

KAPPA REV FC series

320÷1300 kW



General

High energy efficiency freecooling chiller, with screw compressors, also inverter-controlled, and shell-and-tube exchanger

Configurations

HE: High efficiency unit

HEi: unit with hybrid compressors

XEi: unit with full inverter compressors

LN: Low noise unit

SLN: Super low noise unit

Optional hydronic module

Freecooling Configurations

Basic: TFT up to -2,4°C (-5°C as avg)

Custom: TFT up to +1,3°C (-1°C as avg)

Extra: TFT up to +3,1°C (+2°C as avg)

Strengths

- ▶ Dedicated freecooling section
- ▶ Full inverter and hybrid versions available
- ▶ Eurovent A Class Unit
- ▶ Eurovent certified chiller section
- ▶ Hybrid freecooling: capability, in the mid seasons, to operate in mixed mode freecooling/chiller
- ▶ Night Shift function
- ▶ 3 efficiency levels of the chiller section, combinable with 3 levels of TFT of freecooling section
- ▶ Multilogic/multifree function
- ▶ Integrated web server
- ▶ Microchannel condensing coil



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KAPPA REV FC

Our free cooling units meet growing demands for energy savings, since they have been designed to reduce the operating costs of refrigerating machines that work to serve process applications or in the IT field.

The strength of the free cooling units is certainly the control system that allows maximum use to be made of the free resource, consisting of external air, so minimizing the energy used by the compressors: in fact, the control of the unit activates the chiller section and the free cooling section, depending on the measurements taken by the temperature probes on the external air and on the reference water.

The free cooling coils are placed in series with the evaporator of the refrigerant circuit, and a servo-controlled three-way valve allows the coils to be bypassed when their effectiveness is too low because of a high outside temperature.

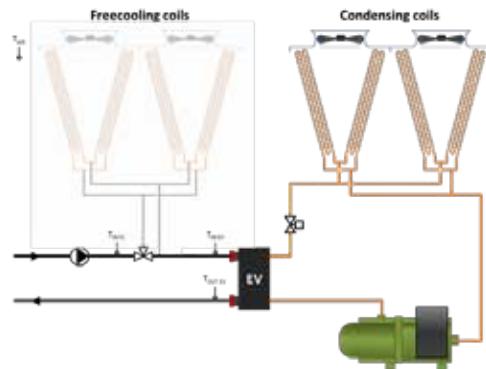
But if climatic conditions allow it, the free cooling coils enable the secondary fluid to be cooled by external air, so reducing the use of the compressors.

In this way, as the external air temperature falls, the power absorbed by the mechanical chiller section decreases until only the fans of the free cooling section are used to cover the entire heat load.

Summer operation – Chiller mode

When the ambient temperature is higher than the temperature of the water and glycol solution returning from the system, all the refrigeration capacity is generated by the compressors.

The free cooling section and relevant fans remain inactive and therefore the operation of the unit is that of a classic steam compression chiller

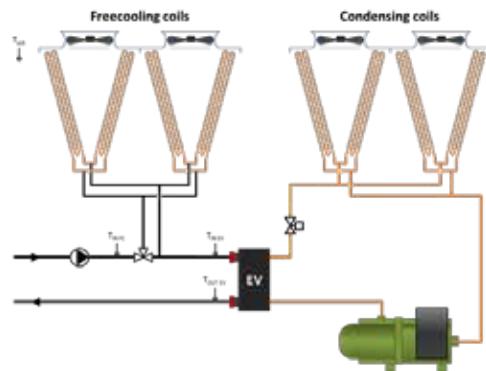


Mixed operation – Mix mode

Free cooling starts automatically when the external air temperature is lower than the temperature of the water and glycol solution returning from the system.

The free cooling system acts in combination with the mechanical cooling system to ensure full coverage of the heat load.

