TAE

ErP

R513A

R454B

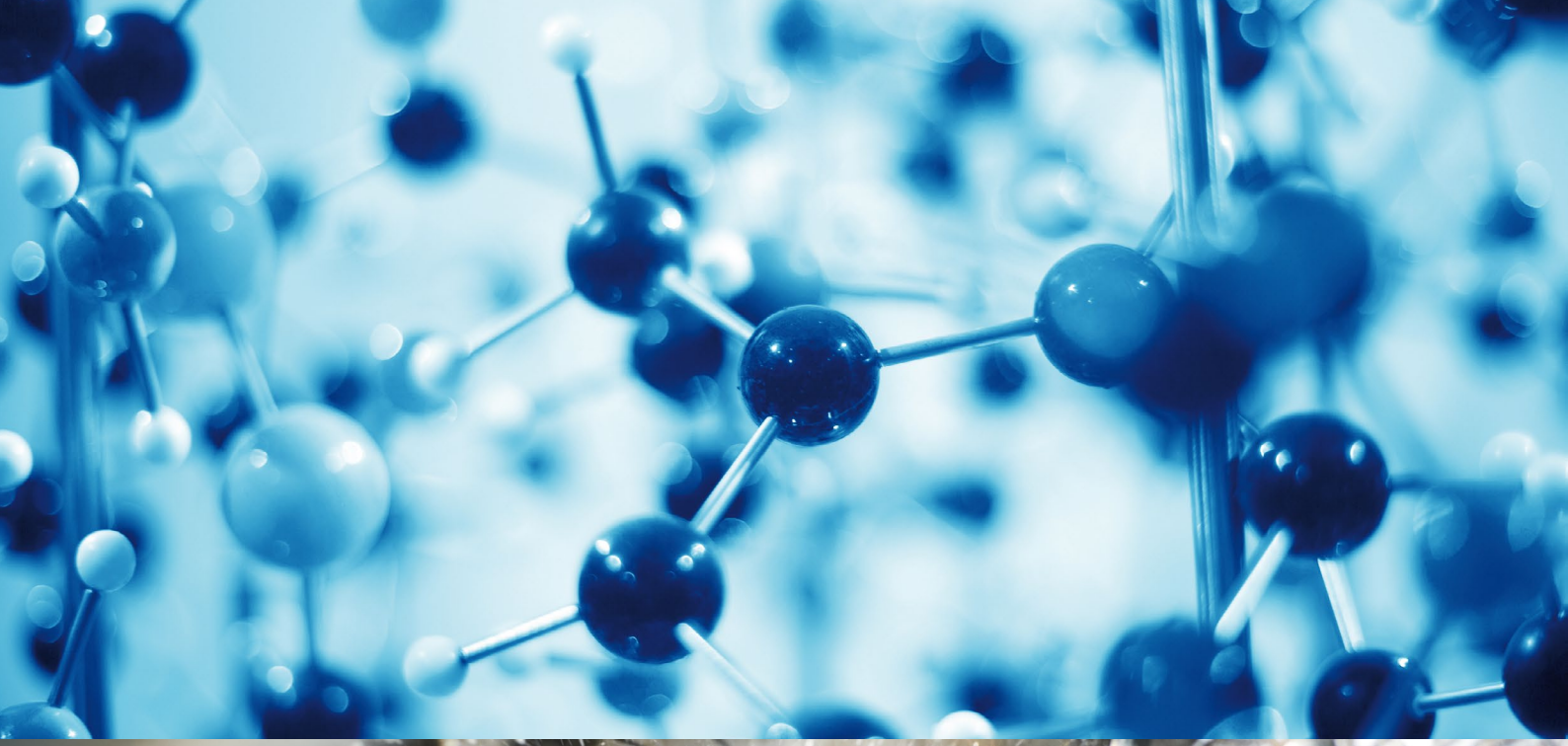
Air cooled industrial chillers with Scroll compressors.

Nominal cooling capacity 7 – 254 kW

Cooling your industry,
optimising your process.

MTA®

Cooling, conditioning, purifying.



TAE

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EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

MTA participates in the E.C.C. programme for LCP-HP. Certified products are listed on: www.eurovent-certification.com
Eurovent Certification applied to the units:
- Air/Water with cooling capacity up to 600 kW
- Water/Water up to 1500 kW

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1. General

TAE G is an air-cooled liquid chiller, designed for industrial applications and outdoor installation. The wide choice of available configurations and kits, complete the already generous standard equipment and allow to satisfy most needs in the field of industrial refrigeration. TAE G is therefore the solution for all applications that require high performance, reliability, continuity of operation, reduction of management costs and minimized environmental impact. All TAE G models are equipped with a high efficiency finned coil evaporator immersed in a hydraulic storage tank. The hydraulic storage tank also allows accuracy in temperature control even with highly variable thermal loads to the user. TAE G units are equipped with a finned pack condenser, axial fans and scroll compressors installed on a refrigeration circuit (mod. 020÷401) and two refrigeration circuits (mod. 402÷1002). The medium GWP refrigerants used are R513A (mod. 020÷071) and R454B (mod. 081÷1002). In particular, the refrigerant R454B is classified in the A2L safety group i.e. low flammability as the flame propagation speed is reduced (<10 cm/s). The end user will need to conduct a risk assessment in collaboration with a local notified body in compliance with the local rules and regulations in force. The responsibility of the completed risk assessment required for the proper installation and the correct functioning of the machine-plant assembly is at end user care. Specifically: The machine must be installed in an open space, in full compliance with the EN378 standards and in according to all indications contained within the user manual; the end user is responsible for the system on the installation site; the ordinary and extraordinary maintenance operations must be carried out by qualified personnel. The management of TAE G is provided by the parametric microprocessor control capable of managing all the main functions in complete autonomy, including adjustments, alarms, and interface with external systems. TAE G units are available with 400V/3Ph/50Hz electrical power supply and IP44 protection rating for model 020, and IP54 for models from 031 to 1002. TAE G liquid chillers, to meet the various system requirements, are available also in the low ambient temperature version (mod. 031÷1002) and Non-Ferrous hydraulic circuit configuration (mod. 020÷802 - special execution).

The standard product, intended for EEC and EFTA states, is subject to:

- Electromagnetic Compatibility Directive 2014/30/EU;
- ERP Directive 2009/125/EC;
- Machinery Directive 2006/42/EC;
- Pressure equiment 2014/68/EU (PED);
- F-Gas Directive;
- The electrical equipment is designed according to the EN 60204-1 standard.

All data shown in this catalogue refer to standard units and nominal operating conditions (unless otherwise specified).

2. Nameplate

T A E G XX X

- X = No. refrigerant circuits;
- XX = Indicative HP of compressors;
- G = R513A/R454B refrigerant;
- E = Hermetic compressor;
- A = Air-cooled condenser;
- T="Tank"; liquid chiller with storage tank.

3. Benefits derived by the integrated storage tank

In a cooling system for industrial process, the user loads can be unpredictable with continuous and sudden variations or remain close to conditions very far from the nominal ones for long period. Consequently, the corresponding chiller can operate sometimes at maximum capacity and close to the operating limits, sometimes with frequent on/off cycles. These cycles are harmful to the life of the compressors and often don't prevent the fluctuations of fluid temperature that are counterproductive from the point of view of the energy and the process. The benefits derived by the integrated storage tank installed can be summarized as follow:

- Availability of fluid reserve at specific temperature. The stored energy in the tank is able to compensate the fluctuations derived by the sudden user load variations;
- Stable conditions of compressors operation: in this way the inlet fluid temperature is stable and fixed regardless of surrounding conditions. With the constant fluid flow rate this is one of the essential parameters to preserve the reliability of compressors;
- Reduction of on/off cycles frequency for a proper duration of the operating and shutdown periods of compressors.

4. Testing

All chillers are tested to ensure that it operates correctly. Specifically, the performed test are:

- check the correct installation of all components and refrigerant or hydraulic leaks;
- electrical safety tests performed as prescribed by EN60204-1;
- check operation of the microprocessor controller and the values of all operating parameters;
- check operation, positioning of the temperature probes and pressure transducer;

At the time of installation, the units only require electrical and water connections, thus maximizing reliability levels.

5. Construction configurations

By combining the configurations described below with the accessories available as sales kits, the units can be customized to meet the requirements of all industrial applications.
WARNING: during configuration process is important to verify the possible option combinations. Please consult the PERFORMANCE AND TECHNICAL DATA section for each model or contact MTA sales dept.
REFRIGERANT:
- R513A / R454B

VERSION:
- STANDARD

ELECTRICAL POWER SUPPLY:
- 400V/3/50Hz

EXTERNAL AIR TEMPERATURE:
- STANDARD (-5 °C)
- LOW AMBIENT TEMPERATURE (-20 °C) (mod. 031÷1002)

ANTI-FREEZE HEATER PROTECTION:
- NO (standard)
- YES

AXIAL FANS CONTROL:
- ON/OFF (standard)
- EC BRUSHLESS (mod. 031÷1002)

FANS:
- AXIAL

CONDENSING COILS PROTECTION:
- NO (standard)
- PAINT TREATMENT. Special execution.

PUMP:
- P3
- P3 pump for open storage tank systems (mod. 031÷1002)
- P5
- P3+P3 (mod. 201÷1002)
- P5+P5 (mod. 201÷1002)

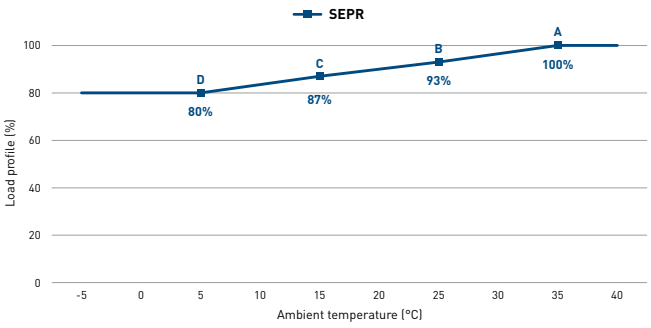
TANK AND HYDRAULIC CIRCUIT:
- STANDARD (carbon steel cylindrical storage tank + aluminum/copper finned pack evaporator)
- Non-Ferrous version with cylindrical stainless steel storage tank + copper/copper finned pack evaporator (mod. 020÷802). Special execution.

MANUAL FILLING KIT:
- NO (standard)
- YES (mod. 031÷802)

6. Compressor

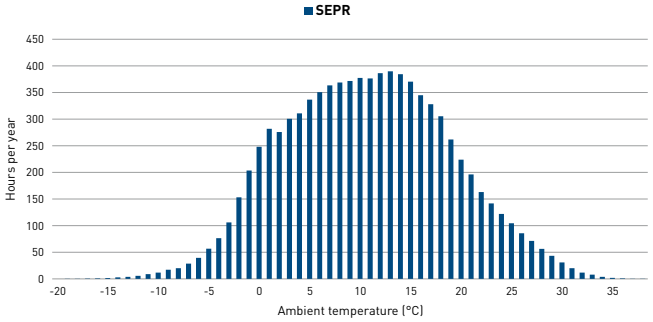
Refrigerant compressors with orbiting scroll, 2-pole electric motor, installed on rubber antivibration dampers. These compressors feature protection against overheating, overcurrent, and high values of temperature exhaust gases. The crankcase heater is automatically supplied when the unit stops (the chiller must be switched on), preventing dilution of the oil by the refrigerant when the compressor is shutdown, thus ensuring proper lubrication of the mechanical components even at low ambient temperatures. Through the limited weight of rotating components and the absence of suction and discharge valves, the scroll compressors offer a series of benefits: higher energy efficiency, reduced pressure drops on the suction line, lower noise level, limited vibration on the discharge line and high resistance to possible liquid hammerings. The compressors are installed within a compartment separate from the condensing section, allowing maintenance tasks even when the unit is running. The models 201÷1002 are configured with two compressors connected in parallel for each refrigerant circuit and through the "unloading" function allows the start-up and the operation of the unit even in working conditions far from the nominal ones. The whole range has been built with the focus on maximising the seasonal energy performance ratio both for high temperature process cooling SEPR HT (Tw 12/7 °C) and for medium temperature process cooling SEPR MT (Tw -2/-8 °C).

SEPR HT
The Seasonal Energy Performance Ratio High Temperature (SEPR HT), used in the European design context, expresses the ratio between the cooling demand and the total absorbed power of the unit during the entire year of operation, considering the maximum operating load point (Tw 12/7 °C a 35 °C) and the three partial load point with lower ambient temperature projected on the average annual temperature in Strasbourg. The higher the SEPR HT value is, the more energy efficient of the unit will be, considering the annual process cooling context with outlet water temperature 7 °C.



SEPR MT

The Seasonal Energy Performance Ratio Medium Temperature (SEPR MT), used in the European design context, expresses the ratio between the cooling demand and the total absorbed power of the unit during the entire year of operation, considering the maximum operating load point (Tw -2/-8 °C a 35 °C) and the three partial load point with lower ambient temperature projected on the average annual temperature in Strasbourg. The higher the SEPR MT value is, the more energy efficient of the unit will be, considering the annual process cooling context with outlet water temperature -8 °C.



7. Evaporator

High-efficiency finned coil exchanger composed by copper tubes, aluminum fins, galvanized sheet shoulders and cabinet. Installed inside the fluid storage tank, the evaporator cools the process fluid that flows in contact with the finned surface, exchanging heat with the refrigerant fluid evaporating inside the tubes. This technical solution allows TAE G to operate with high liquid flow rates and reduced pressure drops, ensuring a high level of reliability in heavy industrial applications and with liquids containing impurities. The anti-freeze function of the microprocessor controls the value of outlet liquid temperature while protecting the evaporator from risk of freezing caused by low evaporation temperatures. A conductive level sensor installed on the top of storage tank protects the chiller from the lack of process fluid. All evaporators installed on the TAE G liquid chillers are suitable to operate with anti-freeze solutions and all other liquids compatible with the materials composed the hydraulic circuit (refer to the list of materials directly in contact with process fluids). All evaporators are complied with the European Council pressure vessels directive.

8. Condensing coil

Finned coil heat exchanger configured with copper tubes, corrugated aluminum fins and galvanized sheet shoulders. These heat exchangers are dimensioned and designed utilising the latest performed technology to achieve very high EER efficiency values. Through the positioning on only one side of unit (mod. 020÷161) the installation is facilitated when the spaces available are restricted (example: close to a wall). From model 031 the condenser is protected by removable metal air filters to facilitate cleaning procedures. In the model 020 the protection is provided by a grating panel.

9. Fans

The model 020 is configured with axial fans equipped with painted sickle-shaped galvanized sheet blades and directly connected to the electric motor (protection rating IP44). The models 031÷1002 are provided with axial fans made in die-cast aluminum, sickle-shaped blades in aluminum or galvanized sheet covered with polypropylene and electric motor IP54 (protection rating). All fans' motors (mod. 031÷1002) are equipped with integrated thermal protection. The axial fans are statically and dynamically balanced as well as protected with external safety grids. The motors feature 4 or 6-poles with external rotor to maximize the energy efficiency and are protected by a chain of thermistors. The standard regulation for 020 model is ON/OFF managed through pressure switches. The models from 031 to 1002 the step regulation is controlled by pressure transducers. For models 031÷1002 the EC Brushless fans are available as an option.

10. Refrigeration circuit

The refrigerant circuit is composer by:

- Scroll compressors;
- High pressure switch (HP) with manual reset to control the maximum condensing pressure;
- Fan pressure switch (PV). To manage the steps of ON/OFF regulation (mod. 020);
- High pressure transducer (mod. 031÷1002). By detecting the discharge pressure of compressors are used by the parametric microprocessor control for the following functions: high pressure measurement and alarm, high pressure unloading (mod. 201÷1002) and condensing pressure control for fan regulation (ON/OFF or EC Brushless);
- Safety valve in the high pressure side (mod. 081÷1002);
- Finned coil condenser;
- Liquid refrigerant and humidity flow indicator: placed on the liquid line, allows to check the proper refrigerant charge and the possible presence of humidity in the refrigerant circuit;
- Refrigerant filter with hygroscopic molecular sieves: allows to retain impurities and any traces of humidity in the refrigerant circuit;
- Mechanical thermostatic valve with external equalization (mod. 020);
- Electronic expansion valve (mod. 031÷1002);
- Low pressure switch (LP) with automatic reset to control the minimum evaporating pressure (mod. 020);
- Low pressure transducer (mod. 031÷1002);
- Finned coil evaporator;
- High and low refrigerant pressure gauges. Available from 031 model and are fixed on a specific frontal panel;
- "Schrader" service valves.

11. Structure and casing

All models are structured with the compressor side separate by the compartment where the evaporator, condensing coil are and electrical cabinet are located, thereby simplifying maintenance operations. Units from model 020 to 161 are equipped with a fully closed canopy of load-bearing panels and for models from 081 to 161 completed with jalousies (compressor side) for a correct circulation of air within the compartment. The pump installed inside the compressor compartment is protected by special carpentry to prevent, in case of refrigerant leak the creation of possible triggers (mod. 081÷161). The units from model 201 to 1002 are developed with a completely closed canopy always equipped with jalousies in the compressor compartment only, base of spars and crosspieces and support uprights for the closing panels. The base, the uprights and all the closing panels are made of galvanized carbon steel sheet and joined with galvanized steel rivets or metric stainless-steel screws to facilitate the removal. All panels are subjected with a phosphor degreasing phase followed by polyester power coating. The base and the support panel for pressure gauges are painted in RAL 5013 blue colour while the rest of structure and panels are in RAL 7035 light grey.

12. Hydraulic group

INERTIAL STORAGE TANK: All models are equipped with a cylindrical inertial storage tank (containing the evaporator) externally protected by an insulating anti-condensation layer. Dimensioned for operation in closed hydraulic circuits and with maximum working pressure of 6 barg, the storage tank if equipped with manual filling kit can also be used in open hydraulic systems. The shell of storage tank is composed by carbon steel in the base standard configuration while in the Non-ferrous version is made of stainless-steel AISI 304. The storage tank is configured with a drain valve for emptying and a bleed valve to remove the air during the hydraulic circuit filling process.

HYDRAULIC BY-PASS: All TAE G are equipped with an internal by-pass between the outlet and inlet hydraulic connections. In case of sudden or wrong interception of inlet/outlet connections, the hydraulic by-pass allows the unit and the pump to preserve their integrity, ensuring a minimum fluid flow necessary for both the anti-freeze alarm and the pump thermal protection activation.Warning: the by-pass is designed only to preserving the integrity of the unit in case of an incorrect closing of the interception valves. The by-pass operation with continuous cycles for extended periods is strictly forbidden.

LEVEL SENSOR: Conductive level sensor installed on the top of storage tank and managed by a specific and calibrated control unit. The unit is stopped in the event of an insufficient level of process fluid inside the storage tank.

PUMPS: Centrifugal pumps with motors compliant to the regulation IEC 60034-30 standard and seals made of silicon carbide/EPDM material. The pumps are available in two alternative configurations: P3 pump with nominal head pressure of 3 barg and P5 pump with nominal head pressure of 5 barg. Is possible to equip the units with single P3 pump for open hydraulic circuits or parallel double pumps P3+P3 / P5+P5 (mod. 201÷1002).
Pump materials in contact with process fluid directly:

- P3 pump: fully stainless steel up to mod. 251; for the remaining models, the pump body is made of cast iron;
- P5 pump: fully stainless steel up to mod. 161; for the remaining models, the pump body is made of cast iron;
- P3 pump and P5 pump fully in stainless steel for Non-Ferrous version (special execution).

WATER PRESSURE GAUGE: A water pressure gauge positioned on the rear panel of the unit indicates the outlet process fluid pressure or the loading pressure of the system when the pump is stopped.

13. Electrical panel

The electrical panel is designed and realized according to the EN 60204-1 standard and electromagnetic compatibility directive 2006/42/EC. Is composed by an enclosure cabinet where components are fixed through an installing plate, with a hinged door having a perimeter seal mounted to the cabinet structure. Only for model 020 the electrical panel is composed by a cover panel with a perimeter seal (IP44 protection grade). The electrical panel is realized with premium manufacturers components and ensures the level of weather protection necessary for outdoor installation (IP54 protection grade). The power section includes automatic thermal-magnetic cut-outs for the protection of main motors such as compressors, axial fans, and centrifugal pumps. A series of contactors and phase monitor protect the unit from lack of phase and from the wrong sequence of the same. A voltage free contacts for general alarm signal and remote on/off are also available.

14. Other safety and control devices

- Temperature probes: Positioned on the hydraulic circuit, these probes detect: outlet fluid temperature to the evaporator (anti-freeze function) and outlet fluid temperature from the storage tank (set-point management). A probe to measuring the external air temperature is available when the anti-freeze protection heaters option is considered;
- Anti-freeze protection heaters: Adhesive electrical heaters placed on the storage tank and pumps. These heaters are controlled by the parametric microprocessor control through an air external probe (see par. 16.1).

15. Parametric microprocessor control

All units are equipped with a parametric microprocessor control. In the model 020 the control is directly installed in the casing of electrical panel while in the models 031÷351 on the electrical panel door, finally in the models 381÷1002 is internally secured to the electrical panel and connected to a semi-graphic LCD display fixed on the door. The ease of use of this microprocessor allows any user to view and modify the main operating parameters.

IC208CX

The microprocessor control manages the following functions:

- Thermostatic control depending on the outlet process fluid temperature (neutral zone or proportional);
- Outlet process fluid temperature display;
- Measurement and display of the external air temperature for management of anti-freeze heaters (if considered) and control of pump starts in the low ambient temperature conditions;
- Management of the automatic rotations of compressors to equalize the operating times for each compressor (mod. 201÷1002);
- Measurement and display of condensing pressure (mod. 402÷1002);
- Unloading function for multi compressor unit (mod. 201÷1002), which allows the starts and the operation of the units also with conditions much more different than nominal ones;
- Management of anti-freeze heaters (if included) and pump switch on when the external air temperature falls below the set value;
- Display of the alarms history;
- TTL serial interface (RS485 convert kit is required);
- Management of alarm messages:
  - high condensing pressure alarm;
  - low evaporation pressure alarm;
  - anti-freeze alarm on outlet process fluid temperature;
  - compressor failure alarm;
  - pump thermal protection alarm;
  - storage tank level alarm;
  - count of operating hours of the unit and each single compressor.

16. Options and kits

16.1 Options

The options must be specified in phase of order because this type of equipment can be delivered as factory fitted only.

LOW AMBIENT TEMPERATURE

- **AMBIENT TEMPERATURE DOWN TO -20 °C (mod. 031÷1002):** This option includes: an electrical heater managed by thermostat in the electrical board and EC Brushless axial fans. If anti-freeze additives are not considered with this option is recommended to associate the equipment "Anti-freeze protection heaters".

HYDRAULIC CIRCUIT

- **ANTI-FREEZE PROTECTION HEATERS:** The adhesive electrical heaters installed on the storage tank and pump are activated by the parametric microprocessor control based on the temperature detected by an ambient probe. For external air temperatures lower than the set-point value the controller also activates the pump. The heaters allow to protect the evaporator for external air temperatures below 0 ° C and greater or equal to -10 ° C. For external air temperatures below -10 ° C and above -20 ° C, in addition to the anti-freeze protection heaters option is necessary to install a double layer of insulation on the storage tank and pumps (special execution). Alternatively, is necessary to consider a proper quantity of anti-freeze additives. If the unit is equipped with a manual filling kit is recommend the use of anti-freeze additive as the plastic tank is not compatible with any anti-freeze heater.
- **P3 PUMP:** Single centrifugal pump with nominal available head pressure of about 3 barg.
- **P5 PUMP:** Single centrifugal pump with nominal available head pressure of about 5 barg.
- **P3+P3 OR P5+P5 DOUBLE PUMP:** Stand-by operation. The switching between the two pumps is controlled by the parametric microprocessor control to equalize the operating times. With this option, the check and shut-off valves on discharge and suction of each pump are included as base equipment:
  - **P3+P3:** double centrifugal pump with nominal available head pressure of about 3 barg.
  - **P5+P5:** double centrifugal pump with nominal available head pressure of about 5 barg.
- **P3 PUMP FOR OPEN STORAGE TANK SYSTEMS (mod. 031÷1002):** This option is composed by a single centrifugal P3 pump (about 3 barg of nominal available head pressure) that pushing towards the evaporator (instead of suction). This option is required in the hydraulic circuits where is necessary to suck the fluid by an open storage tank or system.
- **NON-FERROUS HYDRAULIC CIRCUIT (mod. 020÷802):** Suitable for system with process fluids aggressive for the carbon steel materials. The evaporator is composed by copper tubes and fins and protected by a brass structure. The cylindrical storage tank in AISI 304 is suitable for both pressurized and atmospheric hydraulic circuits, in this case through the installation of manual filling kit. The materials directly in contact with the process fluid are: AISI 304 stainless steel, copper, brass, and rubbers (hydraulic pipes). Special execution.

REFRIGERANT CIRCUIT

- **CONDENSING COILS WITH PROTECTIVE PAINT TREATMENT:** Pre-painted aluminum fins with organic coating based on epoxy-acrylic resins. Subsequently, the condenser is entirely coated with resin-based thermosetting powder cross-linked polyester. Suitable for installations in environments with an aggressive atmosphere. Special execution.
- **EC BRUSHLESS FANS (mod. 031÷1002):** The EC electronic commutation technology through the continuous and efficient regulation of the fan speed at partial loads allows not only a reduction of sound emission in the most frequent operating conditions but also an accurate control of condensing pressure ensuring the operation even at low ambient temperatures.

