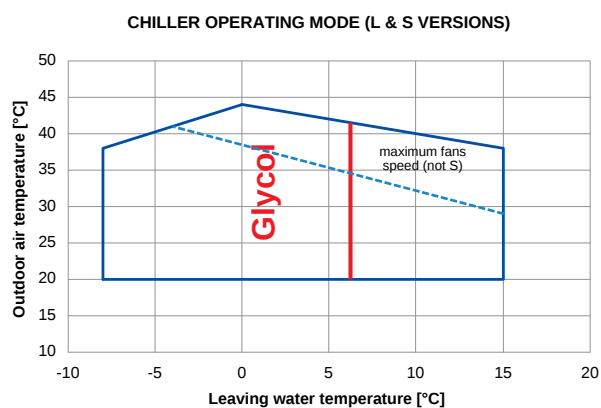
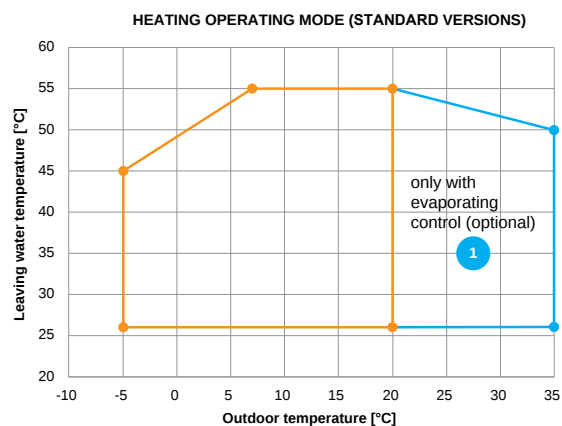
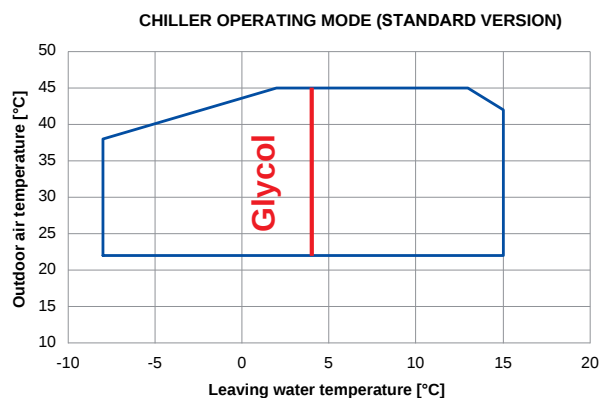
Pat = Compressors power input (kW)

qw = Water flow (m³/h)

dpw = Pressure drop (kPa)

# Operating range

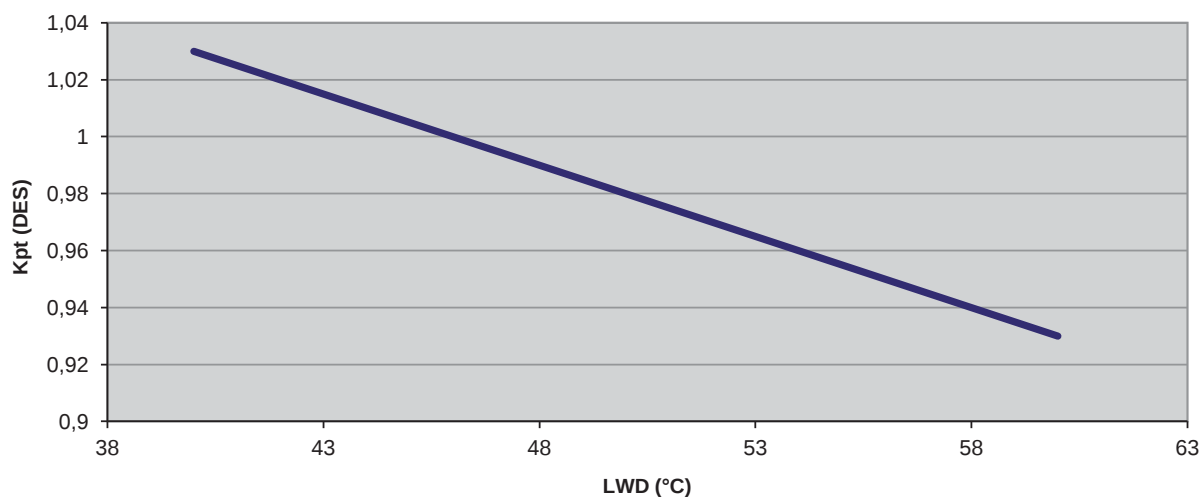
| Version  | Operating mode | Outdoor air temperature (°C) |     | Leaving water temperature (°C) |     |
|----------|----------------|------------------------------|-----|--------------------------------|-----|
|          |                | Min                          | Max | Min                            | Max |
| Standard | Cooling        | 22                           | 45  | -8                             | 15  |
| L-S      | Cooling        | 20                           | 44  | -8                             | 15  |
| Standard | Heating        | -5                           | 20  | 26                             | 55  |
| L-S      | Heating        | -5                           | 35  | 26                             | 55  |



1 In this area the fans modulate in order to control the evaporating temperature. The performances may be different from the declared ones.

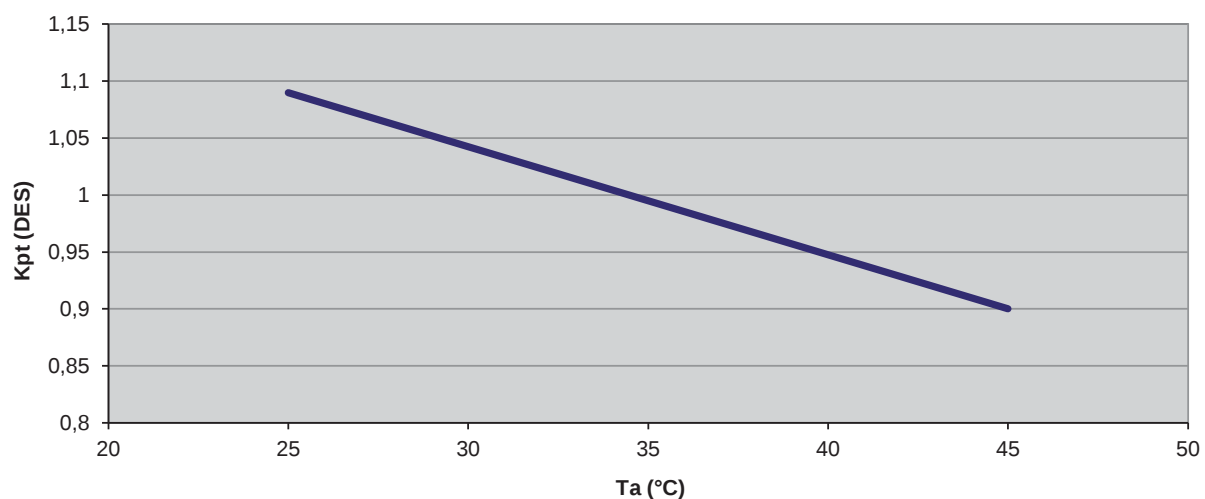
## Power correction factors

**CXAO**



**kpt** heating power correction factor  
**LWD** desuperheater leaving water temperature

**CXAO**



**kpt** heating power correction factor  
**Ta** outdoor temperature

# Scaling correction schedules

## ETHYLENE GLYCOL CORRECTION SCHEDULE

| % Ethilene glycol weight     |    | 5 %   | 10 %  | 15 %  | 20 %  | 25 %  | 30 %  | 35 %  | 40 %  |
|------------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|
| Freezing temperature         | °C | -2    | -3.9  | -6.5  | -8.9  | -11.8 | -15.6 | -19   | -23.4 |
| Suggested security limit     | °C | 3     | 1     | -1    | -4    | -6    | -10   | -14   | -19   |
| Cooling capacity coefficient | -  | 0.995 | 0.99  | 0.985 | 0.981 | 0.977 | 0.974 | 0.971 | 0.968 |
| Power input coefficient      | -  | 0.997 | 0.993 | 0.99  | 0.988 | 0.986 | 0.984 | 0.982 | 0.981 |
| Flow rate coefficient        | -  | 1.003 | 1.01  | 1.02  | 1.033 | 1.05  | 1.072 | 1.095 | 1.124 |
| Pressur dropo coefficient    | -  | 1.029 | 1.06  | 1.09  | 1.118 | 1.149 | 1.182 | 1.211 | 1.243 |

In order to calculate performance with glycoled solutions multiply main sizes by respective coefficients.

## GLYCOL PERCENTAGE DEPENDING ON FREEZING TEMERATURE

| % glycol according to the freezing temperature |  |      |       |       |       |       |       |
|------------------------------------------------|--|------|-------|-------|-------|-------|-------|
| Freezing temperature                           |  | 0°C  | -5°C  | -10°C | -15°C | -20°C | -25°C |
| % Ethilene glycol                              |  | 5%   | 12%   | 20%   | 28%   | 35%   | 40%   |
| Flow rate coefficient                          |  | 1.02 | 1.033 | 1.05  | 1.072 | 1.095 | 1.124 |

In order to calculate performance with glycoled solutions multiply main sizes by respective coefficients.

## SCALING CORRECTION TABLE

| Fouling Factor<br>F.F.<br>[m <sup>2</sup> °C*W] | Plant side cold heat exchanger |      |      | Plant side hot heat exchanger |      |      |
|-------------------------------------------------|--------------------------------|------|------|-------------------------------|------|------|
|                                                 | A1                             | B1   | Tmin | A2                            | B2   | Tmax |
| 0                                               | 1                              | 1    | 0    | 1                             | 1    | 0    |
| 1.80E-05                                        | 1                              | 1    | 0    | 1                             | 1    | 0    |
| 4.40E-05                                        | 1                              | 1    | 0    | 0.99                          | 1.03 | 1    |
| 8.80E-05                                        | 0.96                           | 0.99 | 0.7  | 0.98                          | 1.04 | 1.5  |
| 1.32E-04                                        | 0.94                           | 0.99 | 1    | 0.96                          | 1.05 | 2.3  |
| 1.72E-04                                        | 0.93                           | 0.98 | 1.5  | 0.95                          | 1.06 | 3    |

A factor = Capacity correction factor

B factor = Compressor power input correction factor

Tmin = Minimum evaporator outlet water temperature increase

T max = Maximum condenser outlet water temperature descrease

# Hydraulic data

## WATER FLOW

Table 1/2

| Size | Acoustic version | Energetic version | Cooling mode             |      |                              |                              | Heating mode             |      |                              |                              | Partial recovery |                              |                              |
|------|------------------|-------------------|--------------------------|------|------------------------------|------------------------------|--------------------------|------|------------------------------|------------------------------|------------------|------------------------------|------------------------------|
|      |                  |                   | V<br>[m <sup>3</sup> /h] | K    | Q min<br>[m <sup>3</sup> /h] | Q max<br>[m <sup>3</sup> /h] | V<br>[m <sup>3</sup> /h] | K    | Q min<br>[m <sup>3</sup> /h] | Q max<br>[m <sup>3</sup> /h] | K                | Q min<br>[m <sup>3</sup> /h] | Q max<br>[m <sup>3</sup> /h] |
| 120  |                  |                   | 3.6                      | 18.8 | 45.0                         | 83.8                         | 11.7                     | 18.8 | 51.0                         | 136.0                        | -                | -                            | -                            |
| 130  |                  |                   | 3.9                      | 18.8 | 48.8                         | 90.8                         | 12.3                     | 18.9 | 54.0                         | 144.0                        | -                | -                            | -                            |
| 140  |                  |                   | 4.2                      | 13.4 | 52.9                         | 98.4                         | 13.7                     | 13.4 | 59.9                         | 159.7                        | -                | -                            | -                            |
| 150  |                  |                   | 4.5                      | 11.8 | 56.3                         | 104.8                        | 14.5                     | 11.7 | 63.6                         | 169.6                        | -                | -                            | -                            |
| 165  |                  |                   | 4.9                      | 10.5 | 61.7                         | 114.8                        | 16.2                     | 10.5 | 70.9                         | 189.0                        | -                | -                            | -                            |
| 175  |                  |                   | 5.2                      | 4.2  | 64.9                         | 120.8                        | 17.2                     | 4.2  | 75.1                         | 200.2                        | -                | -                            | -                            |
| 180  |                  |                   | 5.5                      | 4.2  | 68.6                         | 127.6                        | 17.9                     | 4.2  | 78.3                         | 208.7                        | -                | -                            | -                            |
| 190  |                  |                   | 5.7                      | 2.3  | 70.8                         | 131.8                        | 18.6                     | 2.3  | 81.5                         | 217.3                        | -                | -                            | -                            |
| 195  |                  |                   | 5.9                      | 2.3  | 73.5                         | 136.8                        | 19.1                     | 2.3  | 83.5                         | 222.6                        | -                | -                            | -                            |
| 205  |                  |                   | 6.2                      | 2.4  | 77.2                         | 143.6                        | 19.9                     | 2.4  | 87.3                         | 232.7                        | -                | -                            | -                            |
| 215  |                  |                   | 6.5                      | 2.3  | 81.5                         | 151.6                        | 20.9                     | 2.4  | 91.5                         | 243.9                        | -                | -                            | -                            |
| 220  |                  |                   | 6.7                      | 2.3  | 83.7                         | 155.8                        | 21.6                     | 2.3  | 94.6                         | 252.2                        | -                | -                            | -                            |
| 225  |                  |                   | 6.8                      | 2.4  | 85.5                         | 159.0                        | 22.7                     | 2.4  | 99.3                         | 264.7                        | -                | -                            | -                            |
| 250  |                  |                   | 7.5                      | 1.6  | 93.8                         | 174.6                        | 24.2                     | 1.6  | 106.0                        | 282.6                        | -                | -                            | -                            |
| 270  |                  |                   | 8.1                      | 3.9  | 101.6                        | 189.0                        | 25.8                     | 4.1  | 113.0                        | 301.3                        | -                | -                            | -                            |
| 290  |                  |                   | 8.8                      | 3.3  | 110.4                        | 205.4                        | 28.9                     | 3.3  | 126.4                        | 337.0                        | -                | -                            | -                            |
| 120  | L                |                   | 3.5                      | 19.4 | 44.3                         | 82.5                         | 11.1                     | 20.8 | 48.5                         | 129.3                        | -                | -                            | -                            |
| 130  | L                |                   | 3.8                      | 19.5 | 48.0                         | 89.3                         | 11.8                     | 20.6 | 51.6                         | 137.7                        | -                | -                            | -                            |
| 140  | L                |                   | 4.2                      | 13.8 | 52.2                         | 97.2                         | 13.0                     | 14.8 | 57.1                         | 152.2                        | -                | -                            | -                            |
| 150  | L                |                   | 4.4                      | 12.2 | 55.3                         | 102.9                        | 13.9                     | 12.9 | 60.6                         | 161.6                        | -                | -                            | -                            |
| 165  | L                |                   | 4.9                      | 10.7 | 61.1                         | 113.6                        | 15.5                     | 11.6 | 67.6                         | 180.3                        | -                | -                            | -                            |
| 175  | L                |                   | 5.3                      | 4.0  | 66.3                         | 123.4                        | 16.6                     | 4.5  | 72.5                         | 193.3                        | -                | -                            | -                            |
| 180  | L                |                   | 5.4                      | 4.2  | 67.9                         | 126.4                        | 17.1                     | 4.5  | 75.0                         | 200.0                        | -                | -                            | -                            |
| 190  | L                |                   | 5.6                      | 2.4  | 70.2                         | 130.6                        | 17.8                     | 2.6  | 77.9                         | 207.7                        | -                | -                            | -                            |
| 195  | L                |                   | 5.8                      | 2.4  | 72.7                         | 135.3                        | 18.3                     | 2.6  | 80.0                         | 213.3                        | -                | -                            | -                            |
| 205  | L                |                   | 6.2                      | 2.3  | 77.4                         | 143.9                        | 19.4                     | 2.5  | 85.0                         | 226.5                        | -                | -                            | -                            |
| 215  | L                |                   | 6.5                      | 2.4  | 80.9                         | 150.5                        | 20.0                     | 2.6  | 87.7                         | 233.7                        | -                | -                            | -                            |
| 220  | L                |                   | 6.6                      | 2.4  | 82.7                         | 153.8                        | 20.6                     | 2.6  | 90.3                         | 240.9                        | -                | -                            | -                            |
| 225  | L                |                   | 6.8                      | 2.4  | 84.4                         | 157.1                        | 21.7                     | 2.6  | 94.9                         | 253.0                        | -                | -                            | -                            |
| 250  | L                |                   | 7.3                      | 1.7  | 91.1                         | 169.6                        | 23.1                     | 1.8  | 101.0                        | 269.4                        | -                | -                            | -                            |
| 270  | L                |                   | 8.0                      | 4.0  | 99.5                         | 185.1                        | 24.9                     | 4.4  | 109.0                        | 290.8                        | -                | -                            | -                            |
| 290  | L                |                   | 8.5                      | 3.6  | 106.2                        | 197.5                        | 27.1                     | 3.8  | 118.6                        | 316.4                        | -                | -                            | -                            |
| 120  | S                |                   | 3.4                      | 18.5 | 43.0                         | 80.0                         | 11.0                     | 19.3 | 48.2                         | 128.4                        | -                | -                            | -                            |
| 130  | S                |                   | 3.7                      | 18.5 | 45.9                         | 85.5                         | 11.6                     | 19.3 | 50.9                         | 135.8                        | -                | -                            | -                            |
| 140  | S                |                   | 4.0                      | 13.2 | 50.4                         | 93.8                         | 12.8                     | 13.8 | 55.9                         | 149.1                        | -                | -                            | -                            |
| 150  | S                |                   | 4.3                      | 11.6 | 53.5                         | 99.5                         | 13.4                     | 12.1 | 58.8                         | 156.9                        | -                | -                            | -                            |
| 165  | S                |                   | 4.8                      | 10.4 | 59.9                         | 111.4                        | 15.3                     | 10.8 | 66.7                         | 177.9                        | -                | -                            | -                            |
| 175  | S                |                   | 4.9                      | 4.1  | 61.0                         | 113.6                        | 15.5                     | 4.3  | 67.9                         | 181.1                        | -                | -                            | -                            |
| 180  | S                |                   | 5.3                      | 4.1  | 66.2                         | 123.2                        | 17.0                     | 4.3  | 74.5                         | 198.7                        | -                | -                            | -                            |
| 190  | S                |                   | 5.5                      | 2.3  | 68.2                         | 127.0                        | 18.0                     | 2.4  | 79.0                         | 210.5                        | -                | -                            | -                            |
| 195  | S                |                   | 5.6                      | 2.3  | 70.3                         | 130.8                        | 17.9                     | 2.4  | 78.3                         | 208.8                        | -                | -                            | -                            |
| 205  | S                |                   | 6.0                      | 2.3  | 75.0                         | 139.5                        | 19.1                     | 2.4  | 83.4                         | 222.4                        | -                | -                            | -                            |
| 215  | S                |                   | 6.3                      | 2.3  | 78.4                         | 145.9                        | 19.6                     | 2.4  | 85.9                         | 229.2                        | -                | -                            | -                            |
| 220  | S                |                   | 6.4                      | 2.3  | 80.0                         | 148.8                        | 20.1                     | 2.4  | 88.0                         | 234.8                        | -                | -                            | -                            |
| 225  | S                |                   | 6.8                      | 2.3  | 84.6                         | 157.4                        | 21.7                     | 2.4  | 94.8                         | 252.7                        | -                | -                            | -                            |
| 250  | S                |                   | 7.3                      | 1.6  | 91.7                         | 170.6                        | 23.1                     | 1.7  | 101.3                        | 270.0                        | -                | -                            | -                            |
| 270  | S                |                   | 7.6                      | 4.2  | 94.7                         | 176.1                        | 24.1                     | 4.3  | 105.5                        | 281.5                        | -                | -                            | -                            |
| 290  | S                |                   | 8.4                      | 3.3  | 105.6                        | 196.5                        | 27.4                     | 3.4  | 119.9                        | 319.8                        | -                | -                            | -                            |
| 120  |                  | H                 | 3.6                      | 18.8 | 45.0                         | 83.8                         | 11.7                     | 18.8 | 51.0                         | 136.0                        | 52.1             | -                            | 22.6                         |
| 130  |                  | H                 | 3.9                      | 18.8 | 48.8                         | 90.8                         | 12.3                     | 18.9 | 54.0                         | 144.0                        | 45.8             | -                            | 24.1                         |
| 140  |                  | H                 | 4.2                      | 13.4 | 52.9                         | 98.4                         | 13.7                     | 13.4 | 59.9                         | 159.7                        | 39.6             | -                            | 26.7                         |
| 150  |                  | H                 | 4.5                      | 11.8 | 56.3                         | 104.8                        | 14.5                     | 11.7 | 63.6                         | 169.6                        | 36.0             | -                            | 28.0                         |
| 165  |                  | H                 | 4.9                      | 10.5 | 61.7                         | 114.8                        | 16.2                     | 10.5 | 70.9                         | 189.0                        | 28.2             | -                            | 31.6                         |
| 175  |                  | H                 | 5.2                      | 4.2  | 64.9                         | 120.8                        | 17.2                     | 4.2  | 75.1                         | 200.2                        | 25.7             | -                            | 33.1                         |
| 180  |                  | H                 | 5.5                      | 4.2  | 68.6                         | 127.6                        | 17.9                     | 4.2  | 78.3                         | 208.7                        | 28.2             | -                            | 28.8                         |
| 190  |                  | H                 | 5.7                      | 2.3  | 70.8                         | 131.8                        | 18.6                     | 2.3  | 81.5                         | 217.3                        | 22.1             | -                            | 35.7                         |
| 195  |                  | H                 | 5.9                      | 2.3  | 73.5                         | 136.8                        | 19.1                     | 2.3  | 83.5                         | 222.6                        | 20.8             | -                            | 36.8                         |
| 205  |                  | H                 | 6.2                      | 2.4  | 77.2                         | 143.6                        | 19.9                     | 2.4  | 87.3                         | 232.7                        | 17.3             | -                            | 39.1                         |