The solution is partially cooled in the free cooling coils by external air; the remaining refrigeration capacity needed is produced by the chiller section that works in reduced capacity mode. This gives an immediate energy saving that, as the ambient temperature falls, becomes increasingly substantial.

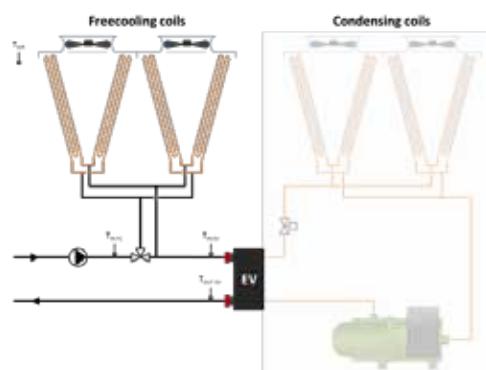


Winter operation – Free cooling mode

Below a certain external air temperature, the unit operates only in free-cooling mode: cooling of the glycol solution takes place only in the water coils, while the compressors and fans of the chiller section remain switched off.

For even harsher external air temperatures, part of the free cooling fans will be switched off gradually to avoid running the risk of cooling the glycol solution too much.

With the addition of the EC fan accessory to the free-cooling section, air flow rate control takes place by continuous modulation according to the reference temperature, which adds an increase in energy saving to the advantage of better user fluid temperature control.



KAPPA REV FC

SPECIFICATIONS

Air-condensed free cooling water chiller unit with semi-hermetic screw compressors, axial fans and dry-expansion shell-and-tube evaporators.

BODY

The body is modular with a load-bearing frame, made of galvanized sheet-iron coated with polyester powder RAL 5017 / 7035 at 180°C, which makes it highly resistant to weather conditions. All screws and bolts are stainless steel.

For models longer than 13.5m, the units will be made divided into two sections to be dispatched separately. In these cases, one section is the chiller section and the other consists of the free cooling section. The two sections must be electrically connected and hydraulically manifolded on site (by the customer).

COMPRESSORS

Basic, HE and SLN version

For the basic, HE and SLN version units, the compressors are semi-hermetic screw compressors with continuous capacity reduction of output power from 25 to 100%, which allows the energy efficiency of the unit to be maximized in all operating conditions.

The capacity reduction of the entire unit is always continuous, from the minimum capacity reduction step, based on the number of compressors, up to 100%.

Lubrication of the compressors is ensured by the pressure difference between delivery and suction.

All the compressors are fitted with check valve on delivery side, metal mesh filter on suction side and electronic protection with temperature sensors directly inserted in the windings and on the delivery pipe.

The machine is started and switched off with a forced 25% capacity reduction of each compressor and starting is of the "star-delta" type.

All the compressors are fitted as standard with crankcase heater and delivery valve.

HEi version

The HEi version units have a semi-hermetic screw compressor controlled by AC inverter fully integrated in the compressor. In addition to capacity modulation management (from about 20% up to 100%), the electronics also manages all the safety devices and therefore ensures that the compressor always works within its operating limits to preserve its operation and reliability. Each compressor is fitted with an automatic control of the compression ratio and an optoelectronic control of oil level.

The other compressors of the unit are semi-hermetic screw compressors with stepped capacity reduction.

The capacity reduction of the entire unit is always continuous, from the minimum capacity reduction step, based on the number of compressors, up to 100%.

Lubrication of the compressors is ensured by the pressure difference between delivery and suction.

All the compressors are fitted with check valve on delivery side, metal mesh filter on suction side and electronic protection with temperature sensors directly inserted in the windings and on the delivery pipe.

Starting of the inverter-controlled compressors is of the "Direct On Line" type with an acceleration ramp managed by the inverter that allows inrush currents of the compressor below 5A to be obtained. Stepped starting of the compressors is of the "star-delta" type.

All the compressors are fitted as standard with crankcase heater and delivery valve.