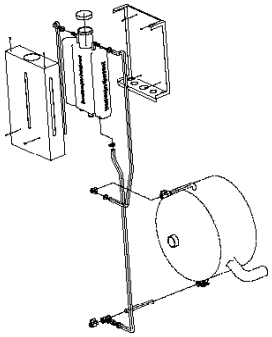
16.2 Kits

The kits are accessories that are supplied as a separate package, generally with the unit and installed by the customer. The kits can be supplied later as spare parts, modification kits, completion kits, etc.:

HYDRAULIC CIRCUIT

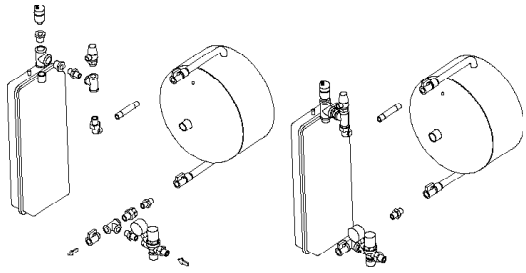
- **MANUAL FILLING KIT FOR ATMOSPHERIC HYDRAULIC CIRCUIT:** This kit allows the filling of the tank and the hydraulic circuit when this is not pressurized (atmospheric pressure circuits). This kit is composed by:
  - plastic tank for manual filling and displaying the fluid level;
  - galvanized and painted sheet support structure;
  - fittings for hydraulic connections to the storage tank.

The kit can be supplied installed directly on the unit but is also available as separate sales kit. For models 020 and 902-1002 the manual filling kit is available only as a sales kit and the installation by customer care.



Manual filling kit

- **AUTOMATIC FILLING KIT FOR PRESSURIZED HYDRAULIC CIRCUIT:** This kit is suitable for the automatic filling of pressurized hydraulic circuits. The kit is composed by:
  - pressure reducer with valve;
  - pressure gauge;
  - automatic bleed valve;
  - safety valve;
  - expansion vessel;
  - pre-assembled connection fittings.



Automatic filling kit

- **GLYCOL FILLING KIT:** Suitable for pressurized hydraulic circuits and composed by a polyethylene filling tube equipped with a hermetic sealing cap and brass fittings. It's used for filling the anti-freeze additives and can be purchased individually or in combination with the automatic filling kit.
- **AUTOMATIC HYDRAULIC BY-PASS (EXTERNAL) (mod. 020÷602):** The kit includes a bronze pressure relief valve, adjustable with proportional operating characteristics. This kit allows, in the event of an incorrect interception of the inlet and outlet hydraulic connections, to preserve the integrity of the unit and the pump allowing a passage of an adequate flow rate of process fluid avoiding the anti-freeze alarm or the activation of electrical protection of pump.
- **HYDRAULIC CIRCUIT WATER REGULATION VALVE (mod. 020÷802):** Installed in the evaporator inlet this kit allows to preserve the pump during start-up by the possible operation outside the allowed flow limits. The kit is composed by:
  - shut-off valves;
  - Y filter to protect the hydraulic circuit;
  - regulation globe valve.

REFRIGERANT CIRCUIT

- **CONDENSER AIR FILTERS KIT** (Mod. 031÷1002): This kit allows to replace the metal air filters to protect the condensing coils. The type of filters included in this kit is the same as supplied with the units.

ELECTRICAL PANEL

- **TRACE HEATER KIT FOR ELECTRICAL PANEL BOX (Mod. 031÷1002):** This kit combined with a unit configured with EC Brushless fans, allows to extend the operating minimum ambient temperature down to -20 ° C. The kit is composed by:
  - electrical heater;
  - thermostat.

CONNECTIVITY

- **REMOTE CONTROL KIT (VICX620):** This kit allows the remotely control of all functions of parametric control on board at a maximum distance of 100 m (a shielded connection cable not supplied is required). This LED terminal also performs the remote on/off function. For mod. 381÷1002 is necessary to install the adapter kit to positioning the parametric microprocessor control on the door of the electrical panel.

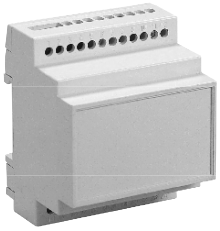
VICX620

- **LCD REMOTE CONTROL KIT:** Semi-graphic backlit user terminal, allows to remotely at a maximum distance of 100 m (a shielded connection cable not supplied is required) all functions of parametric control on board. The icons, multifunction keys with dynamic description and moving images make this terminal user-friendly. This LCD terminal also performs the remote on/off function. For mod. 381÷1002 is necessary to install the adapter kit to positioning the parametric microprocessor control on the door of the electrical panel.

VISOGRAPH VGI890

- **REMOTE CONTROL ADAPTER KIT (mod. 381÷1002):** Essential to positioning of the parametric microprocessor control on the door of the electrical panel allowing the use of the LCD display, previously installed on the electrical panel door, as a remote terminal. If the remote terminal with LED display is required (instead of the LCD version), this kit must also be provided separately.

- **SERIAL BOARD RS485 FOR SUPERVISION AND MODULARITY SYSTEMS:** This kit allows the connection of the unit with BMS supervision systems through RS485 electrical standard and MODBUS protocol. Is composed by a serial cable and an opto-isolated serial interface, necessary to convert the TTL output signal by the parametric electronic control into an RS485 signal. This kit must also be considered in all units connected in modularity (the "Modularity Kit" is also required) or to the XWEB300D PRO supervision system (the "xWEB300D PRO supervisor kit is also required).



opto-isolated serial interface

- **MODULARITY KIT:** The kit includes an electronic controller installed in an electrical panel (IP54 protection rating and 230V/1Ph/50Hz-60Hz electrical power supply) with semi-graphic backlit LCD display. The installation of the modularity kit (master) and an RS485 serial card kit for each unit (master and slave) with a parametric microprocessor controller allows modular operation from 2 to 5 slave units.

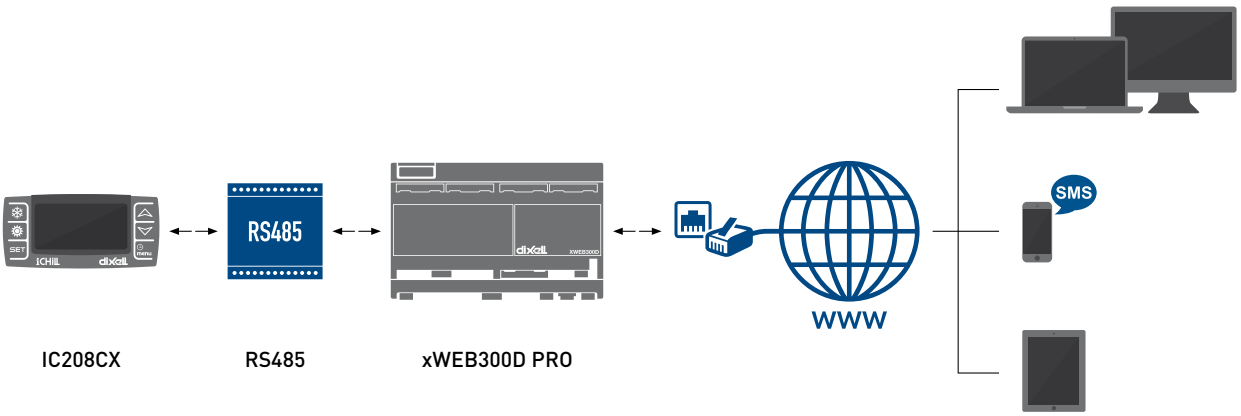
- **xWEB300D PRO SUPERVISOR KIT:** xWEB300D PRO is a monitoring, control, and supervision system capable to manage up to 247 units equipped with a parametric microprocessor control (through a RS485 serial board kit installed on each unit) or programmable.

The kit is composed by:
- xWEB300D PRO;
- Quick connection guide;
- USB with manuals.

Through a web browser is possible to access to the xWEB300D PRO web page to display all device data, manage the parameters, alarms and view the operating graphics.

xWEB300D PRO features:
- electrical power supply 110÷230Vac±10%, 50/60Hz;
- 1 LAN port (Rj45 connector) for networking connection;
- 1 RS485 serial port for devices connection (MODBUS - RTU);
- 1 USB port for stored data download;
- 4Gbit Flash memory and 64MB RAM for data storage;
- alarms e-mail notification is available.

Depending on the connection type, xWEB300D PRO can send e-mail (in case of alarm) and connect to PDA or Smartphone. Internet connection (through LAN or external GPRS modem) is required for remote access.



IC208CX RS485 xWEB300D PRO

17. Handling and lifting

All units from model 020 to 161 are positioned and fixed on pallets and the handling is possible by forklifts or pallet truck. These units can be handled even without pallets through the structure of support base. Models 201÷1002 are positioned on polypropylene supports and can be handled by a forklift or overhead crane and tower crane through bars inserted in the base and lifting bands. The lifting bars are not supplied as standard. For correct handling please consult the specific document "HANDLING INSTRUCTIONS"

SELECTION GUIDE

The unit selection is performed through the tables given in the "SELECTION GUIDE" and the "Data Tables" referred to each model. For a correct selection is necessary:

1) Check that the operating limits indicated in the "WORKING LIMITS" table are complied;

2) Verify that the flow rate of water to be cooled is between the flow rates indicated in the "GENERAL DATA" table of each model. Too low flow rate values lead to a laminar flow and consequently, danger of freezing and bad regulation. Otherwise too high flow rates lead to excessive pressure drops and the possibility of damage to the evaporator;

3) Verify the addition of ethylene glycol or other anti-freeze additives for systems with fluid outlet temperatures below of 5 °C. Consult the table "SOLUTIONS OF WATER AND ETHYLENE GLYCOL" to check the quantity of glycol ethylene necessary and to evaluate the reduction in cooling performance, the increase in the compressor absorbed power and the increase in pressure drops evaporator caused to the additives;

4) If the TAE G models are installed on altitude greater than 500 meters, evaluate the reduction in cooling capacity and the increase in compressor absorbed power through the coefficients indicated in the table "CONDENSER CORRECTION FACTORS";

5) If the temperature difference between the inlet and outlet of the fluid to the evaporator is different of $\Delta T = 5$ °C, modify the values of cooling capacity and absorbed power through the "CORRECTION FACTORS $\Delta T \neq 5$ °C (WATER EVAPORATOR) table.

PERFORMANCE AND TECHNICAL DATA

GENERAL DATA

		020	031	051	071	081	101	121	161	201	251
Cooling capacity (1)	kW	4,96	7,17	10,36	16,60	21,85	25,98	33,05	35,95	43,37	47,66
Total absorbed power (1)	kW	1,81	2,47	3,64	5,49	8,37	9,56	12,39	14,11	16,93	19,55
EER (1)	-	2,75	2,90	2,85	3,02	2,61	2,72	2,67	2,55	2,56	2,44
SEPR HT (2)		5,11	5,20	5,10	5,20	5,09	5,15	5,01	5,05	5,64	5,60
SEPR MT (3)		2,85	2,95	2,92	3,17	3,27	3,11	3,29	3,39	3,31	3,36
Cooling capacity (4)	kW	7,22	10,42	14,89	23,43	30,11	35,43	45,36	48,91	59,69	65,33
Total absorbed power (4)	kW	1,59	2,22	3,29	4,97	7,28	8,26	11,06	12,47	14,79	17,39
EER (4)	-	4,54	4,70	4,53	4,71	4,14	4,29	4,10	3,92	4,04	3,76
Compressor											
Cooling circuits	N°	1	1	1	1	1	1	1	1	1	1
Compressors for each circuit	N°	1	1	1	1	1	1	1	1	2	2
Capacity control	%	1 step	1 step	1 step	1 step	1 step	1 step	1 step	1 step	2 step	2 step
Electrical power supply (5)											
Power	V/Ph/Hz	400 ± 10% / 3 - PE / 50									
Auxiliary	V/Ph/Hz	24 - 230 ± 10% / 1 / 50									
Condensers											
Condenser number	N°	1	2	2	1	1	1	1	1	1	1
Total frontal surface	m^2	0,32	0,64	0,64	1,1	1,1	1,1	1,1	1,1	2,16	2,16
Axial fans											
Fans number	N°	1	1	1	1	1	2	2	2	2	2
Total airflow	m^3/h	3150	6300	6100	8150	8150	14200	12400	12400	16200	16200
Nominal power (each)	kW	0,193	0,48	0,48	0,72	0,72	0,72	0,72	0,72	0,72	0,72
Hydraulic group											
Water flow rate P3 (6)	m^3/h	0,4/4,8	0,7/6	0,9/6	1,9/9,6	1,9/9,6	2,1/9,6	2,6/18	3,2/18	3,4/18	3,4/18
Available pump head pressure P3 (7)	barg	3,0/1,4	3,1/1,6	3,0/1,5	3,0/1,3	3,0/1,3	2,9/1,3	2,8/1,7	2,8/1,7	2,8/2,1	2,8/2,1
Nominal power P3	kW	0,55	0,75	0,75	0,9	0,9	0,9	1,85	1,85	1,85	1,85
Water flow rate P5 (6)	m^3/h	0,4/4,8	0,7/4,8	0,9/4,8	1,9/12,6	1,9/12,6	2,1/12,6	2,6/12,6	3,2/12,6	3,4/21,6	3,4/21,6
Available pump head pressure P5 (7)	barg	5,4/3,0	5,3/3,3	5,2/3,3	5,2/3,2	5,2/3,2	5,2/3,6	5,2/3,6	5,1/3,7	5,2/3,5	5,2/3,5
Nominal power P5	kW	1,1	1,1	1,1	2,2	2,2	2,2	2,2	2,2	4	4
Tank volume	l	60	115	115	140	140	255	255	255	350	350
Max pressure	barg	6	6	6	6	6	6	6	6	6	6
Water connections	Rp/DN	3/4"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
Sound levels (8)											
Sound power	dB (A)	80,4	81,1/86,8	81,1/86,8	81,6/89,2	81,6/89,2	82,1/89,2	82,1/89,2	83/89,2	84,3/85	84,3/85
Sound pressure	dB (A)	52,4	53,1/58,8	53,1/58,8	53,6/61,2	53,6/61,2	54,1/61,2	54,1/61,2	55/61,2	56,3/57	56,3/57
Dimensions and installed weight (9)											
Width	mm	560	660	660	761	761	761	761	761	866	866
Length	mm	1284	1315	1315	1862	1862	1862	1862	1862	2250	2250
Height	mm	904	1420	1420	1556	1556	1556	1556	1556	2172	2172
Weight without pump	kg	199	314	324	462	462	624	635	649	924	966
Weight with P3	kg	204	326	336	475	475	637	652	666	998	998
Weight with P5	kg	217	331	341	513	513	650	661	675	1038	1034
Weight with double P3	kg	-	-	-	-	-	-	-	-	1068	1070
Weight with double P5	kg	-	-	-	-	-	-	-	-	1120	1100

(1) Evaporator water inlet/outlet temperature 12/7 °C, external air temperature 35 °C;
(2) Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers;
(3) Data declared in compliance with the European Regulation (EU) 2015/1095 with regard to ecodesign requirements for cooling products and medium temperature process chillers;
(4) Evaporator water inlet/outlet temperature 20/15 °C, external air temperature 25 °C;
(5) Protection class IP 44 for model 020. Protection class IP 54 for models 031-1002;
(6) Mimimum and maximum water flow pump;
(7) Available head pressure at outlet unit at the minimum and maximum water flow rate;
(8) The first value refers to the version with axial fans, the second value refers to the version with EC Brushless fans (mod.031-1002). Sound power: determined on the basis of measurements taken in accordance with the standard ISO 3744. Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1,6 m from the unit support base. Values with tolerance +/- 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions;
(9) The weights of the units are referred to the configuration with axial fans.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

GENERAL DATA

		301	351	381	401	402	502	602	702	802	902	1002
Cooling capacity (1)	kW											
Total absorbed power (1)	kW											
EER (1)	-											
SEPR HT (2)		5,28	5,36	5,46	5,56	5,49	5,69	5,61	5,61	5,86	5,63	5,36
SEPR MT (3)		3,27	3,38	3,36	3,34	3,42	3,55	3,58	3,64	3,80	3,67	3,61
Cooling capacity (4)	kW											
Total absorbed power (4)	kW											
EER (4)	-											
Compressor												
Cooling circuits	N°	1	1	1	1	2	2	2	2	2	2	2
Compressors for each circuit	N°	2	2	2	2	2	2	2	2	2	2	2
Capacity control	%	2 step	2 step	2 step	2 step	4 step	4 step	4 step	4 step	4 step	4 step	4 step
Electrical power supply (5)												
Power	V/Ph/Hz	400 ± 10% / 3 - PE / 50										
Auxiliary	V/Ph/Hz	24 - 230 ± 10% / 1 / 50										
Condensers												
Condenser number	N°	1	1	1	1	1	1	1	2	2	4	4
Total frontal surface	m^2	2,16	2,16	2,99	2,99	4,18	4,18	4,18	5,8	5,8	8,2	8,2
Axial fans												
Fans number	N°	3	3	2	2	2	2	2	3	3	4	4
Total airflow	m^3/h	21600	21600	35000	35000	45800	44400	42800	63900	62100	80000	76000
Nominal power (each)	kW	0,72	0,72	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9
Hydraulic group												
Water flow rate P3 (6)	m^3/h	4,8/20	5,6/20	7,2/36	8,0/36	6,6/36	8,1/36	9,0/36	12,5/56	14,9/56	18,8/56	21,2/56
Available pump head pressure P3 (7)	barg	3,5/2,2	3,5/2,2	3,5/1,9	3,5/1,9	3,5/2,1	3,5/2,1	3,5/2,1	3,3/2,0	3,3/2,0	3,3/2,2	3,3/2,2
Nominal power P3	kW	2,2	2,2	4	4	4	4	4	5,5	5,5	5,5	5,5
Water flow rate P5 (6)	m^3/h	4,8/21,6	5,6/21,6	7,2/42	8,0/42	6,6/42	8,1/42	9,4/42	12,5/72	14,9/72	18,8/72	21,2/72
Available pump head pressure P5 (7)	barg	5,2/3,5	5,1/3,4	5,3/3,6	5,3/3,6	5,3/3,9	5,3/3,9	5,3/3,9	5,1/2,7	5,1/2,7	5,0/2,9	5,0/2,9
Nominal power P5	kW	4	4	7,5	7,5	7,5	7,5	7,5	9,2	9,2	9,2	9,2
Tank volume	l	350	350	410	410	500	500	500	678	678	950	950
Max pressure	barg	6	6	6	6	6	6	6	6	6	6	6
Water connections	Rp/DN	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	3"	3"	100	100
Sound levels (8)												
Sound power	dB (A)	86/86,7	86/86,7	88,3/89,2	89,7/90,4	89,5/91,1	89,5/91,1	89,5/91,1	90,2/91,1	90,6/91,4	91,7/92,6	92,8/93,5
Sound pressure	dB (A)	58/58,7	58/58,7	60,3/61,2	61,7/62,4	61,5/63,1	61,5/63,1	61,5/63,1	62,2/63,1	62,6/63,4	78,7/79,6	79,8/80,5
Dimensions and installed weight (9)												
Width	mm	866	866	1150	1150	1255	1255	1255	1250	1250	1250	1250
Length	mm	2250	2250	2790	2790	3298	3298	3298	3535	3535	4655	4655
Height	mm	2172	2172	2260	2260	2299	2299	2299	2152	2152	2152	2152
Weight without pump	kg	1018	1028	1366	1419	1666	1682	1726	2077	2114	2839	2936
Weight with P3	kg	1063	1065	1408	1481	1728	1748	1773	2131	2192	2907	2998
Weight with P5	kg	1078	1082	1432	1485	1745	1761	1805	2154	2191	2933	3030
Weight with double P3	kg	1131	1147	1459	1512	1762	1778	1822	2187	2224	3029	3126
Weight with double P5	kg	1134	1173	1507	1560	1826	1842	1886	2233	2270	3078	3175

(1) Evaporator water inlet/outlet temperature 12/7 °C, external air temperature 35 °C;
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(3) Data declared in compliance with the European Regulation (EU) 2015/1095 with regard to ecodesign requirements for cooling products and medium temperature process chillers;
(4) Evaporator water inlet/outlet temperature 20/15 °C, external air temperature 25 °C;
(5) Protection class IP 44 for model 020. Protection class IP 54 for models 031-1002;
(6) Mimimum and maximum water flow pump;
(7) Available head pressure at outlet unit at the minimum and maximum water flow rate;
(8) The first value refers to the version with axial fans, the second value refers to the version with EC Brushless fans (mod.031-1002). Sound power: determined on the basis of measurements taken in accordance with the standard ISO 3744. Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1,6 m from the unit support base. Values with tolerance +/- 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions;
(9) The weights of the units are referred to the configuration with axial fans.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

ELECTRICAL DATA

Model	Version	Hz	With axial fans					
			with on/off fans			with EC Brushless fans		
			FLI (kW)	FLA (A)	ICF (A)	FLI (kW)	FLA (A)	ICF (A)
020	SP	50	3,4	5,6	41	-	-	-
	P3	50	4,3	7,2	42	-	-	-
	P5	50	5,1	8,9	44	-	-	-
031	SP	50	4,5	7,0	51	4,9	7,4	51
	P3	50	5,5	8,8	53	5,8	9,1	53
	P5	50	6,3	10,3	54	6,6	10,7	55
051	SP	50	5,8	11,0	75	6,2	11,4	75
	P3	50	6,8	12,8	77	7,2	13,2	77
	P5	50	7,6	14,3	78	8,0	14,7	79
071	SP	50	8,9	14,6	112	9,2	14,9	113
	P3	50	10,2	17,0	115	10,4	17,2	115
	P5	50	12,3	21,0	119	12,6	21,3	119
081	SP	50	10,8	17,8	112	11,6	19,3	144
	P3	50	12,0	20,2	115	12,9	21,7	146
	P5	50	14,2	24,2	119	15,0	25,7	150
101	SP	50	13,1	22,2	121	14,7	22,9	145
	P3	50	14,4	24,6	123	16,0	25,3	148
	P5	50	16,6	28,6	127	18,2	29,3	152
121	SP	50	16,7	28,3	161	17,9	27,8	161
	P3	50	18,8	32,5	165	20,1	32,0	166
	P5	50	20,1	34,7	167	21,3	34,2	168
161	SP	50	18,6	32,1	200	19,7	31,6	200
	P3	50	20,7	36,3	204	21,9	35,8	205
	P5	50	22,0	38,5	206	23,2	38,0	207
201	SP	50	21,5	35,7	130	23,2	38,7	163
	P3	50	23,7	39,8	134	25,4	42,9	167
	P5	50	26,0	44,4	139	27,7	47,4	172
251	SP	50	24,8	41,6	140	26,1	42,5	165
	P3	50	27,0	45,8	144	28,3	46,7	169
	P5	50	29,3	50,3	149	30,6	51,2	174
301	SP	50	28,9	49,2	164	30,9	49,0	183
	P3	50	31,5	53,9	168	33,5	53,7	187
	P5	50	33,5	57,9	172	35,4	57,7	191
351	SP	50	34,9	59,7	204	35,9	57,7	226
	P3	50	37,5	64,4	209	38,5	62,4	231
	P5	50	39,5	68,4	213	40,4	66,4	235
381	SP	50	37,6	67,8	212	39,3	63,0	232
	P3	50	42,1	75,4	219	43,8	70,6	239
	P5	50	45,9	81,4	225	47,5	76,6	245
401	SP	50	43,2	74,3	263	44,9	70,6	250
	P3	50	47,7	81,9	270	49,4	78,2	257
	P5	50	51,5	87,9	276	53,2	84,2	263
402	SP	50	44,0	73,5	168	42,9	77,1	201
	P3	50	48,5	81,1	176	47,3	84,7	209
	P5	50	52,3	87,1	182	51,1	90,7	215
502	SP	50	50,6	85,4	184	48,6	84,8	207
	P3	50	55,1	93,1	192	53,1	92,4	215
	P5	50	58,9	99,0	198	56,9	98,4	221
602	SP	50	56,5	95,2	211	54,9	94,5	228
	P3	50	61,0	102,8	219	59,4	102,1	236
	P5	50	64,8	108,8	224	63,2	108,1	242
702	SP	50	64,3	108,8	225	64,5	107,5	241
	P3	50	70,5	119,3	235	70,7	118,0	252
	P5	50	74,4	126,0	242	74,6	124,7	258
802	SP	50	73,3	131,7	276	71,9	122,6	291
	P3	50	79,5	142,2	286	78,1	133,1	302
	P5	50	83,4	148,9	293	82,0	139,8	309
902	SP	50	84,4	143,6	323	83,2	141,2	320
	P3	50	90,6	154,1	333	89,4	151,7	331
	P5	50	94,5	160,8	340	93,3	158,4	338
1002	SP	50	95,7	159,0	338	94,5	156,6	336
	P3	50	101,9	169,5	349	100,7	167,1	346
	P5	50	105,8	176,2	355	104,6	173,8	353

SP = without pump;
P3 = pump P3;
P5 = pump P5;
FLI = max power absorbed in the working limits condition;
FLA = max current absorbed in the working limits condition;
ICF = Start-up current at the start of the last compressor in the working limits condition.