## Hydraulic data

### WATER FLOW

Table 2/2

| Size | Acoustic version | Energetic Version | Cooling mode        |      |                     |                     | Heating mode        |      |                     |                     | Partial recovery |                     |                     |
|------|------------------|-------------------|---------------------|------|---------------------|---------------------|---------------------|------|---------------------|---------------------|------------------|---------------------|---------------------|
|      |                  |                   | V                   | K    | Q min               | Q max               | V                   | K    | Q min               | Q max               | K                | Q min               | Q max               |
|      |                  |                   | [m <sup>3</sup> /h] |      | [m <sup>3</sup> /h] | [m <sup>3</sup> /h] | [m <sup>3</sup> /h] |      | [m <sup>3</sup> /h] | [m <sup>3</sup> /h] |                  | [m <sup>3</sup> /h] | [m <sup>3</sup> /h] |
| 215  |                  | H                 | 18.0                | 18.0 | 18.0                | 18.0                | 16.7                | 2.4  | 91.5                | 243.9               | 16.7             | -                   | 41.1                |
| 220  |                  | H                 | 18.0                | 18.0 | 18.0                | 18.0                | 16.7                | 2.3  | 94.6                | 252.2               | 15.4             | -                   | 42.8                |
| 225  |                  | H                 | 19.0                | 19.0 | 19.0                | 19.0                | 17.7                | 2.4  | 99.3                | 264.7               | 14.4             | -                   | 45.4                |
| 250  |                  | H                 | 18.0                | 18.0 | 18.0                | 18.0                | 16.7                | 1.6  | 106.0               | 282.6               | 12.3             | -                   | 47.7                |
| 270  |                  | H                 | 18.0                | 18.0 | 18.0                | 18.0                | 16.7                | 4.1  | 113.0               | 301.3               | 10.3             | -                   | 52.2                |
| 290  |                  | H                 | 18.0                | 18.0 | 18.0                | 18.0                | 16.7                | 3.3  | 126.4               | 337.0               | 9.4              | -                   | 54.6                |
| 120  | L                | H                 | 3.5                 | 19.4 | 44.3                | 82.5                | 11.1                | 20.8 | 48.5                | 129.3               | 55.2             | -                   | 22.6                |
| 130  | L                | H                 | 3.8                 | 19.5 | 48.0                | 89.3                | 11.8                | 20.6 | 51.6                | 137.7               | 45.8             | -                   | 24.1                |
| 140  | L                | H                 | 4.2                 | 13.8 | 52.2                | 97.2                | 13.0                | 14.8 | 57.1                | 152.2               | 39.6             | -                   | 26.7                |
| 150  | L                | H                 | 4.4                 | 12.2 | 55.3                | 102.9               | 13.9                | 12.9 | 60.6                | 161.6               | 35.5             | -                   | 28.2                |
| 165  | L                | H                 | 4.9                 | 10.7 | 61.1                | 113.6               | 15.5                | 11.6 | 67.6                | 180.3               | 28.2             | -                   | 31.6                |
| 175  | L                | H                 | 5.3                 | 4.0  | 66.3                | 123.4               | 16.6                | 4.5  | 72.5                | 193.3               | 25.3             | -                   | 33.3                |
| 180  | L                | H                 | 5.4                 | 4.2  | 67.9                | 126.4               | 17.1                | 4.5  | 75.0                | 200.0               | 28.2             | -                   | 28.8                |
| 190  | L                | H                 | 5.6                 | 2.4  | 70.2                | 130.6               | 17.8                | 2.6  | 77.9                | 207.7               | 21.8             | -                   | 35.9                |
| 195  | L                | H                 | 5.8                 | 2.4  | 72.7                | 135.3               | 18.3                | 2.6  | 80.0                | 213.3               | 20.6             | -                   | 37.0                |
| 205  | L                | H                 | 6.2                 | 2.3  | 77.4                | 143.9               | 19.4                | 2.5  | 85.0                | 226.5               | 18.2             | -                   | 39.3                |
| 215  | L                | H                 | 6.5                 | 2.4  | 80.9                | 150.5               | 20.0                | 2.6  | 87.7                | 233.7               | 16.5             | -                   | 41.3                |
| 220  | L                | H                 | 6.6                 | 2.4  | 82.7                | 153.8               | 20.6                | 2.6  | 90.3                | 240.9               | 15.2             | -                   | 43.0                |
| 225  | L                | H                 | 6.8                 | 2.4  | 84.4                | 157.1               | 21.7                | 2.6  | 94.9                | 253.0               | 14.3             | -                   | 45.6                |
| 250  | L                | H                 | 7.3                 | 1.7  | 91.1                | 169.6               | 23.1                | 1.8  | 101.0               | 269.4               | 12.2             | -                   | 47.9                |
| 270  | L                | H                 | 8.0                 | 4.0  | 99.5                | 185.1               | 24.9                | 4.4  | 109.0               | 290.8               | 10.2             | -                   | 52.5                |
| 290  | L                | H                 | 8.5                 | 3.6  | 106.2               | 197.5               | 27.1                | 3.8  | 118.6               | 316.4               | 9.4              | -                   | 54.8                |
| 120  | S                | H                 | 3.4                 | 18.5 | 43.0                | 80.0                | 11.0                | 19.3 | 48.2                | 128.4               | 55.2             | -                   | 21.9                |
| 130  | S                | H                 | 3.7                 | 18.5 | 45.9                | 85.5                | 11.6                | 19.3 | 50.9                | 135.8               | 49.3             | -                   | 23.2                |
| 140  | S                | H                 | 4.0                 | 13.2 | 50.4                | 93.8                | 12.8                | 13.8 | 55.9                | 149.1               | 41.3             | -                   | 23.0                |
| 150  | S                | H                 | 4.3                 | 11.6 | 53.5                | 99.5                | 13.4                | 12.1 | 58.8                | 156.9               | 36.8             | -                   | 26.9                |
| 165  | S                | H                 | 4.8                 | 10.4 | 59.9                | 111.4               | 15.3                | 10.8 | 66.7                | 177.9               | 28.9             | -                   | 30.3                |
| 175  | S                | H                 | 4.9                 | 4.1  | 61.0                | 113.6               | 15.5                | 4.3  | 67.9                | 181.1               | 25.0             | -                   | 31.6                |
| 180  | S                | H                 | 5.3                 | 4.1  | 66.2                | 123.2               | 17.0                | 4.3  | 74.5                | 198.7               | 29.2             | -                   | 29.2                |
| 190  | S                | H                 | 5.5                 | 2.3  | 68.2                | 127.0               | 18.0                | 2.4  | 79.0                | 210.5               | 20.8             | -                   | 36.8                |
| 195  | S                | H                 | 5.6                 | 2.3  | 70.3                | 130.8               | 17.9                | 2.4  | 78.3                | 208.8               | 20.1             | -                   | 36.3                |
| 205  | S                | H                 | 6.0                 | 2.3  | 75.0                | 139.5               | 19.1                | 2.4  | 83.4                | 222.4               | 17.6             | -                   | 40.0                |
| 215  | S                | H                 | 6.3                 | 2.3  | 78.4                | 145.9               | 19.6                | 2.4  | 85.9                | 229.2               | 16.3             | -                   | 41.5                |
| 220  | S                | H                 | 6.4                 | 2.3  | 80.0                | 148.8               | 20.1                | 2.4  | 88.0                | 234.8               | 16.3             | -                   | 40.4                |
| 225  | S                | H                 | 6.8                 | 2.3  | 84.6                | 157.4               | 21.7                | 2.4  | 94.8                | 252.7               | 14.7             | -                   | 44.9                |
| 250  | S                | H                 | 7.3                 | 1.6  | 91.7                | 170.6               | 23.1                | 1.7  | 101.3               | 270.0               | 12.8             | -                   | 48.2                |
| 270  | S                | H                 | 7.6                 | 4.2  | 94.7                | 176.1               | 24.1                | 4.3  | 105.5               | 281.5               | 11.4             | -                   | 45.4                |
| 290  | S                | H                 | 8.4                 | 3.3  | 105.6               | 196.5               | 27.4                | 3.4  | 119.9               | 319.8               | 8.9              | -                   | 57.6                |

V: recommended water content of the plant with dT 5°C on the heat exchanger

Q min: minimum water flow to the heat exchanger

Q max: maximum water flow to the heat exchanger

dpw =  $K \cdot Q^2 / 1000$

Q = 0,86 P/ΔT

P: Heating or cooling capacity [kW]

Δt: ΔT at the heat exchanger (min = 3, max = 8) [°C]

Δt: ΔT at the desuperheater = 4°C

dpw: Pressure drop [kPa]

## Hydraulic data

The units of the CXAO range are also available in multiple hydraulic versions, characterized by complete kits of all major hydraulic components for an easier installation, with reduced time, cost and space.

The wide range of hydraulic versions available makes the unit suitable for any type of installations.

### HYDRAULIC VERSIONS

**1/2/3:** Single pump and expansion vessel

**4/5/6:** Dual pump and expansion vessel

**A/B/C:** Single pump, expansion vessel and water pump (available up to size 165)

**D/E/F:** Dual pump, expansion vessel and water pump (available up to size 165)

### PUMPS KIT

Normalized and Monoblock centrifugal electropumps conforming to EN 733 (EX DIN 24255).

Hydraulic part with single centrifugal impeller, casing with flanges, axial suction and radial discharge.

Motor coupled to the pump by rigid coupling, insulating category F, protection index IP55.

Hydronic kits can be provided with or without water tank and/or an additional stand by pump with automatic changeover (optional) in case of first pump failure.

### BUFFER TANK

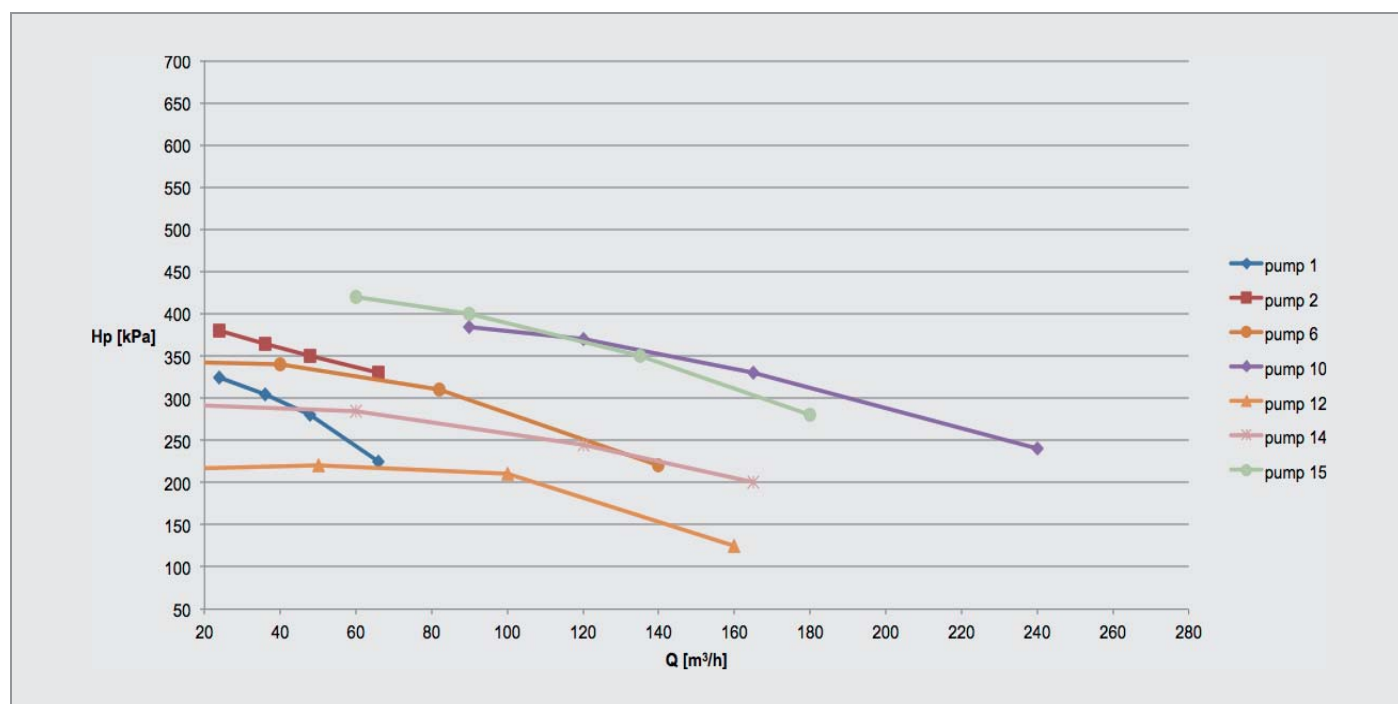
This is made from steel sheet and welded end caps made from the mold or by shaping. Finishing with anti-corrosion treatment and painting. The thermal and condensation insulation is protected by a water and scratch-resistant external coating. The test carried out individually with a test pressure of 6 bar guarantees a working pressure up to 3.5 bar.

### HYDRONIC ACCESORIES ON REQUEST

- Water pumps automatic changeover for 2-pump hydraulic kits, which also includes the secondary pump pressure switch.
- "Y" water strainer (sold separately), consists of body and stainless steel mesh, with replaceable filter through the inspection cap.
- Automatic water filling (sold separately).

## Hydraulic data

### LOW HEAD PRESSURE PUMP (150 kPa)



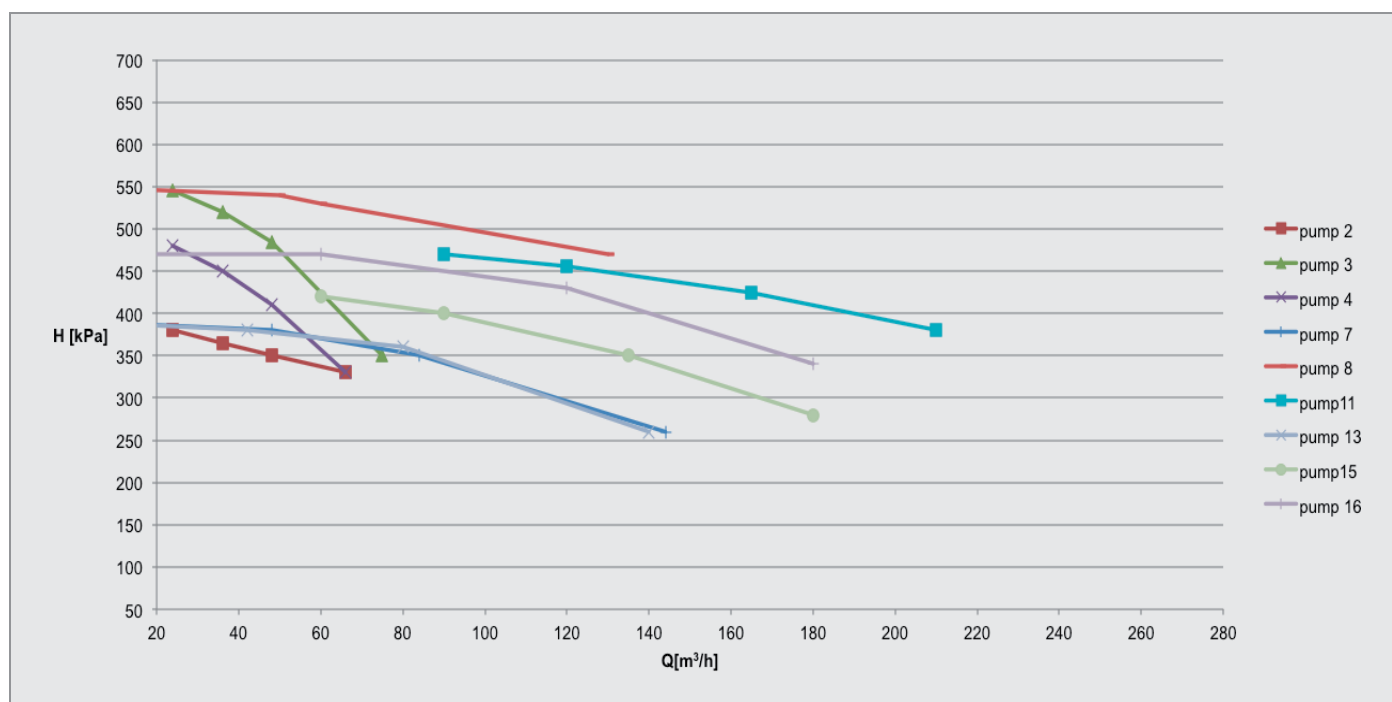
| Size | Pf     | qw     | dpw   | Ref. curve | Expansion vessel | F.L.I. | F.L.A. | Hp    | Hu    |
|------|--------|--------|-------|------------|------------------|--------|--------|-------|-------|
|      | [kW]   | [m³/h] | [kPa] |            | [l]              | [kW]   | [A]    | [kPa] | [kPa] |
| 120  | 418.6  | 71.8   | 97    | pump 6     | 24               | 11     | 20.8   | 320.0 | 222.6 |
| 130  | 453.6  | 77.8   | 115   | pump 6     | 24               | 11     | 20.8   | 314.0 | 199.2 |
| 140  | 492.0  | 84.4   | 96    | pump 6     | 2 x 24           | 11     | 20.8   | 307.0 | 210.7 |
| 150  | 524.1  | 89.9   | 95    | pump 6     | 2 x 24           | 11     | 20.8   | 301.0 | 205.5 |
| 165  | 574.0  | 98.5   | 103   | pump 6     | 2 x 24           | 11     | 20.8   | 290.0 | 187.4 |
| 175  | 604.4  | 103.7  | 45    | pump 12    | 2 x 24           | 10     | 22.5   | 208.0 | 163.1 |
| 180  | 637.9  | 109.5  | 50    | pump 12    | 2 x 24           | 10     | 22.5   | 203.0 | 152.9 |
| 190  | 659.0  | 113.1  | 30    | pump 12    | 2 x 24           | 10     | 22.5   | 200.0 | 169.8 |
| 195  | 683.7  | 117.3  | 32    | pump 12    | 2 x 24           | 10     | 22.5   | 196.0 | 163.5 |
| 205  | 718.3  | 123.2  | 36    | pump 12    | 2 x 24           | 10     | 22.5   | 190.0 | 154.2 |
| 215  | 758.2  | 130.1  | 40    | pump 14    | 2 x 24           | 15     | 32     | 236.0 | 196.1 |
| 220  | 779.1  | 133.7  | 42    | pump 14    | 2 x 24           | 15     | 32     | 232   | 189.8 |
| 225  | 795.3  | 136.5  | 44    | pump 14    | 2 x 24           | 15     | 32     | 230   | 186.1 |
| 250  | 872.6  | 149.7  | 36    | pump 14    | 2 x 24           | 15     | 32     | 216   | 179.6 |
| 270  | 945.3  | 162.2  | 103   | pump 15    | 2 x 24           | 18.5   | 38     | 310   | 207.4 |
| 290  | 1027.3 | 176.3  | 103   | pump 10    | 2 x 24           | 22     | 44.5   | 318   | 215.4 |

**Pf** Cooling capacity (kW)  
**qw** Water flow (m³/h)  
**dpw** Pressure drop (kPa)

**F.L.I.** Full load electrical power  
**F.L.A.** Full load operating current  
**Hp** Pump head pressure  
**Hu** Available pressure

## Hydraulic data

### MEDIUM HEAD PRESSURE PUMP (250 kPa)



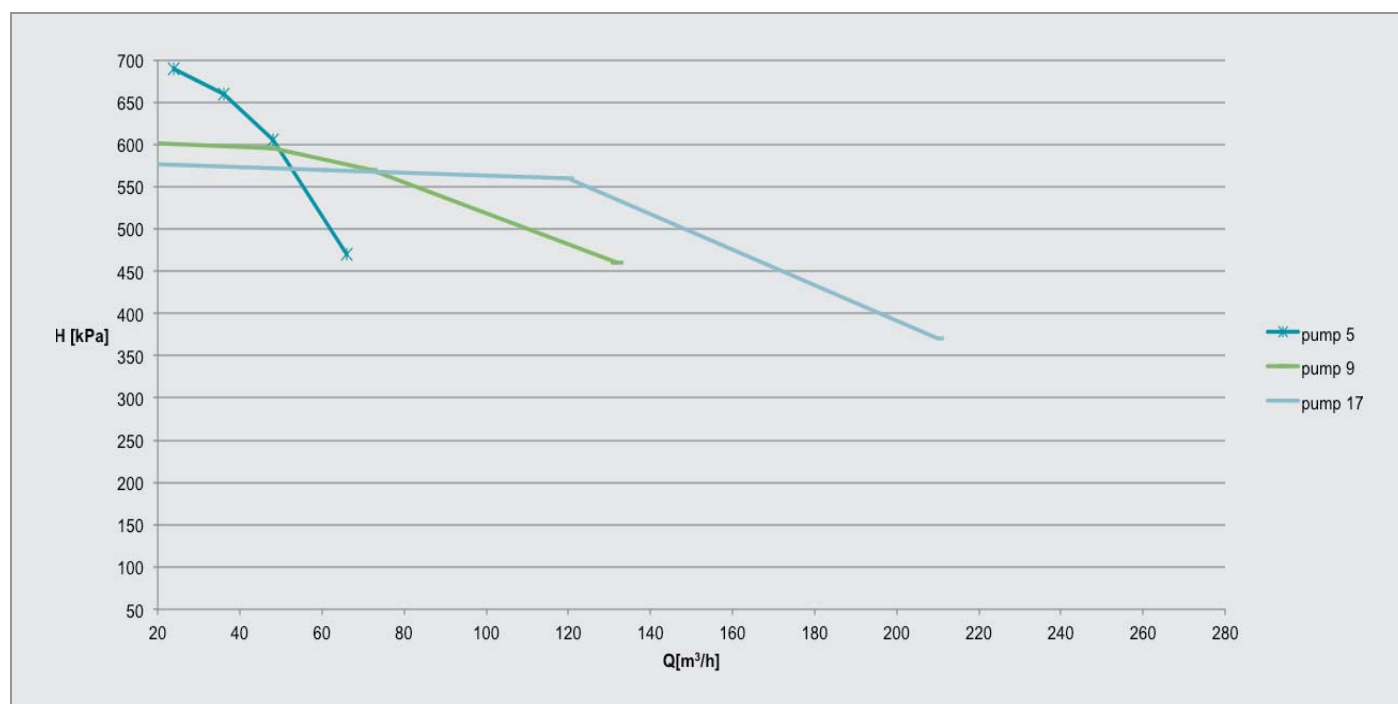
| Size | Pf     | qw     | dpw   | Ref. curve | Expansion vessel | F.L.I. | F.L.A. | Hp    | Hu    |
|------|--------|--------|-------|------------|------------------|--------|--------|-------|-------|
|      | [kW]   | [m³/h] | [kPa] |            | [l]              | [kW]   | [A]    | [kPa] | [kPa] |
| 120  | 418.6  | 71.8   | 97    | pump 7     | 24               | 15     | 27     | 362.0 | 264.6 |
| 130  | 453.6  | 77.8   | 115   | pump 7     | 24               | 15     | 27     | 356.0 | 241.2 |
| 140  | 492.0  | 84.4   | 96    | pump 8     | 2 x 24           | 18.5   | 39     | 408.0 | 311.7 |
| 150  | 524.1  | 89.9   | 95    | pump 8     | 2 x 24           | 18.5   | 39     | 394.0 | 298.5 |
| 165  | 574.0  | 98.5   | 103   | pump 8     | 2 x 24           | 18.5   | 39     | 380.0 | 277.4 |
| 175  | 604.4  | 103.7  | 45    | pump 13    | 2 x 24           | 15     | 32     | 334.0 | 289.1 |
| 180  | 637.9  | 109.5  | 50    | pump 13    | 2 x 24           | 15     | 32     | 325.0 | 274.9 |
| 190  | 659.0  | 113.1  | 30    | pump 13    | 2 x 24           | 15     | 32     | 319.0 | 288.8 |
| 195  | 683.7  | 117.3  | 32    | pump 13    | 2 x 24           | 15     | 32     | 311.0 | 278.5 |
| 205  | 718.3  | 123.2  | 36    | pump 13    | 2 x 24           | 15     | 32     | 300.0 | 264.2 |
| 215  | 758.2  | 130.1  | 40    | pump 15    | 2 x 24           | 18.5   | 38     | 390.0 | 350.1 |
| 220  | 779.1  | 133.7  | 42    | pump 15    | 2 x 24           | 18.5   | 38     | 352   | 309.8 |
| 225  | 795.3  | 136.5  | 44    | pump 15    | 2 x 24           | 18.5   | 38     | 348   | 304.1 |
| 250  | 872.6  | 149.7  | 36    | pump 15    | 2 x 24           | 18.5   | 38     | 329   | 292.6 |
| 270  | 945.3  | 162.2  | 103   | pump 16    | 2 x 24           | 22     | 44.5   | 373   | 270.4 |
| 290  | 1027.3 | 176.3  | 103   | pump 11    | 2 x 24           | 30     | 58     | 414   | 311.4 |

**Pf** Cooling capacity (kW)  
**qw** Water flow (m³/h)  
**dpw** Pressure drop (kPa)

**F.L.I.** Full load electrical power  
**F.L.A.** Full load operating current  
**Hp** Pump head pressure  
**Hu** Available pressure

## Hydraulic data

### HIGH HEAD PRESSURE PUMP (450 kPa)



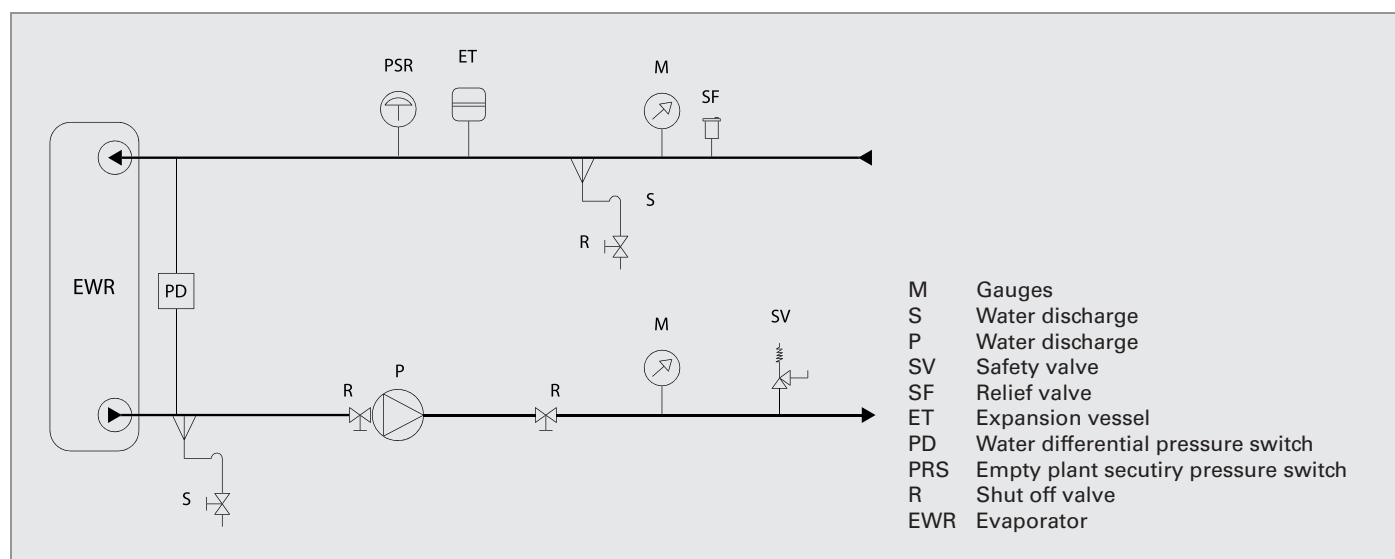
| Size | Pf    | qw     | dpw   | Ref. curve | Expansion vessel | F.L.I. | F.L.A. | Hp    | Hu    |
|------|-------|--------|-------|------------|------------------|--------|--------|-------|-------|
|      | [kW]  | [m³/h] | [kPa] |            | [l]              | [kW]   | [A]    | [kPa] | [kPa] |
| 120  | 418.6 | 71.8   | 97    | pump 9     | 24               | 22     | 43     | 570.0 | 472.6 |
| 130  | 453.6 | 77.8   | 115   | pump 9     | 24               | 22     | 43     | 562.0 | 447.2 |
| 140  | 492.0 | 84.4   | 96    | pump 9     | 2 x 24           | 22     | 43     | 552.0 | 455.7 |
| 150  | 524.1 | 89.9   | 95    | pump 9     | 2 x 24           | 22     | 43     | 544.0 | 448.5 |
| 165  | 574.0 | 98.5   | 103   | pump 9     | 2 x 24           | 22     | 43     | 529.0 | 426.4 |
| 175  | 604.4 | 103.7  | 45    | pump 9     | 2 x 24           | 22     | 43     | 519.0 | 474.1 |
| 180  | 637.9 | 109.5  | 50    | pump 17    | 2 x 24           | 30     | 58     | 565.0 | 514.9 |
| 190  | 659.0 | 113.1  | 30    | pump 17    | 2 x 24           | 30     | 58     | 564.0 | 533.8 |
| 195  | 683.7 | 117.3  | 32    | pump 17    | 2 x 24           | 30     | 58     | 562.0 | 529.5 |
| 205  | 718.3 | 123.2  | 36    | pump 17    | 2 x 24           | 30     | 58     | 558.0 | 522.2 |
| 215  | 758.2 | 130.1  | 40    | pump 17    | 2 x 24           | 30     | 58     | 553.0 | 513.1 |
| 220  | 779.1 | 133.7  | 42    | pump 17    | 2 x 24           | 30     | 58     | 549   | 506.8 |
| 225  | -     | -      | -     | -          | -                | -      | -      | -     | -     |
| 250  | -     | -      | -     | -          | -                | -      | -      | -     | -     |
| 270  | -     | -      | -     | -          | -                | -      | -      | -     | -     |
| 290  | -     | -      | -     | -          | -                | -      | -      | -     | -     |