XEi version

The XEi version units all use semi-hermetic screw compressors controlled by AC inverter fully integrated in the compressor. In addition to capacity modulation management (from about 20% up to 100%), the electronics also manages all the safety devices and therefore ensures that the compressor always works within its operating limits to preserve its operation and reliability. Each compressor is fitted with an automatic control of the compression ratio and an optoelectronic control of oil level.

The capacity reduction of the entire unit is always continuous, from the minimum capacity reduction step, based on the number of compressors, up to 100%.

Lubrication of the compressors is ensured by the pressure difference between delivery and suction.

All the compressors are fitted with check valve on delivery side, metal mesh filter on suction side and electronic protection with temperature sensors directly inserted in the windings and on the delivery pipe.

Starting of the inverter-controlled compressors is of the "Direct On Line" type with an acceleration ramp managed by the inverter that allows inrush currents of the compressor below 5A to be obtained.

In addition to the obvious energy savings arising from greater efficiency, the use of a full inverter unit also brings advantages in terms of installation:

- For these units, the cosφ (power factor) is always greater than 0.95, which therefore makes external power factor correction systems unnecessary.
- The maximum inrush current of the unit is always lower than its maximum absorbed current (calculated in the worst operating condition), therefore making the power cables and line protection devices less onerous.

All the compressors are fitted as standard with crankcase heater and delivery valve.

SOURCE-SIDE HEAT EXCHANGER

The exchangers are made with microchannel aluminium coils. Thanks to continuous research in the field of metal alloys and to sophisticated production methods, the microchannel coils are made using specific aluminium alloys for the tubes and for the fins. This allows the effects of galvanic corrosion to be drastically reduced to always ensure protection of the tubes that confine the refrigerant. Tubes and fins are also subjected to SilFLUX coating processes (or equivalent) or have zinc added to further increase their corrosion resistance.

If the unit has to be installed in an environment with a particularly aggressive atmosphere, e-coated microchannel coils are available as an option. This option is strongly recommended for applications in coastal or highly industrialized areas.

The use of microchannel coils compared to conventional copper/aluminium coils reduces the total weight of the unit by about 10% and gives a reduction in refrigerant charge of at least 30%.

The "V" shape arrangement of the coils makes the unit very compact and also guarantees an increase in the air suction surface, and leaves ample space for distribution of the components of the refrigerant circuit and the hydraulic circuit.

To protect the exchangers from corrosion and ensure optimal operation of the unit, we advise following the recommendations given in the user, installation and maintenance manual for cleaning the coils.

For installations within a kilometre of the coast, the use of Cu/Al coils with anti-corrosion treatment, available as an accessory, is strongly recommended.

The free cooling coils are always high efficiency Cu/Al and have air venting valves. Free cooling coils with anti-corrosion treatment are available as an option.

FANS

The fans are axial fans, directly coupled to a three-phase 6-pole electric motor, with integrated thermal overload protection (klixon) and IP 54 protection rating.

The fan includes the shroud, designed to optimize its efficiency and reduce noise emission to a minimum, and the safety guard.

The fans of the chiller section are controlled as standard with phase cutting speed governor depending on the condensing pressure. The fans of the free cooling section are managed as standard with stepped control depending on the temperature of the outgoing water.

As an accessory, EC fans are available for both sections and, in this case, a management system for fan speed modulation is always implemented.

USER-SIDE HEAT EXCHANGER

The exchanger is a dry-expansion shell-and-tube exchanger. It is sized to maximize the efficiency of the unit, by keeping the overall dimensions and the refrigerant charge down to a minimum.

The exchanger consists of a steel shell insulated with a shell made of closed-cell foam material, while the tube bundle is made with copper tubes.

On the hydraulic connections of the exchanger, there are also pipe taps for the differential pressure switch and wells for the temperature probes.