SOUND LEVELS

Model	Version	Octave bands (Hz)								Power	Pressure
		63	125	250	500	1000	2000	4000	8000		
		Sound power level Lw dB (A)								dB (A)	dB (A)10m
020	axial	48,2	61,2	73,5	75,8	75,2	71,0	63,3	53,8	80,4	52,4
031	axial	52,1	73,5	74,4	70,7	76,6	72,2	65,2	57,4	81,1	53,1
	EC Brushless	47,3	57,7	70,0	77,8	81,4	81,2	80,8	72,8	86,8	58,8
051	axial	52,1	73,5	74,4	70,7	76,6	72,2	65,2	57,4	81,1	53,1
	EC Brushless	47,3	57,7	70,0	77,8	81,4	81,2	80,8	72,8	86,8	58,8
071	axial	50,6	69,4	69,7	72,7	78,4	75,0	68,9	58,6	81,6	53,6
	EC Brushless	47,4	58,6	71,0	79,5	83,8	84,1	83,1	74,9	89,2	61,2
081	axial	50,6	69,4	69,7	72,7	78,4	75,0	68,9	58,6	81,6	53,6
	EC Brushless	47,4	58,6	71,0	79,5	83,8	84,1	83,1	74,9	89,2	61,2
101	axial	50,9	69,8	70,2	73,2	78,9	75,5	69,4	59,0	82,1	54,1
	EC Brushless	47,4	58,6	71,0	79,5	83,8	84,1	83,1	74,9	89,2	61,2
121	axial	50,9	69,8	70,2	73,2	78,9	75,5	69,4	59,0	82,1	54,1
	EC Brushless	47,4	58,6	71,0	79,5	83,8	84,1	83,1	74,9	89,2	61,2
161	axial	51,5	70,6	71,0	74,0	79,7	76,3	70,1	59,6	83	55,0
	EC Brushless	47,4	58,6	71,0	79,5	83,8	84,1	83,1	74,9	89,2	61,2
201	axial	59,9	71,9	73,0	75,1	81,0	77,9	71,4	59,3	84,3	56,3
	EC Brushless	60,4	72,5	73,6	75,8	81,7	78,5	72,0	59,8	85,0	57,0
251	axial	59,9	71,9	73,0	75,1	81,0	77,9	71,4	59,3	84,3	56,3
	EC Brushless	60,4	72,5	73,6	75,8	81,7	78,5	72,0	59,8	85,0	57,0
301	axial	61,2	73,4	74,5	76,7	82,8	79,5	72,9	60,5	86	58,0
	EC Brushless	61,7	74,0	75,2	77,4	83,5	80,2	73,5	61,1	86,7	58,7
351	axial	61,2	73,4	74,5	76,7	82,8	79,5	72,9	60,5	86	58,0
	EC Brushless	61,7	74,0	75,2	77,4	83,5	80,2	73,5	61,1	86,7	58,7
381	axial	53,5	71,7	73,0	80,0	84,9	81,9	78,1	73,2	88,3	60,3
	EC Brushless	59,5	70,9	77,3	82,4	84,4	83,3	78,5	73,2	89,2	61,2
401	axial	53,8	71,7	73,2	82,4	86,0	83,0	80,4	73,0	89,7	61,7
	EC Brushless	59,6	71,0	77,4	84,0	85,7	84,2	80,7	73,1	90,4	62,4
402	axial	63,9	76,6	77,8	80,1	86,4	83,0	76,1	63,2	89,5	61,5
	EC Brushless	65,1	78,1	79,3	81,6	88,0	84,6	77,5	64,4	91,1	63,1
502	axial	63,9	76,6	77,8	80,1	86,4	83,0	76,1	63,2	89,5	61,5
	EC Brushless	65,1	78,1	79,3	81,6	88,0	84,6	77,5	64,4	91,1	63,1
602	axial	63,9	76,6	77,8	80,1	86,4	83,0	76,1	63,2	89,5	61,5
	EC Brushless	65,1	78,1	79,3	81,6	88,0	84,6	77,5	64,4	91,1	63,1
702	axial	55,7	73,4	74,7	82,3	86,5	83,6	80,5	75,7	90,2	62,2
	EC Brushless	61,4	72,8	79,0	84,5	86,1	85,1	80,9	75,8	91,1	63,1
802	axial	55,4	73,5	74,9	82,4	87,0	84,4	80,7	76,1	90,6	62,6
	EC Brushless	61,3	72,8	79,1	84,5	86,5	85,7	81,1	76,1	91,4	63,4
902	axial	56,1	73,8	75,3	84,4	88,0	85,0	82,4	75,1	91,7	78,7
	EC Brushless	57,1	76,4	77,7	84,8	88,7	86,3	83,3	76,3	92,6	79,6
1002	axial	56,4	73,8	75,4	85,9	88,9	85,9	84,0	75,0	92,8	79,8
	EC Brushless	57,3	76,4	77,7	86,2	89,4	87,0	84,5	76,2	93,5	80,5

Sound power: determined on the basis of measurements taken in accordance with the standard ISO 3744. Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1,6 m from the unit support base. Values with tolerance +/- 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

Distance	KdB
(1) L (m)	
1	15
3	10
5	6
10	0

(1) To calculate a different distance of the sound pressure level, use the formula: dB(A)L=dB(A)10m+Kdb.

PERFORMANCE DATA

020

Glycol	tu	External air temperature ta (°C)																	ta max
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(°C)
35%	-10	2,7	1,4	0,5	2,4	1,6	0,5	2,3	1,7	0,4	2,2	1,8	0,4							38
35%	-7	3,2	1,4	0,6	2,9	1,6	0,5	2,7	1,7	0,5	2,6	1,8	0,5	2,5	1,9	0,5				41
25%	-5	3,5	1,4	0,7	3,2	1,6	0,6	3,1	1,7	0,6	2,9	1,8	0,5	2,9	1,9	0,5	2,7	2,0	0,5	43
25%	-3	3,8	1,4	0,7	3,5	1,6	0,6	3,3	1,7	0,6	3,2	1,8	0,6	3,1	1,9	0,6	3,0	2,0	0,6	45
20%	0	4,4	1,5	0,8	4,0	1,7	0,7	3,8	1,7	0,7	3,6	1,9	0,7	3,5	1,9	0,6	3,4	2,0	0,6	46
20%	3	4,8	1,5	0,9	4,4	1,7	0,8	4,2	1,8	0,8	4,1	1,9	0,7	4,0	2,0	0,7	3,8	2,1	0,7	46
	5	5,3	1,5	0,9	4,8	1,7	0,8	4,6	1,8	0,8	4,5	1,9	0,8	4,3	2,0	0,7	4,2	2,1	0,7	46
	7	5,7	1,5	1,0	5,2	1,7	0,9	5,0	1,8	0,9	4,8	1,9	0,8	4,6	2,0	0,8	4,5	2,1	0,8	46
	9	6,0	1,5	1,0	5,5	1,7	0,9	5,3	1,8	0,9	5,1	1,9	0,9	5,0	2,0	0,9	4,8	2,1	0,8	46
	11	6,4	1,5	1,1	5,9	1,8	1,0	5,6	1,8	1,0	5,4	2,0	0,9	5,3	2,0	0,9	5,1	2,2	0,9	46
	13	6,8	1,6	1,2	6,2	1,8	1,1	6,0	1,9	1,0	5,8	2,0	1,0	5,6	2,1	1,0	5,4	2,2	0,9	46
	15	7,2	1,6	1,2	6,6	1,8	1,1	6,4	1,9	1,1	6,1	2,0	1,1	6,0	2,1	1,0	5,7	2,2	1,0	46
	17	7,7	1,6	1,3	7,0	1,8	1,2	6,8	1,9	1,2	6,5	2,0	1,1	6,4	2,1	1,1	6,1	2,2	1,1	46
	20	8,4	1,7	1,5	7,7	1,9	1,3	7,5	2,0	1,3	7,2	2,1	1,2	7,0	2,2	1,2	6,7	2,3	1,2	44

031

Glycol	tu	External air temperature ta (°C)																	ta max
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(°C)
35%	-10	4,0	1,9	0,8	3,6	2,2	0,7	3,5	2,3	0,7	3,3	2,4	0,6	3,2	2,5	0,6				41
35%	-7	4,7	1,9	0,9	4,2	2,2	0,8	4,0	2,3	0,8	3,9	2,5	0,7	3,8	2,6	0,7	3,6	2,7	0,7	44
25%	-5	5,2	2,0	1,0	4,7	2,2	0,9	4,5	2,3	0,8	4,3	2,5	0,8	4,2	2,6	0,8	4,0	2,7	0,7	46
25%	-3	5,6	2,0	1,0	5,1	2,2	0,9	4,9	2,4	0,9	4,7	2,5	0,9	4,6	2,6	0,8	4,4	2,8	0,8	46
20%	0	6,3	2,0	1,2	5,8	2,3	1,0	5,5	2,4	1,0	5,3	2,5	1,0	5,2	2,6	0,9	5,0	2,8	0,9	46
20%	3	7,0	2,0	1,3	6,4	2,3	1,2	6,2	2,4	1,1	5,9	2,6	1,1	5,8	2,7	1,1	5,5	2,8	1,0	46
	5	7,7	2,1	1,3	7,0	2,3	1,2	6,7	2,5	1,2	6,5	2,6	1,1	6,3	2,7	1,1	6,0	2,8	1,0	46
	7	8,2	2,1	1,4	7,5	2,4	1,3	7,2	2,5	1,2	6,9	2,6	1,2	6,7	2,7	1,2	6,5	2,9	1,1	46
	9	8,7	2,1	1,5	7,9	2,4	1,4	7,6	2,5	1,3	7,4	2,6	1,3	7,2	2,7	1,2	6,9	2,9	1,2	46
	11	9,2	2,2	1,6	8,4	2,4	1,5	8,1	2,5	1,4	7,8	2,7	1,3	7,6	2,8	1,3	7,3	2,9	1,3	46
	13	9,8	2,2	1,7	9,0	2,4	1,5	8,6	2,6	1,5	8,3	2,7	1,4	8,1	2,8	1,4	7,8	2,9	1,3	46
	15	10,4	2,2	1,8	9,5	2,5	1,6	9,2	2,6	1,6	8,9	2,7	1,5	8,6	2,8	1,5	8,3	3,0	1,4	46
	17	11,1	2,3	1,9	10,2	2,5	1,8	9,8	2,6	1,7	9,5	2,8	1,6	9,2	2,9	1,6	8,9	3,0	1,5	46
	20	12,2	2,3	2,1	11,2	2,6	1,9	10,8	2,7	1,9	10,4	2,8	1,8	10,2	2,9	1,8	9,8	3,1	1,7	46

051

Glycol	tu	External air temperature ta (°C)																	ta max
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(°C)
35%	-10	5,8	2,8	1,1	5,2	3,2	1,0	4,9	3,4	0,9	4,7	3,6	0,9							39
35%	-7	6,7	2,9	1,3	6,1	3,2	1,2	5,8	3,4	1,1	5,5	3,6	1,1	5,4	3,7	1,0				42
25%	-5	7,5	2,9	1,4	6,8	3,3	1,3	6,5	3,4	1,2	6,2	3,6	1,1	6,0	3,8	1,1	5,7	4,0	1,1	44
25%	-3	8,1	2,9	1,5	7,4	3,3	1,4	7,0	3,5	1,3	6,8	3,7	1,3	6,6	3,8	1,2	6,3	4,0	1,2	46
20%	0	9,2	3,0	1,7	8,3	3,3	1,5	8,0	3,5	1,5	7,7	3,7	1,4	7,5	3,8	1,4	7,1	4,0	1,3	46
20%	3	10,2	3,0	1,9	9,3	3,4	1,7	8,9	3,6	1,6	8,6	3,8	1,6	8,3	3,9	1,5	8,0	4,1	1,5	46
	5	11,1	3,1	1,9	10,1	3,4	1,7	9,7	3,6	1,7	9,4	3,8	1,6	9,1	3,9	1,6	8,7	4,1	1,5	46
	7	11,8	3,1	2,0	10,8	3,5	1,9	10,4	3,6	1,8	10,0	3,8	1,7	9,7	4,0	1,7	9,3	4,2	1,6	46
	9	12,5	3,1	2,2	11,5	3,5	2,0	11,0	3,7	1,9	10,6	3,9	1,8	10,3	4,0	1,8	9,9	4,2	1,7	46
	11	13,3	3,2	2,3	12,2	3,6	2,1	11,7	3,7	2,0	11,3	3,9	1,9	11,0	4,0	1,9	10,6	4,2	1,8	46
	13	14,1	3,2	2,4	12,9	3,6	2,2	12,4	3,8	2,1	12,0	3,9	2,1	11,7	4,1	2,0	11,2	4,3	1,9	46
	15	14,9	3,3	2,6	13,7	3,6	2,4	13,2	3,8	2,3	12,7	4,0	2,2	12,4	4,1	2,1	11,9	4,3	2,1	46
	17	15,8	3,3	2,7	14,6	3,7	2,5	14,0	3,9	2,4	13,6	4,0	2,3	13,2	4,2	2,3	12,7	4,4	2,2	46
	20	17,3	3,4	3,0	15,9	3,8	2,7	15,4	3,9	2,7	14,9	4,1	2,6	14,5	4,3	2,5	14,0	4,5	2,4	46

071

Glycol	tu	External air temperature ta (°C)																	ta max
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(°C)
35%	-10	10,1	4,3	1,9	9,2	4,8	1,8	8,8	5,0	1,7	8,4	5,3	1,6	8,2	5,4	1,6				41
35%	-7	11,3	4,4	2,2	10,3	4,9	2,0	9,9	5,1	1,9	9,5	5,4	1,8	9,3	5,5	1,8	8,9	5,8	1,7	44
25%	-5	12,3	4,4	2,3	11,2	4,9	2,1	10,8	5,2	2,0	10,4	5,4	1,9	10,1	5,6	1,9	9,7	5,9	1,8	45
25%	-3	13,2	4,5	2,4	12,1	5,0	2,2	11,6	5,2	2,2	11,2	5,5	2,1	10,9	5,7	2,0	10,5	5,9	1,9	46
20%	0	14,7	4,5	2,7	13,5	5,1	2,5	13,0	5,3	2,4	12,5	5,6	2,3	12,2	5,7	2,2	11,8	6,0	2,1	46
20%	3	16,2	4,6	2,9	14,9	5,1	2,7	14,4	5,4	2,6	13,9	5,6	2,5	13,6	5,8	2,5	13,0	6,1	2,4	46
	5	17,6	4,7	3,0	16,2	5,2	2,8	15,6	5,4	2,7	15,1	5,7	2,6	14,7	5,9	2,5	14,2	6,2	2,4	46
	7	18,7	4,7	3,2	17,2	5,3	3,0	16,6	5,5	2,8	16,1	5,8	2,8	15,7	6,0	2,7	15,1	6,3	2,6	46
	9	19,8	4,8	3,4	18,3	5,3	3,1	17,6	5,5	3,0	17,1	5,8	2,9	16,7	6,0	2,9	16,1	6,3	2,8	46
	11	21,0	4,8	3,6	19,4	5,4	3,3	18,7	5,6	3,2	18,1	5,9	3,1	17,7	6,1	3,0	17,0	6,4	2,9	46
	13	22,2	4,9	3,8	20,5	5,4	3,5	19,8	5,7	3,4	19,2	6,0	3,3	18,7	6,1	3,2	18,1	6,5	3,1	46
	15	23,4	5,0	4,0	21,6	5,5	3,7	20,9	5,7	3,6	20,2	6,0	3,5	19,8	6,2	3,4	19,1	6,5	3,3	46
	17	25,0	5,1	4,3	23,1	5,6	4,0	22,3	5,8	3,8	21,6	6,1	3,7	21,1	6,3	3,6	20,3	6,6	3,5	46
	20	27,4	5,2	4,7	25,3	5,7	4,4	24,5	5,9	4,2	23,7	6,2	4,1	23,2	6,4	4,0	22,3	6,7	3,8	46

tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).
Interpolation is allowed, extrapolation is not permitted.
To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".
Value includes the correction factor for ethylene glycol.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

081

Glycol	tu	External air temperature ta (°C)																	ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	14,4	6,3	2,8	13,1	7,1	2,5	12,6	7,5	2,4										37
35%	-7	16,0	6,5	3,1	14,6	7,3	2,8	14,0	7,6	2,7	13,4	8,0	2,6							39
25%	-5	17,2	6,6	3,2	15,7	7,4	2,9	15,1	7,8	2,8	14,5	8,2	2,7	14,1	8,5	2,6				41
25%	-3	18,4	6,7	3,4	16,8	7,5	3,1	16,1	7,9	3,0	15,5	8,3	2,9	15,0	8,6	2,8				42
20%	0	20,2	6,8	3,7	18,5	7,7	3,4	17,7	8,0	3,2	17,0	8,5	3,1	16,6	8,8	3,0	15,8	9,2	2,9	44
20%	3	22,0	6,9	4,0	20,1	7,8	3,7	19,3	8,2	3,5	18,6	8,6	3,4	18,1	8,9	3,3	17,3	9,4	3,1	46
	5	23,6	7,0	4,0	21,6	7,9	3,7	20,7	8,3	3,6	19,9	8,7	3,4	19,4	9,1	3,3	18,5	9,6	3,2	46
	7	24,9	7,0	4,3	22,7	8,0	3,9	21,9	8,4	3,7	21,0	8,8	3,6	20,4	9,2	3,5	19,5	9,7	3,3	46
	9	26,2	7,1	4,5	23,9	8,1	4,1	23,0	8,5	3,9	22,1	8,9	3,8	21,5	9,3	3,7	20,6	9,8	3,5	46
	11	27,5	7,2	4,7	25,1	8,1	4,3	24,1	8,5	4,1	23,2	9,0	4,0	22,6	9,4	3,9	21,6	9,9	3,7	46
	13	28,8	7,2	4,9	26,3	8,2	4,5	25,3	8,6	4,3	24,3	9,1	4,2	23,6	9,5	4,1	22,6	10,0	3,9	46
	15	30,1	7,3	5,2	27,5	8,3	4,7	26,5	8,7	4,6	25,5	9,2	4,4	24,7	9,6	4,2	23,7	10,1	4,1	46
	17	31,8	7,3	5,5	29,0	8,4	5,0	27,9	8,8	4,8	26,8	9,3	4,6	26,1	9,7	4,5	25,0	10,2	4,3	46
	20	34,4	7,4	5,9	31,4	8,5	5,4	30,2	8,9	5,2	29,1	9,4	5,0	28,3	9,8	4,9	27,0	10,4	4,7	45

101

Glycol	tu	External air temperature ta (°C)																	ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	16,8	7,5	3,2	15,4	8,4	3,0	14,8	8,8	2,9	14,3	9,2	2,8							39
35%	-7	18,6	7,6	3,6	17,0	8,5	3,3	16,4	8,9	3,2	15,8	9,4	3,0	15,4	9,7	3,0				41
25%	-5	20,1	7,7	3,7	18,5	8,6	3,4	17,8	9,0	3,3	17,2	9,5	3,2	16,7	9,8	3,1	16,1	10,4	3,0	43
25%	-3	21,5	7,7	4,0	19,7	8,7	3,6	19,0	9,1	3,5	18,3	9,6	3,4	17,8	9,9	3,3	17,1	10,5	3,2	45
20%	0	23,7	7,8	4,3	21,7	8,8	4,0	20,9	9,2	3,8	20,2	9,8	3,7	19,7	10,1	3,6	18,9	10,7	3,4	46
20%	3	25,8	7,9	4,7	23,7	8,9	4,3	22,8	9,4	4,1	22,0	9,9	4,0	21,4	10,2	3,9	20,6	10,8	3,7	46
	5	27,9	8,0	4,8	25,6	9,0	4,4	24,6	9,5	4,2	23,7	10,0	4,1	23,1	10,4	4,0	22,2	10,9	3,8	46
	7	29,4	8,1	5,0	27,0	9,1	4,6	26,0	9,6	4,5	25,0	10,1	4,3	24,4	10,5	4,2	23,4	11,0	4,0	46
	9	30,9	8,1	5,3	28,4	9,2	4,9	27,3	9,6	4,7	26,4	10,2	4,5	25,7	10,6	4,4	24,7	11,1	4,2	46
	11	32,4	8,2	5,6	29,8	9,3	5,1	28,7	9,7	4,9	27,7	10,3	4,8	27,0	10,6	4,6	25,9	11,2	4,5	46
	13	33,9	8,2	5,8	31,2	9,3	5,4	30,1	9,8	5,2	29,0	10,3	5,0	28,3	10,7	4,9	27,2	11,3	4,7	46
	15	35,4	8,3	6,1	32,6	9,4	5,6	31,4	9,9	5,4	30,3	10,4	5,2	29,5	10,8	5,1	28,4	11,4	4,9	46
	17	37,5	8,3	6,5	34,5	9,5	5,9	33,3	9,9	5,7	32,1	10,5	5,5	31,2	10,9	5,4	30,0	11,5	5,2	46
	20	40,7	8,4	7,0	37,4	9,6	6,4	36,1	10,1	6,2	34,8	10,7	6,0	34,0	11,1	5,9	32,6	11,7	5,6	44

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Glycol	tu	External air temperature ta (°C)																	ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	21,6	9,3	4,2	19,8	10,5	3,8	19,0	11,0	3,7	18,3	11,6	3,5	17,8	12,1	3,4				40
35%	-7	23,9	9,5	4,6	21,9	10,7	4,2	21,0	11,2	4,0	20,3	11,8	3,9	19,7	12,3	3,8				42
25%	-5	25,9	9,6	4,8	23,7	10,8	4,4	22,8	11,4	4,2	21,9	12,0	4,1	21,3	12,5	4,0	20,4	13,2	3,8	45
25%	-3	27,6	9,8	5,1	25,2	11,0	4,7	24,3	11,5	4,5	23,3	12,2	4,3	22,7	12,6	4,2	21,8	13,4	4,0	46
20%	0	30,3	10,0	5,5	27,8	11,2	5,1	26,7	11,8	4,9	25,7	12,4	4,7	25,0	12,9	4,6	23,9	13,6	4,4	46
20%	3	33,1	10,2	6,0	30,3	11,5	5,5	29,1	12,0	5,3	28,0	12,7	5,1	27,3	13,1	5,0	26,1	13,9	4,7	46
	5	35,6	10,4	6,1	32,6	11,7	5,6	31,3	12,2	5,4	30,1	12,9	5,2	29,3	13,4	5,0	28,0	14,1	4,8	46
	7	37,6	10,5	6,4	34,4	11,8	5,9	33,0	12,4	5,7	31,7	13,1	5,4	30,9	13,5	5,3	29,6	14,3	5,1	46
	9	39,5	10,6	6,8	36,1	12,0	6,2	34,8	12,6	6,0	33,4	13,2	5,7	32,5	13,7	5,6	31,1	14,5	5,3	46
	11	41,4	10,8	7,1	37,9	12,1	6,5	36,5	12,7	6,3	35,1	13,4	6,0	34,2	13,9	5,9	32,7	14,7	5,6	44
	13	43,4	10,9	7,5	39,7	12,3	6,8	38,2	12,9	6,6	36,8	13,6	6,3	35,8	14,1	6,2	34,3	14,8	5,9	44
	15	45,4	11,1	7,8	41,5	12,5	7,1	39,9	13,0	6,9	38,5	13,8	6,6	37,4	14,3	6,4	35,8	15,0	6,2	43
	17	47,9	11,2	8,2	43,8	12,7	7,5	42,2	13,3	7,3	40,6	14,0	7,0	39,4	14,5	6,8				42
	20	51,8	11,5	8,9	47,4	12,9	8,2	45,6	13,5	7,9	43,8	14,3	7,5	42,6	14,8	7,3				40

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Glycol	tu	External air temperature ta (°C)																	ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	24,5	10,3	4,7	22,5	11,7	4,3	21,5	12,4	4,2	20,8	13,1	4,0							38
35%	-7	27,0	10,6	5,2	24,7	12,0	4,8	23,7	12,6	4,6	22,8	13,4	4,4	22,2	13,9	4,3				41
25%	-5	29,1	10,7	5,4	26,6	12,2	4,9	25,5	12,9	4,7	24,6	13,6	4,5	23,9	14,1	4,4	22,9	15,0	4,2	43
25%	-3	30,8	10,9	5,7	28,2	12,3	5,2	27,0	13,0	5,0	26,0	13,8	4,8	25,3	14,3	4,7	24,3	15,1	4,5	44
20%	0	33,8	11,1	6,1	30,8	12,6	5,6	29,5	13,3	5,4	28,5	14,1	5,2	27,7	14,6	5,0	26,5	15,5	4,8	46
20%	3	36,6	11,4	6,7	33,4	12,9	6,1	32,0	13,6	5,8	30,8	14,4	5,6	30,0	14,9	5,5	28,7	15,8	5,2	46
	5	39,2	11,6	6,7	35,8	13,2	6,1	34,3	13,9	5,9	32,9	14,7	5,6	32,1	15,2	5,5	30,7	16,1	5,3	46
	7	41,2	11,8	7,1	37,6	13,4	6,4	36,0	14,1	6,2	34,6	14,9	5,9	33,6	15,4	5,8	32,2	16,3	5,5	46
	9	43,1	12,0	7,4	39,3	13,6	6,8	37,6	14,3	6,5	36,2	15,1	6,2	35,2	15,7	6,0	33,7	16,5	5,8	46
	11	45,1	12,1	7,7	41,0	13,8	7,1	39,3	14,5	6,8	37,8	15,3	6,5	36,8	15,9	6,3	35,2	16,8	6,0	46
	13	47,0	12,3	8,1	42,8	14,0	7,4	40,9	14,7	7,0	39,4	15,5	6,8	38,3	16,1	6,6	36,7	17,0	6,3	46
	15	48,9	12,5	8,4	44,5	14,2	7,7	42,6	14,9	7,3	40,9	15,8	7,0	39,8	16,3	6,9	38,1	17,2	6,6	45
	17	51,5	12,7	8,9	46,9	14,4	8,1	44,8	15,2	7,7	43,1	16,0	7,4	41,9	16,6	7,2	40,1	17,6	6,9	45
	20	55,4	13,1	9,6	50,5	14,8	8,7	48,3	15,6	8,3	46,4	16,5	8,0	45,2	17,1	7,8				42

tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).
Interpolation is allowed, extrapolation is not permitted.
To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".
Value includes the correction factor for ethylene glycol.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	28,3	12,8	5,5	25,9	14,3	5,0	24,8	15,0	4,8										37
35%	-7	31,4	13,0	6,0	28,7	14,6	5,5	27,5	15,3	5,3	26,5	16,1	5,1							39
25%	-5	34,0	13,2	6,3	31,1	14,9	5,8	29,8	15,6	5,5	28,7	16,4	5,3	27,9	17,0	5,2				40
25%	-3	36,2	13,4	6,7	33,1	15,1	6,1	31,8	15,8	5,9	30,6	16,7	5,7	29,7	17,3	5,5				42
20%	0	39,9	13,7	7,3	36,5	15,4	6,6	35,1	16,2	6,4	33,7	17,1	6,1	32,8	17,7	6,0	31,3	18,6	5,7	44
20%	3	43,5	13,9	7,9	39,7	15,7	7,2	38,2	16,5	7,0	36,7	17,4	6,7	35,7	18,0	6,5	34,2	19,0	6,2	46
	5	46,9	14,1	8,0	42,8	16,0	7,3	41,1	16,7	7,1	39,5	17,7	6,8	38,5	18,3	6,6	36,8	19,3	6,3	46
	7	49,4	14,2	8,5	45,1	16,1	7,7	43,4	16,9	7,4	41,7	17,9	7,2	40,5	18,5	7,0	38,8	19,5	6,7	46
	9	51,9	14,4	8,9	47,5	16,3	8,1	45,6	17,1	7,8	43,9	18,1	7,5	42,7	18,7	7,3	40,8	19,8	7,0	46
	11	54,5	14,5	9,4	49,7	16,5	8,5	47,9	17,3	8,2	46,0	18,3	7,9	44,8	18,9	7,7	42,8	20,0	7,4	46
	13	57,1	14,7	9,8	52,1	16,7	9,0	50,2	17,5	8,6	48,2	18,5	8,3	46,9	19,2	8,1	44,9	20,2	7,7	46
	15	59,7	14,8	10,3	54,5	16,8	9,4	52,5	17,6	9,0	50,5	18,7	8,7	49,1	19,3	8,4	46,9	20,4	8,1	45
	17	63,0	14,9	10,8	57,6	17,0	9,9	55,4	17,8	9,5	53,2	18,9	9,2	51,8	19,6	8,9	49,5	20,7	8,5	45
	20	68,0	15,2	11,7	62,2	17,3	10,7	59,9	18,1	10,3	57,6	19,2	9,9	56,0	19,9	9,6				42