**Pf** Cooling capacity (kW)  
**qw** Water flow (m³/h)  
**dpw** Pressure drop (kPa)

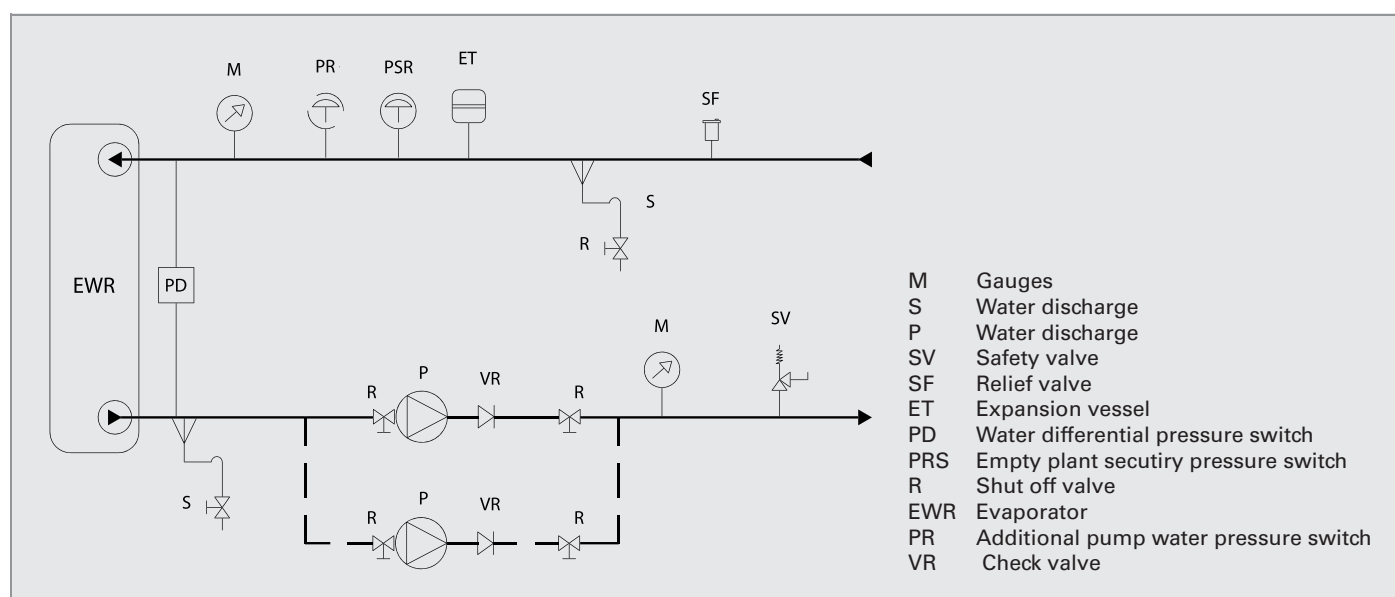
**F.L.I.** Full load electrical power  
**F.L.A.** Full load operating current  
**Hp** Pump head pressure  
**Hu** Available pressure

## Hydraulic data

### Hydronic kit with 1 pump - 1-2-3 versions

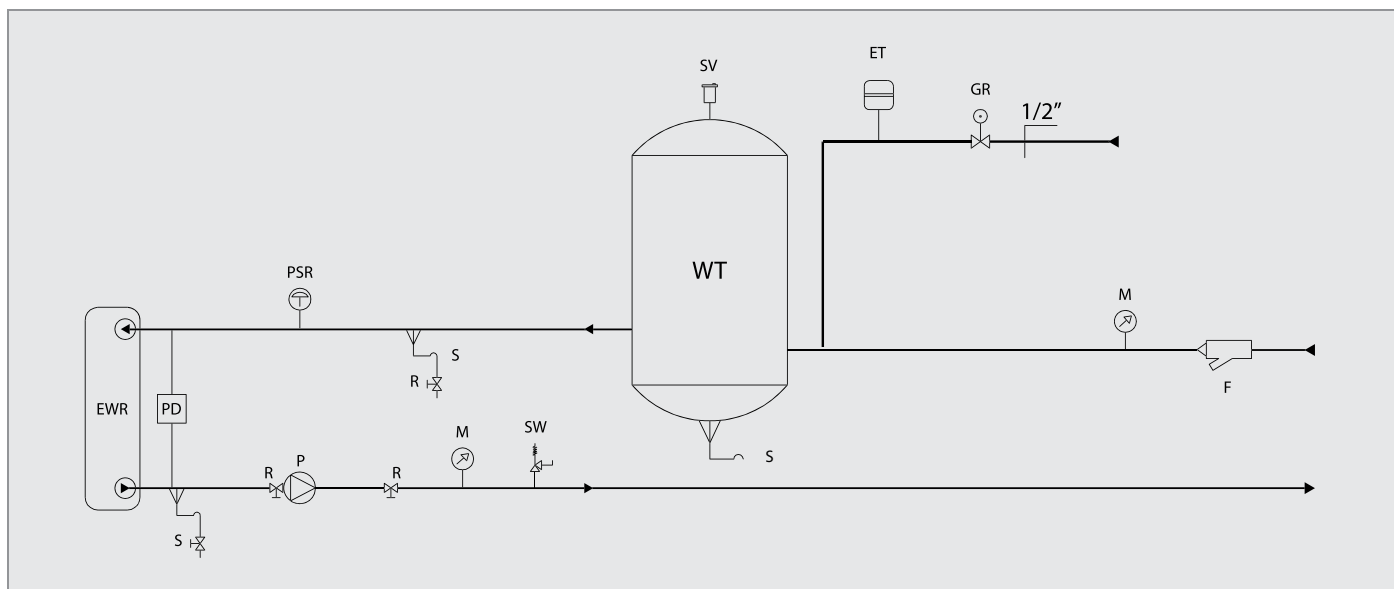


### Hydronic kit with 2 pumps - 4-5-6 versions



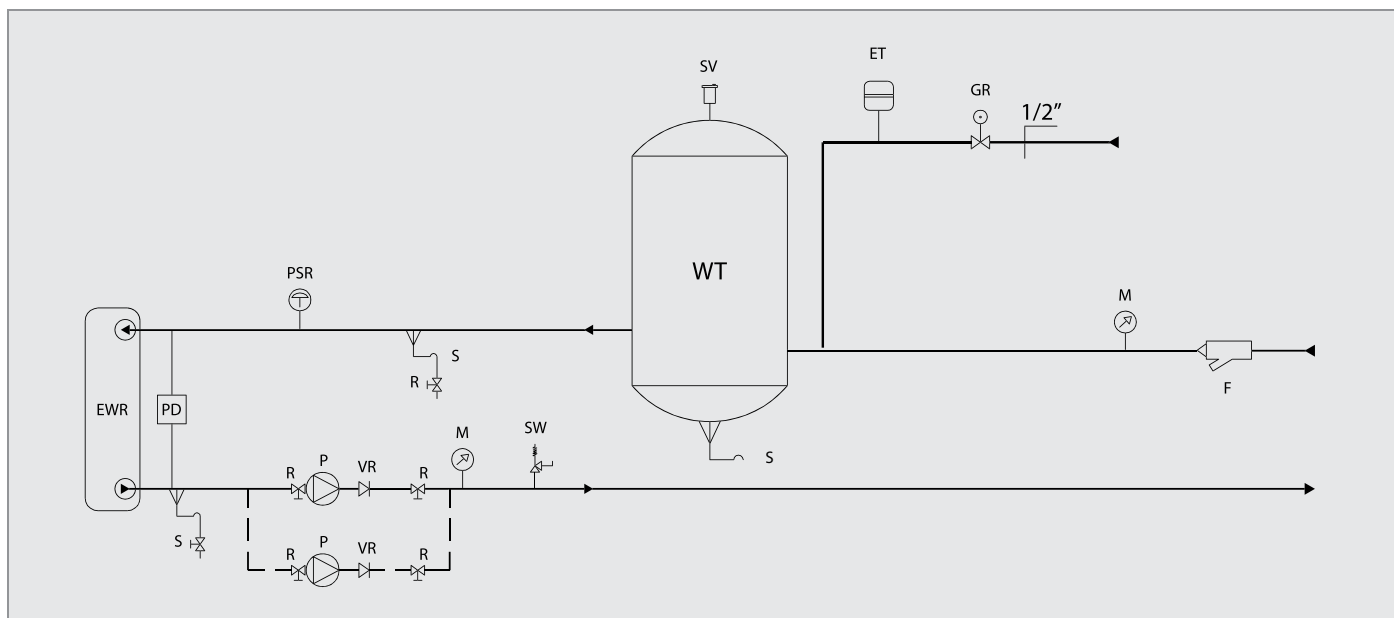
## Hydraulic data

### Hydronic kit with 1 pump and tank - A-B-C versions



|    |                                    |     |                                       |
|----|------------------------------------|-----|---------------------------------------|
| M  | Gauges                             | PRS | Empty plant security pressure switch  |
| S  | Water discharge                    | R   | Shut off valve                        |
| P  | Pump                               | EWR | Evaporator                            |
| SV | Safety valve                       | PR  | Additional pump water pressure switch |
| SF | Relief valve                       | WT  | Water tank                            |
| ET | Expansion vessel                   | GR  | Automatic water filling               |
| PD | Water differential pressure switch |     |                                       |

### Hydronic kit with 2 pumps and tank - D-E-F versions



|    |                                    |     |                                       |
|----|------------------------------------|-----|---------------------------------------|
| M  | Gauges                             | PRS | Empty plant security pressure switch  |
| S  | Water discharge                    | R   | Shut off valve                        |
| P  | Pump                               | EWR | Evaporator                            |
| SV | Safety valve                       | PR  | Additional pump water pressure switch |
| SF | Relief valve                       | VR  | Check valve                           |
| ET | Expansion vessel                   | WT  | Water tank                            |
| PD | Water differential pressure switch | GR  | Automatic water filling               |

# Electrical data

## CXAO

| Size | NOMINAL VALUES                                                           |             |             |            |           |              |             |           | MAXIMUM VALUES (1) |             |           |
|------|--------------------------------------------------------------------------|-------------|-------------|------------|-----------|--------------|-------------|-----------|--------------------|-------------|-----------|
|      | Outdoor air temperature 35°C. evaporator water temperature in/out 12/7°C |             |             |            |           |              |             |           |                    |             |           |
|      | Compressors (2)                                                          |             |             | Fan motors |           | TOTAL        |             |           | TOTAL              |             |           |
|      | F.L.I.<br>kW                                                             | F.L.A.<br>A | L.R.A.<br>A | E.P.<br>kW | O.C.<br>A | F.L.I.<br>kW | F.L.A.<br>A | S.A.<br>A | F.L.I.<br>kW       | F.L.A.<br>A | S.A.<br>A |
| 120  | 145.8                                                                    | 246.7       | 413.0       | 12.0       | 24.0      | 157.8        | 270.7       | 627.3     | 250.3              | 441.0       | 764.0     |
| 130  | 159.4                                                                    | 268.8       | 320.0       | 12.0       | 24.0      | 171.4        | 292.8       | 568.0     | 282.9              | 498.0       | 739.0     |
| 140  | 166.9                                                                    | 278.8       | 413.0       | 15.0       | 30.0      | 181.9        | 308.8       | 666.1     | 272.1              | 480.0       | 803.0     |
| 150  | 178.6                                                                    | 303.4       | 413.0       | 15.0       | 30.0      | 193.6        | 333.4       | 689.9     | 304.7              | 537.0       | 860.0     |
| 165  | 203.4                                                                    | 342.2       | 413.0       | 15.0       | 30.0      | 218.4        | 372.2       | 728.2     | 323.6              | 570.0       | 893.0     |
| 175  | 201.6                                                                    | 347.4       | 413.0       | 21.0       | 42.0      | 222.6        | 389.4       | 747.2     | 365.6              | 645.0       | 968.0     |
| 180  | 219.7                                                                    | 291.2       | 413.0       | 21.0       | 42.0      | 240.7        | 333.2       | 692.0     | 310.7              | 549.0       | 872.0     |
| 190  | 225.0                                                                    | 380.4       | 413.0       | 21.0       | 42.0      | 246.0        | 422.4       | 779.4     | 374.7              | 661.0       | 984.0     |
| 195  | 234.6                                                                    | 395.2       | 413.0       | 21.0       | 42.0      | 255.6        | 437.2       | 793.8     | 381.0              | 672.0       | 995.0     |
| 205  | 251.4                                                                    | 434.3       | 413.0       | 21.0       | 42.0      | 272.4        | 476.3       | 832.1     | 419.9              | 740.0       | 1063.0    |
| 215  | 265.7                                                                    | 444.6       | 413.0       | 21.0       | 42.0      | 286.7        | 486.6       | 842.5     | 426.1              | 751.0       | 1074.0    |
| 220  | 272.1                                                                    | 457.2       | 413.0       | 21.0       | 42.0      | 293.1        | 499.2       | 855.0     | 432.4              | 762.0       | 1085.0    |
| 225  | 279.9                                                                    | 477.5       | 413.0       | 21.0       | 42.0      | 300.9        | 519.5       | 875.5     | 465.0              | 819.0       | 1142.0    |
| 250  | 310.3                                                                    | 519.1       | 413.0       | 21.0       | 42.0      | 331.3        | 561.1       | 916.4     | 483.9              | 852.0       | 1175.0    |
| 270  | 324.3                                                                    | 542.3       | 413.0       | 24.0       | 48.0      | 348.3        | 590.3       | 946.7     | 525.7              | 926.0       | 1249.0    |
| 290  | 345.1                                                                    | 582.3       | 413.0       | 27.0       | 54.0      | 372.1        | 636.3       | 993.2     | 573.9              | 1011.0      | 1334.0    |

### Electrical data referred to 400V - 3PH+N-50Hz

Maximum operating admitted conditions: 10%.

Maximum phase unbalance: 3%.

**FLI** Full load power input at the conditions of the selection.

**FLA** Full load current at the conditions of the selection.

**SA** Inrush current (sum of LRA of the biggest compressor, current of the other compressors, total current of the fans).

**LRA** Locked rotor amperes for the biggest compressor.

**FLImax** Full load power input at the worst conditions for compressors and fans (at the limit of the unit envelope).

**FLAmax** Full load current at the worst conditions for compressors and fans (at the limit of the unit envelope).

**Samax** Inrush current (sum of LRA of the biggest compressor, current of the other compressors calculated at the worst conditions, total current of the fans).

(1) maximum operating admitted conditions by the compressors manufacturer.

(2) data referred to biggest compressor for units with different compressors.

## Electrical data

### CXAO L

| Size | NOMINAL VALUES                                                           |             |             |            |           |              |             |           | MAXIMUM VALUES (1) |             |           |
|------|--------------------------------------------------------------------------|-------------|-------------|------------|-----------|--------------|-------------|-----------|--------------------|-------------|-----------|
|      | Outdoor air temperature 35°C. evaporator water temperature in/out 12/7°C |             |             |            |           |              |             |           |                    |             |           |
|      | Compressors (2)                                                          |             |             | Fan motors |           | TOTAL        |             |           | TOTAL              |             |           |
|      | F.L.I.<br>kW                                                             | F.L.A.<br>A | L.R.A.<br>A | E.P.<br>kW | O.C.<br>A | F.L.I.<br>kW | F.L.A.<br>A | S.A.<br>A | F.L.I.<br>kW       | F.L.A.<br>A | S.A.<br>A |
| 120  | 151.8                                                                    | 254.2       | 413.0       | 9.0        | 18.0      | 160.8        | 272.2       | 627.1     | 250.3              | 441.0       | 764.0     |
| 130  | 165.7                                                                    | 277.1       | 320.0       | 9.0        | 18.0      | 174.7        | 295.1       | 568.9     | 282.9              | 498.0       | 739.0     |
| 140  | 172.8                                                                    | 287.1       | 413.0       | 11.3       | 22.5      | 184.0        | 309.6       | 665.2     | 272.1              | 480.0       | 803.0     |
| 150  | 186.7                                                                    | 312.6       | 413.0       | 11.3       | 22.5      | 197.9        | 335.1       | 690.0     | 304.7              | 537.0       | 860.0     |
| 165  | 211.2                                                                    | 352.5       | 413.0       | 11.3       | 22.5      | 222.5        | 375.0       | 729.3     | 323.6              | 570.0       | 893.0     |
| 175  | 209.7                                                                    | 357.8       | 413.0       | 15.8       | 31.5      | 225.5        | 389.3       | 745.4     | 365.6              | 645.0       | 968.0     |
| 180  | 226.2                                                                    | 299.8       | 413.0       | 15.8       | 31.5      | 241.9        | 331.3       | 688.5     | 310.7              | 549.0       | 872.0     |
| 190  | 231.2                                                                    | 391.8       | 413.0       | 15.8       | 31.5      | 246.9        | 423.3       | 778.7     | 374.7              | 661.0       | 984.0     |
| 195  | 241.4                                                                    | 407.1       | 413.0       | 15.8       | 31.5      | 257.2        | 438.6       | 793.5     | 381.0              | 672.0       | 995.0     |
| 205  | 266.4                                                                    | 447.6       | 413.0       | 15.8       | 31.5      | 282.2        | 479.1       | 833.1     | 419.9              | 740.0       | 1063.0    |
| 215  | 274.6                                                                    | 458.1       | 413.0       | 15.8       | 31.5      | 290.3        | 489.6       | 843.8     | 426.1              | 751.0       | 1074.0    |
| 220  | 285.5                                                                    | 471.0       | 413.0       | 15.8       | 31.5      | 301.2        | 502.5       | 856.6     | 432.4              | 762.0       | 1085.0    |
| 225  | 290.1                                                                    | 492.1       | 413.0       | 15.8       | 31.5      | 305.9        | 523.6       | 877.8     | 465.0              | 819.0       | 1142.0    |
| 250  | 318.9                                                                    | 534.9       | 413.0       | 15.8       | 31.5      | 334.7        | 566.4       | 920.0     | 483.9              | 852.0       | 1175.0    |
| 270  | 341.0                                                                    | 558.7       | 413.0       | 18.0       | 36.0      | 359.0        | 594.7       | 949.4     | 525.7              | 926.0       | 1249.0    |
| 290  | 358.1                                                                    | 599.9       | 413.0       | 20.3       | 40.5      | 378.3        | 640.4       | 995.6     | 573.9              | 1011.0      | 1334.0    |

#### Electrical data referred to 400V - 3PH+N-50Hz

Maximum operating admitted conditions: 10%.

Maximum phase unbalance: 3%.

**FLI** Full load power input at the conditions of the selection.

**FLA** Full load current at the conditions of the selection.

**SA** Inrush current (sum of LRA of the biggest compressor, current of the other compressors, total current of the fans).

**LRA** Locked rotor amperes for the biggest compressor.

**FLI<sub>max</sub>** Full load power input at the worst conditions for compressors and fans (at the limit of the unit envelope).

**FLA<sub>max</sub>** Full load current at the worst conditions for compressors and fans (at the limit of the unit envelope).

**Samax** Inrush current (sum of LRA of the biggest compressor, current of the other compressors calculated at the worst conditions, total current of the fans).

(1) maximum operating admitted conditions by the compressors manufacturer.

(2) data referred to biggest compressor for units with different compressors.

## Electrical data

### CXAO S

| Size | NOMINAL VALUES                                                           |             |             |            |           |              |             |           | MAXIMUM VALUES (1) |             |           |
|------|--------------------------------------------------------------------------|-------------|-------------|------------|-----------|--------------|-------------|-----------|--------------------|-------------|-----------|
|      | Outdoor air temperature 35°C. evaporator water temperature in/out 12/7°C |             |             |            |           |              |             |           |                    |             |           |
|      | Compressors (2)                                                          |             |             | Fan motors |           | TOTAL        |             |           | TOTAL              |             |           |
|      | F.L.I.<br>kW                                                             | F.L.A.<br>A | L.R.A.<br>A | E.P.<br>kW | O.C.<br>A | F.L.I.<br>kW | F.L.A.<br>A | S.A.<br>A | F.L.I.<br>kW       | F.L.A.<br>A | S.A.<br>A |
| 120  | 154.9                                                                    | 261.1       | 413.0       | 8.4        | 16.8      | 163.3        | 277.9       | 631.3     | 250.3              | 441.0       | 764.0     |
| 130  | 172.5                                                                    | 289.3       | 320.0       | 10.5       | 21.0      | 183.0        | 310.3       | 582.1     | 285.9              | 504.0       | 745.0     |
| 140  | 178.1                                                                    | 292.8       | 413.0       | 10.5       | 21.0      | 188.6        | 313.8       | 668.2     | 272.1              | 480.0       | 803.0     |
| 150  | 191.6                                                                    | 320.6       | 413.0       | 12.6       | 25.2      | 204.2        | 345.8       | 699.2     | 307.7              | 543.0       | 866.0     |
| 165  | 211.4                                                                    | 353.8       | 413.0       | 12.6       | 25.2      | 224.0        | 379.0       | 733.0     | 326.6              | 576.0       | 899.0     |
| 175  | 233.2                                                                    | 360.9       | 413.0       | 14.7       | 29.4      | 247.9        | 390.3       | 745.9     | 365.6              | 645.0       | 968.0     |
| 180  | 228.3                                                                    | 294.2       | 413.0       | 14.7       | 29.4      | 243.0        | 323.6       | 681.9     | 310.7              | 549.0       | 872.0     |
| 190  | 235.0                                                                    | 382.1       | 413.0       | 14.7       | 29.4      | 249.7        | 411.5       | 768.2     | 374.7              | 661.0       | 984.0     |
| 195  | 248.1                                                                    | 408.6       | 413.0       | 14.7       | 29.4      | 262.8        | 438.0       | 792.6     | 381.0              | 672.0       | 995.0     |
| 205  | 271.9                                                                    | 446.8       | 413.0       | 16.8       | 33.6      | 288.7        | 480.4       | 834.5     | 422.9              | 746.0       | 1069.0    |
| 215  | 280.1                                                                    | 456.2       | 413.0       | 16.8       | 33.6      | 296.9        | 489.8       | 844.3     | 429.1              | 757.0       | 1080.0    |
| 220  | 289.6                                                                    | 476.6       | 413.0       | 16.8       | 33.6      | 306.4        | 510.2       | 863.7     | 435.4              | 768.0       | 1091.0    |
| 225  | 287.2                                                                    | 488.8       | 413.0       | 18.9       | 37.8      | 306.1        | 526.6       | 881.2     | 471.0              | 831.0       | 1154.0    |
| 250  | 317.6                                                                    | 534.2       | 413.0       | 18.9       | 37.8      | 336.5        | 572.0       | 925.6     | 489.9              | 864.0       | 1187.0    |
| 270  | 330.6                                                                    | 600.5       | 413.0       | 21.0       | 42.0      | 351.6        | 642.5       | 992.9     | 531.7              | 938.0       | 1261.0    |
| 290  | 349.3                                                                    | 574.1       | 413.0       | 21.0       | 42.0      | 370.3        | 616.1       | 973.8     | 576.9              | 1017.0      | 1340.0    |

#### Electrical data referred to 400V - 3PH+N-50Hz

Maximum operating admitted conditions: 10%.

Maximum phase unbalance: 3%.

**FLI** Full load power input at the conditions of the selection.

**FLA** Full load current at the conditions of the selection.

**SA** Inrush current (sum of LRA of the biggest compressor, current of the other compressors, total current of the fans).

**LRA** Locked rotor amperes for the biggest compressor.

**FLI<sub>max</sub>** Full load power input at the worst conditions for compressors and fans (at the limit of the unit envelope).

**FLA<sub>max</sub>** Full load current at the worst conditions for compressors and fans (at the limit of the unit envelope).

**Samax** Inrush current (sum of LRA of the biggest compressor, current of the other compressors calculated at the worst conditions, total current of the fans).

(1) maximum operating admitted conditions by the compressors manufacturer.

(2) data referred to biggest compressor for units with different compressors.