REFRIGERANT CIRCUIT

Each refrigerant circuit of the basic unit comprises:

- delivery valve for each compressor
- shut-off valve in the liquid line
- charging valves
- liquid sight glass

- replaceable solid cartridge dehydrator filter
- electronic expansion valve
- pressure transducers for reading the high and low pressure values and relevant evaporating and condensing temperatures
- high pressure switches and safety valves.

The pipes of the circuit and the exchanger are insulated with extruded closed-cell expanded elastomer that is resistant to UV rays.

Compared to the mechanical expansion valve, the electronic expansion valve allows machine stability to be reached more quickly and better superheating control to maximize the use of the evaporator in all load conditions. This also acts as shut-off valve on the liquid line, as it closes during compressor stops, so preventing dangerous refrigerant migration.

HYDRAULIC CIRCUIT

Each unit comprises a hydraulic circuit consisting of:

- expansion vessel
- water drain valve and air venting valve
- safety valve
- servo controlled three-way valve that opens or closes the flow of glycol water to the free cooling coils depending on the signal from the control.

ELECTRICAL CONTROL PANEL

The electrical control panel is made in a painted galvanized sheet-iron box with forced ventilation and IP54 protection rating. The electrical control panel of the basic unit comprises:

- main disconnect switch
- fuses to protect the compressors, fans and auxiliary circuits
- compressor contactors
- fan contactors
- phase monitor
- potential free general alarm contacts
- single potential free operating contacts
- external air temperature probe
- microprocessor control with display accessible from the outside

All the electrical cables inside the panel are numbered and the terminal board dedicated to the customer's connections is coloured blue so that it can be quickly identified in the panel.

Units longer than 13.5m are made in two sections (a chiller section and a free cooling section) that are dispatched separately. In this case, in the free cooling section, there is an additional electrical control panel that is powered from the electrical control panel of the chiller, in which a fuse base for protecting the line is included. The electrical connections between the two panels are to be made and installed by the customer.

CONTROL

The microprocessor control allows the following functions:

- water temperature regulation, with outgoing water control
- freeze protection

- compressor timings
- automatic rotation of compressor starting sequence
- display of alarms
- management of capacity reduction of the compressors during starting, switching off and load tracking
- management of capacity reduction of the compressors in the event of operation outside the limits
- recording of the log of the main variables
- recording of the alarm log
- RS485 serial port with Modbus protocol
- Ethernet serial port with Modbus protocol and integrated WEB server
- digital input for remote ON/OFF
- digital input for selection of double set point

The control has a graphic display that allows the following information to be displayed:

- water inlet and outlet temperature
- set temperature and differential set points
- description of alarms
- hour meter of operation and number of start-ups of the unit, the compressors and the pumps (if present)
- high and low pressure values, and relevant condensing and evaporating temperatures
- external air temperature
- superheating at compressor suction

For further details on available functions and on displayed information, you can refer to the specific documentation of the control.

By default, the serial connections present as standard are enabled only for reading from BMS. Enabling of writing from BMS is to be requested when ordering.

CONTROLS AND SAFETY DEVICES

All the units are fitted with the following control and safety components:

- double high pressure switch with manual reset for each compressor
- high pressure safety device with automatic reset and limited interventions managed by the control via specific pressure transducer
- low pressure safety device with automatic reset and limited interventions managed by the control via specific pressure transducer
- high pressure safety valve
- operation probe at the outlet of the user-side heat exchanger that also acts as antifreeze probe
- thermal overload protection devices of compressors and fans
- water differential pressure switch installed at the factory

TESTING

All the units are factory-tested and supplied complete with oil and refrigerant.

VERSIONS

Alongside the basic version of the KAPPA REV FC, there are various versions that differ in efficiency and noise levels.

KAPPA REV HE FC

The HE version unit uses oversize condensing coils, in order to increase the ratio between exchange surfaces and capacity of the compressors. This allows all models to achieve Eurovent Class A for EER and consequently also high ESEER values.