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	31,4	14,3	6,1	28,8	16,2	5,5	27,7	17,1	5,3										35
35%	-7	34,7	14,6	6,7	31,8	16,6	6,1	30,6	17,4	5,9										37
25%	-5	37,6	14,9	7,0	34,4	16,9	6,4	33,1	17,8	6,1	31,8	18,8	5,9							39
25%	-3	40,0	15,1	7,4	36,6	17,2	6,8	35,2	18,0	6,5	33,8	19,1	6,3	32,9	19,9	6,1				40
20%	0	44,0	15,5	8,0	40,2	17,6	7,3	38,7	18,5	7,0	37,2	19,6	6,8	36,2	20,3	6,6				42
20%	3	47,8	15,9	8,7	43,7	18,0	8,0	42,1	18,9	7,7	40,4	20,0	7,4	39,3	20,8	7,2	37,6	22,0	6,8	44
	5	51,5	16,2	8,8	47,1	18,3	8,1	45,3	19,3	7,8	43,5	20,4	7,5	42,3	21,2	7,3	40,4	22,4	6,9	45
	7	54,2	16,4	9,3	49,6	18,6	8,5	47,7	19,5	8,2	45,8	20,7	7,9	44,5	21,5	7,6	42,6	22,8	7,3	46
	9	56,8	16,6	9,8	52,1	18,9	8,9	50,0	19,8	8,6	48,1	21,0	8,3	46,8	21,8	8,0	44,7	23,1	7,7	46
	11	59,8	16,9	10,3	54,5	19,2	9,4	52,5	20,1	9,0	50,5	21,3	8,7	49,1	22,1	8,4	46,9	23,4	8,0	46
	13	62,6	17,1	10,8	57,2	19,4	9,8	55,0	20,4	9,5	52,8	21,6	9,1	51,3	22,5	8,8	49,1	23,8	8,4	46
	15	65,3	17,4	11,2	59,8	19,7	10,3	57,5	20,7	9,9	55,3	21,9	9,5	53,7	22,7	9,2	51,3	24,1	8,8	45
	17	68,9	17,7	11,9	62,9	20,1	10,8	60,6	21,0	10,4	58,3	22,3	10,0	56,7	23,1	9,7	54,1	24,5	9,3	44
	20	74,3	18,2	12,8	67,9	20,6	11,7	65,4	21,6	11,3	62,8	22,9	10,8	61,1	23,7	10,5				42

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	37,2	16,1	7,2	34,1	18,2	6,6	32,8	19,2	6,3										37
35%	-7	41,1	16,4	7,9	37,7	18,6	7,3	36,3	19,5	7,0	35,0	20,6	6,7							39
25%	-5	44,6	16,7	8,3	40,9	18,9	7,6	39,3	19,8	7,3	37,9	21,0	7,0	36,9	21,8	6,8				41
25%	-3	47,5	16,9	8,8	43,5	19,1	8,1	41,8	20,1	7,7	40,3	21,2	7,5	39,3	22,0	7,3				42
20%	0	52,3	17,3	9,5	47,9	19,5	8,7	46,1	20,5	8,4	44,4	21,7	8,1	43,2	22,5	7,9	41,4	23,8	7,5	44
20%	3	56,9	17,6	10,4	52,2	19,9	9,5	50,2	20,9	9,1	48,4	22,1	8,8	47,1	22,9	8,6	45,1	24,2	8,2	46
	5	61,4	17,9	10,5	56,2	20,2	9,6	54,1	21,2	9,3	52,1	22,5	8,9	50,7	23,3	8,7	48,6	24,6	8,3	46
	7	64,7	18,1	11,1	59,3	20,5	10,2	57,0	21,5	9,8	54,9	22,7	9,4	53,5	23,6	9,2	51,2	24,9	8,8	46
	9	67,9	18,4	11,7	62,3	20,8	10,7	60,0	21,8	10,3	57,8	23,0	9,9	56,2	23,9	9,7	53,9	25,3	9,3	46
	11	71,3	18,6	12,3	65,3	21,0	11,2	62,9	22,1	10,8	60,6	23,3	10,4	59,0	24,2	10,1	56,6	25,6	9,7	45
	13	74,7	18,8	12,8	68,5	21,3	11,8	66,0	22,3	11,4	63,5	23,6	10,9	61,9	24,5	10,6	59,2	25,9	10,2	44
	15	78,2	19,0	13,5	71,7	21,5	12,3	69,0	22,6	11,9	66,4	23,9	11,4	64,7	24,8	11,1	62,1	26,2	10,7	43
	17	82,6	19,3	14,2	75,7	21,9	13,0	72,9	22,9	12,6	70,2	24,2	12,1	68,3	25,2	11,8	65,5	26,6	11,3	43
	20	89,2	19,7	15,4	81,9	22,3	14,1	78,9	23,4	13,6	76,0	24,8	13,1	74,0	25,7	12,8				40

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	42,7	19,1	8,2	39,2	21,7	7,5	37,7	22,9	7,3										36
35%	-7	47,0	19,6	9,0	43,2	22,2	8,3	41,5	23,4	8,0	40,0	24,8	7,7							39
25%	-5	50,9	20,0	9,4	46,7	22,6	8,7	45,0	23,8	8,3	43,3	25,2	8,0	42,2	26,2	7,8				41
25%	-3	54,1	20,3	10,0	49,6	23,0	9,2	47,7	24,1	8,8	45,9	25,6	8,5	44,7	26,6	8,3				42
20%	0	59,4	20,8	10,8	54,4	23,5	9,9	52,3	24,7	9,5	50,4	26,2	9,2	49,0	27,2	8,9	47,0	28,8	8,5	44
20%	3	64,4	21,3	11,7	58,9	24,1	10,7	56,7	25,3	10,3	54,6	26,8	9,9	53,1	27,8	9,7	50,9	29,4	9,3	46
	5	69,4	21,8	11,9	63,4	24,7	10,9	61,1	25,9	10,5	58,8	27,3	10,1	57,2	28,4	9,8	54,7	30,0	9,4	46
	7	72,9	22,2	12,5	66,6	25,0	11,4	64,2	26,3	11,0	61,7	27,8	10,6	60,0	28,8	10,3	57,5	30,5	9,9	46
	9	76,5	22,6	13,1	69,9	25,5	12,0	67,3	26,7	11,6	64,7	28,2	11,1	62,9	29,2	10,8	60,3	30,9	10,3	46
	11	80,1	22,9	13,8	73,3	25,9	12,6	70,5	27,1	12,1	67,8	28,6	11,7	65,9	29,7	11,3	63,0	31,4	10,8	45
	13	83,6	23,3	14,4	76,5	26,3	13,1	73,7	27,5	12,7	70,9	29,1	12,2	68,9	30,1	11,9	65,9	31,9	11,3	45
	15	87,1	23,7	15,0	79,7	26,7	13,7	76,8	28,0	13,2	73,8	29,5	12,7	71,8	30,6	12,4	68,8	32,3	11,8	44
	17	91,8	24,2	15,8	83,9	27,3	14,4	80,8	28,5	13,9	77,7	30,1	13,4	75,6	31,2	13,0	72,3	32,9	12,4	43
	20	98,9	24,9	17,1	90,5	28,0	15,6	87,1	29,3	15,0	83,6	30,9	14,4	81,3	32,1	14,0				41

tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).

Interpolation is allowed, extrapolation is not permitted.

To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".

Value includes the correction factor for ethylene glycol.

Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	48,4	20,0	9,3	44,5	22,5	8,6	42,8	23,7	8,2	41,4	25,1	8,0	40,4	26,0	7,8				40
35%	-7	53,9	20,3	10,4	49,6	22,9	9,5	47,7	24,1	9,2	46,1	25,5	8,9	45,0	26,5	8,6	43,2	28,0	8,3	43
25%	-5	58,6	20,6	10,8	53,8	23,3	10,0	51,8	24,4	9,6	50,0	25,8	9,3	48,8	26,8	9,0	46,9	28,4	8,7	45
25%	-3	62,4	20,9	11,5	57,3	23,5	10,6	55,2	24,7	10,2	53,2	26,1	9,9	51,9	27,1	9,6	49,8	28,7	9,2	46
20%	0	68,7	21,3	12,5	63,1	24,0	11,5	60,7	25,2	11,0	58,6	26,6	10,7	57,1	27,6	10,4	54,8	29,2	10,0	46
20%	3	74,9	21,6	13,6	68,8	24,4	12,5	66,2	25,7	12,0	63,8	27,1	11,6	62,2	28,1	11,3	59,7	29,7	10,9	46
	5	80,6	22,0	13,8	73,9	24,8	12,7	71,2	26,1	12,2	68,6	27,5	11,8	66,8	28,6	11,5	64,1	30,2	11,0	46
	7	85,1	22,2	14,6	78,0	25,1	13,4	75,1	26,4	12,9	72,4	27,9	12,4	70,5	28,9	12,1	67,6	30,6	11,6	46
	9	89,7	22,5	15,4	82,2	25,5	14,1	79,1	26,7	13,6	76,2	28,2	13,1	74,3	29,3	12,7	71,3	30,9	12,2	46
	11	94,3	22,8	16,2	86,4	25,8	14,8	83,2	27,0	14,3	80,2	28,6	13,8	78,1	29,6	13,4	74,9	31,3	12,9	45
	13	99,1	23,0	17,0	90,8	26,1	15,6	87,4	27,4	15,0	84,3	28,9	14,5	82,1	30,0	14,1	78,7	31,7	13,5	44
	15	103,9	23,3	17,9	95,2	26,4	16,4	91,7	27,7	15,8	88,4	29,3	15,2	86,1	30,4	14,8	82,6	32,1	14,2	44
	17	109,7	23,6	18,9	100,4	26,8	17,3	96,6	28,1	16,6	93,2	29,7	16,0	90,8	30,8	15,6	87,1	32,5	15,0	43
	20	118,5	24,0	20,4	108,6	27,3	18,7	104,4	28,6	18,0	100,7	30,3	17,3	98,0	31,4	16,9				41

401

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	55,0	23,4	10,6	50,4	26,4	9,7	48,5	27,8	9,3	46,7	29,5	9,0							38
35%	-7	61,4	23,9	11,8	56,2	27,0	10,8	54,1	28,4	10,4	52,1	30,1	10,0	50,7	31,3	9,7				41
25%	-5	66,8	24,4	12,4	61,2	27,5	11,3	58,8	28,9	10,9	56,6	30,6	10,5	55,1	31,8	10,2	52,8	33,7	9,8	43
25%	-3	71,1	24,7	13,2	65,1	27,9	12,0	62,6	29,3	11,6	60,2	31,0	11,1	58,6	32,2	10,8	56,1	34,1	10,4	45
20%	0	78,3	25,3	14,2	71,6	28,5	13,0	68,9	30,0	12,5	66,3	31,7	12,1	64,5	32,9	11,7	61,7	34,8	11,2	46
20%	3	85,3	25,9	15,5	78,1	29,2	14,2	75,0	30,6	13,6	72,2	32,4	13,1	70,2	33,6	12,8	67,2	35,5	12,2	46
	5	91,8	26,5	15,7	83,9	29,8	14,4	80,7	31,2	13,8	77,6	33,0	13,3	75,4	34,2	12,9	72,2	36,2	12,4	46
	7	96,8	26,9	16,6	88,5	30,3	15,2	85,1	31,7	14,6	81,8	33,5	14,0	79,6	34,8	13,6	76,1	36,7	13,0	46
	9	101,9	27,3	17,5	93,2	30,8	16,0	89,5	32,2	15,4	86,1	34,0	14,8	83,7	35,3	14,4	80,1	37,3	13,7	46
	11	107,1	27,7	18,4	97,8	31,3	16,8	94,1	32,7	16,2	90,5	34,6	15,5	88,0	35,8	15,1	84,2	37,9	14,4	44
	13	112,3	28,2	19,3	102,6	31,7	17,6	98,7	33,3	17,0	94,9	35,1	16,3	92,2	36,4	15,8	88,3	38,4	15,2	44
	15	117,7	28,6	20,2	107,6	32,3	18,5	103,5	33,8	17,8	99,6	35,6	17,1	96,6	37,0	16,6	92,5	39,0	15,9	43
	17	124,1	29,1	21,4	113,2	32,9	19,5	109,0	34,4	18,7	104,7	36,3	18,0	101,9	37,6	17,5				42
	20	134,0	29,8	23,1	122,3	33,7	21,1	117,7	35,3	20,3	113,1	37,3	19,5	109,8	38,7	18,9				40

402

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	56,7	25,9	10,9	51,7	29,0	9,9	49,5	30,4	9,5										37
35%	-7	62,9	26,5	12,1	57,4	29,7	11,0	55,0	31,1	10,6	52,8	32,8	10,2							38
25%	-5	68,3	26,9	12,6	62,2	30,3	11,5	59,7	31,7	11,0	57,3	33,4	10,6	55,6	34,5	10,3				40
25%	-3	72,8	27,3	13,5	66,3	30,7	12,3	63,6	32,2	11,8	61,1	33,9	11,3	59,3	35,1	11,0				41
20%	0	80,3	27,8	14,6	73,2	31,4	13,3	70,2	32,9	12,8	67,4	34,7	12,3	65,5	35,9	11,9	62,5	37,8	11,4	44
20%	3	87,6	28,3	15,9	79,8	32,0	14,5	76,7	33,6	13,9	73,6	35,4	13,4	71,5	36,6	13,0	68,3	38,6	12,4	45
	5	94,4	28,8	16,2	86,0	32,5	14,7	82,5	34,1	14,1	79,2	36,0	13,6	77,0	37,2	13,2	73,5	39,2	12,6	46
	7	99,6	29,1	17,1	90,7	32,9	15,6	87,1	34,5	14,9	83,6	36,4	14,3	81,2	37,7	13,9	77,6	39,7	13,3	46
	9	104,8	29,4	18,0	95,5	33,3	16,4	91,8	34,9	15,7	88,1	36,8	15,1	85,6	38,2	14,7	81,7	40,2	14,0	46
	11	110,1	29,7	18,9	100,4	33,7	17,2	96,5	35,3	16,6	92,6	37,3	15,9	90,0	38,6	15,5	86,0	40,7	14,8	45
	13	115,5	30,0	19,8	105,3	34,1	18,1	101,2	35,7	17,4	97,3	37,7	16,7	94,5	39,0	16,2	90,3	41,2	15,5	44
	15	121,1	30,3	20,8	110,4	34,4	19,0	106,0	36,0	18,2	101,9	38,1	17,5	99,0	39,5	17,0	94,6	41,6	16,3	44
	17	127,6	30,7	21,9	116,3	34,8	20,0	111,9	36,5	19,2	107,4	38,6	18,5	104,4	40,0	18,0	99,9	42,1	17,2	43
	20	137,8	31,4	23,7	125,7	35,4	21,6	120,9	37,1	20,8	116,1	39,2	20,0	112,7	40,7	19,4				40

502

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	(kW)	(kW)	(m³/h)	
35%	-10	64,2	28,1	12,4	58,8	31,8	11,3	56,5	33,5	10,9										37
35%	-7	71,2	28,7	13,7	65,1	32,5	12,5	62,6	34,2	12,0	60,3	36,2	11,6							39
25%	-5	77,3	29,2	14,3	70,6	33,1	13,1	67,9	34,8	12,6	65,4	36,8	12,1	63,6	38,3	11,8				40
25%	-3	82,3	29,6	15,2	75,3	33,5	13,9	72,4	35,3	13,4	69,7	37,4	12,9	67,8	38,8	12,5				41
20%	0	90,9	30,2	16,5	83,1	34,3	15,1	79,8	36,1	14,5	76,8	38,2	14,0	74,7	39,7	13,6	71,5	42,0	13,0	44
20%	3	99,2	30,8	18,0	90,7	35,0	16,5	87,2	36,8	15,9	83,8	39,0	15,2	81,6	40,5	14,8	78,0	42,9	14,2	45
	5	107,1	31,3	18,4	97,8	35,6	16,8	94,0	37,4	16,1	90,4	39,6	15,5	87,9	41,2	15,1	84,1	43,6	14,4	46
	7	113,0	31,8	19,4	103,3	36,1	17,7	99,3	37,9	17,0	95,4	40,2	16,4	92,8	41,7	15,9	88,8	44,2	15,2	46
	9	119,1	32,2	20,4	108,8	36,6	18,7	104,7	38,4	18,0	100,6	40,7	17,3	97,8	42,3	16,8	93,6	44,8	16,1	46
	11	125,2	32,6	21,5	114,5	37,1	19,7	110,1	38,9	18,9	105,8	41,2	18,2	102,9	42,8	17,7	98,4	45,4	16,9	45
	13	131,6	32,9	22,6	120,1	37,6	20,6	115,6	39,5	19,9	111,0	41,8	19,1	108,0	43,5	18,5	103,4	46,0	17,8	45
	15	137,8	33,6	23,7	126,0	38,0	21,7	121,2	40,0	20,8	116,7	42,3	20,1	113,3	43,9	19,5	108,4	46,6	18,6	44
	17	145,5	34,0	25,0	132,8	38,8	22,9	127,9	40,5	22,0	123,0	43,0	21,1	119,6	44,6	20,6	114,6	47,2	19,7	43
	20	157,3	34,8	27,1	143,7	39,6	24,8	138,5	41,6	23,9	133,1	44,0	22,9	129,4	45,7	22,3				41

tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).
Interpolation is allowed, extrapolation is not permitted.
To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".
Value includes the correction factor for ethylene glycol.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

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Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	73,2	31,5	14,1	66,9	35,8	12,9	64,3	37,7	12,4										36
35%	-7	81,1	32,2	15,6	74,0	36,6	14,2	71,2	38,5	13,7	68,5	40,8	13,2							38
25%	-5	88,0	32,8	16,3	80,3	37,2	14,9	77,2	39,2	14,3	74,2	41,5	13,7							39
25%	-3	93,7	33,3	17,3	85,5	37,8	15,8	82,2	39,8	15,2	79,0	42,1	14,6	76,9	43,8	14,2				41
20%	0	103,2	34,2	18,8	94,3	38,7	17,2	90,6	40,7	16,5	87,1	43,1	15,8	84,7	44,8	15,4	80,9	47,5	14,7	43
20%	3	112,5	34,9	20,5	102,8	39,6	18,7	98,7	41,6	18,0	94,9	44,1	17,3	92,3	45,8	16,8	88,2	48,5	16,0	45
	5	121,4	35,7	20,8	110,8	40,4	19,0	106,5	42,5	18,2	102,3	44,9	17,5	99,4	46,7	17,0	95,0	49,4	16,3	46
	7	128,1	36,2	22,0	116,8	41,1	20,0	112,3	43,1	19,3	107,9	45,6	18,5	104,8	47,4	18,0	100,2	50,1	17,2	46
	9	134,7	36,9	23,1	123,0	41,7	21,1	118,3	43,7	20,3	113,6	46,3	19,5	110,4	48,1	18,9	105,5	50,9	18,1	46
	11	141,5	37,5	24,3	129,1	42,3	22,2	124,1	44,4	21,3	119,2	47,0	20,5	116,0	48,8	19,9	110,9	51,6	19,0	45
	13	148,4	38,1	25,5	135,4	43,1	23,3	130,5	45,0	22,4	125,1	47,6	21,5	121,8	49,5	20,9	116,3	52,3	20,0	44
	15	155,6	38,6	26,8	141,8	43,8	24,4	136,4	45,9	23,5	131,0	48,5	22,5	127,4	50,2	21,9	121,8	53,1	20,9	43
	17	164,0	39,3	28,2	149,6	44,5	25,8	143,9	46,6	24,8	138,3	49,3	23,8	134,2	51,2	23,1				42
	20	177,0	40,4	30,5	161,6	45,7	27,8	155,5	47,8	26,8	149,3	50,6	25,7	145,2	52,5	25,0				40

702

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	87,6	36,9	16,9	79,8	41,7	15,3	76,5	43,9	14,7	73,5	46,5	14,1							39
35%	-7	97,6	37,8	18,8	88,9	42,7	17,1	85,3	44,9	16,4	81,9	47,5	15,7	79,6	49,4	15,3				41
25%	-5	105,8	38,6	19,6	96,4	43,5	17,8	92,4	45,7	17,1	88,7	48,4	16,4	86,2	50,2	16,0	82,3	53,2	15,2	43
25%	-3	112,4	39,2	20,8	102,3	44,2	18,9	98,2	46,4	18,2	94,2	49,0	17,4	91,5	50,9	16,9	87,4	53,9	16,2	45
20%	0	123,0	40,1	22,4	112,0	45,2	20,4	107,5	47,5	19,5	103,1	50,1	18,8	100,2	52,0	18,2	95,6	55,0	17,4	46
20%	3	133,3	41,0	24,2	121,3	46,3	22,1	116,5	48,5	21,2	111,8	51,2	20,3	108,6	53,1	19,7	103,7	56,2	18,8	46
	5	142,4	41,8	24,4	129,6	47,1	22,2	124,4	49,4	21,3	119,3	52,1	20,4	115,9	54,1	19,9	110,6	57,1	19,0	46
	7	149,4	42,4	25,6	136,0	47,8	23,3	130,6	50,1	22,4	125,3	52,9	21,5	121,6	54,8	20,9	116,1	57,9	19,9	46
	9	156,3	43,0	26,8	142,3	48,5	24,4	136,7	50,8	23,4	131,2	53,6	22,5	127,4	55,6	21,9	121,6	58,7	20,9	46
	11	162,9	43,6	28,0	148,5	49,2	25,5	142,7	51,5	24,5	136,9	54,3	23,5	133,0	56,3	22,8	126,9	59,4	21,8	44
	13	169,5	44,2	29,1	154,6	49,8	26,6	148,5	52,1	25,5	142,4	55,0	24,5	138,3	57,0	23,7	132,0	60,2	22,7	44
	15	175,9	44,7	30,2	160,1	50,5	27,5	153,9	52,8	26,4	147,7	55,7	25,4	143,5	57,7	24,7	137,0	60,9	23,5	43
	17	185,3	45,5	31,9	168,9	51,3	29,0	162,2	53,6	27,9	155,8	56,6	26,8	151,1	58,7	26,0				42
	20	200,0	46,7	34,4	182,1	52,6	31,3	175,2	55,0	30,2	168,0	58,0	28,9	163,3	60,1	28,1				40

802

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	99,8	39,6	19,2	91,5	44,9	17,6	88,1	47,3	16,9	84,9	50,1	16,3	82,7	52,1	15,9				40
35%	-7	110,9	40,5	21,3	101,7	45,9	19,5	97,8	48,3	18,8	94,3	51,1	18,1	91,8	53,1	17,7				42
25%	-5	120,1	41,2	22,2	110,0	46,7	20,4	105,8	49,1	19,6	101,9	52,0	18,9	99,3	54,0	18,4	95,1	57,2	17,6	44
25%	-3	127,4	41,8	23,6	116,6	47,3	21,6	112,2	49,7	20,8	108,0	52,6	20,0	105,2	54,7	19,5	100,8	57,9	18,7	46
20%	0	139,2	42,7	25,3	127,4	48,3	23,2	122,5	50,8	22,3	117,9	53,7	21,5	114,8	55,8	20,9	110,0	59,1	20,0	46
20%	3	150,5	43,6	27,4	137,7	49,3	25,1	132,5	51,8	24,1	127,5	54,8	23,2	124,2	56,9	22,6	118,9	60,2	21,6	46
	5	160,8	44,4	27,6	147,0	50,2	25,2	141,4	52,7	24,2	136,0	55,8	23,3	132,4	57,9	22,7	126,8	61,2	21,7	46
	7	168,6	45,0	28,9	154,2	50,9	26,4	148,3	53,4	25,4	142,7	56,5	24,5	138,8	58,6	23,8	132,9	62,0	22,8	46
	9	176,3	45,6	30,3	161,2	51,6	27,7	155,0	54,1	26,6	149,2	57,2	25,6	145,1	59,4	24,9	139,0	62,8	23,8	46
	11	183,8	46,2	31,6	168,1	52,3	28,9	161,7	54,8	27,8	155,6	58,0	26,7	151,4	60,2	26,0	145,0	63,6	24,9	45
	13	191,2	46,7	32,9	174,7	52,9	30,0	168,1	55,5	28,9	161,6	58,7	27,8	157,2	60,9	27,0	150,7	64,4	25,9	45
	15	198,0	47,3	34,0	181,0	53,5	31,1	174,2	56,1	30,0	167,6	59,3	28,8	163,3	61,5	28,1	156,0	65,1	26,8	44
	17	208,6	48,4	35,9	190,6	54,4	32,8	183,5	57,1	31,6	176,6	60,3	30,4	171,7	62,6	29,5	164,5	66,2	28,3	44
	20	225,1	49,6	38,8	205,6	56,1	35,4	198,1	58,4	34,1	190,3	61,9	32,8	185,1	64,2	31,9				41