# Acoustic data

## CXAO

| Size | Octave bands (Hz)            |      |      |      |      |      |      |      | Lw<br>dB(A) |
|------|------------------------------|------|------|------|------|------|------|------|-------------|
|      | 63                           | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |             |
|      | Sound pressure level (dB(A)) |      |      |      |      |      |      |      |             |
| 120  | 70.0                         | 66.0 | 61.4 | 57.2 | 54.8 | 70.0 | 52.5 | 41.5 | 93.0        |
| 130  | 69.1                         | 65.1 | 60.5 | 56.3 | 53.9 | 69.1 | 51.6 | 40.6 | 92.0        |
| 140  | 68.7                         | 64.7 | 60.1 | 55.9 | 53.5 | 68.7 | 51.2 | 40.2 | 91.8        |
| 150  | 71.1                         | 67.1 | 62.5 | 58.3 | 55.9 | 71.1 | 53.6 | 42.6 | 94.2        |
| 165  | 72.4                         | 68.4 | 63.8 | 59.6 | 57.2 | 72.4 | 54.9 | 43.9 | 95.5        |
| 175  | 71.1                         | 67.1 | 62.5 | 58.3 | 55.9 | 71.1 | 53.6 | 42.6 | 94.4        |
| 180  | 72.2                         | 68.2 | 63.6 | 59.4 | 57.0 | 72.2 | 54.7 | 43.7 | 95.6        |
| 190  | 72.5                         | 68.5 | 63.9 | 59.7 | 57.3 | 72.5 | 55.0 | 44.0 | 95.9        |
| 195  | 72.9                         | 68.9 | 64.3 | 60.1 | 57.7 | 72.9 | 55.4 | 44.4 | 96.2        |
| 205  | 72.8                         | 68.8 | 64.2 | 60.0 | 57.6 | 72.8 | 55.3 | 44.3 | 96.1        |
| 215  | 73.1                         | 69.1 | 64.5 | 60.3 | 57.9 | 73.1 | 55.6 | 44.6 | 96.4        |
| 220  | 73.4                         | 69.4 | 64.8 | 60.6 | 58.2 | 73.4 | 55.9 | 44.9 | 96.7        |
| 225  | 73.0                         | 69.0 | 64.4 | 60.2 | 57.8 | 73.0 | 55.5 | 44.5 | 96.3        |
| 250  | 73.8                         | 69.8 | 65.2 | 61.0 | 58.6 | 73.8 | 56.3 | 45.3 | 97.2        |
| 270  | 73.7                         | 69.7 | 65.1 | 60.9 | 58.5 | 73.7 | 56.2 | 45.2 | 97.2        |
| 290  | 73.9                         | 69.9 | 65.3 | 61.1 | 58.7 | 73.9 | 56.4 | 45.4 | 97.4        |

## CXAO L

| Size | Octave bands (Hz)            |      |      |      |      |      |      |      | Lw<br>dB(A) |
|------|------------------------------|------|------|------|------|------|------|------|-------------|
|      | 63                           | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |             |
|      | Sound pressure level (dB(A)) |      |      |      |      |      |      |      |             |
| 120  | 68.0                         | 64.0 | 59.4 | 55.2 | 52.8 | 68.0 | 50.5 | 39.5 | 91.0        |
| 130  | 67.1                         | 63.1 | 58.5 | 54.3 | 51.9 | 67.1 | 49.6 | 38.6 | 90.0        |
| 140  | 66.7                         | 62.7 | 58.1 | 53.9 | 51.5 | 66.7 | 49.2 | 38.2 | 89.8        |
| 150  | 69.1                         | 65.1 | 60.5 | 56.3 | 53.9 | 69.1 | 51.6 | 40.6 | 92.2        |
| 165  | 70.4                         | 66.4 | 61.8 | 57.6 | 55.2 | 70.4 | 52.9 | 41.9 | 93.5        |
| 175  | 69.1                         | 65.1 | 60.5 | 56.3 | 53.9 | 69.1 | 51.6 | 40.6 | 92.4        |
| 180  | 70.2                         | 66.2 | 61.6 | 57.4 | 55.0 | 70.2 | 52.7 | 41.7 | 93.6        |
| 190  | 70.5                         | 66.5 | 61.9 | 57.7 | 55.3 | 70.5 | 53.0 | 42.0 | 93.9        |
| 195  | 70.9                         | 66.9 | 62.3 | 58.1 | 55.7 | 70.9 | 53.4 | 42.4 | 94.2        |
| 205  | 70.8                         | 66.8 | 62.2 | 58.0 | 55.6 | 70.8 | 53.3 | 42.3 | 94.1        |
| 215  | 71.1                         | 67.1 | 62.5 | 58.3 | 55.9 | 71.1 | 53.6 | 42.6 | 94.4        |
| 220  | 71.4                         | 67.4 | 62.8 | 58.6 | 56.2 | 71.4 | 53.9 | 42.9 | 94.7        |
| 225  | 71.0                         | 67.0 | 62.4 | 58.2 | 55.8 | 71.0 | 53.5 | 42.5 | 94.3        |
| 250  | 71.8                         | 67.8 | 63.2 | 59.0 | 56.6 | 71.8 | 54.3 | 43.3 | 95.2        |
| 270  | 71.7                         | 67.7 | 63.1 | 58.9 | 56.5 | 71.7 | 54.2 | 43.2 | 95.2        |
| 290  | 71.9                         | 67.9 | 63.3 | 59.1 | 56.7 | 71.9 | 54.4 | 43.4 | 95.4        |

## Acoustic data

### CXAO S

| Size | Octave bands (Hz)            |      |      |      |      |      |      |      | Lw<br>dB(A) |
|------|------------------------------|------|------|------|------|------|------|------|-------------|
|      | 63                           | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |             |
|      | Sound pressure level (dB(A)) |      |      |      |      |      |      |      |             |
| 120  | 65.0                         | 61.0 | 56.4 | 52.2 | 49.8 | 65.0 | 47.5 | 36.5 | 88.0        |
| 130  | 63.9                         | 59.9 | 55.3 | 51.1 | 48.7 | 63.9 | 46.4 | 35.4 | 87.0        |
| 140  | 63.7                         | 59.7 | 55.1 | 50.9 | 48.5 | 63.7 | 46.2 | 35.2 | 86.8        |
| 150  | 66.0                         | 62.0 | 57.4 | 53.2 | 50.8 | 66.0 | 48.5 | 37.5 | 89.2        |
| 165  | 67.2                         | 63.2 | 58.6 | 54.4 | 52.0 | 67.2 | 49.7 | 38.7 | 90.5        |
| 175  | 66.1                         | 62.1 | 57.5 | 53.3 | 50.9 | 66.1 | 48.6 | 37.6 | 89.4        |
| 180  | 67.2                         | 63.2 | 58.6 | 54.4 | 52.0 | 67.2 | 49.7 | 38.7 | 90.6        |
| 190  | 67.5                         | 63.5 | 58.9 | 54.7 | 52.3 | 67.5 | 50.0 | 39.0 | 90.9        |
| 195  | 67.9                         | 63.9 | 59.3 | 55.1 | 52.7 | 67.9 | 50.4 | 39.4 | 91.2        |
| 205  | 67.7                         | 63.7 | 59.1 | 54.9 | 52.5 | 67.7 | 50.2 | 39.2 | 91.1        |
| 215  | 68.0                         | 64.0 | 59.4 | 55.2 | 52.8 | 68.0 | 50.5 | 39.5 | 91.4        |
| 220  | 68.3                         | 64.3 | 59.7 | 55.5 | 53.1 | 68.3 | 50.8 | 39.8 | 91.7        |
| 225  | 67.8                         | 63.8 | 59.2 | 55.0 | 52.6 | 67.8 | 50.3 | 39.3 | 91.3        |
| 250  | 68.6                         | 64.6 | 60.0 | 55.8 | 53.4 | 68.6 | 51.1 | 40.1 | 92.2        |
| 270  | 68.5                         | 64.5 | 59.9 | 55.7 | 53.3 | 68.5 | 51.0 | 40.0 | 92.2        |
| 290  | 68.8                         | 64.8 | 60.2 | 56.0 | 53.6 | 68.8 | 51.3 | 40.3 | 92.4        |

#### Operating conditions:

S: evaporator water temp. in/out 12°/7°C - outdoor temp. 35°C.

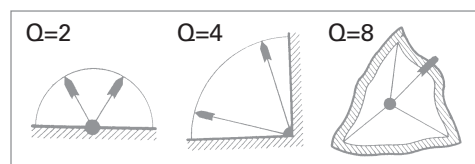
L: evaporator water temp. in/out 12°/7°C - outdoor temp. 35°C.

#### Testing point:

Average sound pressure levels calculated according to ISO 3744 at 10 mt distance from unit.

#### Measurement conditions:

Free field on reflecting surface (Q factor Q=2).



- For units installed in the presence of 2 reflecting surfaces (Q factor Q=4) 3 dB(A) have to be added at above mentioned values.
- For units installed in the presence of 3 reflecting surfaces (Q factor Q=8) 6 dB(A) have to be added at above mentioned values.
- For units installed at a certain height from the ground, the sound energy coming out from the bottom of the unit leads an increase of the noise pressure level of around 3 dB(A).

Sound emission values in octave bands are shown just as an indication and they are not to be considered as a commitment. Sound pressure values, according to ISO 3744 standards and in observance of EUROVENT certification program, are the only ones to be used for every calculation of the sound pressure level at operating conditions.

The sound pressure level data are not binding. For a more precise value please refer to the sound power level.

NOTE: Table data are referred to the unit without 1/2/3, 4/5/6, A/B/C/D/E/F set up.

## Acoustic data

### NOISE CORRECTION FACTORS FOR HYDRAULIC VERSION

For the Hydraulic version please consider the noise output increase due to the addition of the hydraulic group.

#### CXAO

| MODEL                |         |       | 120 | 130 | 140 | 150 | 165 | 175 | 180 | 190 | 195 | 205 | 215 | 220 | 225 | 250 | 270 | 290  |
|----------------------|---------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Low head pressure    | 1 pump  | dB(A) | 1   | 1   | 2   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 1   | 1    |
|                      | 2 pumps | dB(A) | 2   | 3   | 3   | 2   | 1   | 2   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1    |
| Medium head pressure | 1 pump  | dB(A) | 2   | 3   | 2   | 1   | 1   | 2   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1    |
|                      | 2 pumps | dB(A) | 4   | 4   | 3   | 2   | 2   | 3   | 2   | 2   | 2   | 2   | 1   | 1   | 1   | 1   | 1   | 2    |
| High head pressure   | 1 pump  | dB(A) | 1   | 2   | 2   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | n.a. |
|                      | 2 pumps | dB(A) | 3   | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | n.a. |

#### CXAO L

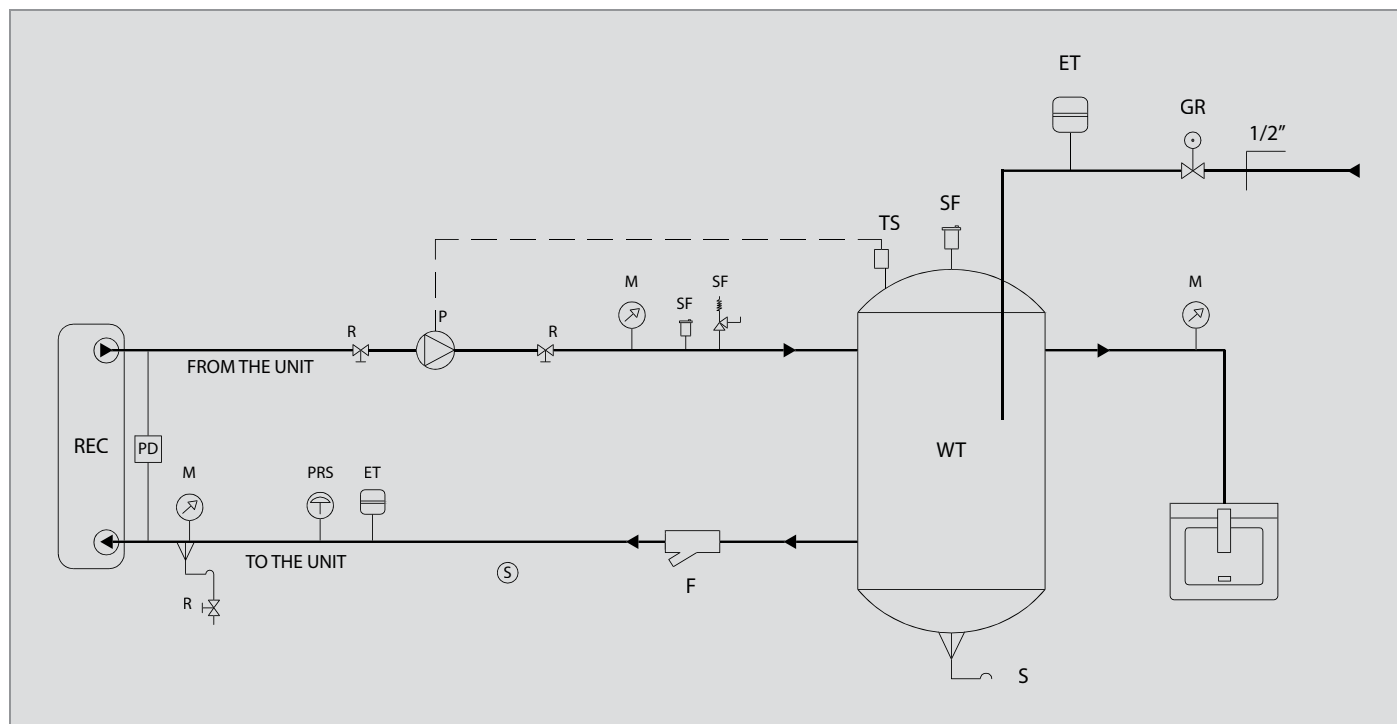
| MODEL                |         |       | 120 | 130 | 140 | 150 | 165 | 175 | 180 | 190 | 195 | 205 | 215 | 220 | 225 | 250 | 270 | 290  |
|----------------------|---------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Low head pressure    | 1 pump  | dB(A) | 2   | 2   | 2   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1    |
|                      | 2 pumps | dB(A) | 3   | 4   | 4   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 1   | 2   | 2    |
| Medium head pressure | 1 pump  | dB(A) | 3   | 4   | 3   | 2   | 1   | 2   | 2   | 2   | 2   | 2   | 1   | 1   | 1   | 1   | 1   | 1    |
|                      | 2 pumps | dB(A) | 5   | 5   | 4   | 3   | 2   | 4   | 3   | 3   | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 2    |
| High head pressure   | 1 pump  | dB(A) | 2   | 3   | 3   | 2   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 1   | 1   | n.a. |
|                      | 2 pumps | dB(A) | 4   | 4   | 4   | 3   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 2   | 2   | n.a. |

#### CXAO S

| MODEL                |         |       | 120 | 130 | 140 | 150 | 165 | 175 | 180 | 190 | 195 | 205 | 215 | 220 | 225 | 250 | 270 | 290  |
|----------------------|---------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Low head pressure    | 1 pump  | dB(A) | 3   | 4   | 4   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 1   | 2   | 2    |
|                      | 2 pumps | dB(A) | 5   | 5   | 6   | 4   | 3   | 4   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 2   | 3   | 3    |
| Medium head pressure | 1 pump  | dB(A) | 5   | 5   | 4   | 3   | 2   | 4   | 3   | 3   | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 2    |
|                      | 2 pumps | dB(A) | 7   | 8   | 6   | 5   | 4   | 6   | 5   | 5   | 5   | 5   | 3   | 3   | 3   | 3   | 3   | 4    |
| High head pressure   | 1 pump  | dB(A) | 4   | 4   | 4   | 3   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 2   | 2   | n.a. |
|                      | 2 pumps | dB(A) | 5   | 6   | 6   | 5   | 4   | 4   | 5   | 5   | 5   | 5   | 4   | 4   | 5   | 4   | 4   | n.a. |

# Installation sketch

## INSTALLATION SKETCH PARTIAL RECOVERY (CUSTOMER CARE)



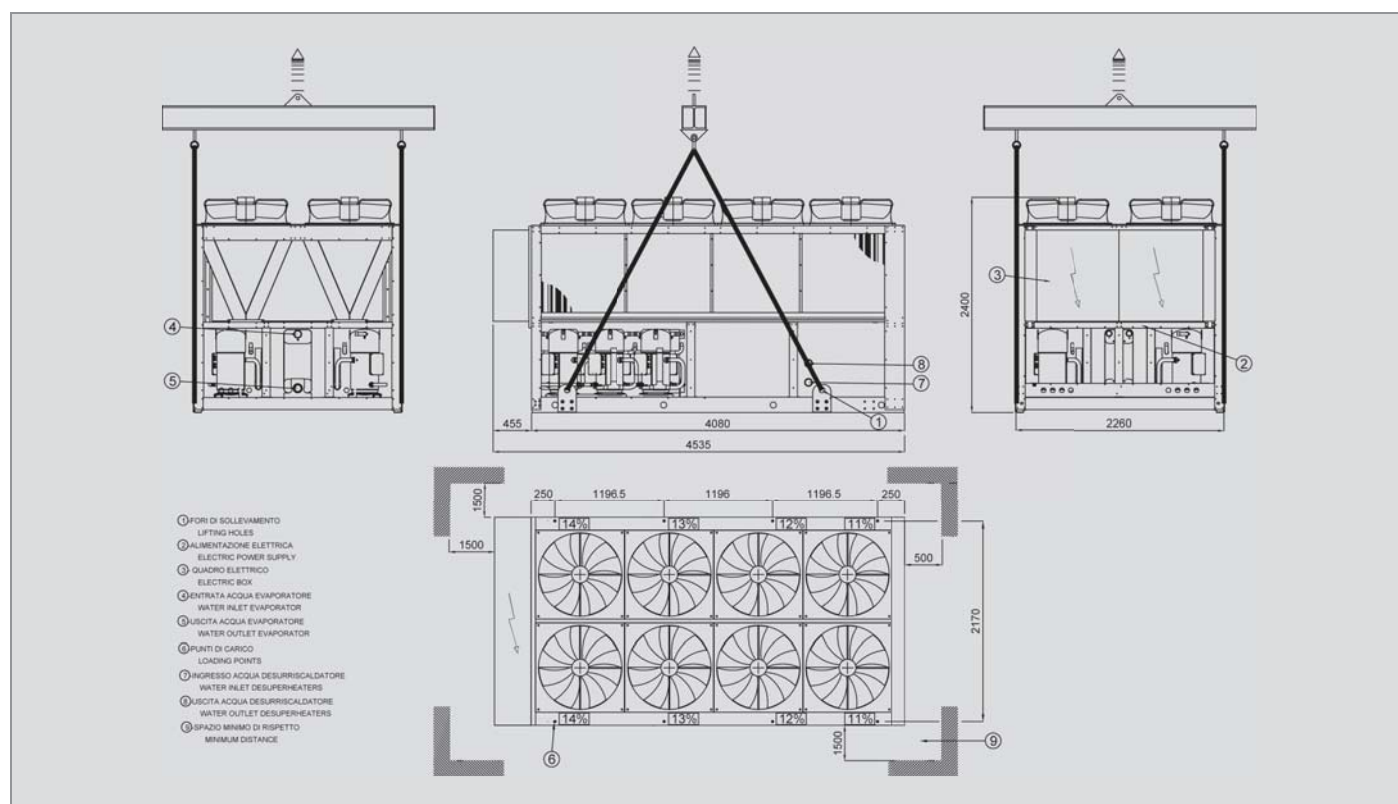
- M Gauges
- S Water discharge
- P Pump
- SV Safety valve
- SF Relief valve
- ET Expansion vessel
- PD Water differential pressure switch
- PRS Empty plant security pressure switch
- R Shut-off valve
- REC Total or partial recovery
- PR Additional pump water pressure switch
- VR Check valve
- WT Water tank
- GR Automatic water filling
- TS Thermostat for pump

### NOTES:

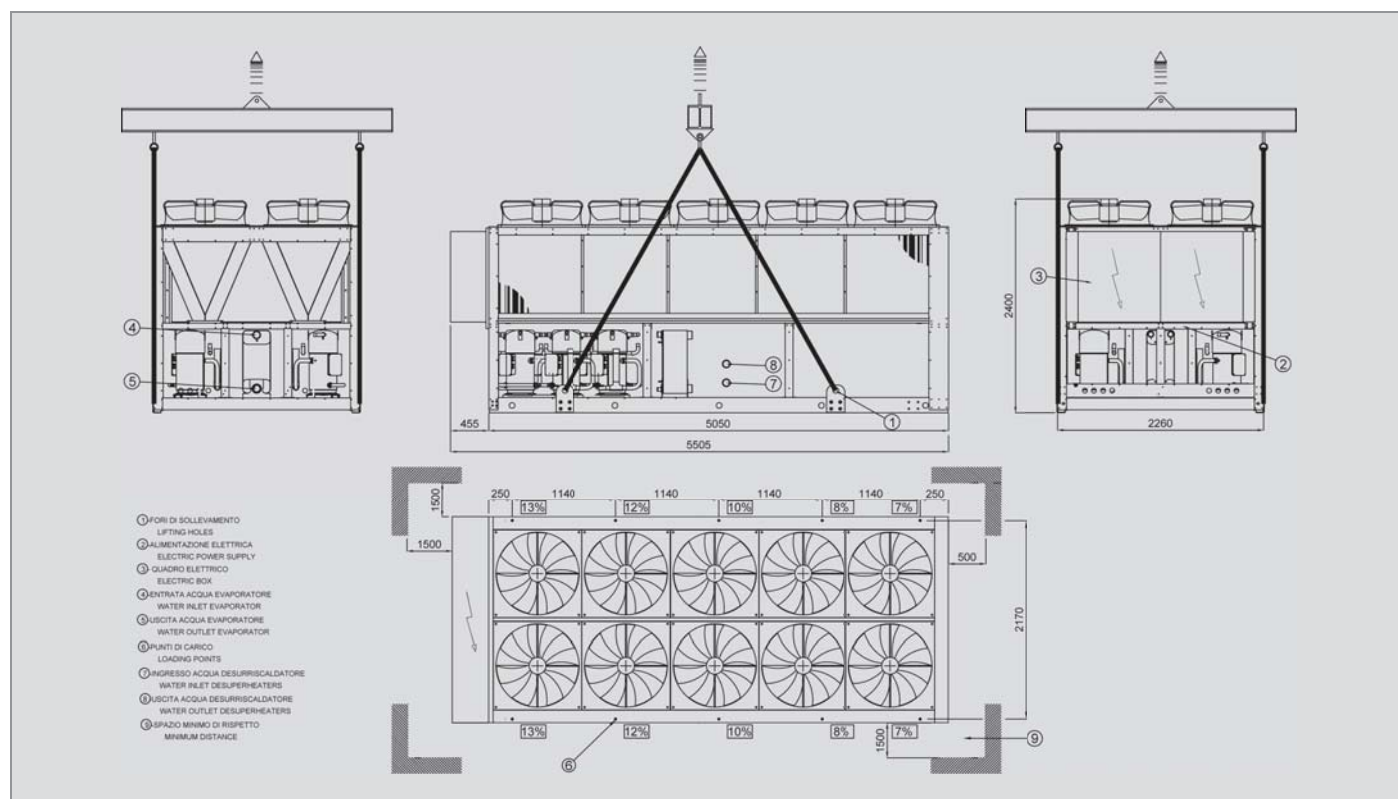
The installation of pump thermostat and control has to be provided by the customer.