KAPPA REV SLN FC

The SLN version unit uses a soundproofed compressor compartment (see description of the /LN option), oversize condensing coils compared to the standard efficiency unit and fans with speed governor and reduced air flow rate. The speed reduction of the fans is such that, under nominal operating conditions, the air flow rate and noise level are lower than those of the basic version of the unit. In any case, the speed governor allows rotation of the fans at maximum speed when external air temperature conditions are particularly critical to guarantee the same operating limits as the KAPPA REV HE.

KAPPA REV HEi FC

The HEi version unit uses an inverter-controlled compressor together with one or more compressors with stepped capacity reduction. The control can manage the mix of these compressors to guarantee continuous management of capacity reduction from the minimum step up to 100% of capacity. The HEi version unit is high efficiency, with ESEER levels that exceed 4.60. The coupling of EC fans (accessory) to this version allows the efficiency level of the unit to be further improved.

KAPPA REV XEi FC

The XEi version unit uses only inverter-controlled compressors. The control manages capacity reduction of the compressors so as to always guarantee maximum efficiency of the unit in all load conditions, to achieve ESEER levels that, in combination with EC fans (accessory), exceed 5.00.

OPTIONS

/BASIC, /CUSTOM, /EXTRA

By exploiting the modular structure of the free cooling section, three different set-ups can be obtained for each machine model:

- the BASIC version is the most compact solution.
- the CUSTOM version is the best compromise between compactness of the unit and free cooling efficiency.
- the EXTRA version is the set-up with the highest TFT (Total Freecooling Temperature) level.

The three set-ups have the same function, but naturally differ in free cooling efficiency (TFT level) and machine size.

For units with a total length exceeding 13.5m, the chiller section and the free cooling section are dispatched separately and the hydraulic and electrical connections between the two parts are to be made on site by the customer.

/DC: unit with recovery condenser

In addition to the set-up of a chiller only unit, /DC units comprise:

- a recovery condenser for recovering 100% of the condensation heat on each refrigerant circuit. The exchanger is a shell-and-tube or plate heat exchanger depending on the machine model
- temperature probe at the inlet of each recovery exchanger
- liquid receiver for each refrigerant circuit with system for emptying the refrigerant from the condensing coil
- potential free contact in the electrical control panel for activation of recovery.

When required by the system, through the closing of a contact, the control automatically manages activation of recovery. Recovery management is carried out through a control on the temperature of the return water. The control also automatically manages safety deactivation of recovery if the condensing pressure becomes too high, and changes to using the condensing coils.

Condensation energy recovery can be obtained only if the unit is using compressors to meet the cooling load. The output power at the recovery condenser depends on the degree of capacity reduction of the chiller section.

/DS: unit with desuperheater

In addition to the set-up of a chiller only unit, /DS units comprise (for each refrigerant circuit) an exchanger for condensation heat recovery of up to 20% (depending on size, version and operating conditions), placed in series with the condensing coils. The exchanger is a braze-welded plate heat exchanger.

To maximize the use of the accessory and optimize machine operation, combination with the speed governor of the fans or with the EC fans is recommended.

Condensation energy recovery can be obtained only if the unit is using compressors to meet the cooling load. The output power at the recovery condenser depends on the degree of capacity reduction of the chiller section.

/LN: low noise unit

In the unit with /LN option, all the compressors are enclosed in a compartment that is fully soundproofed with sound absorbing material and soundproofing material.

Units with hydraulic module

All units can be fitted with hydraulic module in various configurations:

- /1P: hydraulic module with one pump
- /2P: hydraulic module with two pumps
- /1PS: hydraulic module with one pump and buffer tank
- /2PS: hydraulic module with two pumps and buffer tank

All the above-mentioned modules have pumps with standard discharge head. Modules /1PM, /2PM, /1PMS and /2PMS that use pumps with increased available discharge head are also available.