902

Glycol	tu	External air temperature ta (°C)																		ta max (°C)
		25			32			35			38			40			43			
		Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	Pf	Pa	Fw	
	(°C)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	(kW)	(kW)	(m^3/h)	
35%	-10	115,0	46,8	22,1	105,2	52,9	20,2	101,1	55,8	19,4										37
35%	-7	128,1	48,0	24,6	117,2	54,1	22,5	112,6	56,9	21,6	108,4	60,3	20,8	105,4	62,7	20,3				40
25%	-5	139,1	48,9	25,7	127,2	55,1	23,5	122,2	58,0	22,6	117,5	61,3	21,7	114,3	63,7	21,2				41
25%	-3	147,6	49,6	27,3	134,9	55,9	25,0	129,6	58,7	24,0	124,7	62,1	23,1	121,2	64,6	22,4	116,0	68,4	21,5	43
20%	0	161,4	50,8	29,4	147,5	57,2	26,8	141,7	60,1	25,8	136,3	63,5	24,8	132,6	65,9	24,1	126,8	69,8	23,0	45
20%	3	174,7	51,9	31,8	159,6	58,5	29,0	153,4	61,4	27,9	147,4	64,8	26,8	143,4	67,3	26,1	137,1	71,2	24,9	46
	5	186,9	52,9	32,0	170,6	59,6	29,2	164,0	62,5	28,1	157,6	66,1	27,0	153,2	68,5	26,2	146,5	72,5	25,1	46
	7	195,9	53,7	33,6	178,9	60,5	30,7	171,9	63,4	29,5	165,3	67,0	28,3	160,7	69,5	27,5	153,6	73,5	26,3	46
	9	204,8	54,4	35,1	187,0	61,3	32,1	179,8	64,3	30,8	172,8	67,9	29,6	168,0	70,4	28,8	160,6	74,4	27,6	46
	11	213,5	55,1	36,6	194,7	62,2	33,4	187,4	65,1	32,2	180,1	68,8	30,9	175,1	71,4	30,1	167,4	75,4	28,7	46
	13	221,7	55,8	38,1	202,4	63,0	34,8	194,9	65,9	33,5	187,0	69,7	32,1	182,0	72,2	31,2	173,9	76,4	29,9	46
	15	229,7	56,4	39,5	209,6	63,7	36,0	201,6	66,8	34,6	193,7	70,5	33,3	188,4	73,1	32,4	180,2	77,3	31,0	46
	17	242,2	57,4	41,6	221,1	64,8	38,0	212,7	67,9	36,6	204,3	71,7	35,1	198,5	74,5	34,1	189,9	78,6	32,6	46
	20	261,5	58,9	45,0	238,8	66,6	41,1	229,7	69,7	39,5	220,7	73,6	38,0	214,5	76,4	36,9	205,1	80,6	35,3	44

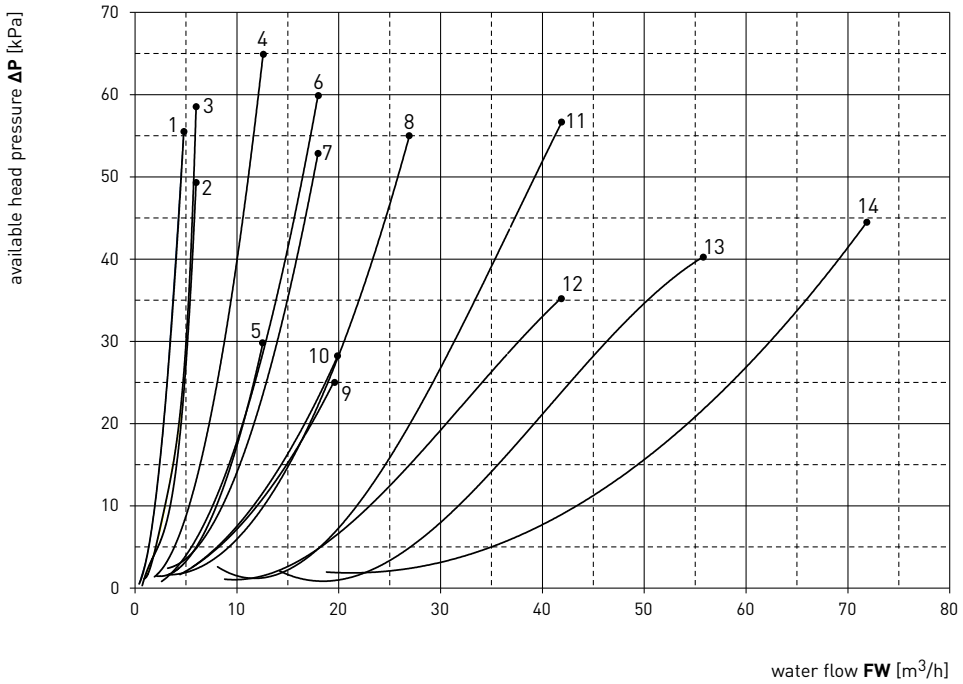
tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).
Interpolation is allowed, extrapolation is not permitted.
To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".
Value includes the correction factor for ethylene glycol.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

1002		External air temperature ta (°C)																	ta max (°C)
		25			32			35			38			40			43			
Glycol	tu (°C)	Pf (kW)	Pa (kW)	Fw (m^3/h)	Pf (kW)	Pa (kW)	Fw (m^3/h)	Pf (kW)	Pa (kW)	Fw (m^3/h)	Pf (kW)	Pa (kW)	Fw (m^3/h)	Pf (kW)	Pa (kW)	Fw (m^3/h)	Pf (kW)	Pa (kW)	Fw (m^3/h)	
35%	-10	128,3	54,1	24,7	117,0	61,3	22,5	112,2	64,6	21,6									36
35%	-7	143,0	55,6	27,5	130,3	62,8	25,1	125,1	66,2	24,0	120,0	70,2	23,1						38
25%	-5	155,3	56,9	28,7	141,6	64,2	26,2	135,8	67,5	25,1	130,3	71,6	24,1	126,5	74,5	23,4			40
25%	-3	164,7	57,9	30,5	150,0	65,3	27,8	144,0	68,6	26,6	138,1	72,6	25,5	134,1	75,5	24,8			41
20%	0	180,0	59,6	32,7	163,9	67,0	29,8	157,3	70,4	28,6	150,9	74,4	27,4	146,5	77,3	26,6	139,6	82,0	25,4	43
20%	3	194,5	61,1	35,4	177,1	68,8	32,2	170,0	72,1	30,9	163,0	76,2	29,6	158,2	79,1	28,8	150,9	83,8	27,4	44
	5	208,0	62,6	35,6	189,3	70,4	32,4	181,7	73,7	31,1	174,2	77,9	29,8	169,1	80,8	29,0	161,1	85,5	27,6	46
	7	217,8	63,6	37,3	198,2	71,6	34,0	190,3	74,9	32,6	182,4	79,1	31,3	177,0	82,1	30,3	168,8	86,8	28,9	46
	9	227,4	64,7	39,0	206,8	72,8	35,5	198,4	76,2	34,0	190,5	80,4	32,7	184,9	83,4	31,7	176,2	88,2	30,2	46
	11	236,6	65,8	40,6	215,3	73,9	37,0	206,8	77,3	35,5	198,5	81,6	34,1	192,3	84,6	33,0	183,5	89,5	31,5	46
	13	245,9	66,7	42,2	223,7	75,0	38,4	214,9	78,4	36,9	205,7	82,9	35,3	199,7	85,9	34,3	190,4	90,8	32,7	46
	15	254,2	67,6	43,7	231,4	76,0	39,8	222,3	79,5	38,2	213,2	83,9	36,6	206,9	87,0	35,6	197,3	91,9	33,9	45
	17	267,4	69,1	46,0	243,4	77,7	41,8	234,1	81,2	40,3	224,5	85,7	38,6	217,9	88,8	37,5	207,7	93,7	35,7	44
	20	288,1	71,4	49,6	262,1	80,3	45,1	251,9	83,9	43,3	241,5	88,5	41,6	234,3	91,7	40,3				42

tu: evaporator outlet water temperature; **ta:** external air temperature; **Pf:** cooling capacity; **Pa:** total power absorbed; **Fw:** water flow rate (ΔT = 5 °C).
Interpolation is allowed, extrapolation is not permitted.
To calculate Pf, Pa and Fw for ΔT≠ 5 °C when examining the table "Correction factors for ΔT ≠ 5 °C".
Value includes the correction factor for ethylene glycol.
Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options witch require an electrical feeding source and in nominal working conditions.

EVAPORATOR PRESSURE DROPS AND AVAILABLE HEAD PRESSURE

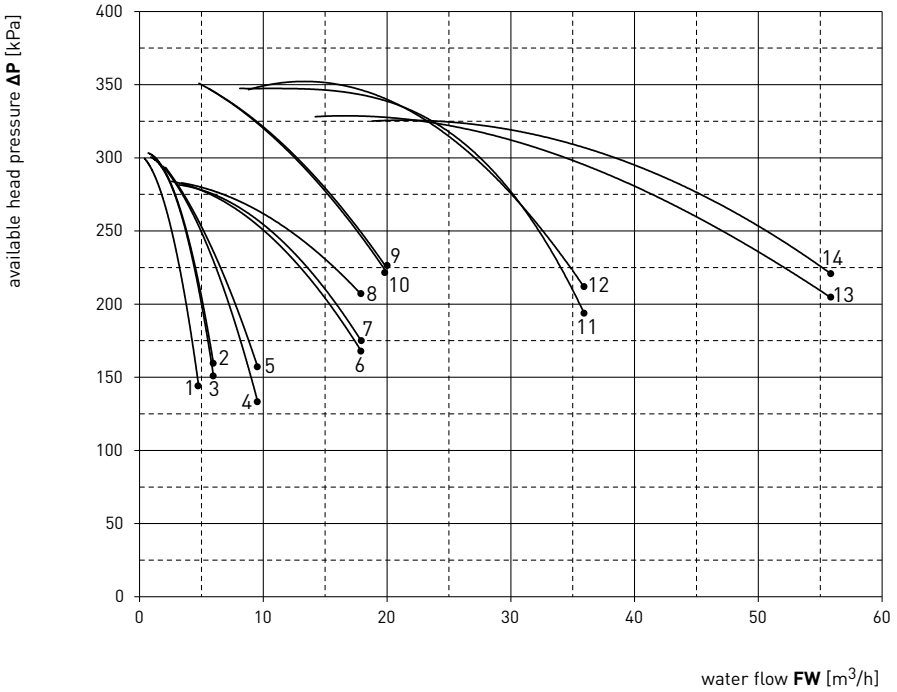
EVAPORATORS PRESSURE DROPS



1: TAE G 020
2: TAE G 031
3: TAE G 051
4: TAE G 071 - 081
5: TAE G 101
6: TAE G 121
7: TAE G 161
8: TAE G 201 - 251
9: TAE G 301
10: TAE G 351
11: TAE G 381 - 401
12: TAE G 402 - 502 - 602
13: TAE G 702 - 802
14: TAE G 902 - 1002

EVAPORATOR PRESSURE DROPS AND AVAILABLE HEAD PRESSURE

AVAILABLE PRESSURE WITH PUMP P3



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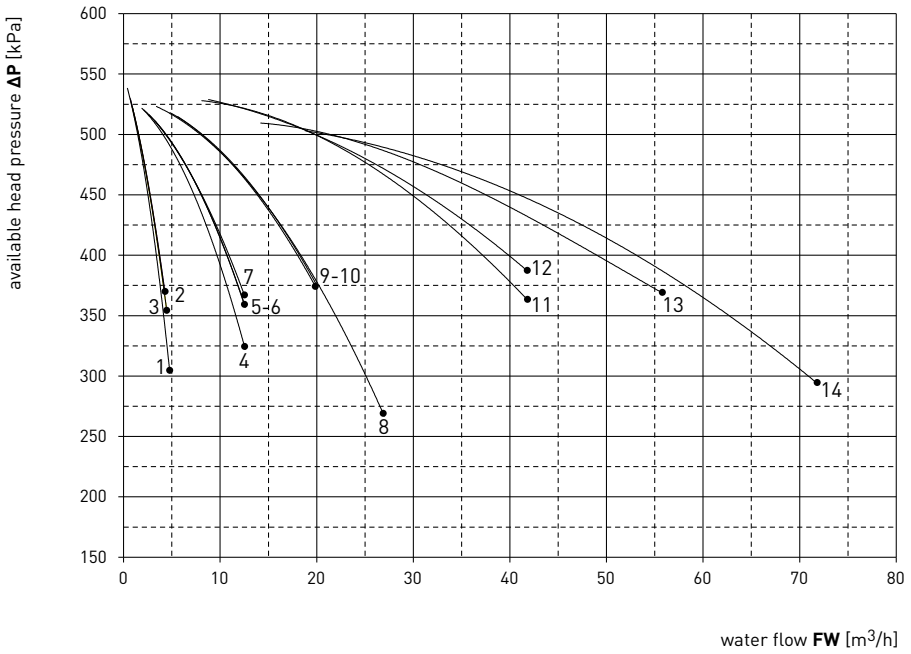
5: TAE G 101
6: TAE G 121
7: TAE G 161
8: TAE G 201 - 251
9: TAE G 301
10: TAE G 351
11: TAE G 381 - 401
12: TAE G 402 - 502 - 602
13: TAE G 702 - 802
14: TAE G 902 - 1002

AVAILABLE PRESSURE WITH PUMP P5



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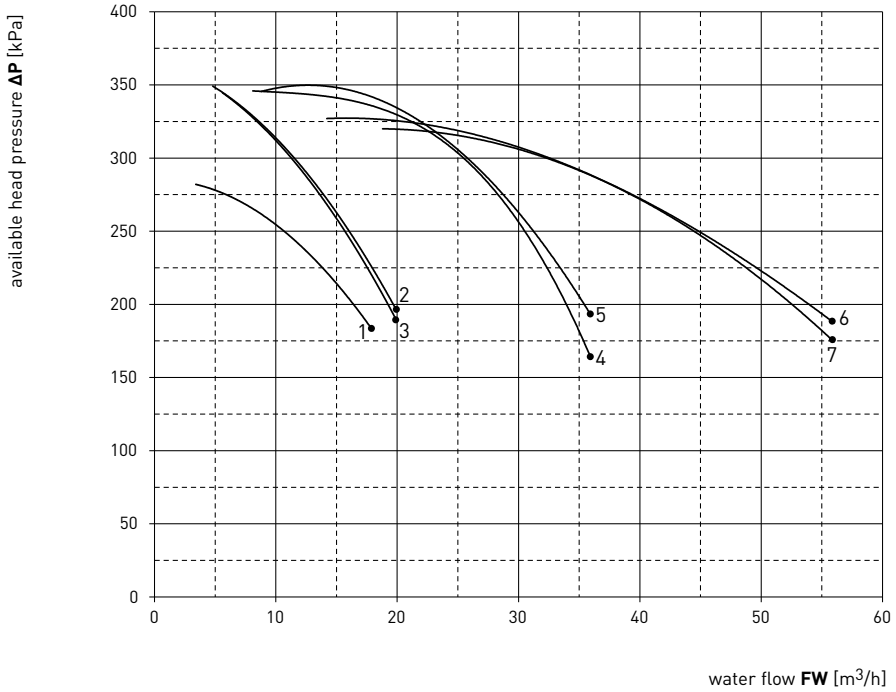
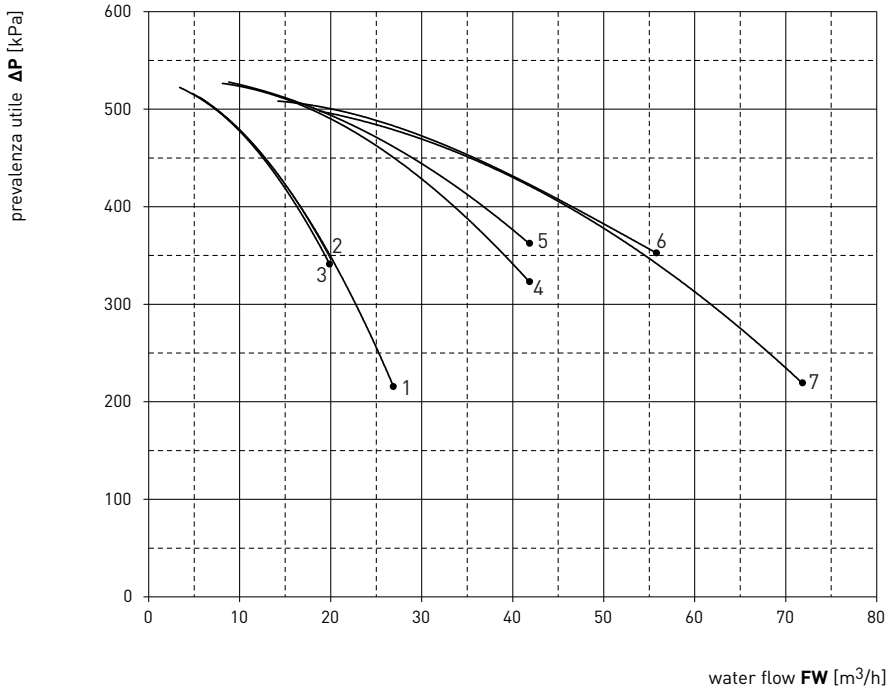
2: TAE G 031
3: TAE G 051
4: TAE G 071 - 081
5/6: TAE G 101 - 121
7: TAE G 161
8: TAE G 201 - 251
9/10: TAE G 301 - 351
11: TAE G 381 - 401
12: TAE G 402 - 502 - 602
13: TAE G 702 - 802
14: TAE G 902 - 1002

AVAILABLE PRESSURE WITH DOUBLE PUMP P3 + P3



1: TAE G 201 - 251
2: TAE G 301
3: TAE G 351
4: TAE G 381 - 401
5: TAE G 402 - 502 - 602
6: TAE G 702 - 802
7: TAE G 902 - 1002

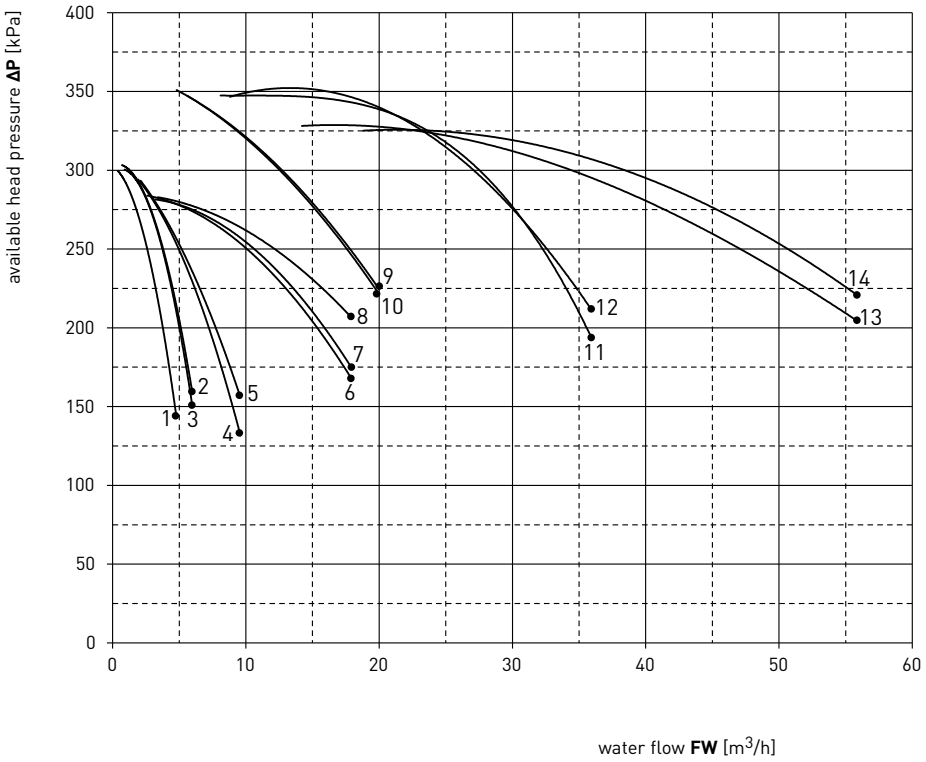
AVAILABLE PRESSURE WITH DOUBLE PUMP P5 + P5



1: TAE G 201 - 251
2: TAE G 301
3: TAE G 351
4: TAE G 381 - 401
5: TAE G 402 - 502 - 602
6: TAE G 702 - 802
7: TAE G 902 - 1002

EVAPORATOR PRESSURE DROPS AND AVAILABLE HEAD PRESSURE

AVAILABLE PRESSURE WITH PUMP P3



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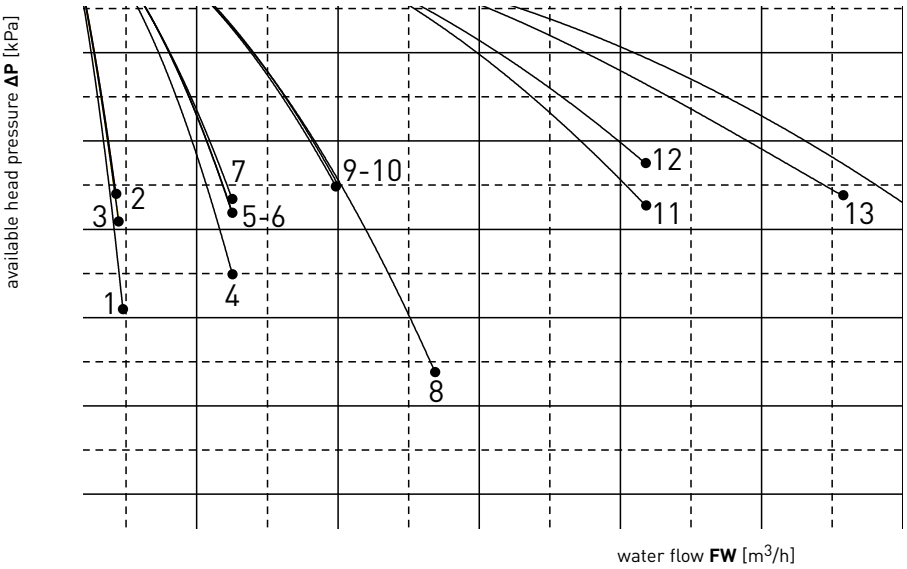
8: TAEevo Tech 201 - 251
9: TAEevo Tech 301
10: TAEevo Tech 351
11: TAEevo Tech 381 - 401
12: TAEevo Tech 402 - 502 - 602
13: TAEevo Tech 702 - 802

AVAILABLE PRESSURE WITH PUMP P5



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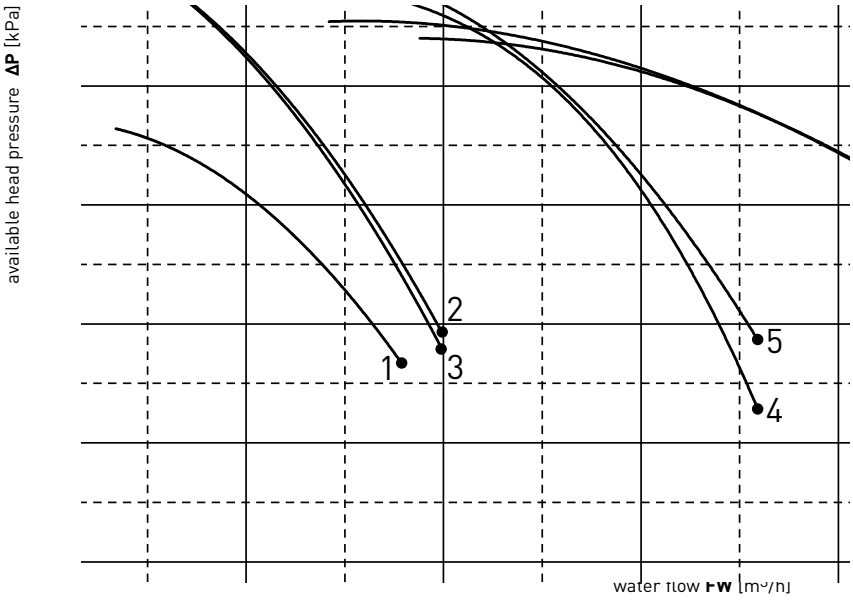
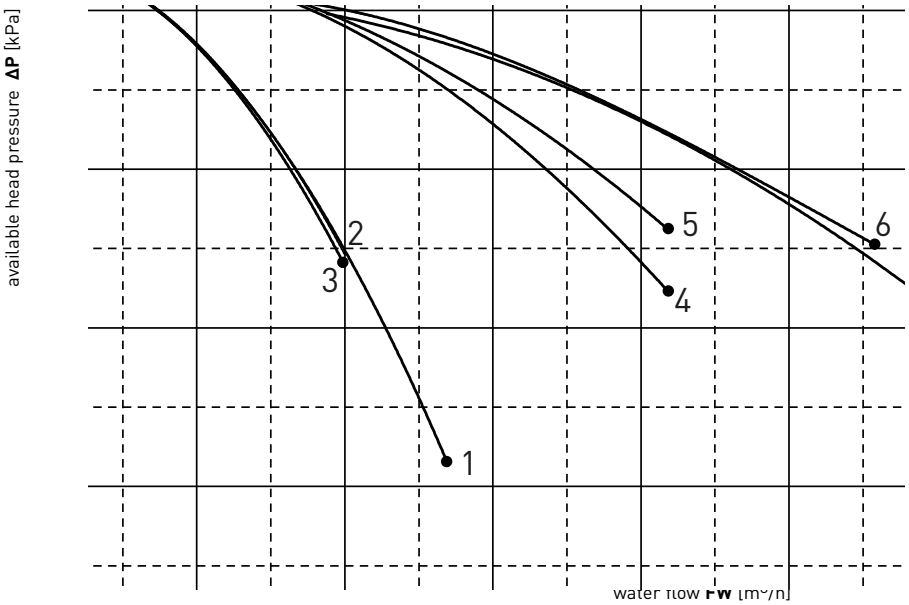
2: TAEevo Tech 031
3: TAEevo Tech 051
4: TAEevo Tech 071 - 081
5: TAEevo Tech 101
6: TAEevo Tech 121
7: TAEevo Tech 161
8: TAEevo Tech 201 - 251
9: TAEevo Tech 301
10: TAEevo Tech 351
11: TAEevo Tech 381 - 401
12: TAEevo Tech 402 - 502 - 602
13: TAEevo Tech 702 - 802

AVAILABLE PRESSURE WITH DOUBLE PUMP P3 + P3



1: TAEevo Tech 201 - 251
2: TAEevo Tech 301
3: TAEevo Tech 351
4: TAEevo Tech 381 - 401
5: TAEevo Tech 402 - 502 - 602
6: TAEevo Tech 702 - 802

AVAILABLE PRESSURE WITH DOUBLE PUMP P5 + P5



1: TAEevo Tech 201 - 251
2: TAEevo Tech 301
3: TAEevo Tech 351
4: TAEevo Tech 381 - 401
5: TAEevo Tech 402 - 502 - 602
6: TAEevo Tech 702 - 802

WORKING LIMITS AND CORRECTION FACTORS

WORKING LIMITS

	External air temperature		Evaporator inlet water temperature		Evaporator outlet water temperature		Delta T of the water		Pressure in hydraulic circuits, water side with tank	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
	°C		°C		°C		°C		barg	
On / Off	-5	43 [2]	0	35	-5	30	4	10	0	6
	5	43 [2]	-5 [3]	35	-10 [3]	30				
Electronic fan regulation	-5	43 [2]	-5 [3]	35	-10 [3]	30				
	-20 [1]	43 [2]	-5 [3]	35	-10 [3]	30				

For outlet water temperature <+5 °C and external air temperature <= 0 °C, it is necessary to use an antifreeze solution.
(1) Value for units with low ambient temperature option (-20 °C external air temperature). The units are equipped with EC Brushless fans and electrical heater for electrical panel. If the glycol is not used is recommended to consider the units with anti-freeze protection, see paragraph 16.1 options "anti-freeze protection heaters".
(2) Reference values for the complete series. The maximum external air temperatureis refered to the outlet water temperature equal to 15 °C.
(3) Inlet evaporator water temperature min -2 °C and outlet evaporator water temperature min -7 °C for the model TAE G 020.
Note: - for the min/max ΔT evaporator side take referece to the selection software.