# Dimensional drawings and weights

Standard / L 120 / 130

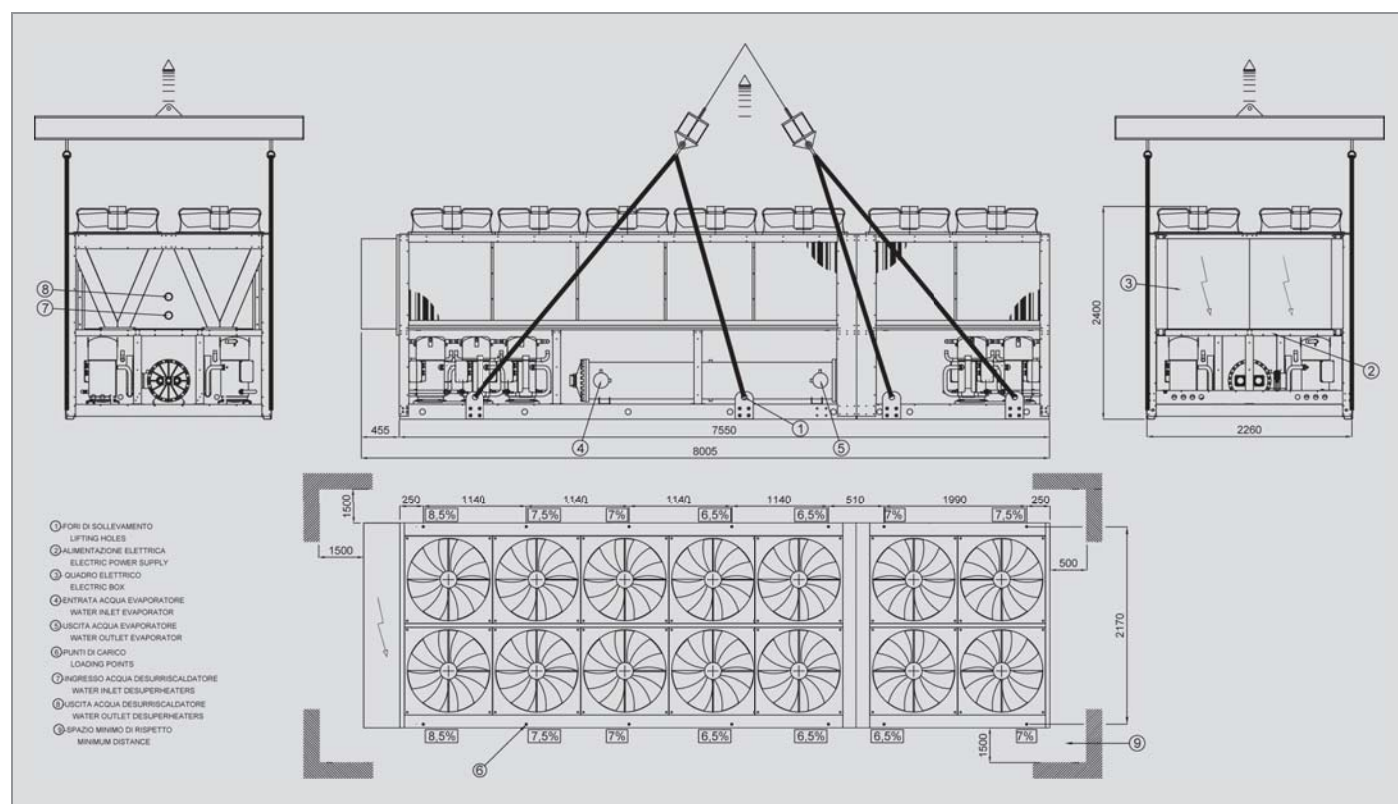


Standard / L 140 / 165

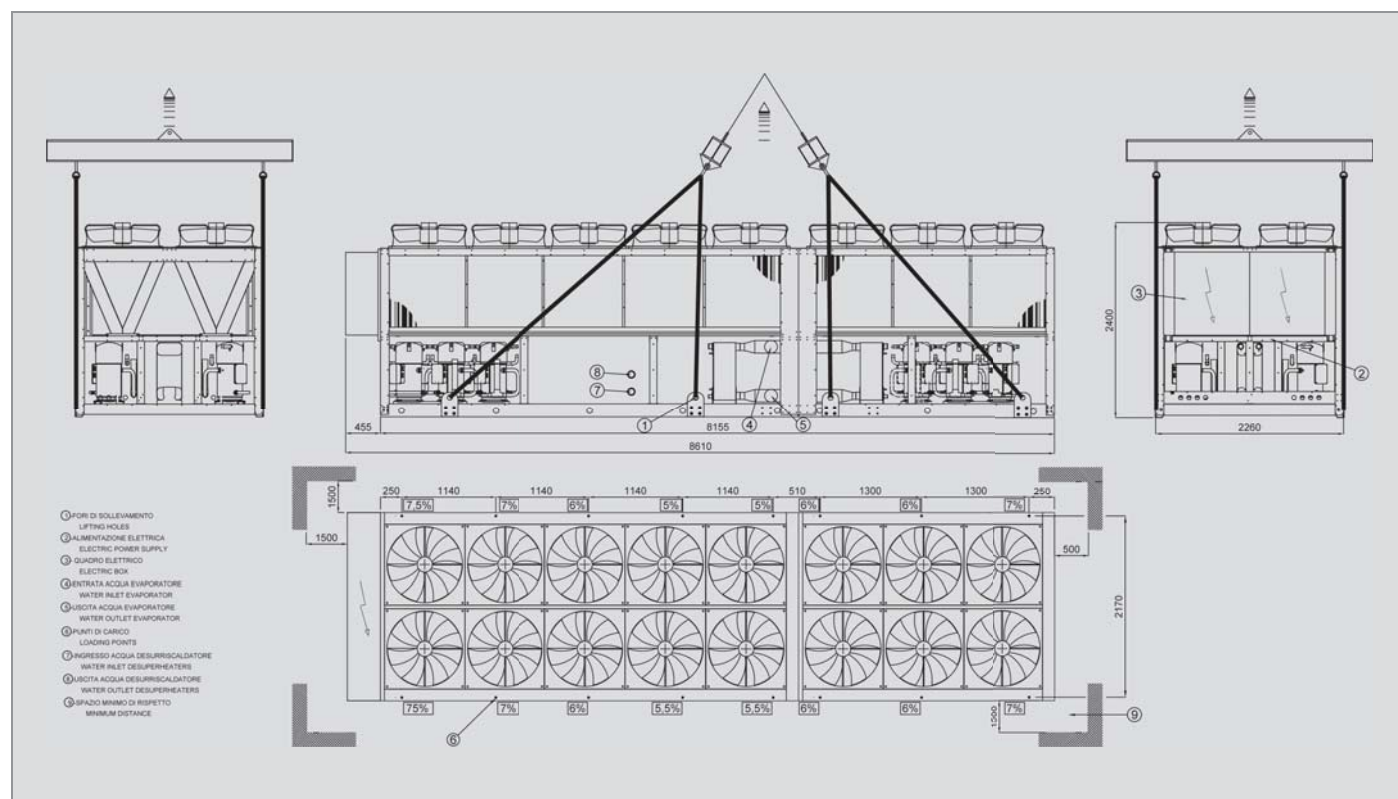


## Dimensional drawings and weights

### Standard / L 175 / 250

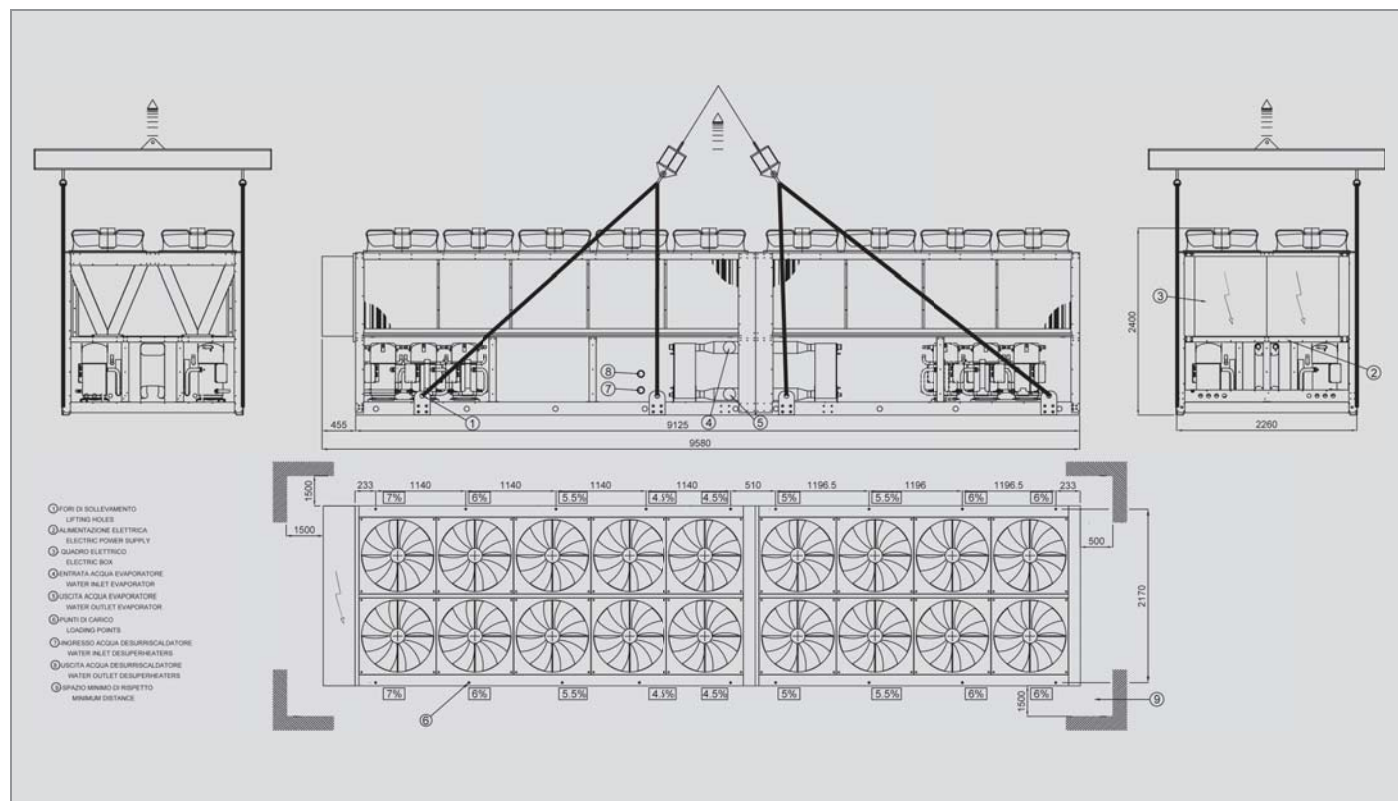


### Standard / L 270

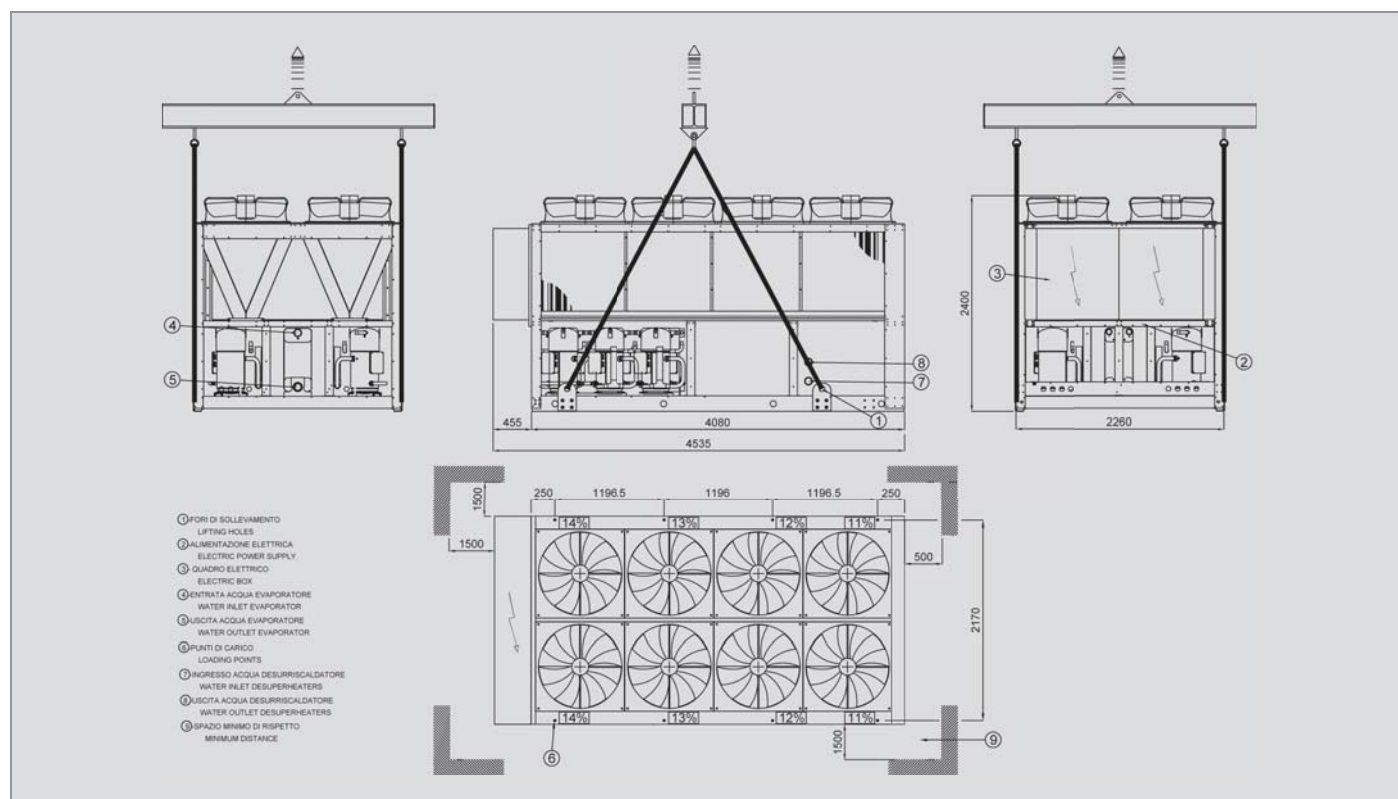


## Dimensional drawings and weights

Standard / L 290

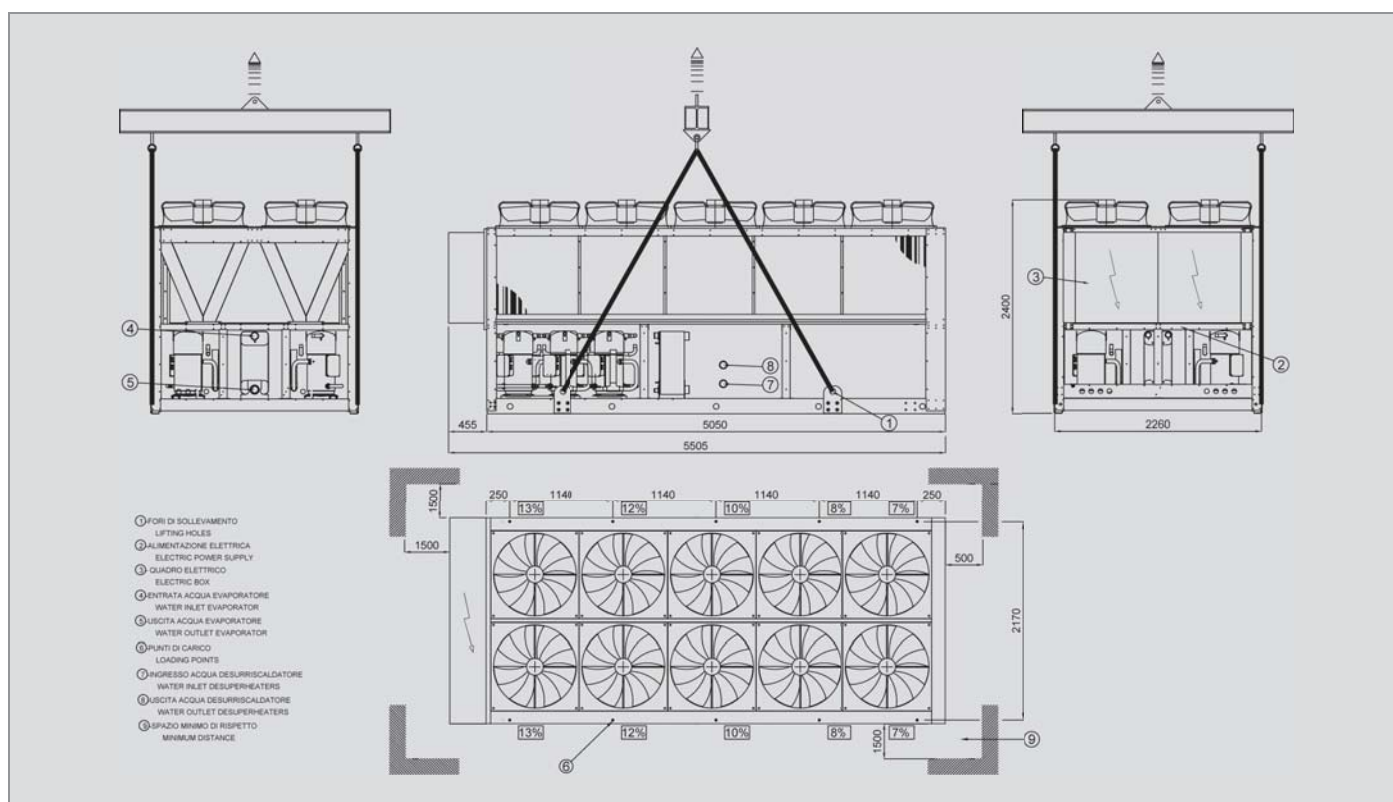


S 120

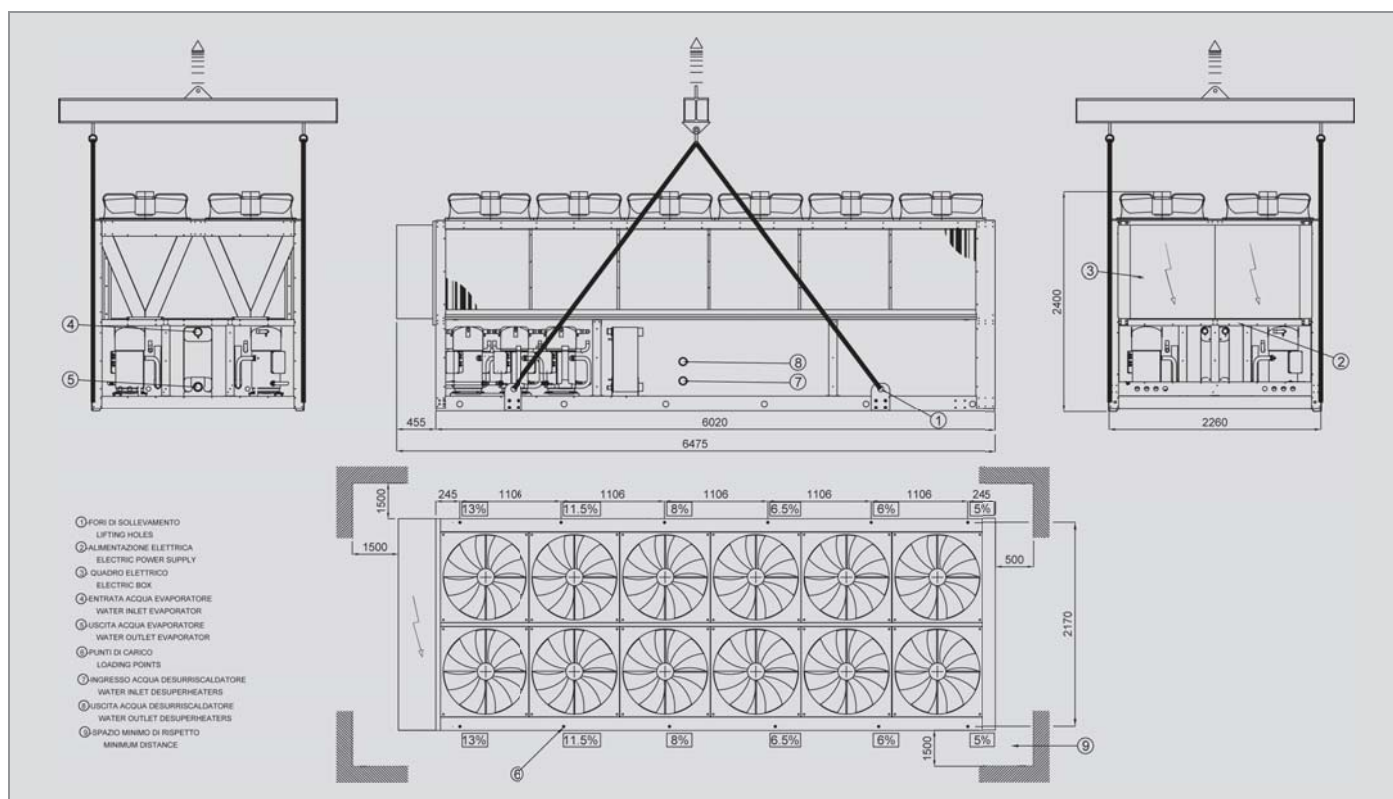


## Dimensional drawings and weights

### S 130 / 140

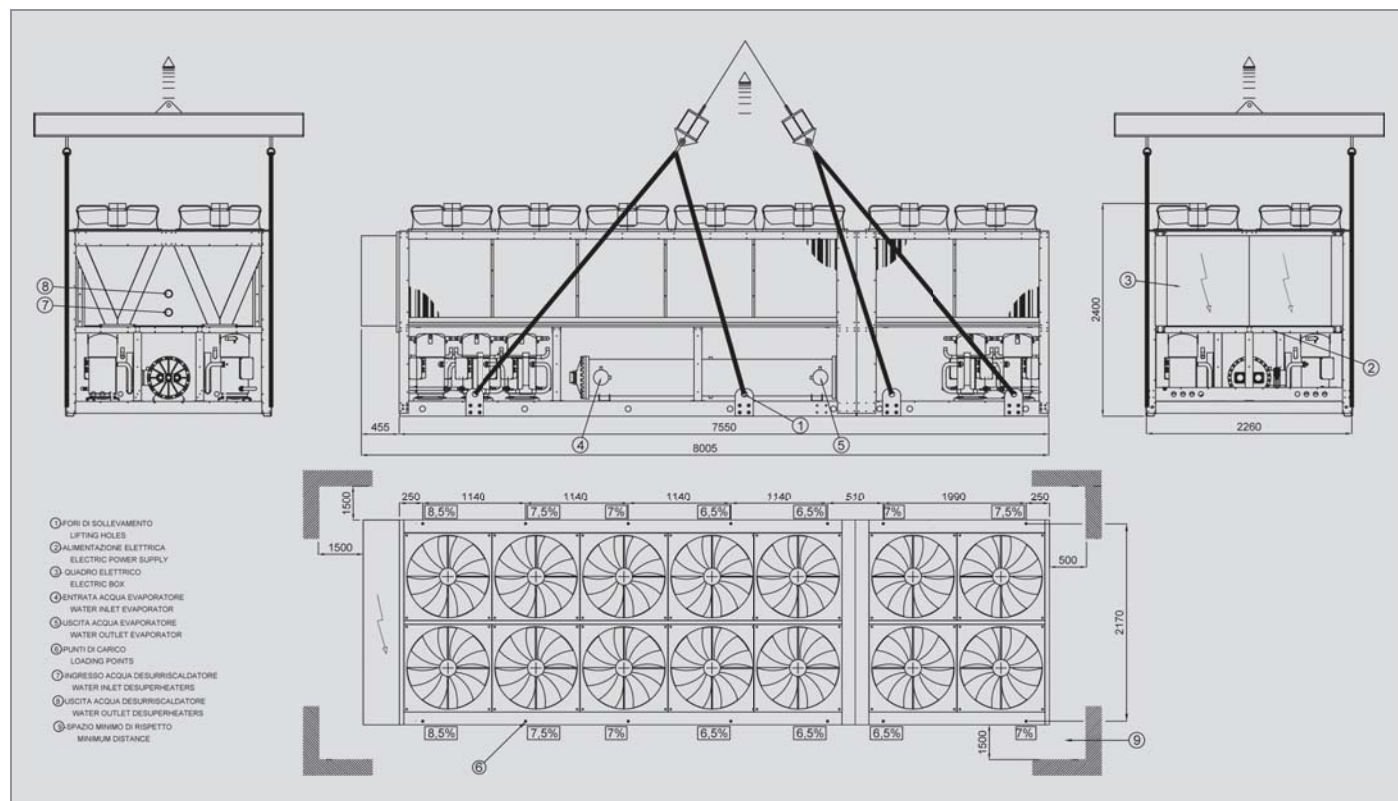


### S 150 / 165

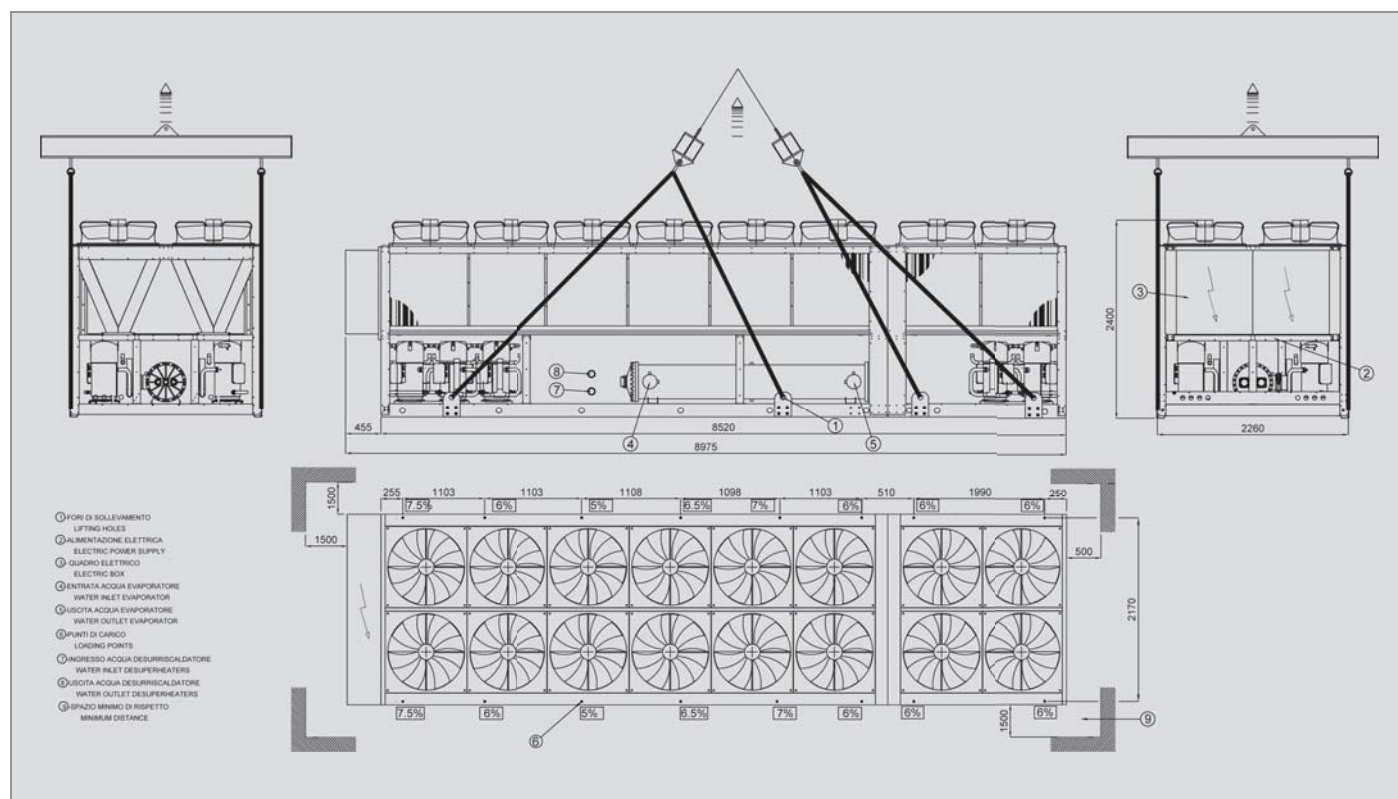


## Dimensional drawings and weights

S 175 / 195

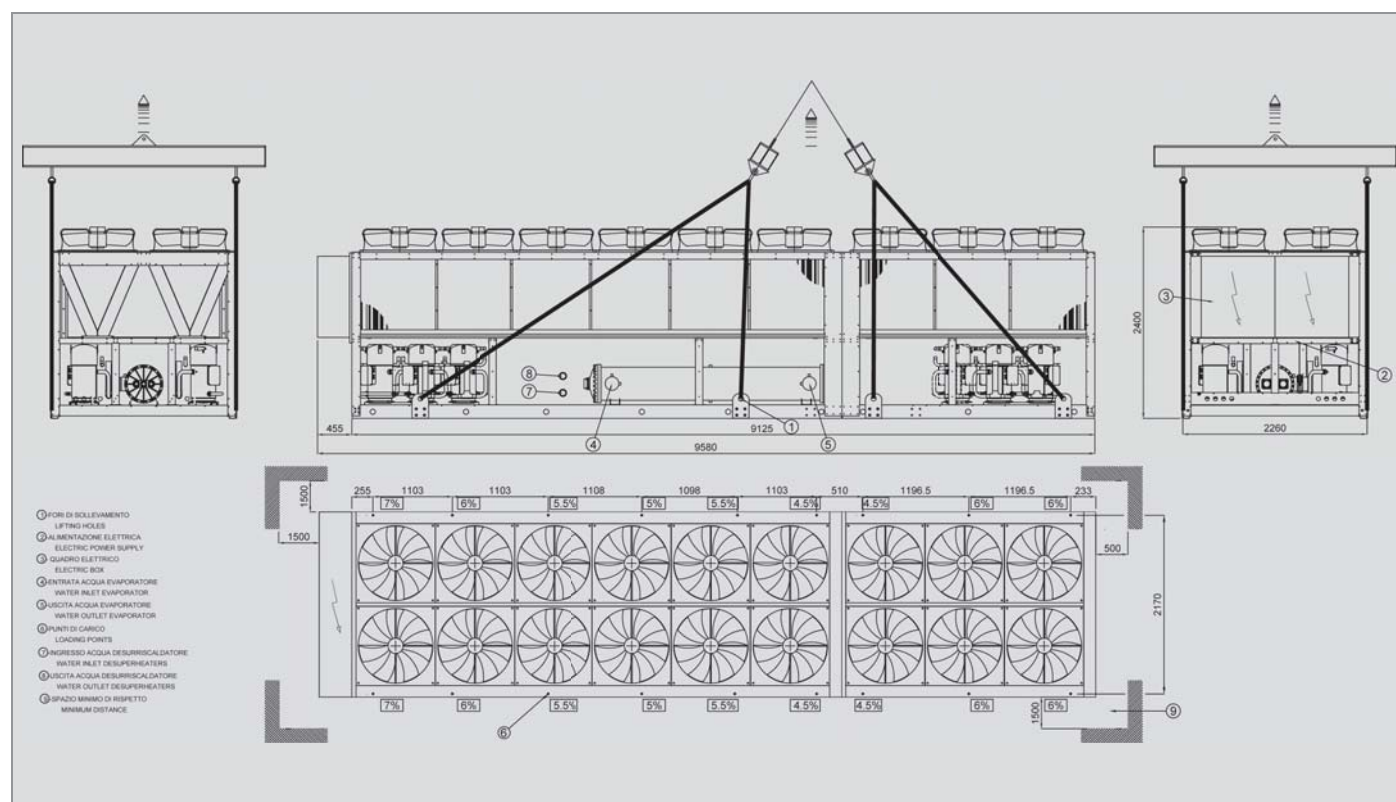


S 205 / 220

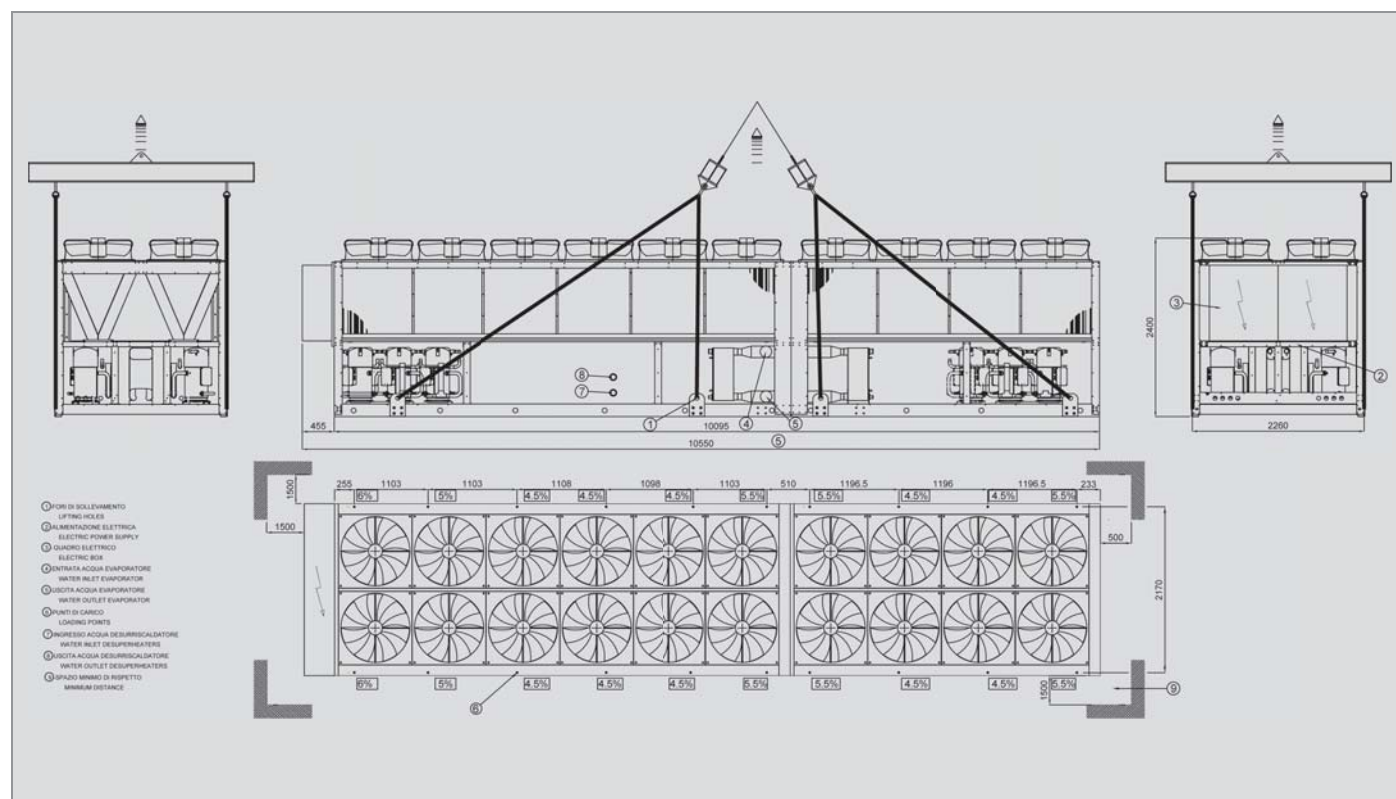


## Dimensional drawings and weights

**S 225 / 250**

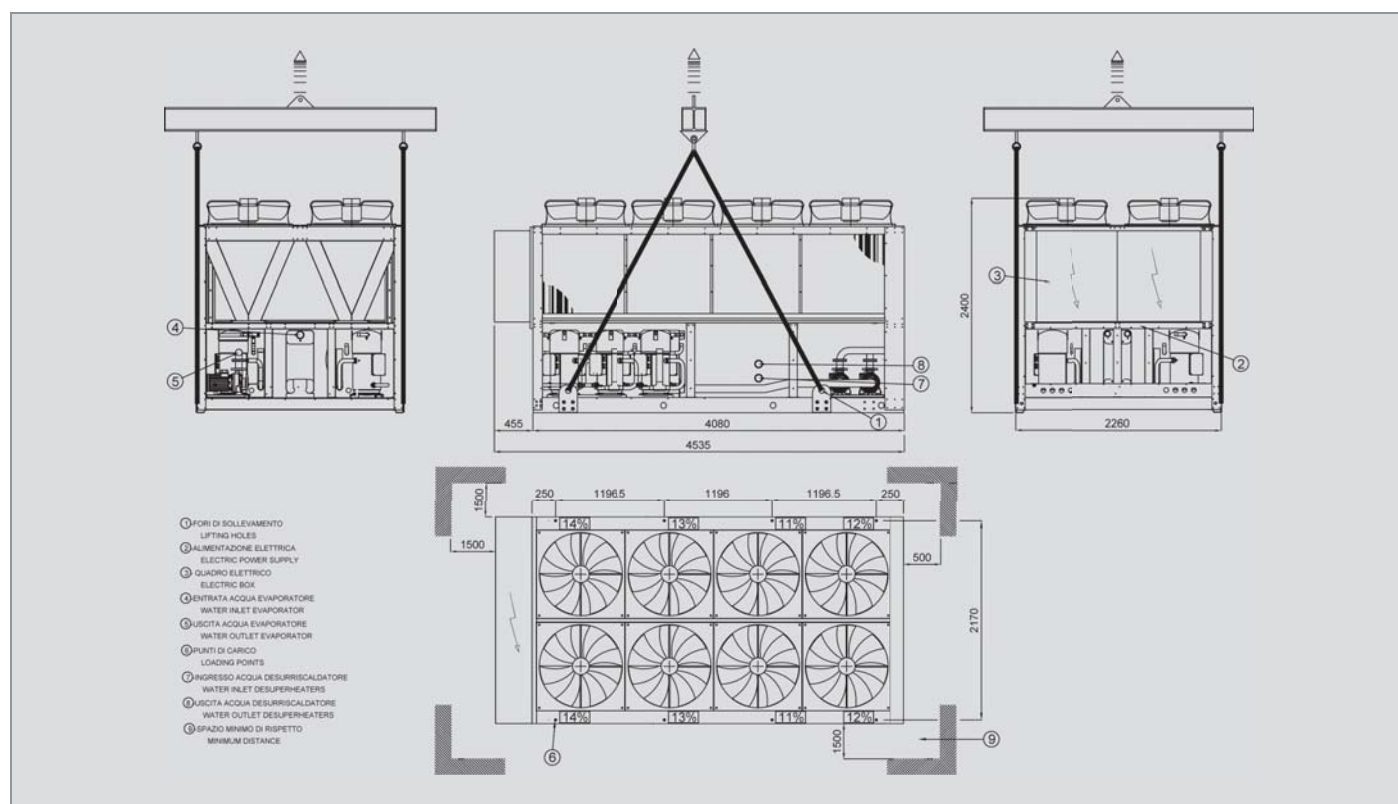


**S 270 / 290**

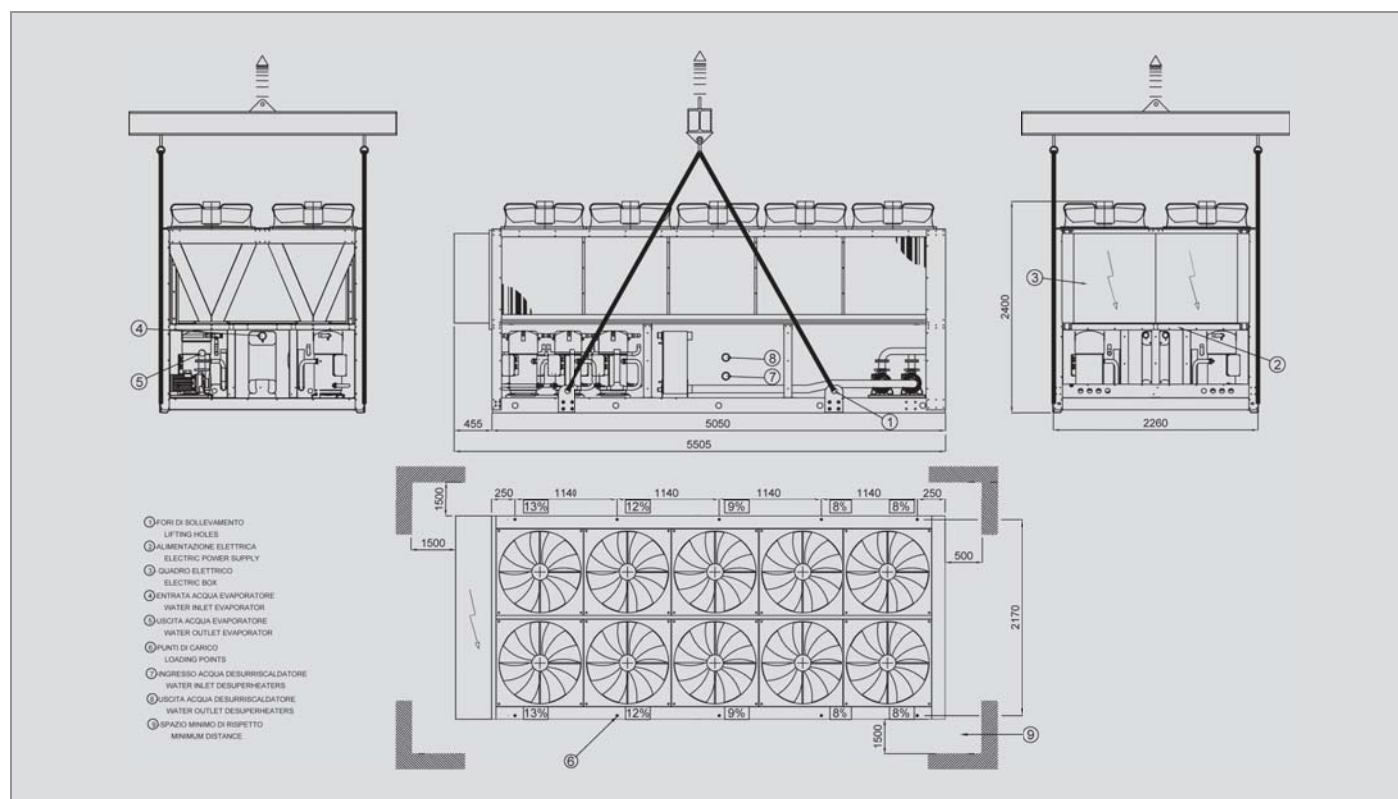


## Dimensional drawings and weights

Standard / L + 1/2/3/4/5/6 120 / 130

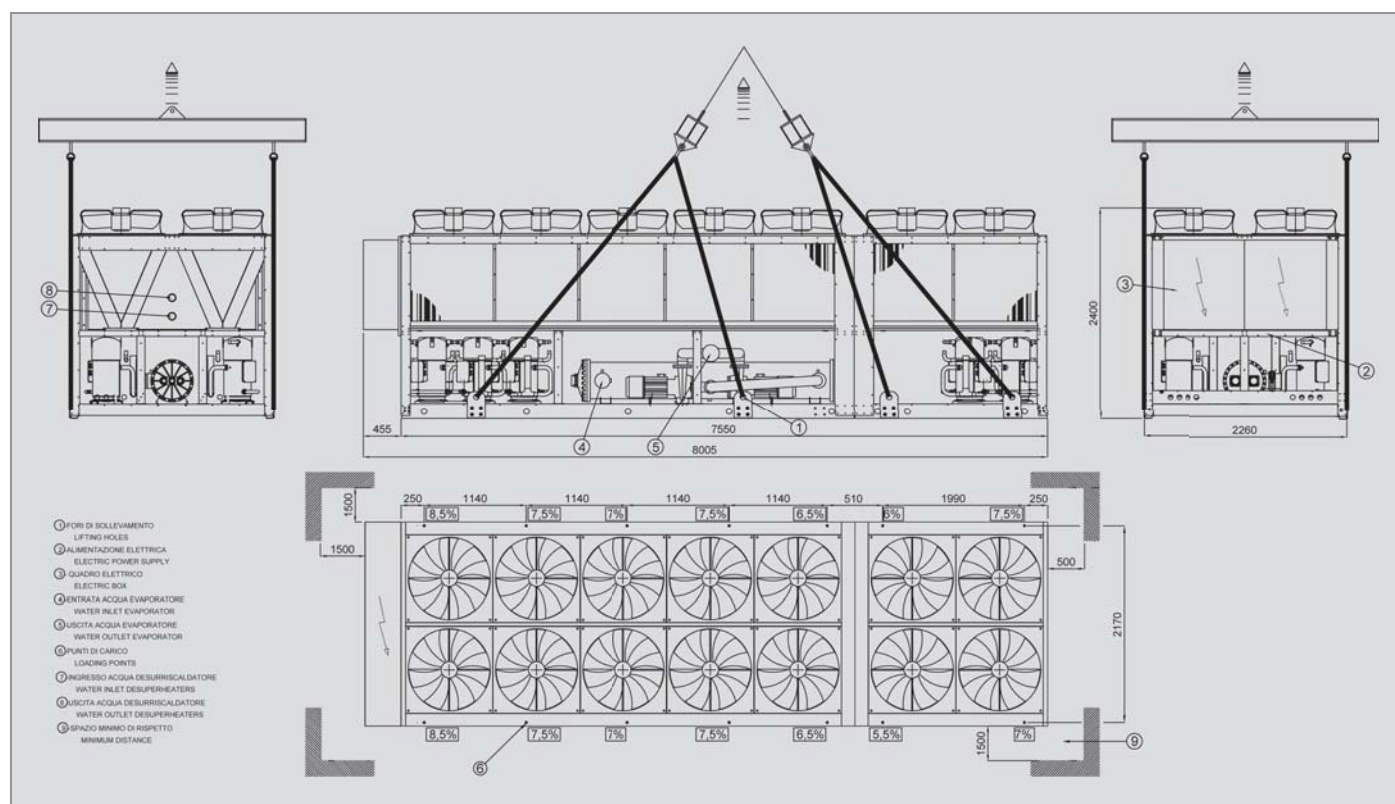


Standard / L + 1/2/3/4/5/6 140 / 165

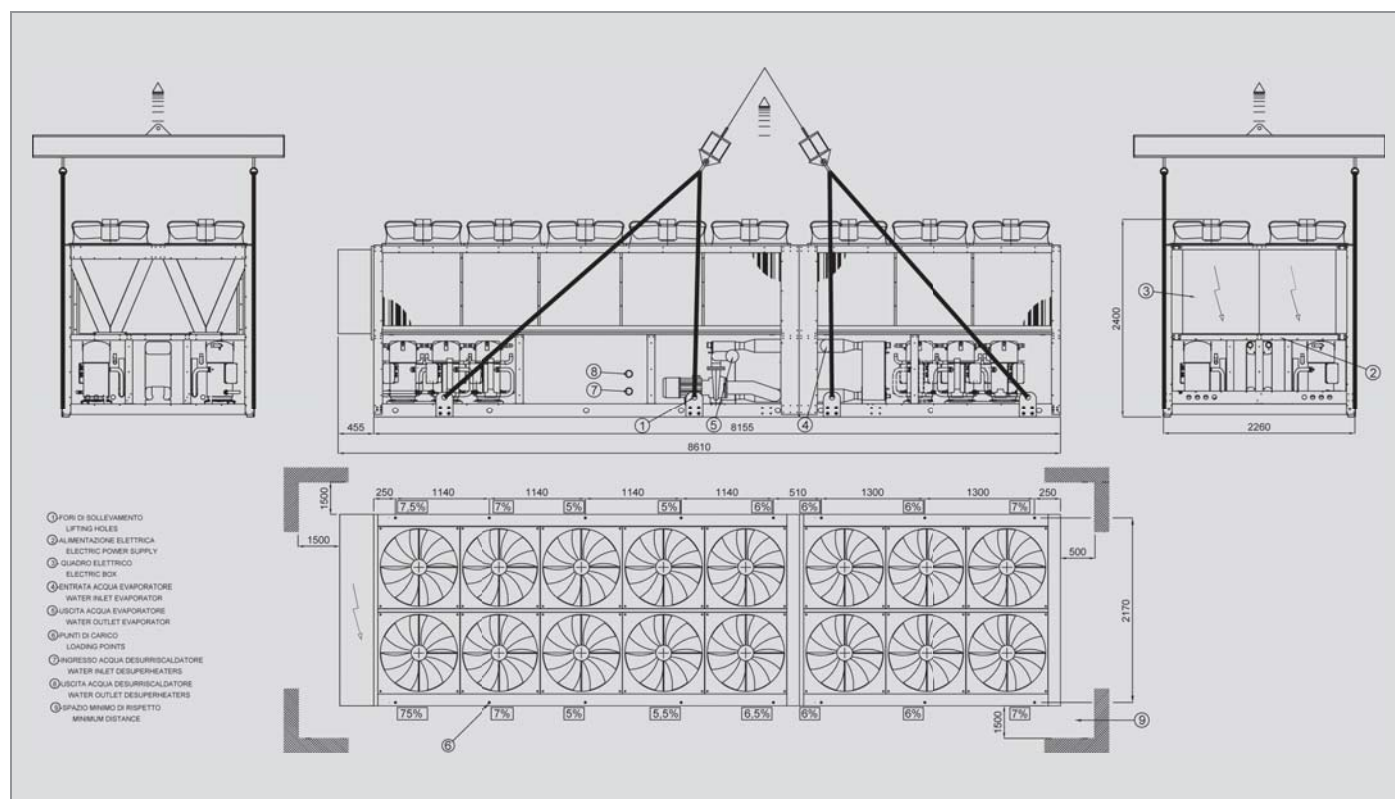


## Dimensional drawings and weights

Standard / L + 1/2/3/4/5/6 175 / 250

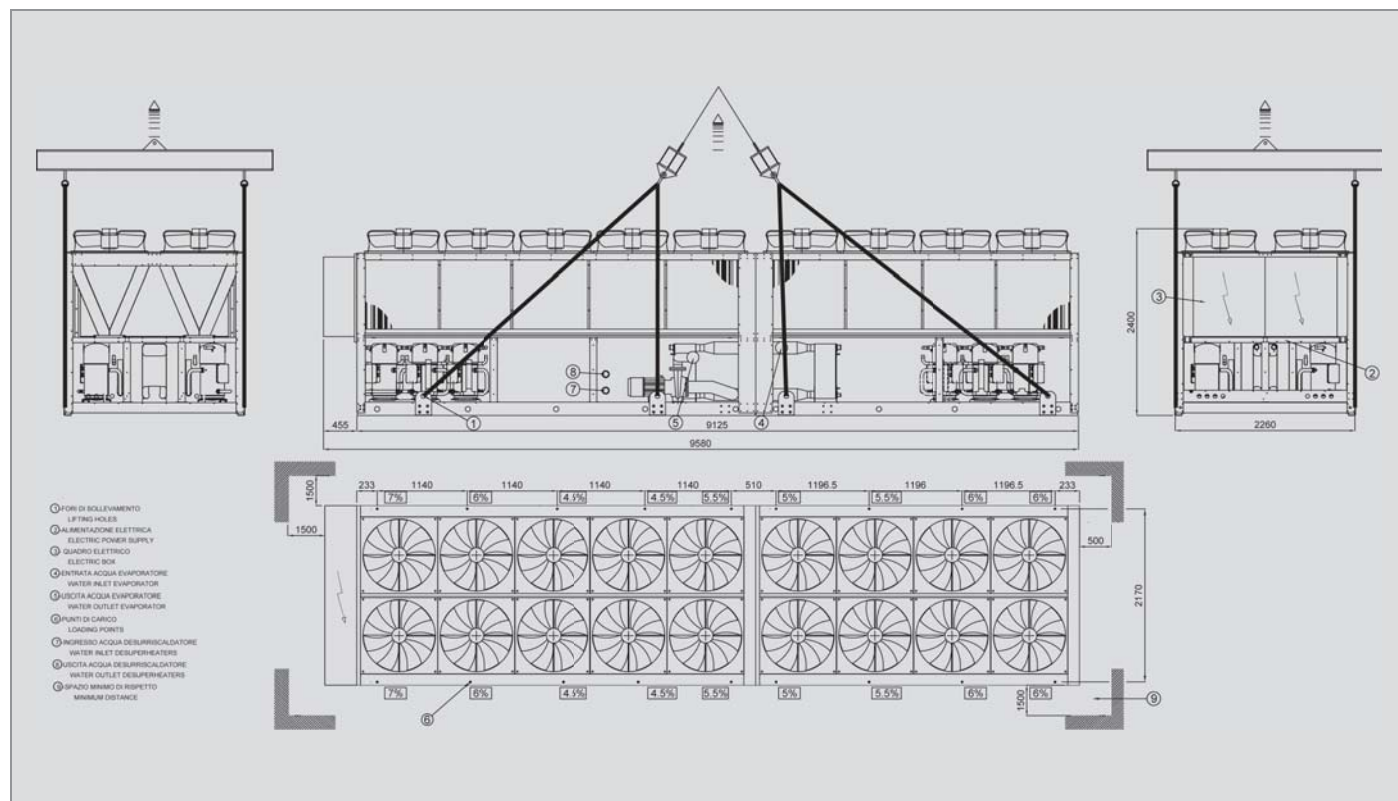


Standard / L + 1/2/3/4/5/6 270

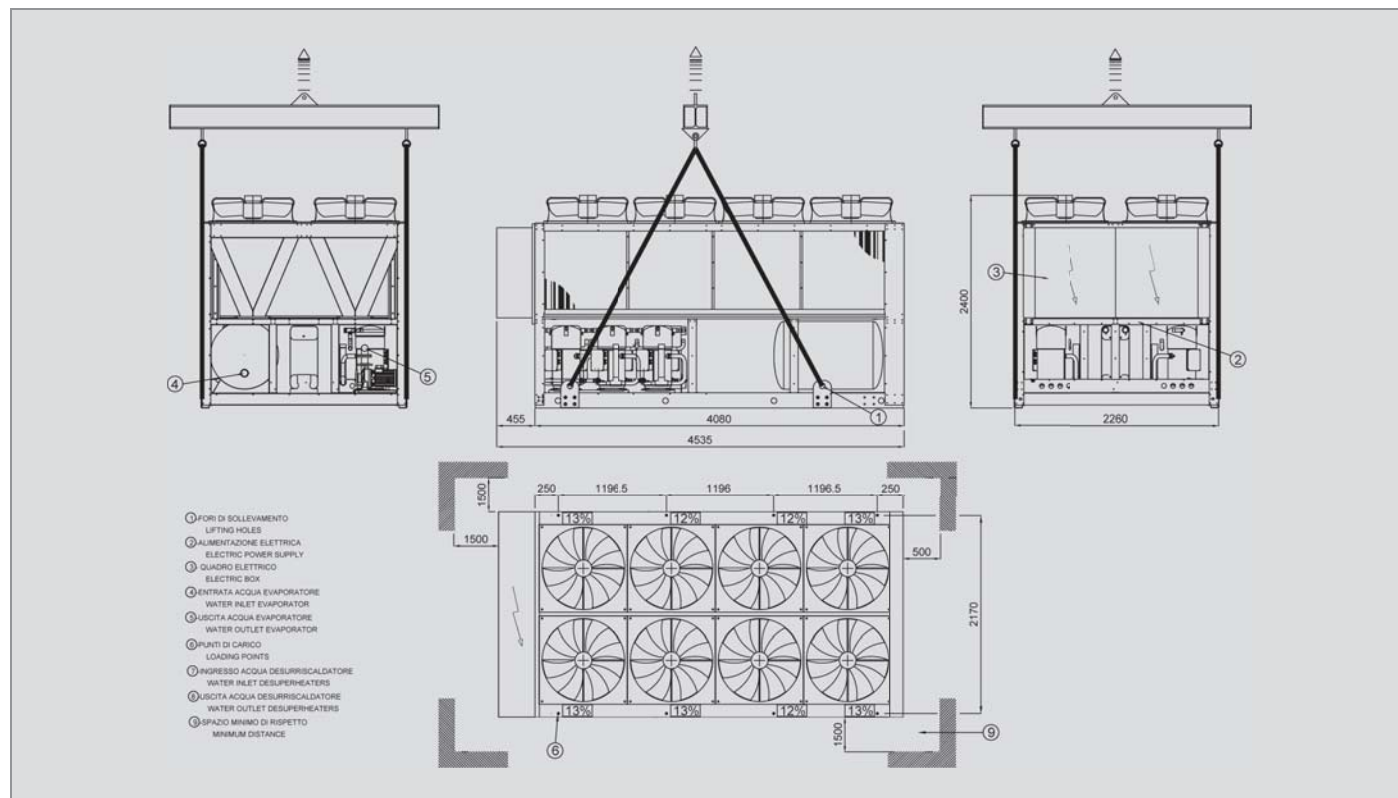


## Dimensional drawings and weights

Standard / L + 1/2/3/4/5/6 290

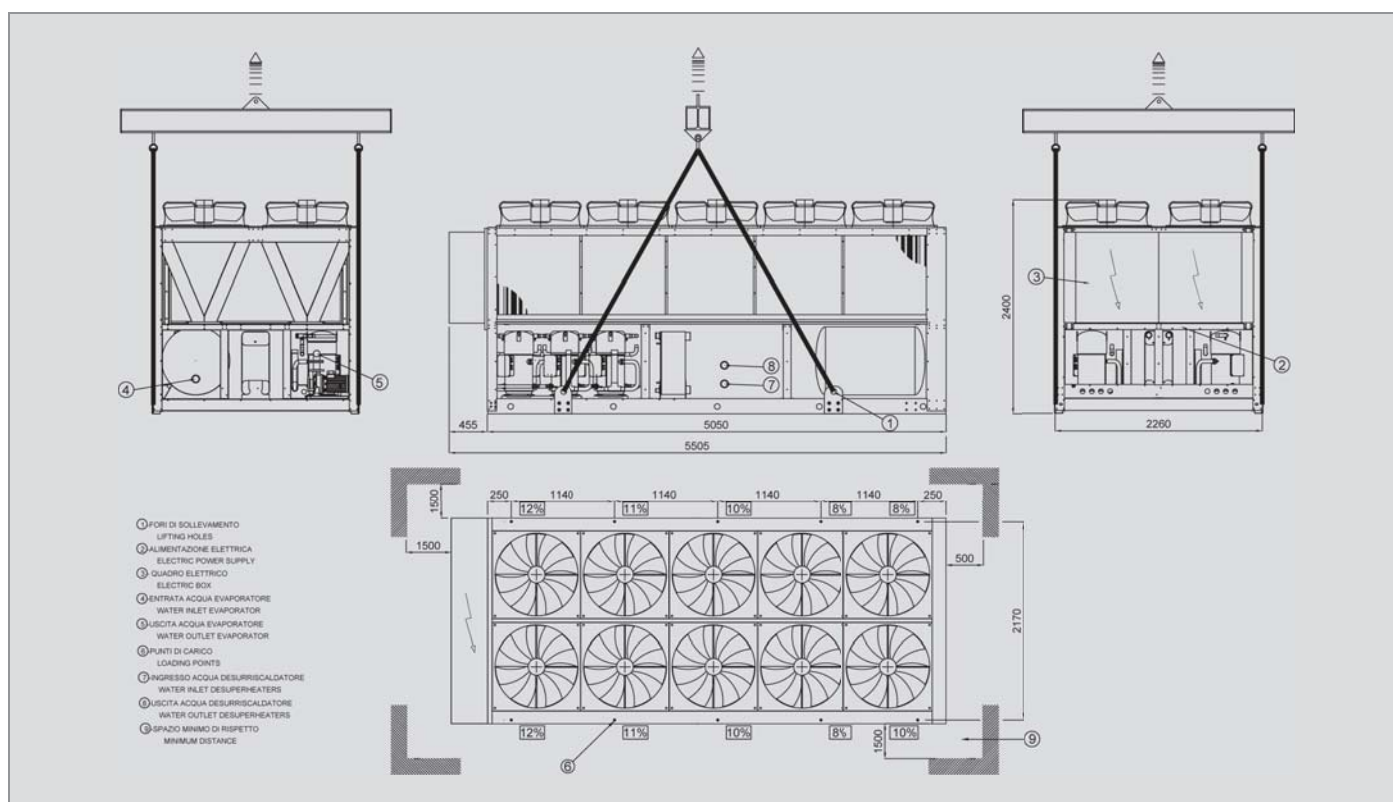


Standard / L + A/B/C/D/E/F 120 / 130

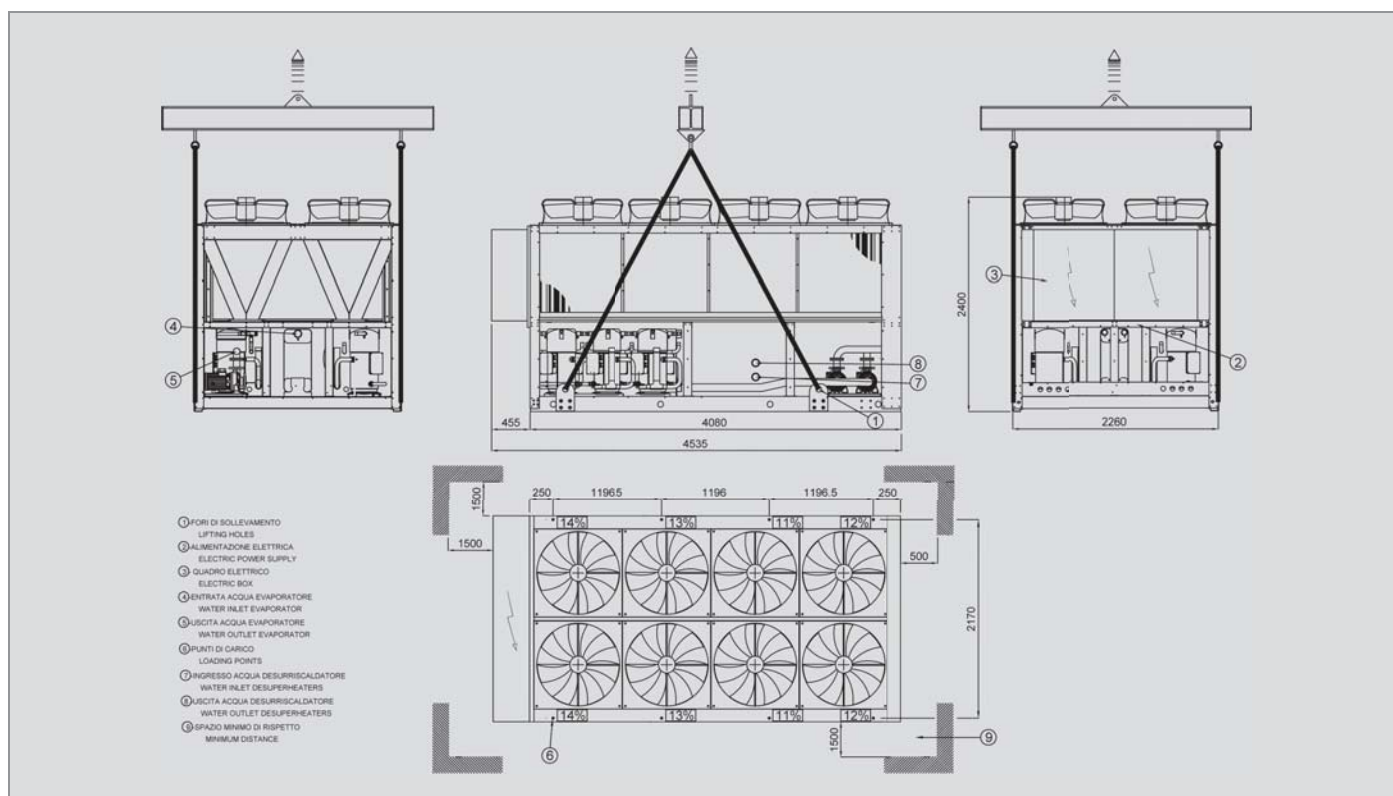


## Dimensional drawings and weights

Standard / L + A/B/C/D/E/F 140 / 165

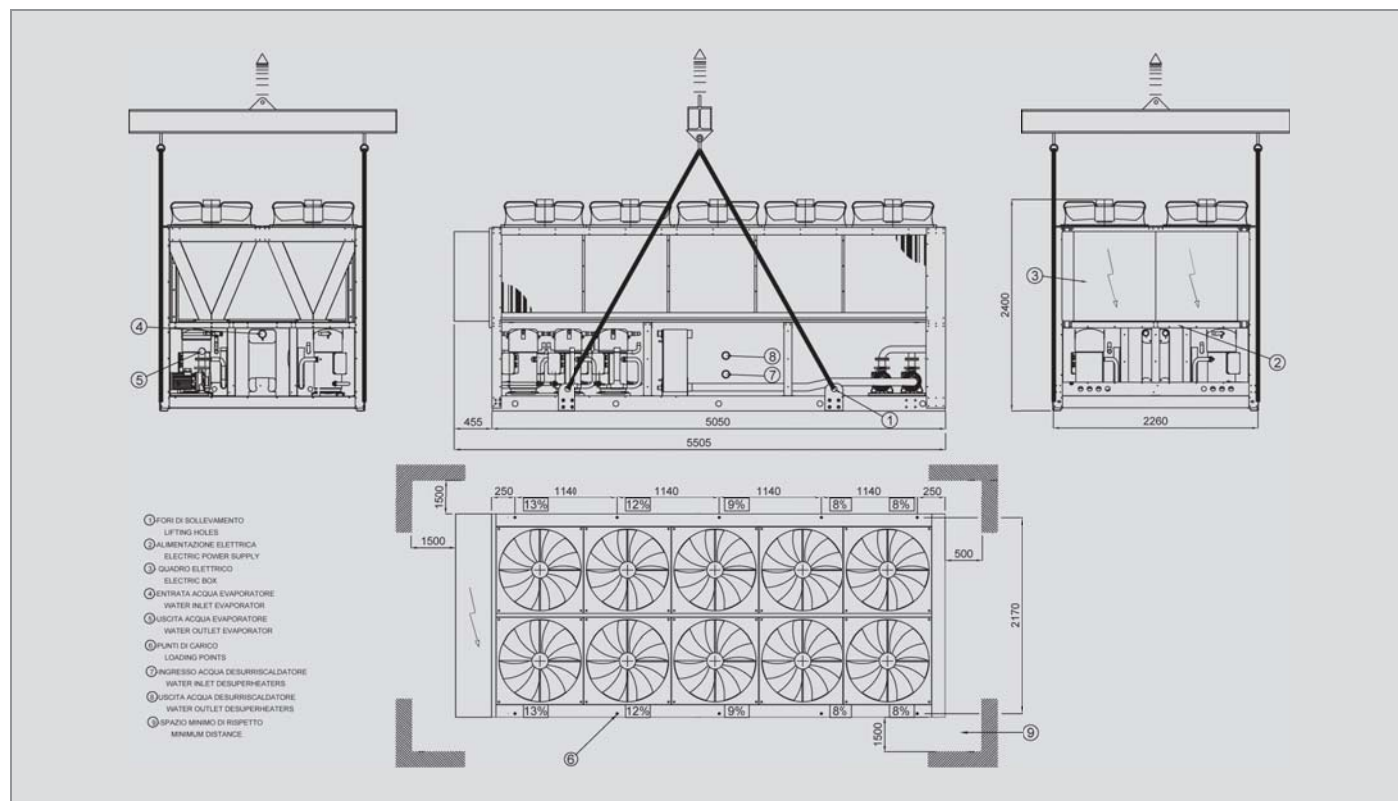


S + 1/2/3/4/5/6 120

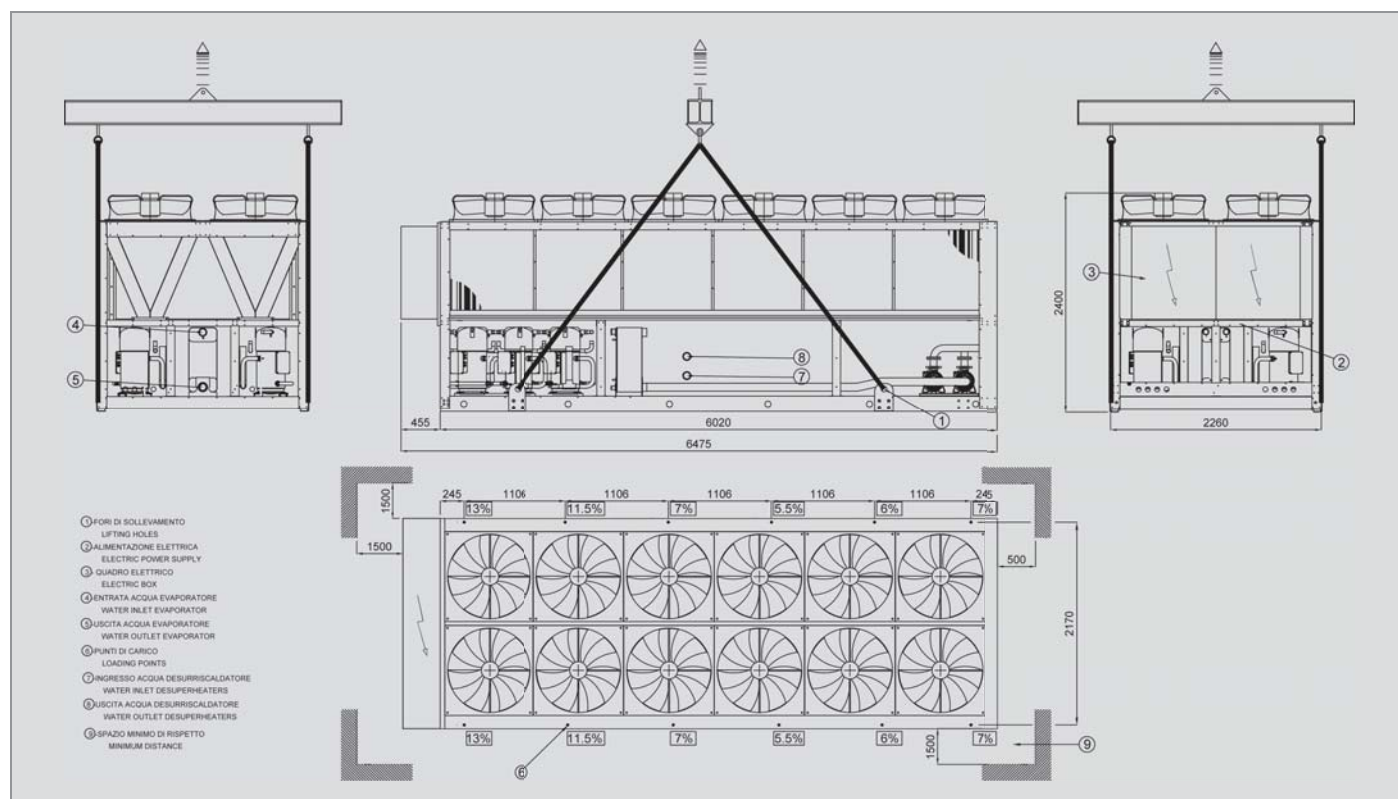


## Dimensional drawings and weights

S + 1/2/3/4/5/6 130 / 140

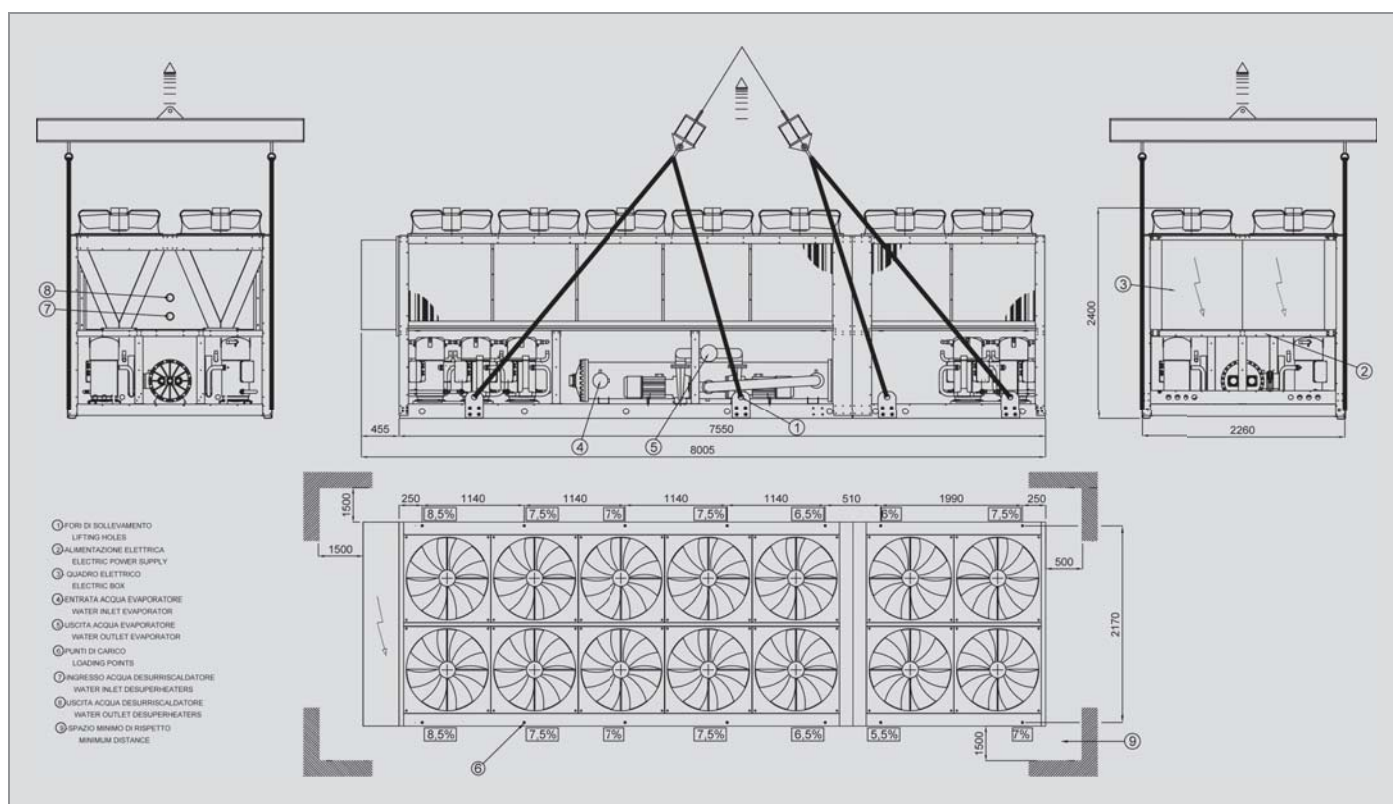


S + 1/2/3/4/5/6 150 / 165

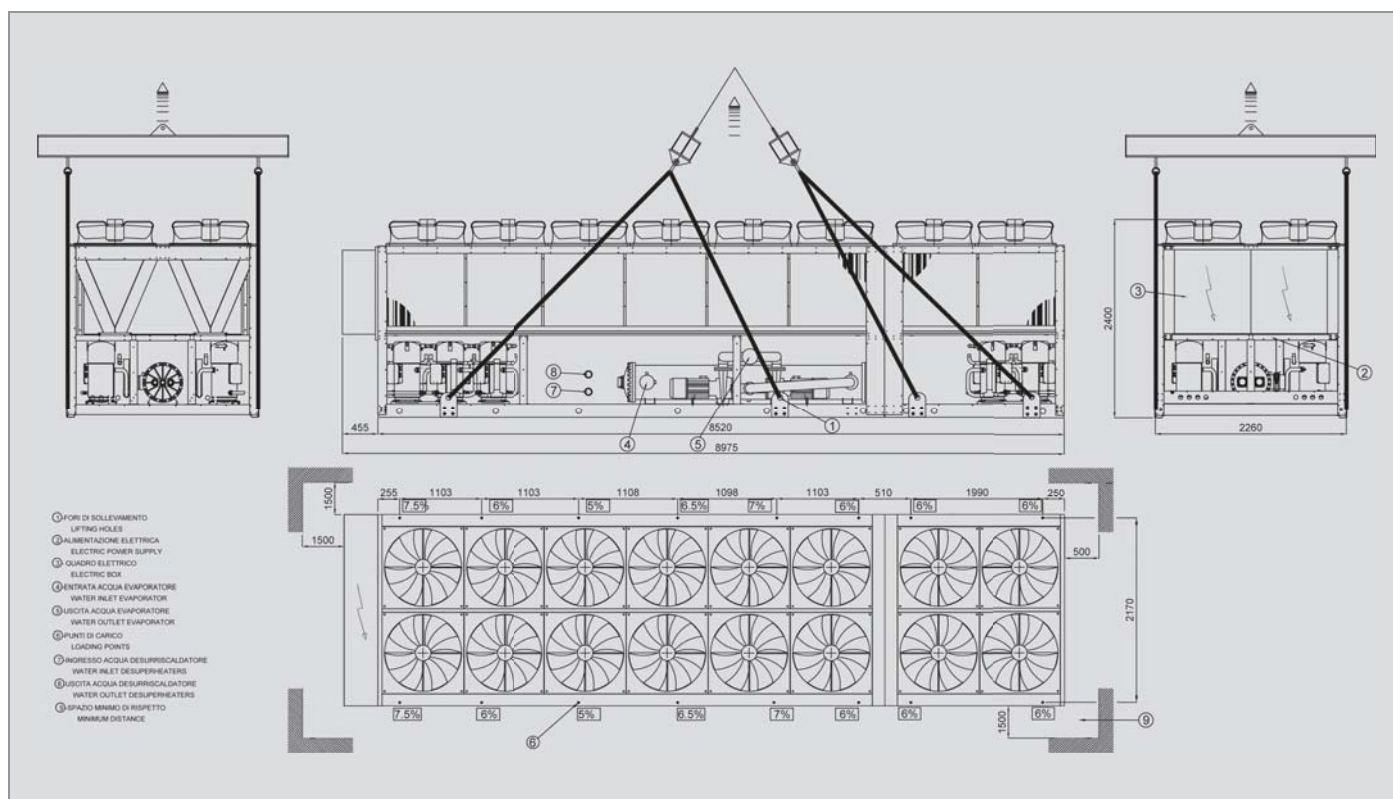


## Dimensional drawings and weights

**S + 1/2/3/4/5/6 175 / 195**

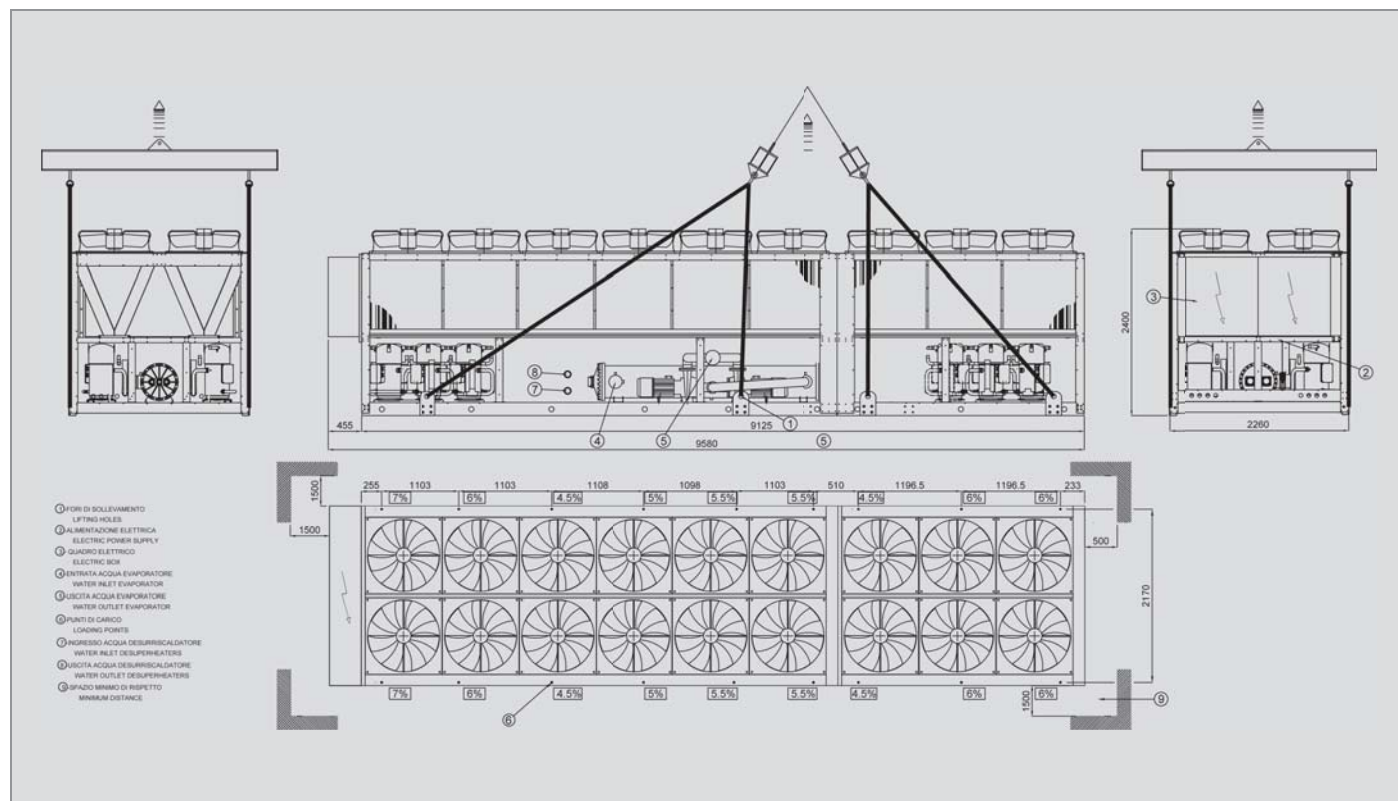


**S + 1/2/3/4/5/6 205 / 220**

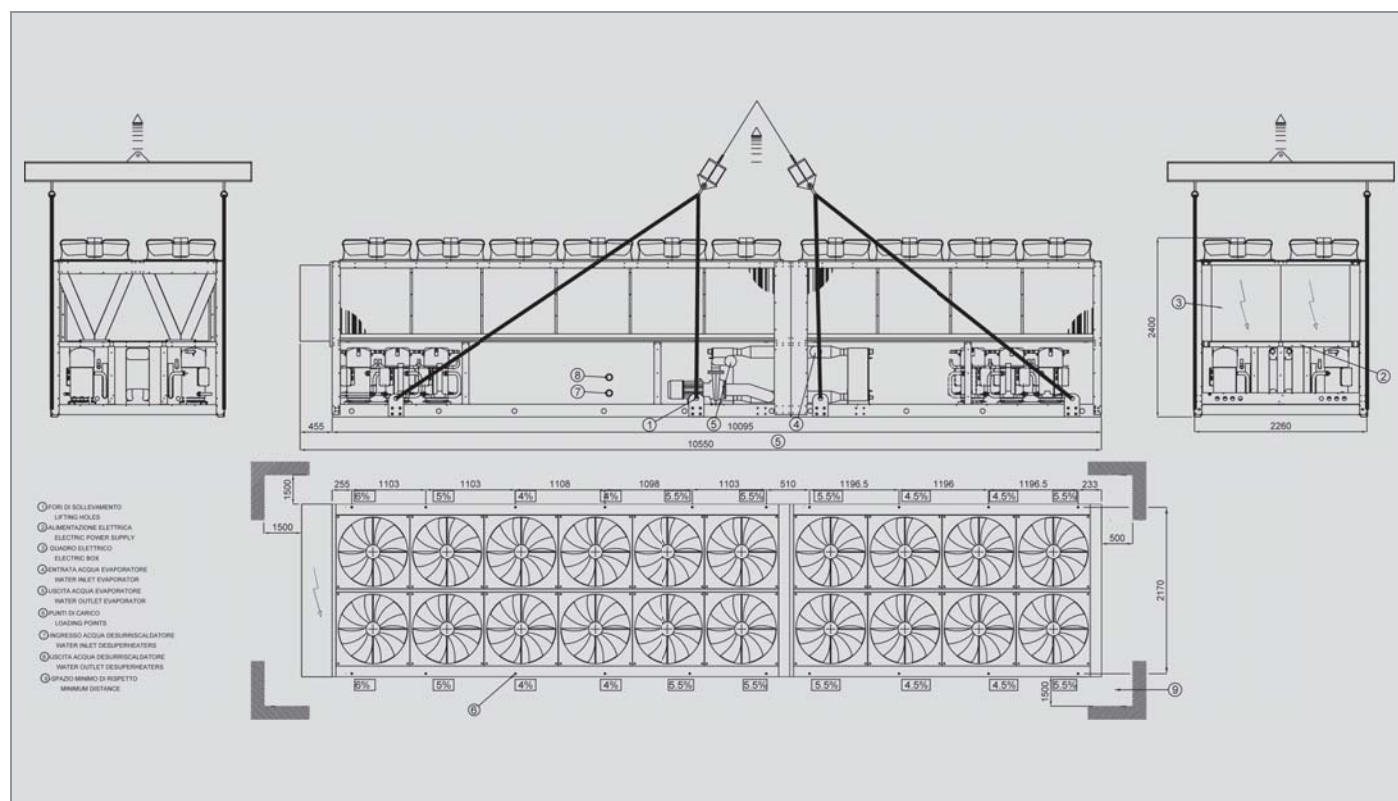


## Dimensional drawings and weights

S + 1/2/3/4/5/6 225 / 250

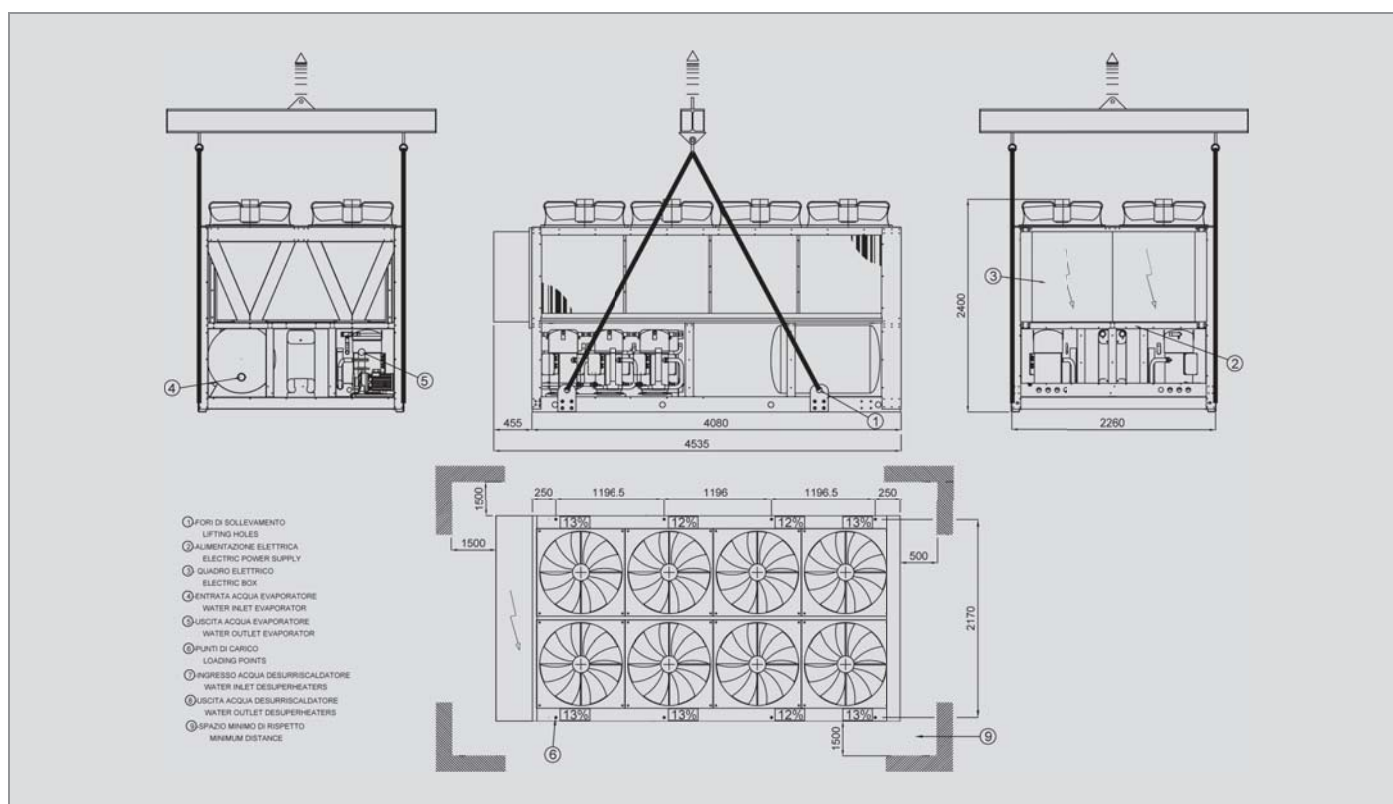


S + 1/2/3/4/5/6 270 / 290

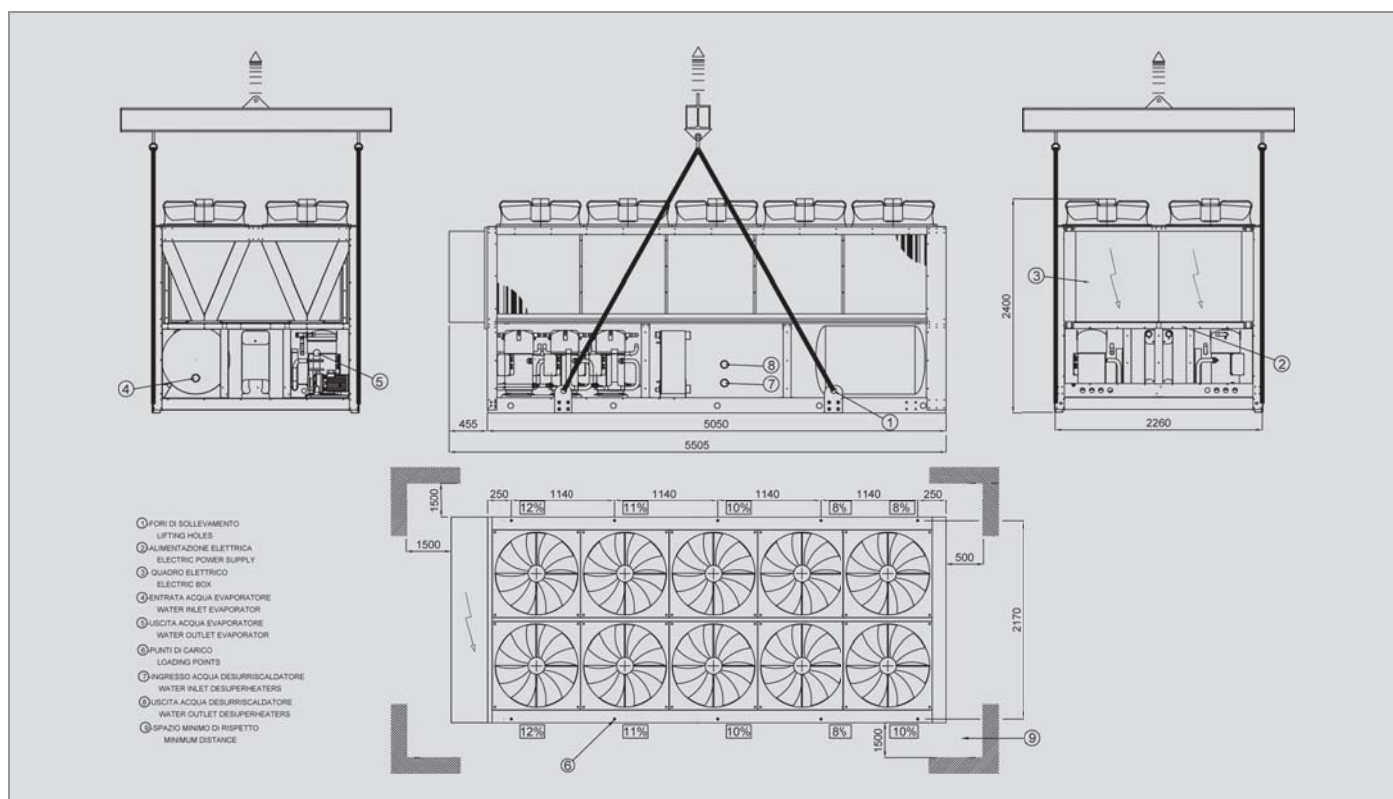


## Dimensional drawings and weights

**S + A/B/C/D/E/F 120**

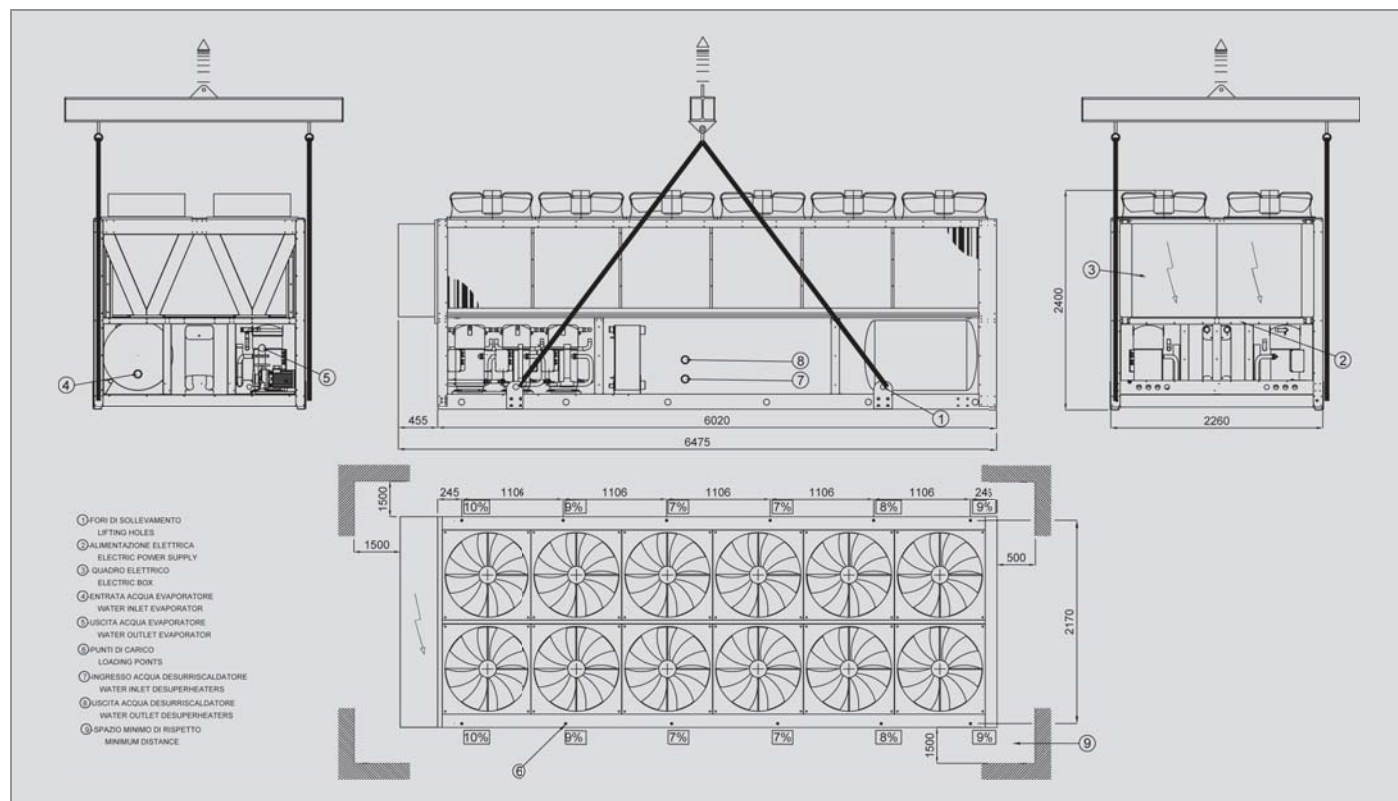


**S + A/B/C/D/E/F 130 / 140**



## Dimensional drawings and weights

S + A/B/C/D/E/F 150 / 165



## Dimensional drawings and weights

### Operating weights

| Size                                        |   |    | 120  | 130  | 140  | 150 / 165 | 175  | 180  | 190  | 195  | 205  | 215  |      |
|---------------------------------------------|---|----|------|------|------|-----------|------|------|------|------|------|------|------|
| Standard Version                            | X | kg | 3732 | 3932 | 4112 | 4180      | 4564 | 6327 | 6624 | 6733 | 6856 | 7118 | 7204 |
| Low Noise                                   | L | kg | 3792 | 4004 | 4172 | 4252      | 4636 | 6411 | 6708 | 6817 | 6940 | 7214 | 7300 |
| Super low Noise                             | S | kg | 3948 | 4356 | 4328 | 4695      | 5079 | 6567 | 6924 | 7033 | 7156 | 7567 | 7653 |
| INCREASE FOR VERSION                        |   |    |      |      |      |           |      |      |      |      |      |      |      |
| Desuperheater                               | H | kg | 37   | 37   | 45   | 50        | 55   | 74   | 79   | 79   | 84   | 84   | 84   |