Hydraulic modules with one pump have:

- one pump
- a gate valve on the delivery side of the pump

- an expansion vessel

Hydraulic modules with two pumps have:

- two pumps
- a check valve on the delivery side of each pump
- a gate valve on the outlet of the delivery manifold
- an expansion vessel

In the version with 2 pumps, these are always with one on standby while the other is working. Switching over between the pumps is automatic and is done by time (to balance the hours of operation of each one) or in the event of failure.

Hydraulic modules with tank also have:

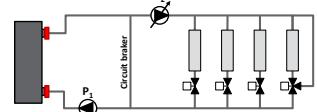
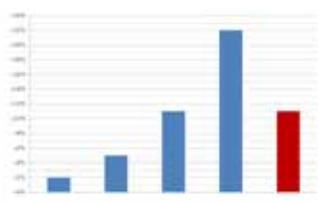
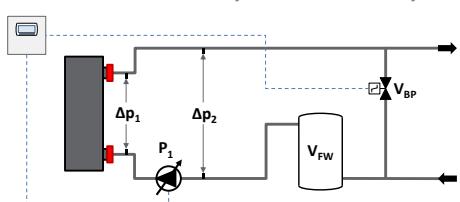
- a gate valve at the inlet of the pump or the suction manifold
- a tank with drain valve and air valve

Refer to the table of configurations that are not possible to check for availability of specific set-ups.

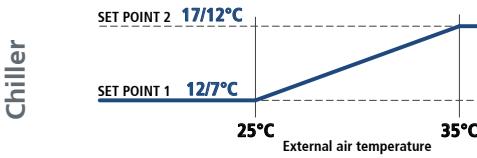
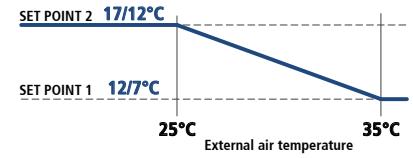
DESCRIPTION OF ACCESSORIES