SOLUTIONS OF WATER AND ETHYLENE GLYCOL

		% Ethylene glycol by weight					
		0	10	20	30	40	50
Freezing temperature	(°C)	0	-3,7	-8,7	-15,3	-23,5	-35,6
Cooling capacity correction factor (kW)	Kf1	1,00	0,99	0,98	0,97	0,96	0,93
Absorbed power correction factor (kW)	Kp1	1,00	0,99	0,98	0,98	0,97	0,95
Water flow correction factor [1] (m^3/h)	KFWE1	1,00	1,02	1,05	1,07	1,11	1,13
Pressure drop correction factor (kPa)	Kdp1	1,00	1,08	1,17	1,25	1,33	1,41

Multiply the unit performance by the correction factors given in the table (Pf* = Pf x Kf1). If the value already includes the glycol correction factor do not use this table. (1) KFWE1 = Correction factor (refers to the cooling capacity corrected by Kf) to obtain the water flow with a ΔT of 5 °C.

CORRECTION FACTORS ΔT ≠ 5 °C (WATER EVAPORATOR)

		ΔT						
		4	5	6	7	8	9	10
Cooling capacity correction factor	kf4	0,99	1,00	1,01	1,01	1,02	1,02	1,03
Absorbed power correction factor	kp4	0,99	1,00	1,00	1,01	1,01	1,04	1,08

Multiply the unit performance by the correction factors given in table. The new water flow to the evaporator is calculated with the following equation: Fw (l/h) = Pf* (kW) x 860 / ΔT where ΔT is the delta T of the water through the evaporator (°C).

CONDENSER CORRECTION FACTORS

		Altitude (m)					
		0	500	1000	1500	2000	2500
Cooling capacity correction factor (kW)	Kf3	1	0,990	0,980	0,977	0,972	0,960
Absorbed power correction factor (kW)	Kp3	1	1,005	1,012	1,018	1,027	1,034
Derating of the max external air temperature(*)	Kt3(°C)	0	0,6	1,1	1,8	2,5	3,3

Multiply the unit performance by the correction factors given in table (Pf* = Pf x Kf3, Pa* = Pa x Kp3). (*) To obtain the maximum external air temperature, subtract the values indicated from the maximum external air temperature in the performance table (Ta* = Ta-Kt3).

THERMAL INSULATION THICKNESS LIMITS

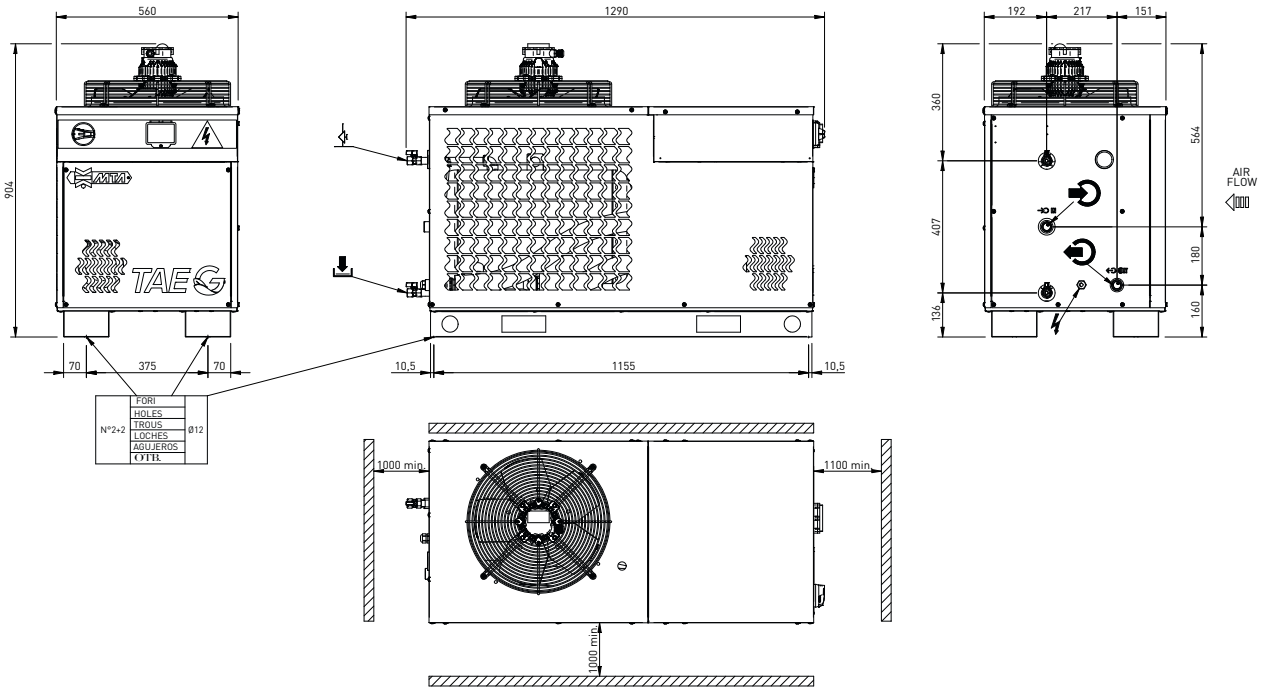
		Standard insulation thickness 10 mm (*)					20 mm (*)
Ambient temperature	10 °C	20 °C	30 °C	35 °C	40 °C	45 °C	47 °C
Water outlet temperature	RH Max						
-10 °C	77%	71%	64%	62%	60%	57%	77%
-5 °C	83%	72%	68%	65%	63%	61%	80%
7 °C	97%	87%	77%	75%	73%	68%	83%
15 °C	99%	95%	85%	82%	78%	75%	86%

The values in the table refer to the thickness of the thermal insulation of the hydraulic circuit and they show the maximum relative humidity above which ambient moisture condenses (these values are ot the operation limits of the chillers).

(*) Closed cell thermal insulation.

OVERALL DIMENSIONS

TAE G 020



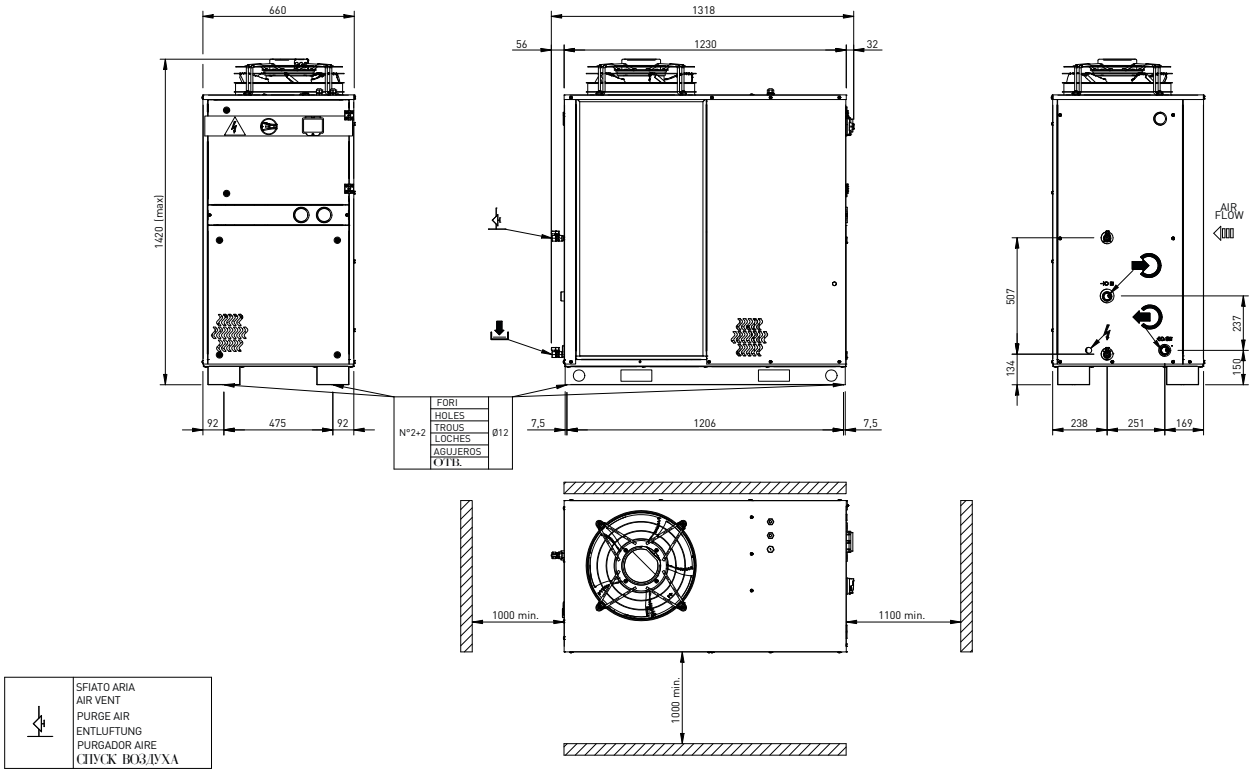
	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

Rp 3/4" UNI EN 10226-1	Rp 3/4" UNI EN 10226-1
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 031 - 051



	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

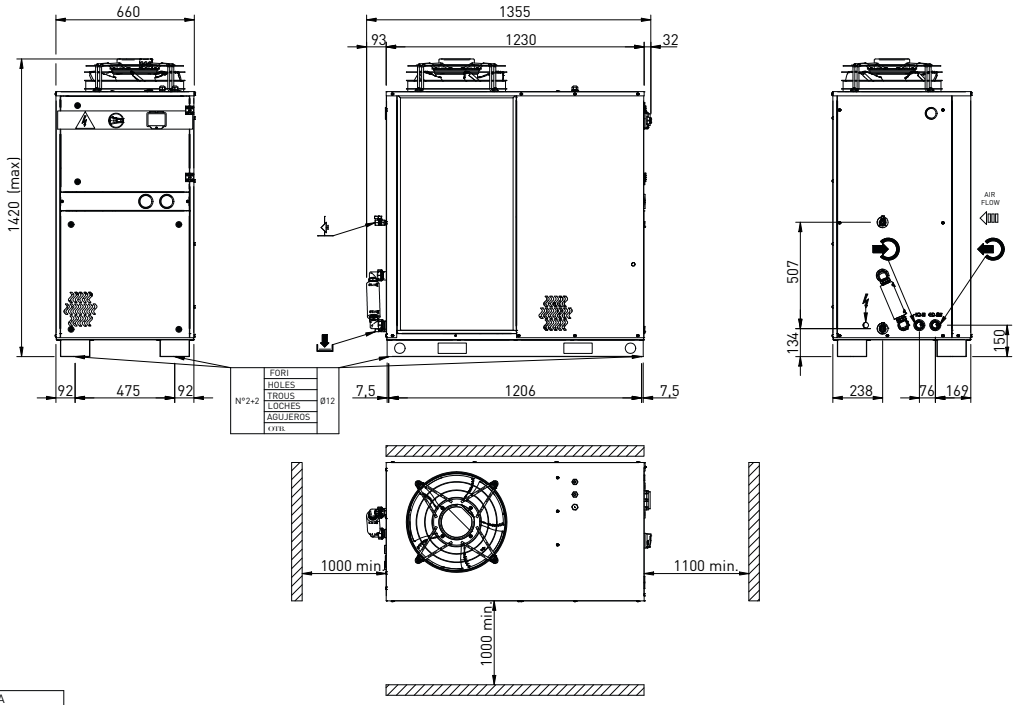
Rp 1" UNI EN 10226-1	Rp 1" UNI EN 10226-1
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 031 - 051

Con pompa in spinta - ***With pump for open storage tank systems***



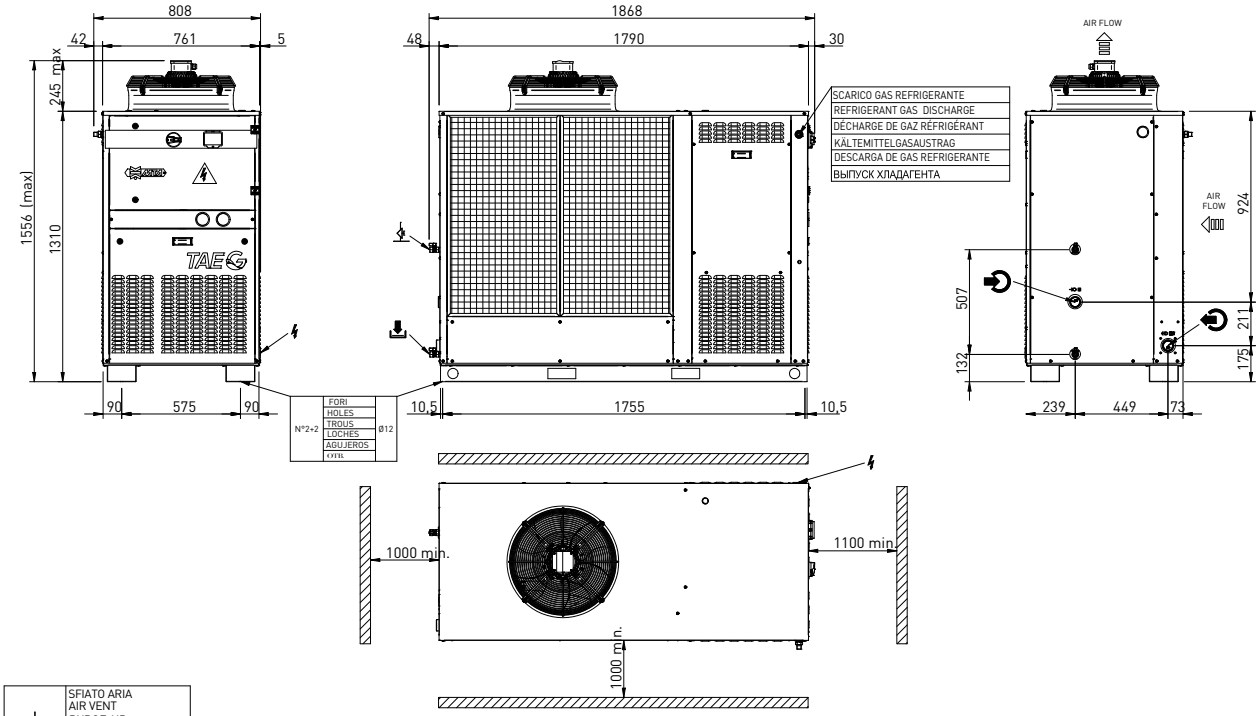
	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СЛУСК ВОЗДУХА

Rp 1" UNI EN 10226-1	Rp 1" UNI EN 10226-1
IN: INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT: USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 081



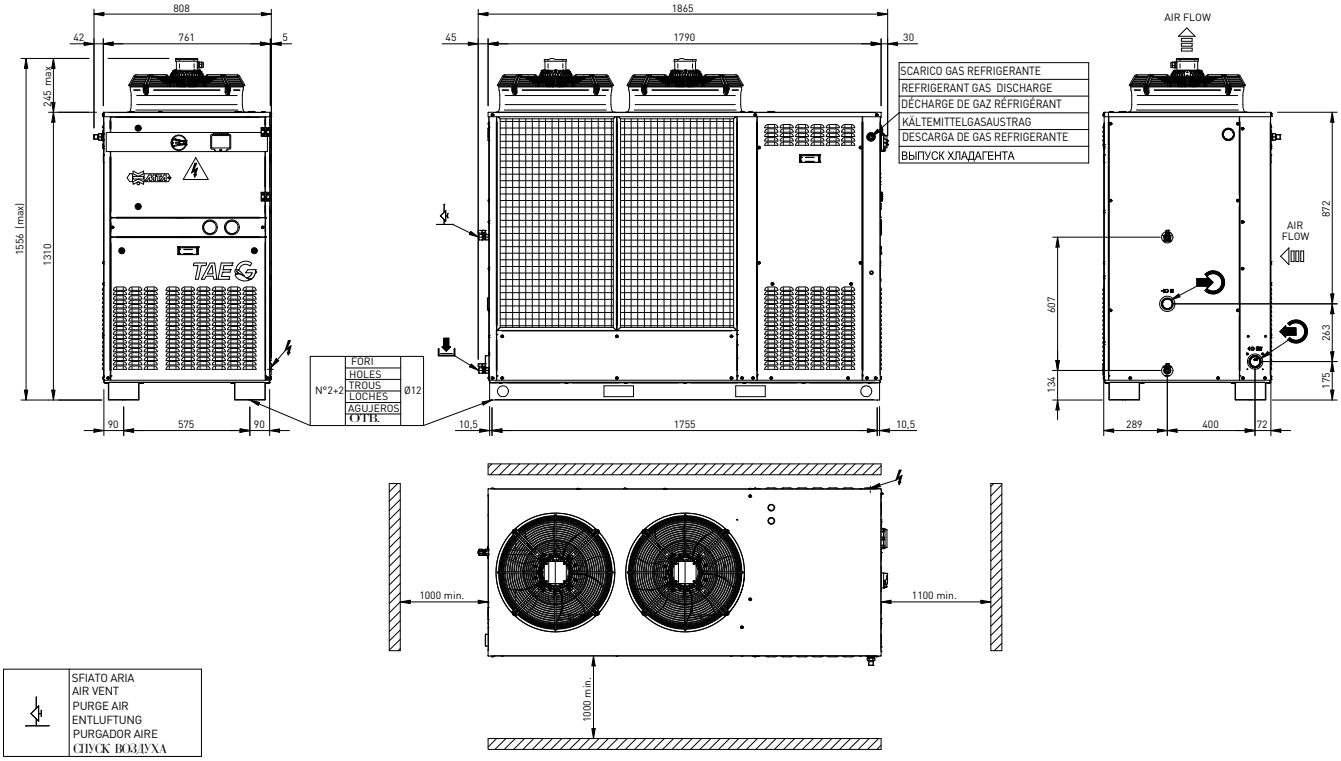
	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СЛУСК ВОЗДУХА

Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN: INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT: USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 101 - 121 - 161



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

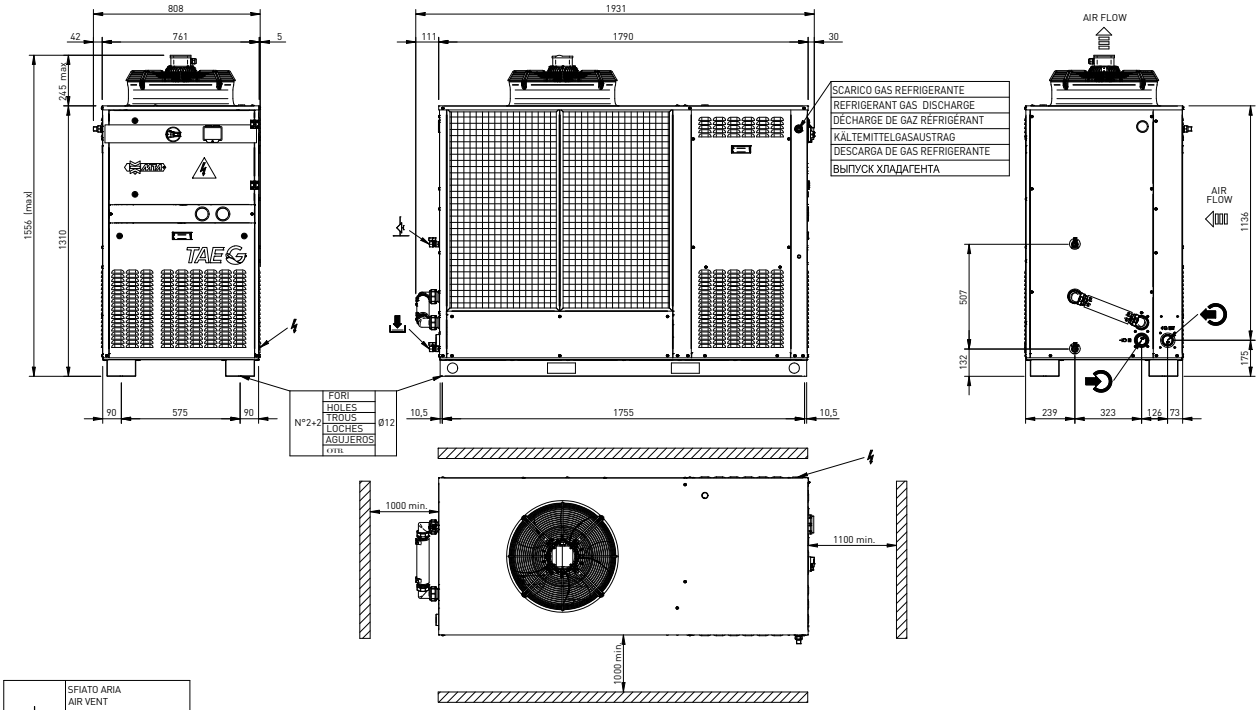
Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN: INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT: USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE: ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 081

Con pompa in spinta - ***With pump for open storage tank systems***



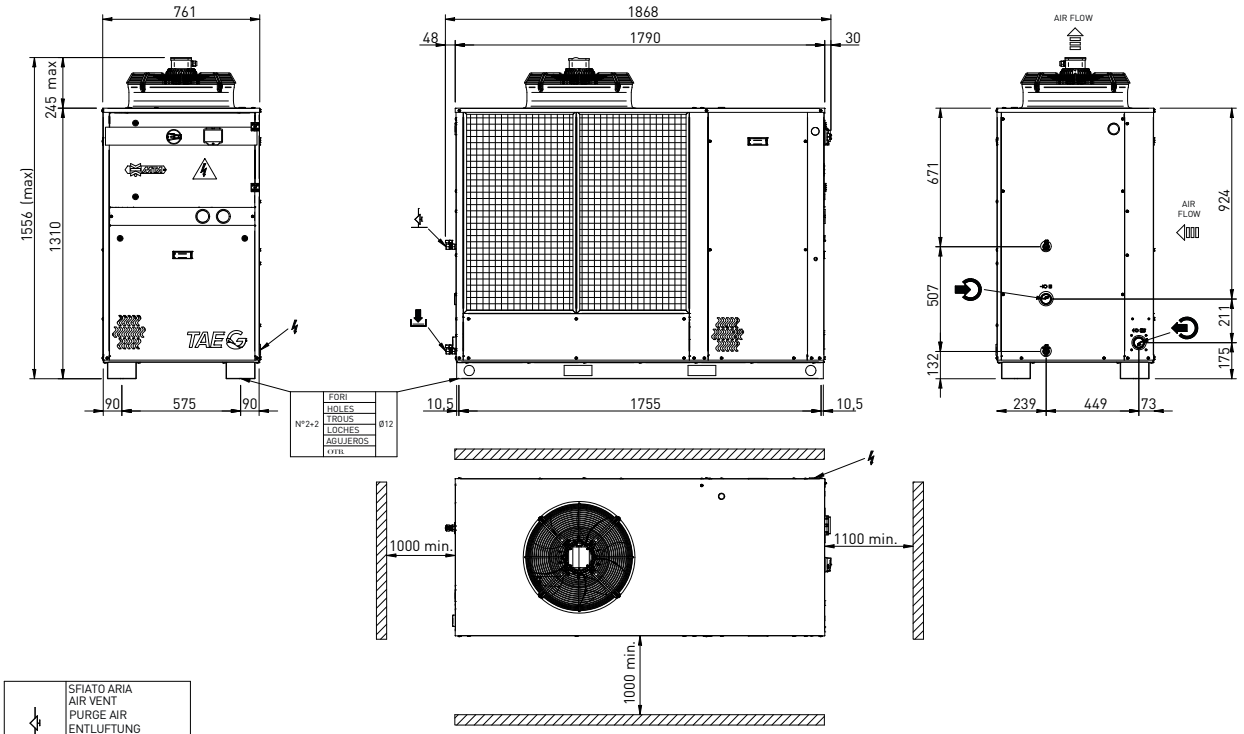
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN: INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT: USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE: ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 071



SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

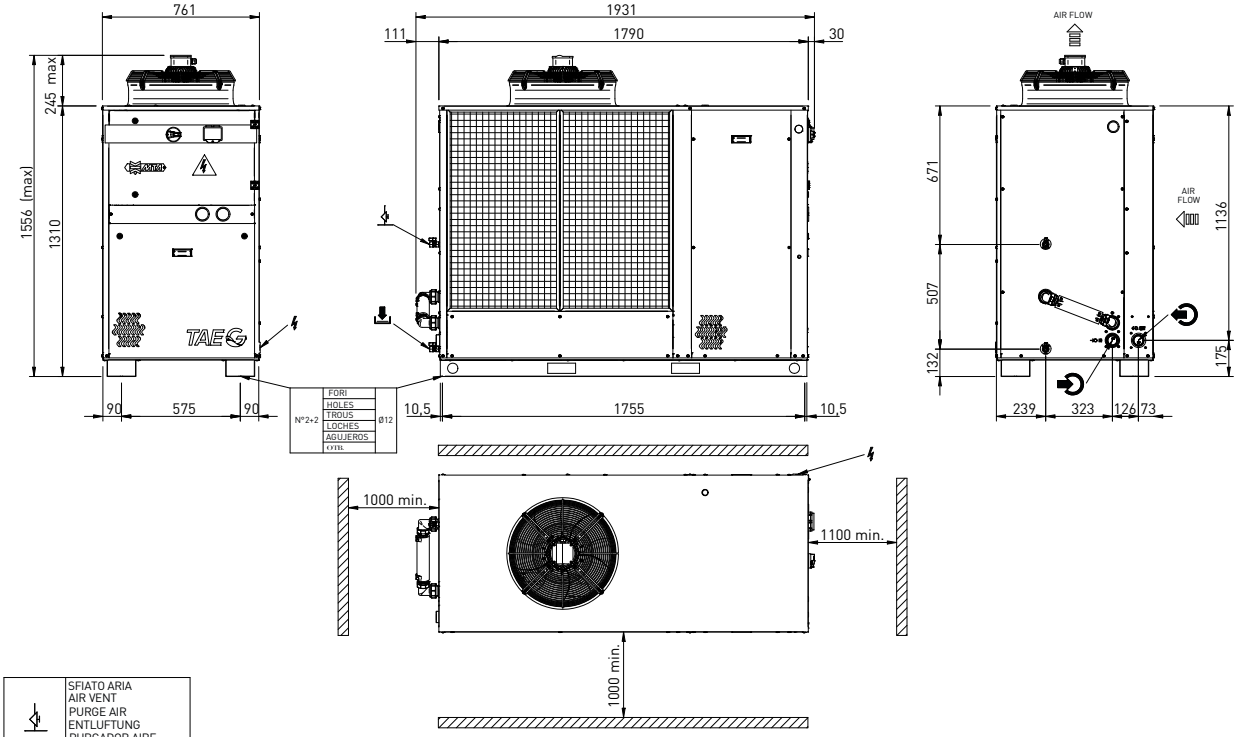
Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 071

Con pompa in spinta - ***With pump for open storage tank systems***



SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

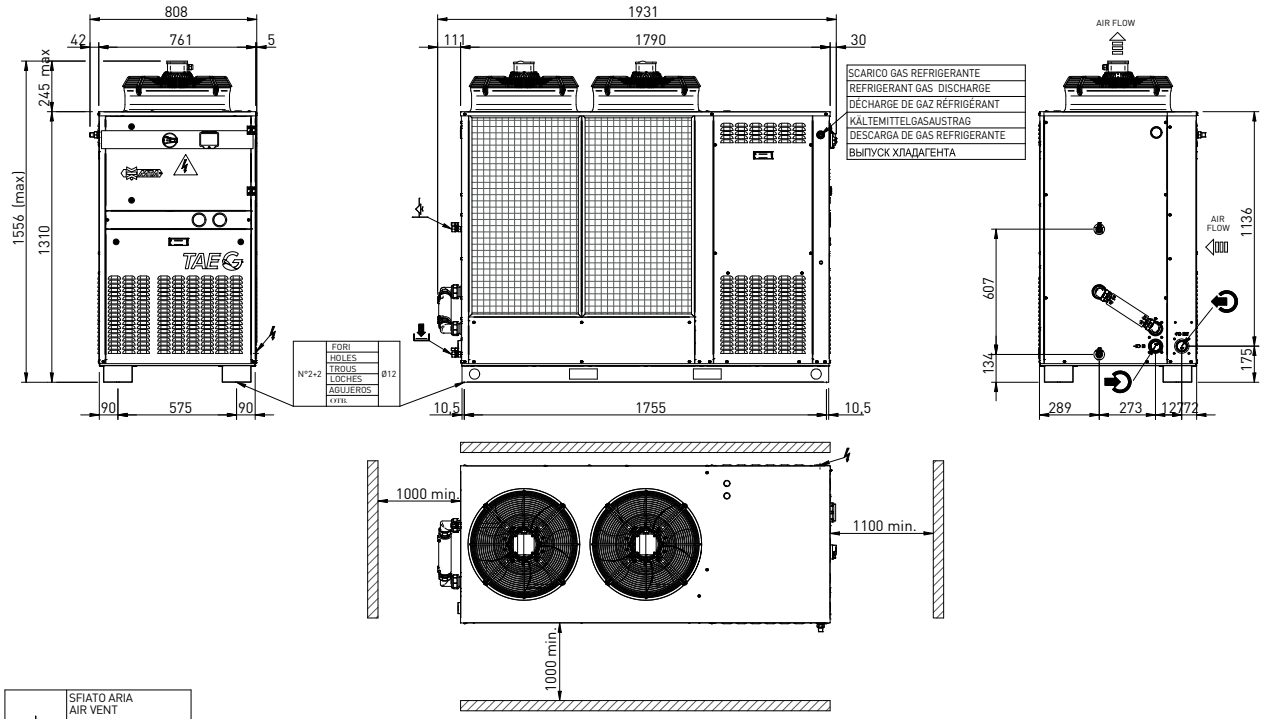
Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 101 - 121 - 161

Con pompa in spinta - ***With pump for open storage tank systems***



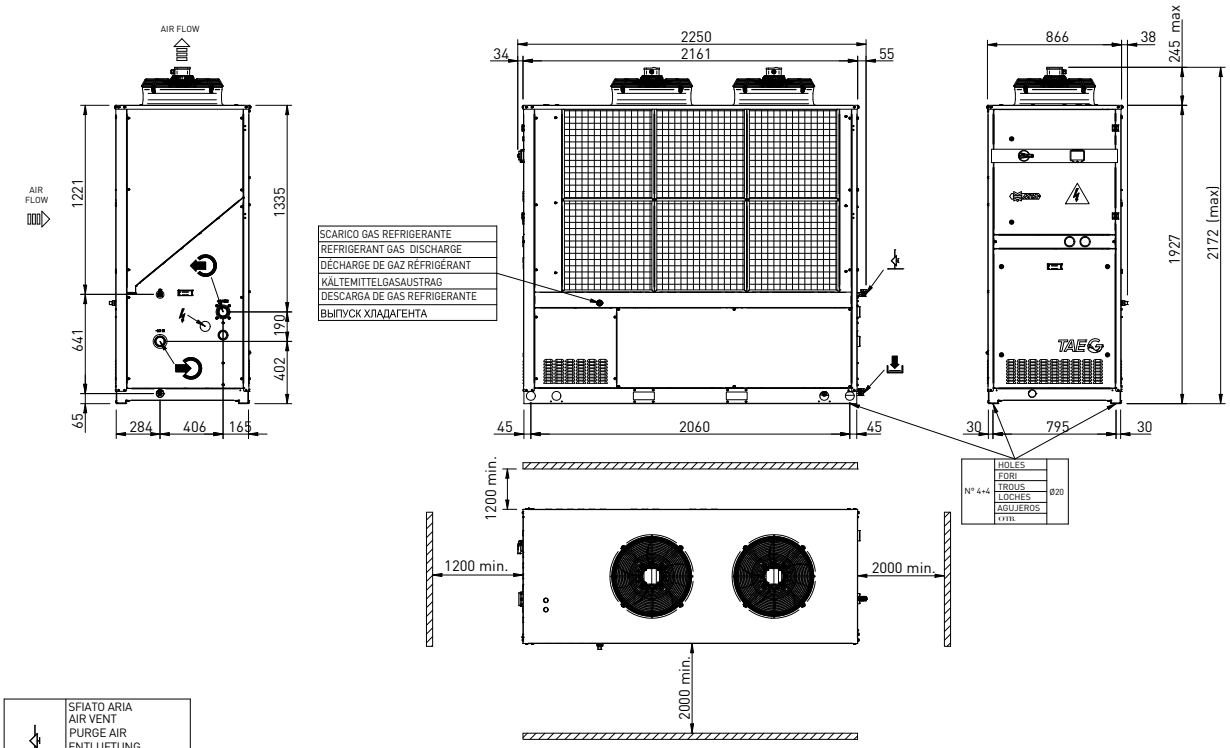
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 1" 1/2 UNI EN 10226-1	Rp 1" 1/2 UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE — ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 201 - 251



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

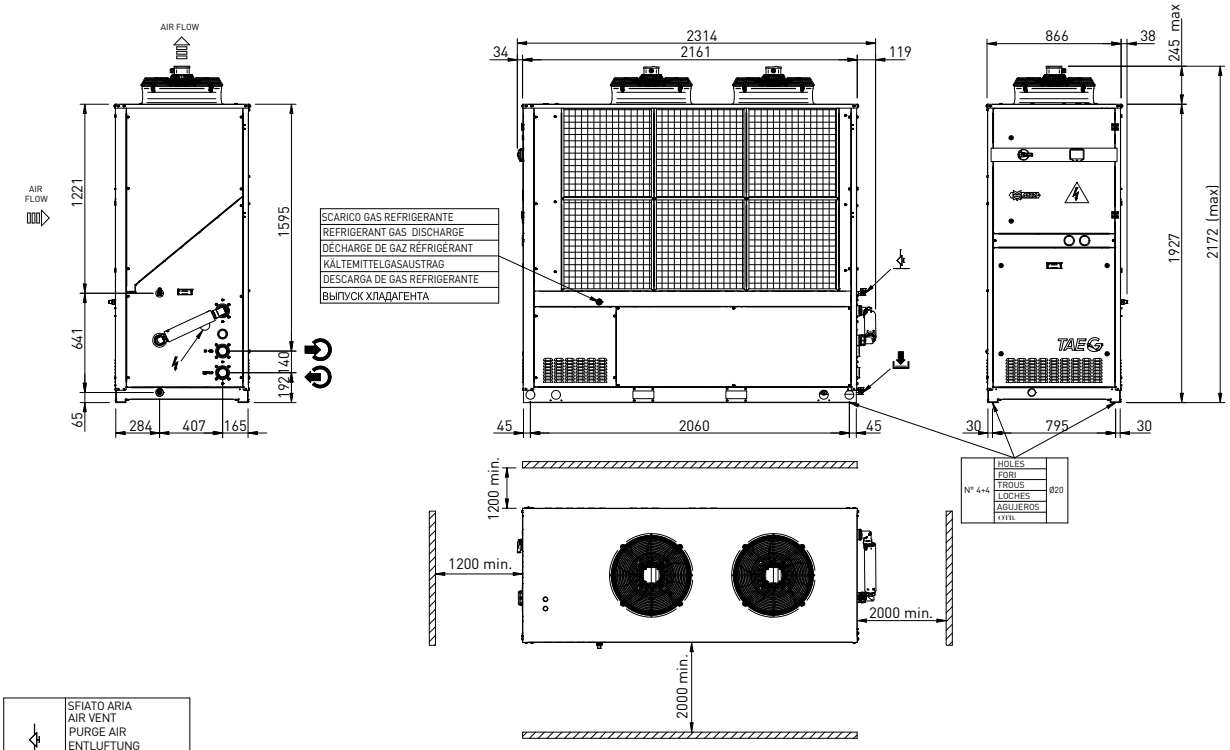
Rp 2" UNI EN 10226-1	Rp 2" UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE — ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 201 - 251

Con pompa in spinta - ***With pump for open storage tank systems***



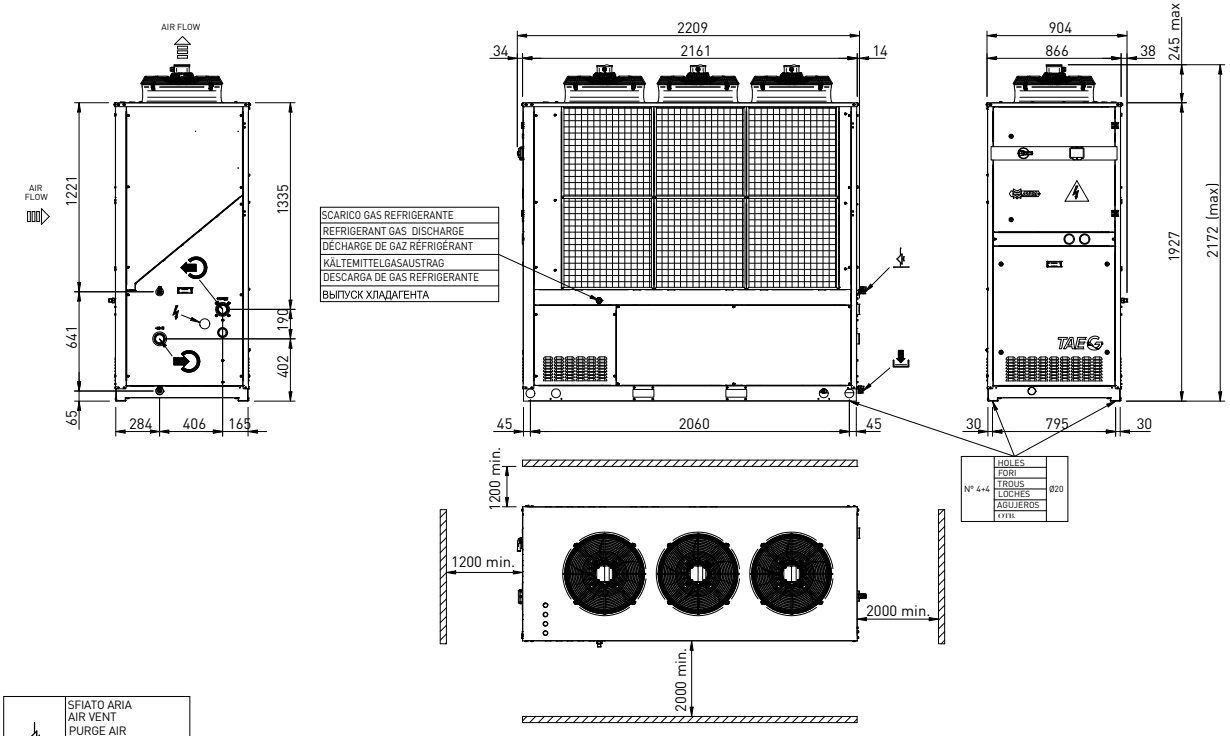
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 2" UNI EN 10226-1	Rp 2" UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE
ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 301 - 351



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

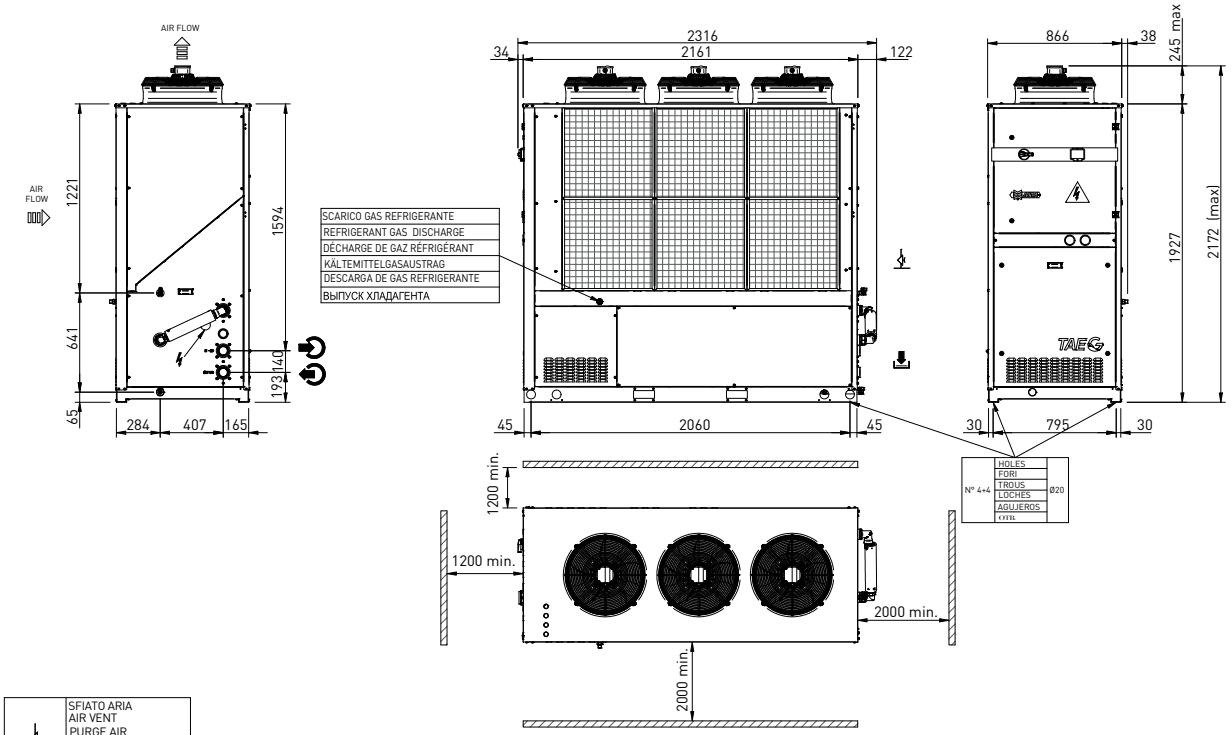
Rp 2" UNI EN 10226-1	Rp 2" UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE
ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 301 - 351

Con pompa in spinta - ***With pump for open storage tank systems***



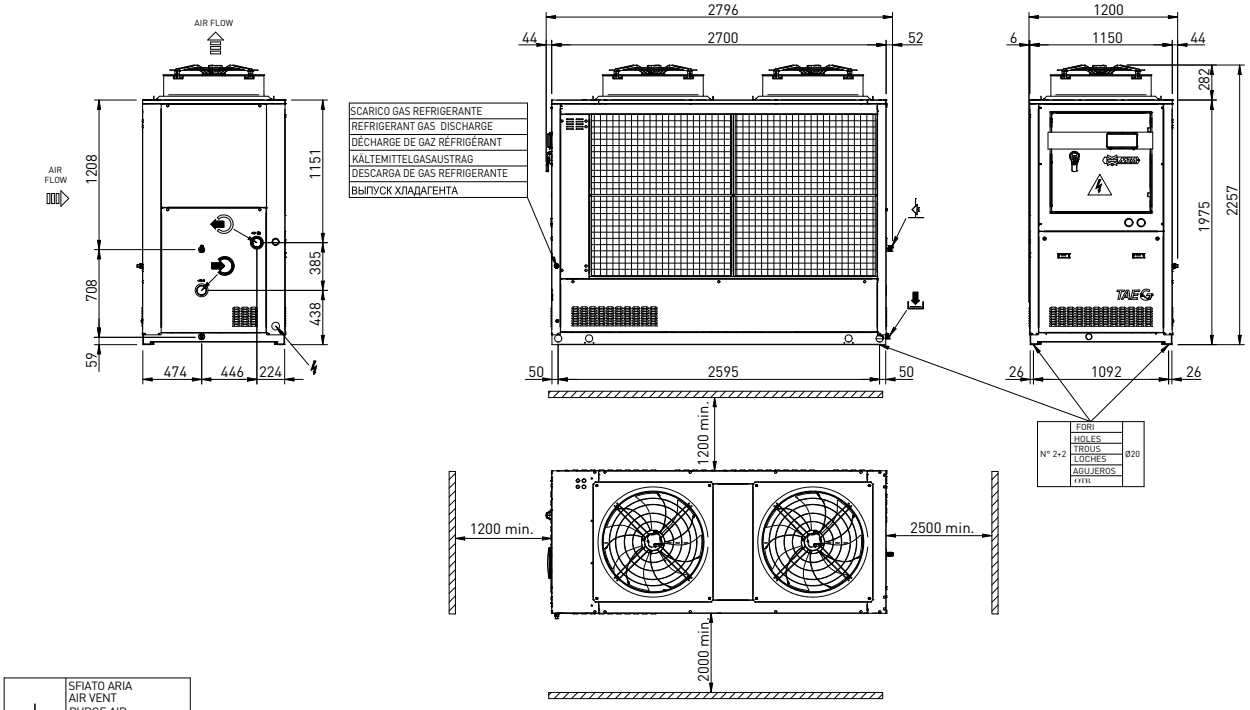
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 2" UNI EN 10226-1	Rp 2" UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE — ALIMENTAZIONE ELETTRICA / POWER SUPPLY / ALIMENTATION ELECTRIQUE / ELEKTROANSCHLUB / ALIMENTACION ELECTRICA / НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 381 - 401



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

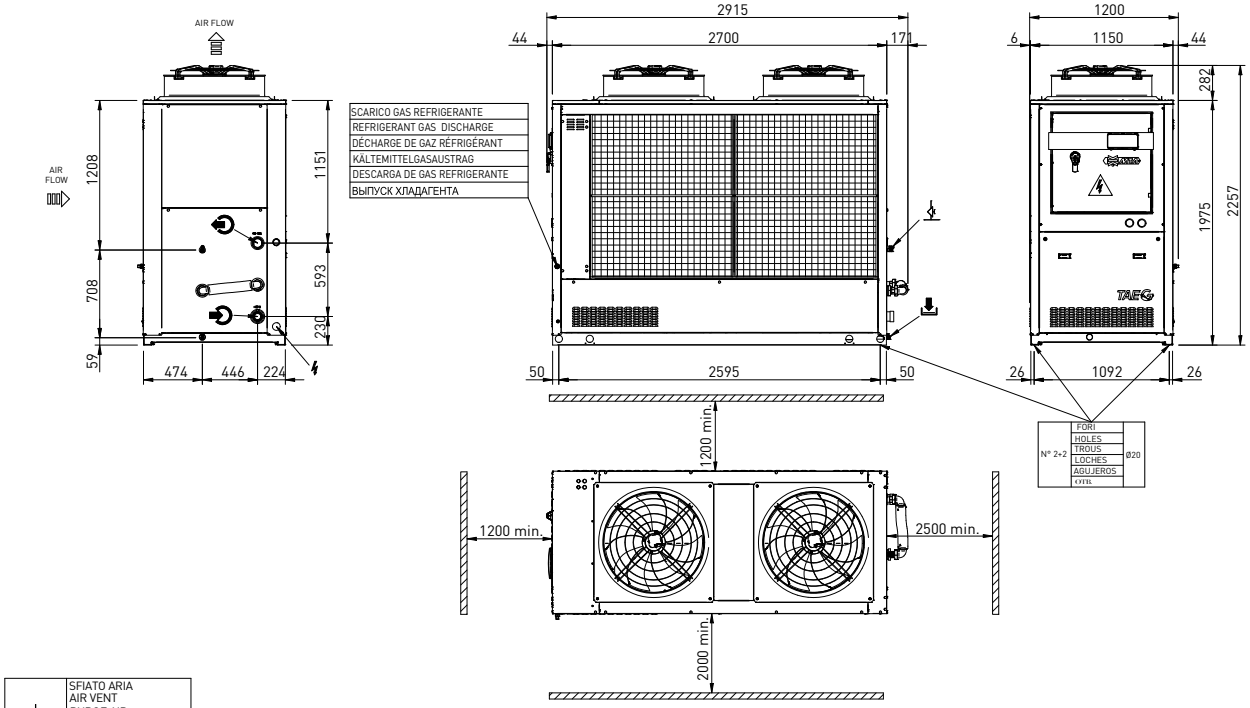
Rp 2"1/2 UNI EN 10226-1	Rp 2"1/2 UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE — ALIMENTAZIONE ELETTRICA / POWER SUPPLY / ALIMENTATION ELECTRIQUE / ELEKTROANSCHLUB / ALIMENTACION ELECTRICA / НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 381 - 401

Con pompa in spinta - ***With pump for open storage tank systems***



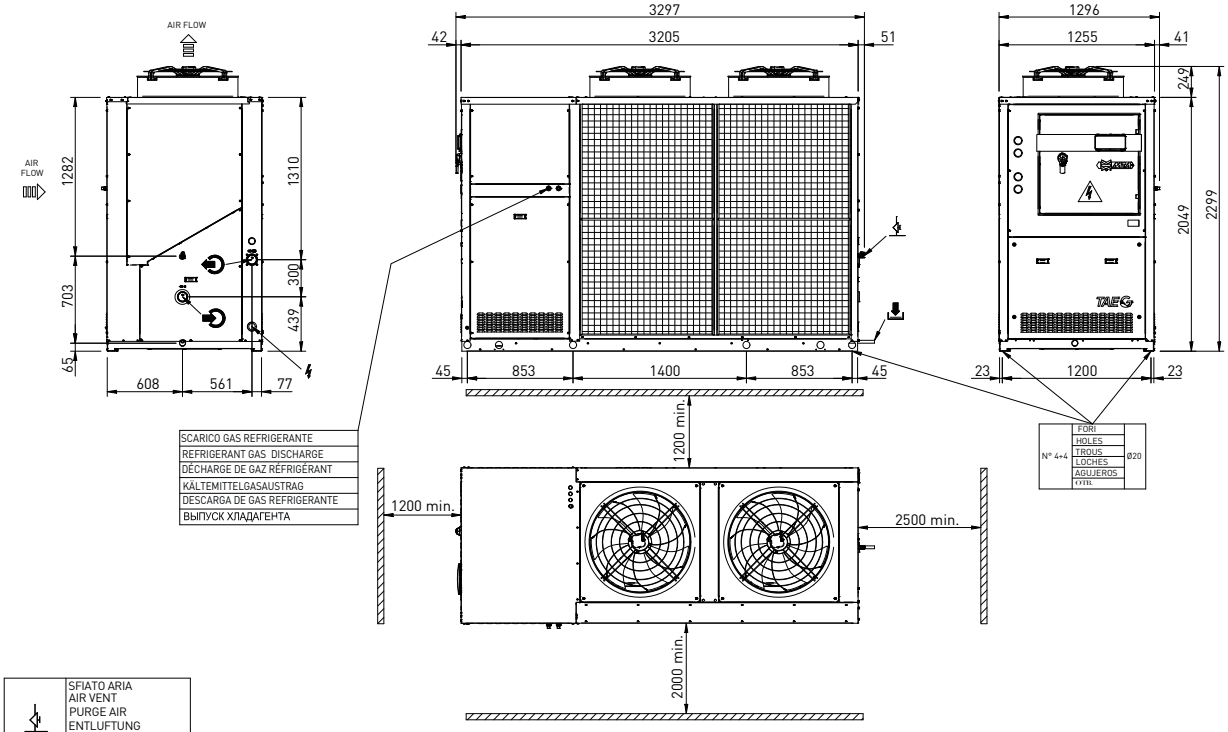
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 2"1/2 UNI EN 10226-1	Rp 2"1/2 UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTRÉE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE
ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 402 - 502 - 602