| 1 Pump - Low head pressure                  | 1 | kg | 97   | 146  | 146  | 167       | 167  | 167  | 167  | 167  | 218  | 218  | 218  |
| 1 Pump - Medium Head pressure               | 2 | kg | 123  | 153  | 153  | 218       | 218  | 218  | 218  | 218  | 220  | 220  | 220  |
| 1 Pump - High head pressure                 | 3 | kg | 147  | 277  | 277  | 373       | 373  | 373  | 373  | 373  | 382  | 382  | 382  |
| 2 Pumps - Low head pressure                 | 4 | kg | 163  | 233  | 233  | 274       | 274  | 274  | 274  | 274  | 375  | 375  | 375  |
| 2 Pumps - Medium head pressure              | 5 | kg | 216  | 246  | 246  | 375       | 375  | 375  | 375  | 375  | 380  | 380  | 380  |
| 2 Pumps - High head pressure                | 6 | kg | 265  | 295  | 295  | 686       | 686  | 686  | 686  | 686  | 704  | 704  | 704  |
| 1 Pump - Low head pressure + Water tank     | A | kg | 717  | 766  | 766  | 787       | 787  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - Medium Head pressure + Water tank  | B | kg | 743  | 773  | 773  | 838       | 838  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - High head pressure + Water tank    | C | kg | 767  | 897  | 897  | 993       | 993  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure + Water tank    | D | kg | 783  | 853  | 853  | 894       | 894  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Medium head pressure + Water tank | E | kg | 836  | 866  | 866  | 995       | 995  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - High head pressure + Water tank   | F | kg | 885  | 915  | 915  | 1306      | 1306 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

| Size                                        |   |    | 220  | 225  | 250  | 270  | 290  |
|---------------------------------------------|---|----|------|------|------|------|------|
| Standard Version                            | X | kg | 7310 | 7494 | 7760 | 7348 | 7645 |
| Low Noise                                   | L | kg | 7406 | 7602 | 7868 | 7468 | 7777 |
| Super low Noise                             | S | kg | 7965 | 8247 | 9178 | 8246 | 8358 |
| <b>INCREASE FOR VERSION</b>                 |   |    |      |      |      |      |      |
| Desuperheater                               | H | kg | 87   | 87   | 87   | 91   | 91   |
| 1 Pump - Low head pressure                  | 1 | kg | 218  | 218  | 431  | 431  | 431  |
| 1 Pump - Medium Head pressure               | 2 | kg | 220  | 220  | 481  | 481  | 481  |
| 1 Pump - High head pressure                 | 3 | kg | 382  | 382  | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure                 | 4 | kg | 375  | 375  | 803  | 803  | 803  |
| 2 Pumps - Medium head pressure              | 5 | kg | 380  | 380  | 902  | 902  | 902  |
| 2 Pumps - High head pressure                | 6 | kg | 704  | 704  | n.a. | n.a. | n.a. |
| 1 Pump - Low head pressure + Water tank     | A | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - Medium Head pressure + Water tank  | B | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - High head pressure + Water tank    | C | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure + Water tank    | D | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Medium head pressure + Water tank | E | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - High head pressure + Water tank   | F | kg | n.a. | n.a. | n.a. | n.a. | n.a. |

### Shipping weights

Tab. 1/2

| Size                                        |   |    | 120  | 130  | 140  | 150 / 165 | 175  | 180  | 190  | 195  | 205  | 215  |      |
|---------------------------------------------|---|----|------|------|------|-----------|------|------|------|------|------|------|------|
| Standard Version                            | X | kg | 3716 | 3916 | 4092 | 4158      | 4540 | 6121 | 6418 | 6548 | 6671 | 6933 | 7019 |
| Low Noise                                   | L | kg | 3776 | 3988 | 4152 | 4230      | 4612 | 6205 | 6502 | 6632 | 6755 | 7029 | 7115 |
| Super low Noise                             | S | kg | 3932 | 4340 | 4308 | 4673      | 5055 | 6361 | 6718 | 6848 | 6971 | 7382 | 7468 |
| INCREASE FOR VERSION                        |   |    |      |      |      |           |      |      |      |      |      |      |      |
| Desuperheater                               | H | kg | 31   | 31   | 38   | 42        | 46   | 62   | 66   | 66   | 70   | 70   | 70   |
| 1 Pump - Low head pressure                  | 1 | kg | 97   | 146  | 146  | 167       | 167  | 167  | 167  | 167  | 218  | 218  | 218  |
| 1 Pump - Medium Head pressure               | 2 | kg | 123  | 153  | 153  | 218       | 218  | 218  | 218  | 218  | 220  | 220  | 220  |
| 1 Pump - High head pressure                 | 3 | kg | 147  | 277  | 277  | 373       | 373  | 373  | 373  | 373  | 382  | 382  | 382  |
| 2 Pumps - Low head pressure                 | 4 | kg | 163  | 233  | 233  | 274       | 274  | 274  | 274  | 274  | 375  | 375  | 375  |
| 2 Pumps - Medium head pressure              | 5 | kg | 216  | 246  | 246  | 375       | 375  | 375  | 375  | 375  | 380  | 380  | 380  |
| 2 Pumps - High head pressure                | 6 | kg | 265  | 295  | 295  | 686       | 686  | 686  | 686  | 686  | 704  | 704  | 704  |
| 1 Pump - Low head pressure + Water tank     | A | kg | 717  | 766  | 766  | 787       | 787  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - Medium Head pressure + Water tank  | B | kg | 743  | 773  | 773  | 838       | 838  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - High head pressure + Water tank    | C | kg | 767  | 897  | 897  | 993       | 993  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure + Water tank    | D | kg | 783  | 853  | 853  | 894       | 894  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Medium head pressure + Water tank | E | kg | 836  | 866  | 866  | 995       | 995  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - High head pressure + Water tank   | F | kg | 885  | 915  | 915  | 1306      | 1306 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

## Dimensional drawings and weights

### Shipping weights

Tab. 2/2

| Size                                        |   |    | 220  | 225  | 250  | 270  | 290  |
|---------------------------------------------|---|----|------|------|------|------|------|
| Standard Version                            | X | kg | 7125 | 7309 | 7535 | 7308 | 7605 |
| Low Noise                                   | L | kg | 7221 | 7417 | 7643 | 7428 | 7737 |
| Super low Noise                             | S | kg | 7780 | 8062 | 8953 | 8206 | 8318 |
| <b>INCREASE FOR VERSION</b>                 |   |    |      |      |      |      |      |
| Desuperheater                               | H | kg | 73   | 73   | 73   | 76   | 76   |