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

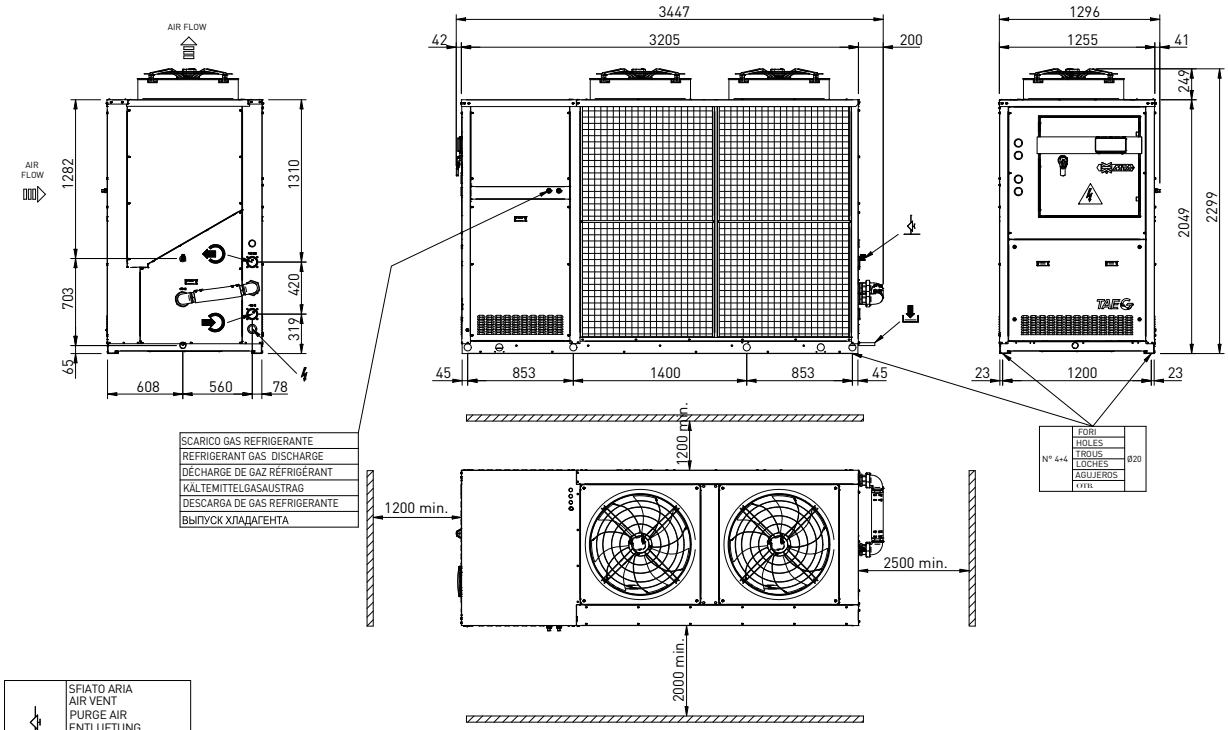
Rp 2"1/2 UNI EN 10226-1	Rp 2"1/2 UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTRÉE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

AE
ALIMENTAZIONE ELETTRICA
POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 402 - 502 - 602

Con pompa in spinta - ***With pump for open storage tank systems***



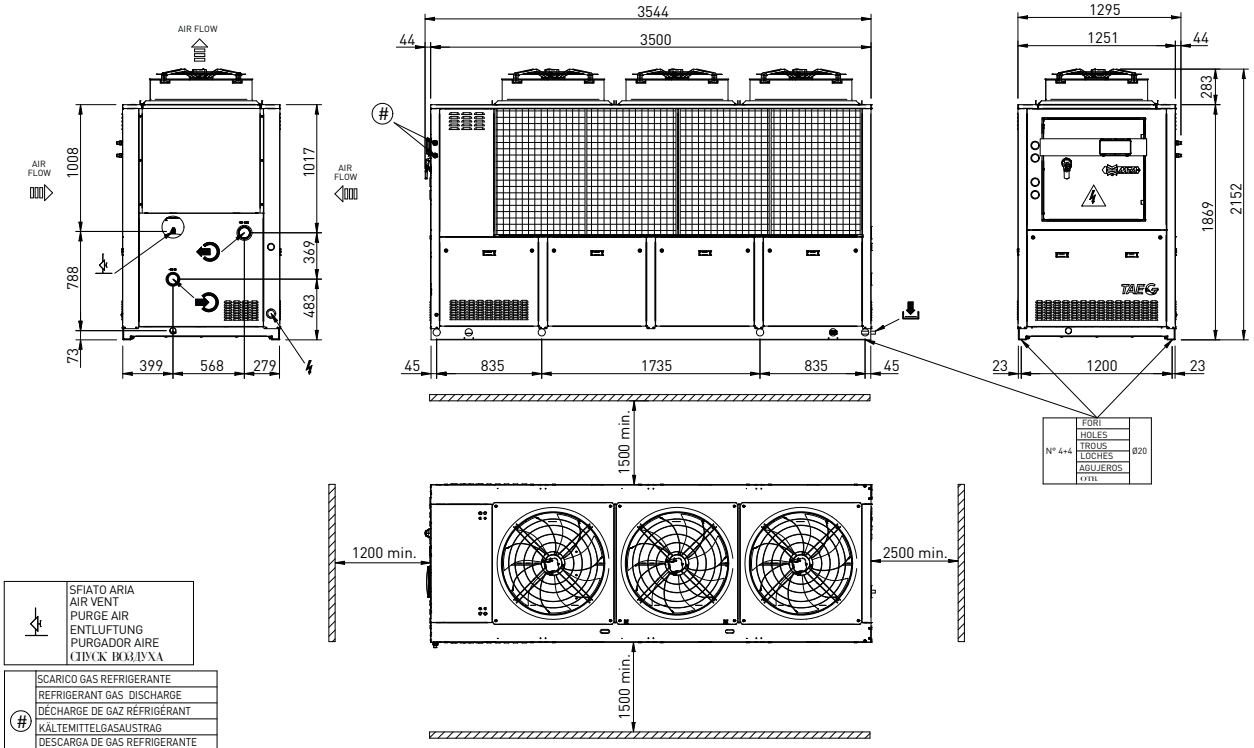
SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

Rp 2"1/2 UNI EN 10226-1	Rp 2"1/2 UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

ALIMENTAZIONE ELETTRICA
AE — POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 702 - 802



SFIATO ARIA
AIR VENT
PURGE AIR
ENTLUFTUNG
PURGADOR AIRE
СПУСК ВОЗДУХА

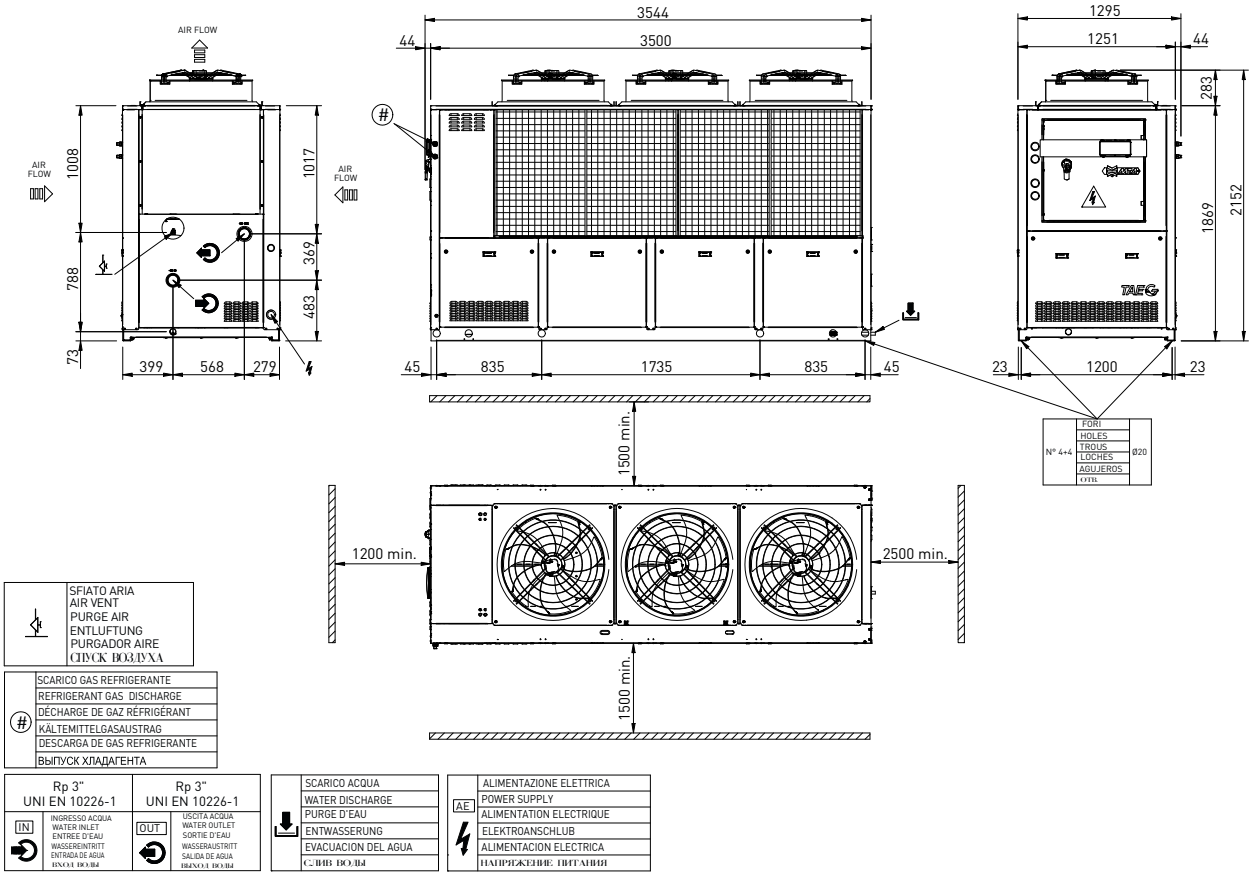
— SCARICO GAS REFRIGERANTE
REFRIGERANT GAS DISCHARGE
DÉCHARGE DE GAZ RÉFRIGÉRANT
KÄLTEMITTELGASAUSTRAG
DESCARGA DE GAS REFRIGERANTE
ВЫПУСК ХЛАДАГЕНТА

Rp 3" UNI EN 10226-1	Rp 3" UNI EN 10226-1
IN — INGRESSO ACQUA / WATER INLET / ENTREE D'EAU / WASSEREINTRITT / ENTRADA DE AGUA / ВХОД ВОДЫ	OUT — USCITA ACQUA / WATER OUTLET / SORTIE D'EAU / WASSERAUSTRITT / SALIDA DE AGUA / ВЫХОД ВОДЫ

SCARICO ACQUA
WATER DISCHARGE
PURGE D'EAU
ENTWASSERUNG
EVACUACION DEL AGUA
СЛИВ ВОДЫ

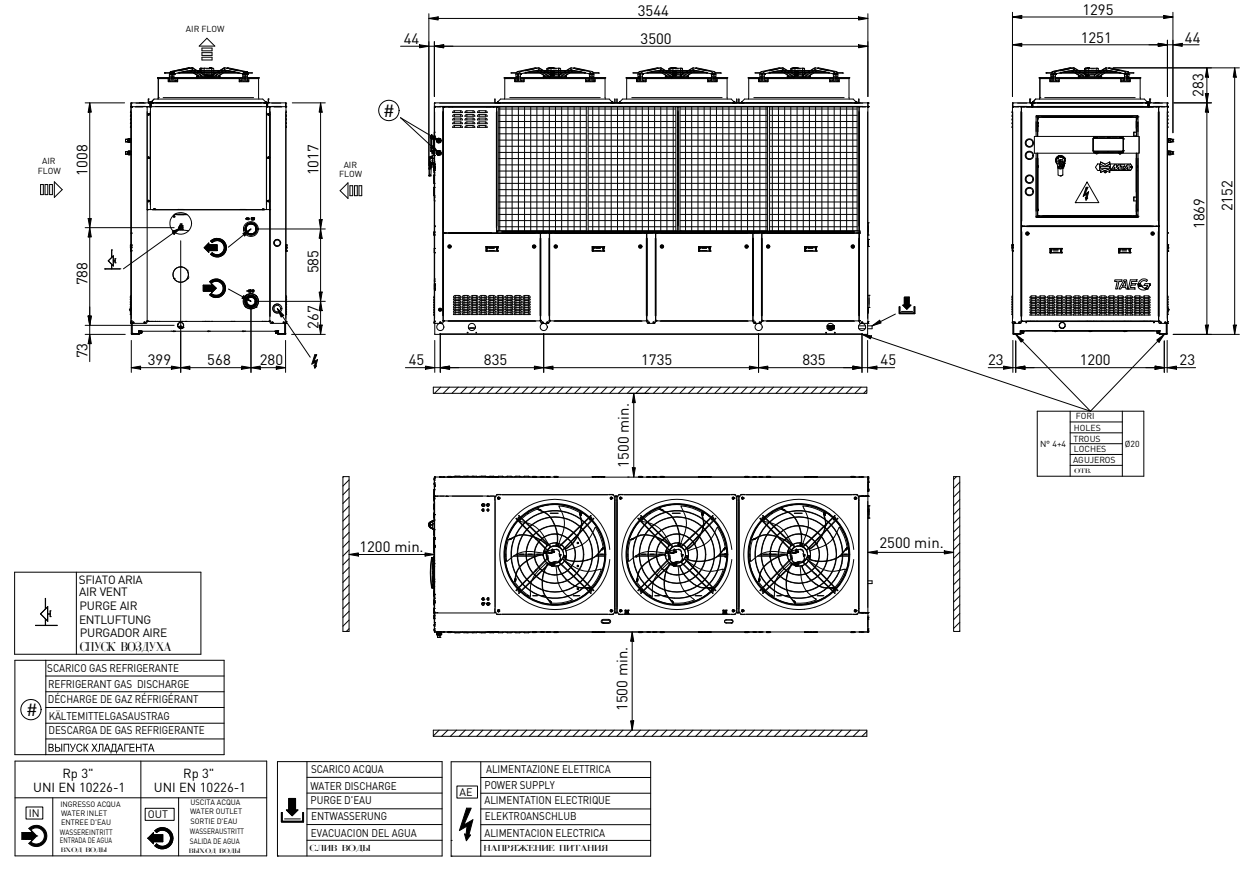
ALIMENTAZIONE ELETTRICA
AE — POWER SUPPLY
ALIMENTATION ELECTRIQUE
ELEKTROANSCHLUB
ALIMENTACION ELECTRICA
НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 702 - 802

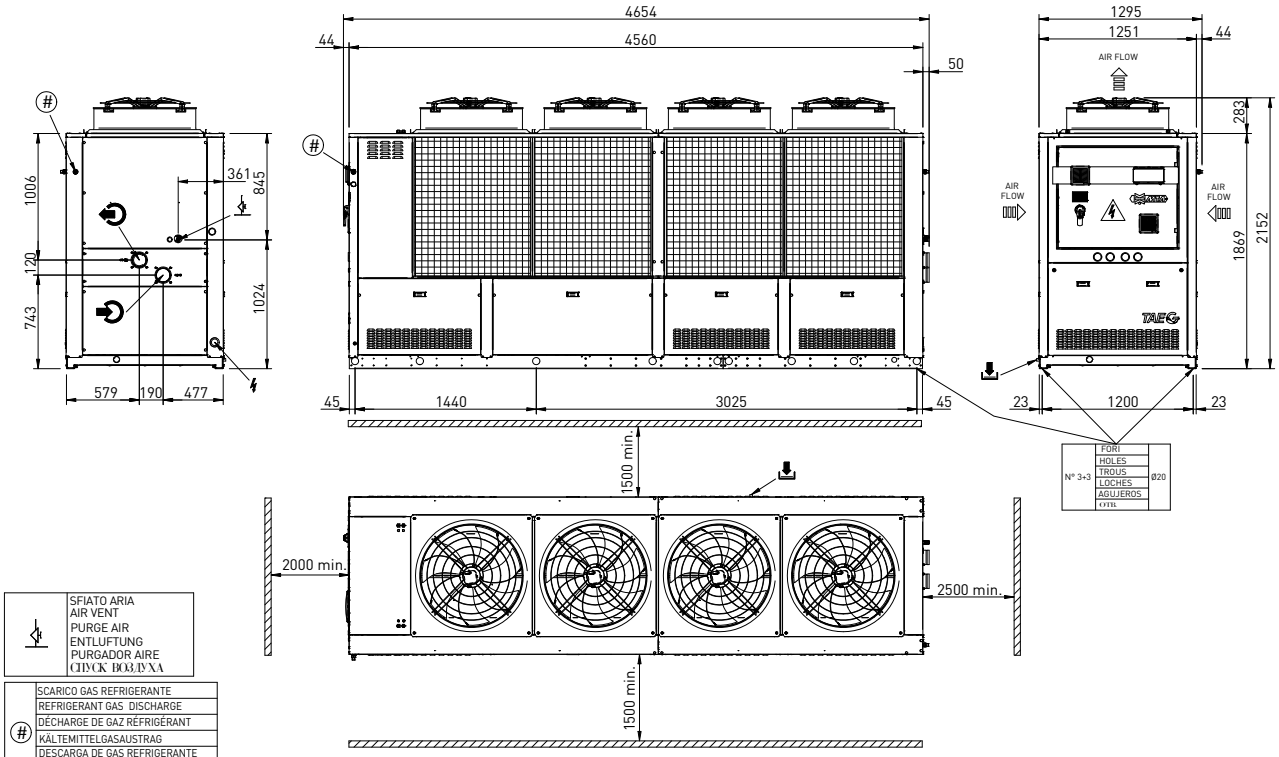


TAE G 702 - 802

Con pompa in spinta - ***With pump for open storage tank systems***



TAE G 902 - 1002



	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

#	SCARICO GAS REFRIGERANTE REFRIGERANT GAS DISCHARGE DÉCHARGE DE GAZ RÉFRIGÉRANT KÄLTEMITTELGASAUSTRAG DESCARGA DE GAS REFRIGERANTE ВЫПУСК ХЛАДАГЕНТА

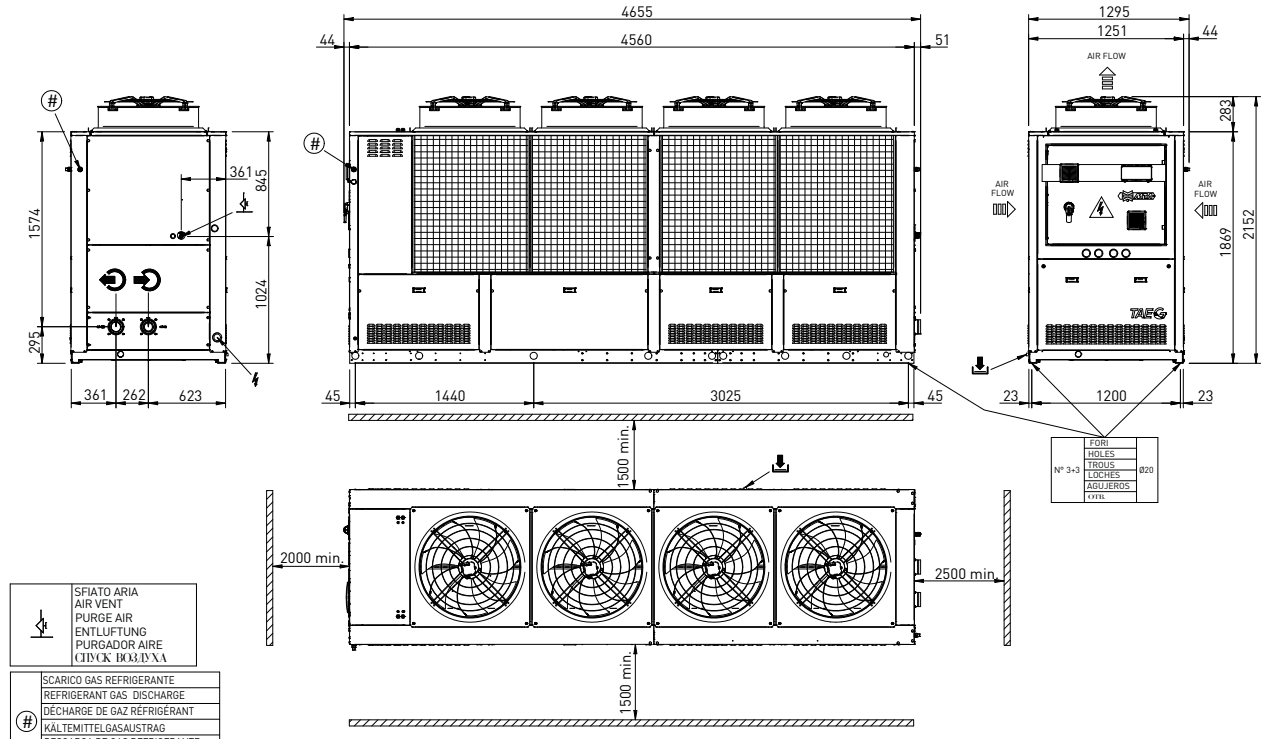
DN100 (4")	DN100 (4")
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

TAE G 902 - 1002

Con pompa in spinta - ***With pump for open storage tank systems***



	SFIATO ARIA AIR VENT PURGE AIR ENTLUFTUNG PURGADOR AIRE СПУСК ВОЗДУХА

#	SCARICO GAS REFRIGERANTE REFRIGERANT GAS DISCHARGE DÉCHARGE DE GAZ RÉFRIGÉRANT KÄLTEMITTELGASAUSTRAG DESCARGA DE GAS REFRIGERANTE ВЫПУСК ХЛАДАГЕНТА

DN100 (4")	DN100 (4")
IN INGRESSO ACQUA WATER INLET ENTREE D'EAU WASSEREINTRITT ENTRADA DE AGUA ВХОД ВОДЫ	OUT USCITA ACQUA WATER OUTLET SORTIE D'EAU WASSERAUSTRITT SALIDA DE AGUA ВЫХОД ВОДЫ

	SCARICO ACQUA WATER DISCHARGE PURGE D'EAU ENTWASSERUNG EVACUACION DEL AGUA СЛИВ ВОДЫ

AE	ALIMENTAZIONE ELETTRICA POWER SUPPLY ALIMENTATION ELECTRIQUE ELEKTROANSCHLUB ALIMENTACION ELECTRICA НАПРЯЖЕНИЕ ПИТАНИЯ

INSTALLATION GUIDE

The installation of the units must comply with the following guidelines:

a) The units must be installed horizontally to ensure proper oil return to the compressors.

b) Observe the adequate installation free space around the units indicated in this catalogue and in the dimensional drawing supplied with each unit.

c) As far as possible, install the unit in such a way as to minimize the effects of noise, vibrations, etc. In particular, install the chiller away from areas where noise could be disturbing. Avoid installations under windows or between two houses. The vibrations transmitted can be reduced through flexible joints on the water pipes and on the conduits that contain the electrical power supply cables.

d) Make the electrical connection of the unit consulting the wiring diagrams supplied.

e) Define the hydraulic connections of the chiller providing:
- anti-vibration joints;
- shut-off valves (gate valves) to isolate the unit from the hydraulic circuit of the system;
- air bleed valves on the highest points of the system;
- drain valves on the lowest points of the system;
- pump and expansion tank (closed and pressurized hydraulic circuits) if not integrated in the chiller;
- flow switch (by customer care);
- water protection filter (with 0.5 / 0.8 mm mesh) at the evaporator inlet (chiller inlet) to protect the exchanger from slag or impurities deposited in the hydraulic system pipes.

f) Arrange suitable windbreak barriers near the condensing coils if the chiller operate also at ambient temperature below 0 °C and the condenser can be hit by wind with speeds above 2 m/s.

g) In case of required cooling capacities greater than the maximum available with a single unit more chillers hydraulically in parallel can be connected, taking care to choose the same size of model to avoid imbalance in the flow rates of the process fluid.

h) Is essential to ensure an adequate volume of air both in suction and in discharge to the condensing coils. Is very important to avoid air recirculation phenomena between suction and discharge with consequent deterioration of unit performance or even the interruption of normal operation. In case of parallel installation of more units with the condensing coils facing each other is necessary to ensure a minimum distance between the condensing coils themselves. The minimum recommended distances are indicated in this catalogue.

i) If greater or less value of fluid flow rate is required than the minimum or maximum allowed, is recommended to install a hydraulic by-pass between the inlet and outlet of the unit hydraulic connections.

l) Is recommended to remove all air residues in the hydraulic circuit for its proper functioning.

m) Is recommended to drain the hydraulic system during winter shutdown or use anti-freeze additives alternatively.

n) Avoid pump operation without fluid even during the start-up procedures.

o) For models from 081 to 1002 during the installation an individual risk assessment is required by the user considering the local standards and regulations in force. The responsibility of the completed risk assessment required for the proper installation and the correct functioning of the machine-plant assembly is at end user care.
Specifically:
- the unit must be installed in an open space, in full compliance with the EN378 standards and in according to all indications contained within the user manual;
- the end user is responsible for the system on the installation site;
- the ordinary and extraordinary maintenance operations must be carried out by personnel qualified to handle refrigerant fluids of A2L safety group.

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ISO 9001 BUREAU VERITAS Certification
N° 220817

MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.

MTA products comply with European safety directives, as recognised by the CE symbol.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

MTA partecipates in the E.C.C. programme for LCP-HP. Certified products are listed on: www.eurovent-certification.com. Eurovent Certification applied to the units:
- Air/Water with cooling capacity up to 600 kW
- Water/Water up to 1500 kW

EAC Declaration

MTA®
Cooling, conditioning, purifying.