| 1 Pump - Low head pressure                  | 1 | kg | 218  | 218  | 431  | 431  | 431  |
| 1 Pump - Medium Head pressure               | 2 | kg | 220  | 220  | 481  | 481  | 481  |
| 1 Pump - High head pressure                 | 3 | kg | 382  | 382  | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure                 | 4 | kg | 375  | 375  | 803  | 803  | 803  |
| 2 Pumps - Medium head pressure              | 5 | kg | 380  | 380  | 902  | 902  | 902  |
| 2 Pumps - High head pressure                | 6 | kg | 704  | 704  | n.a. | n.a. | n.a. |
| 1 Pump - Low head pressure + Water tank     | A | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - Medium Head pressure + Water tank  | B | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1 Pump - High head pressure + Water tank    | C | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Low head pressure + Water tank    | D | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - Medium head pressure + Water tank | E | kg | n.a. | n.a. | n.a. | n.a. | n.a. |
| 2 Pumps - High head pressure + Water tank   | F | kg | n.a. | n.a. | n.a. | n.a. | n.a. |

### Tube diameters

| Size  |                         |   | 120          | 130          | 140          | 150          | 165          | 175           |
|-------|-------------------------|---|--------------|--------------|--------------|--------------|--------------|---------------|
| ④ - ⑤ | X - L - S               | Ø | 3" G.M.      | 3" G.M.      | 3" G.M.      | 3" G.M.      | 3" G.M.      | 8" VICTAULIC  |
|       | X - L - S + 1/2/3/4/5/6 | Ø | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | 6" VICTAULIC  |
|       | X - L - S + A/B/C/D/E/F | Ø | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | 5" VICTAULIC | -             |
| ⑦ - ⑧ | H                       | Ø | 2"½ G.M.     | 2"½ G.M.     | 2"½ G.M.     | 2"½ G.M.     | 2"½ G.M.     | 2"½ VICTAULIC |

| Size  |                         |   | 180           | 190           | 195           | 205           | 215           | 220           |
|-------|-------------------------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| ④ - ⑤ | X - L - S               | Ø | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC  |
|       | X - L - S + 1/2/3/4/5/6 | Ø | 6" VICTAULIC  | 6" VICTAULIC  | 6" VICTAULIC  | 6" VICTAULIC  | 6" VICTAULIC  | 8" VICTAULIC  |
|       | X - L - S + A/B/C/D/E/F | Ø | -             | -             | -             | -             | -             | -             |
| ⑦ - ⑧ | H                       | Ø | 2"½ VICTAULIC | 2"½ VICTAULIC | 2"½ VICTAULIC | 2"½ VICTAULIC | 2"½ VICTAULIC | 2"½ VICTAULIC |

| Size  |                         |   | 225           | 250           | 270          | 290          |
|-------|-------------------------|---|---------------|---------------|--------------|--------------|
| ④ - ⑤ | X - L - S               | Ø | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC | 8" VICTAULIC |
|       | X - L - S + 1/2/3/4/5/6 | Ø | 8" VICTAULIC  | 8" VICTAULIC  | 8" VICTAULIC | 8" VICTAULIC |
|       | X - L - S + A/B/C/D/E/F | Ø | -             | -             | -            | -            |
| ⑦ - ⑧ | H                       | Ø | 2"½ VICTAULIC | 2"½ VICTAULIC | 3" VICTAULIC | 3" VICTAULIC |

- ④ Water inlet evaporator
- ⑤ Water outlet evaporator
- ⑦ Water inlet desuperheater
- ⑧ Water outlet desuperheater



## Notes



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