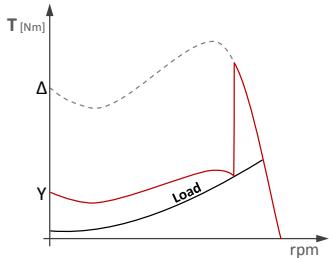
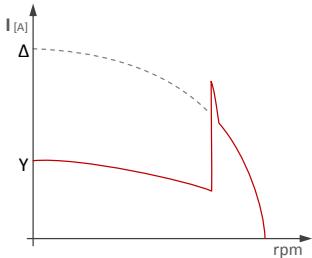
CODE	Accessory	Operation and advantages
REFRIGERANT CIRCUIT ACCESSORIES		
MAFR	Pressure gauges	The operating pressures of each circuit of the unit can be displayed on the control by accessing the relevant screens. Also, the machine can be fitted with pressure gauges (two for each circuit) installed in a clearly visible position. These allow reading in real time of the working pressures of the refrigerant gas on the low pressure side and on the high pressure side of each refrigerant circuit.
RIC	Liquid receivers.	The adoption of this accessory always guarantees correct feeding of the expansion valve even when the unit is subjected to wide external air temperature ranges. This accessory is standard on DC units.
RUBA	Compressor suction valves	The valves situated on the suction side of the compressors allow the compressor to be isolated from the rest of the refrigerant circuit, so making the maintenance operations quicker and less invasive. The compressor delivery valve is standard on all compressors
DVS	Double safety valve	With this accessory, instead of each individual safety valve per circuit, there is a "candelabrum" with two safety valves and a diverter valve for choosing the valve in operation. This allows the safety valves to be replaced without having to drain the machine and without having to stop it.
VS	Liquid line solenoid valve	This accessory prevents refrigerant migration that could damage the compressor on starting.
BC	Capacitive backup battery for electronic expansion valve	When the compressors stop, the controller always closes the electronic expansion valve to prevent dangerous refrigerant migration. The presence of the backup battery ensures that the electronic valve is kept in closed position even when there is no power supply This accessory uses a condenser, and not an ordinary battery, as energy storage: this allows it to be unaffected by the memory effect of normal batteries and eliminates its need for maintenance.
BK	Brine Kit	Application of this accessory is mandatory if the unit has to produce water with temperature lower than +3° (if the unit is provided with double set point or variable set point, the lower set point is considered). The accessory consists of adopting an increased insulation and a suitable sizing and calibration of some components. This accessory obligatorily requires the condensation control with speed governor or EC fans to be connected.
RPR	Refrigerant leak detector	With this accessory, a refrigerant leak detector is placed inside each compressor compartment. Detection of a refrigerant leak is managed by the control through a specific alarm and display of a specific icon on the display of the control. This alarm does not stop the unit. The accessory can be applied only to units in LN or SLN set-up.
RPP	Refrigerant leak detector with automatic pump down	With this accessory, a refrigerant leak detector is placed inside each compressor compartment. Detection of a refrigerant leak is managed by the control through a specific alarm and display of a specific icon on the display of the control. For all the circuits of the unit, the alarm also starts the machine stopping procedure with pump down, confining all the refrigerant in the coils. The accessory includes the capacitive backup battery. The accessory can be applied only to units in LN or SLN set-up.
FAN ACCESSORIES		
VEC	EC fans	With this accessory, EC fans, with electronically commutated brushless motor, are used for the ventilating section. These guarantee very high efficiency levels for all working conditions and allow a 15% saving on the power absorbed by each fan working at full capacity. Also, through a 0-10V analogue signal sent to each fan, the microprocessor carries out condensation/evaporation control by continuous adjustment of the air flow rate as the external air temperature changes, with a further reduction in electrical absorption and noise emission.
VEM	Oversize EC fans	With this accessory, oversize EC fans, with electronically commutated brushless motor, are used for the ventilating section. These guarantee very high efficiency levels for all working conditions. Through a 0-10V analogue signal sent to each fan, the microprocessor carries out condensation/evaporation control by continuous adjustment of the air flow rate as the external air temperature changes, with a further reduction in electrical absorption and noise emission. Oversize EC fans make it possible to have an available residual pressure of about 70Pa for standard units and about 100Pa for SLN units.

CODE	Accessory	Operation and advantages
RECP	<p>Pressure recuperator</p>  <p>Normally, the air ejected by the fan has a high speed and this manifests itself as kinetic energy that is dissipated into the environment.</p> <p>The pressure recuperator is a passive element positioned on the ejection duct of each individual fan designed to allow better conversion of the kinetic energy under static pressure and this conversion manifests itself as a higher pressure generated by the fan. In practice, this allows efficiency to be increased considerably, by making it possible to have a reduction in the speed of the fans and therefore in sound emissions (for the same pressure differential) or to obtain an increase in the available pressure of the ventilating section of about 50Pa (for the same fan speed).</p> <p>To allow optimization of the performance of the accessory, combination with the speed governor or EC fans is necessary. In this last case, the higher efficiency of the EC fans is added to the performance improvement generated by the pressure recuperator.</p> <p>The accessory is supplied separately from the unit on one or more pallets and it must obligatorily be installed (by the customer) before the first start-up of the machine.</p>	

CODE	Accessory	Operation and advantages
HYDRAULIC CIRCUIT ACCESSORIES		
IVPO	Soundproofed pump compartment ...	With this accessory, the motor and the impeller of the pumps are enclosed in a compartment that is fully soundproofed with sound absorbing material and soundproofing material.
IPU	Inverter for user-side pump ...	<p>This accessory requires the following to be supplied:</p> <ul style="list-style-type: none"> inverter for controlling the pumps of the hydraulic module motor-driven modulating bypass valve (supplied with it) pressure transducers dedicated controller for management of the inverter and of the bypass valve, provided with display <p>This accessory can be offered as an alternative to the conventional layout that has a constant flow pump on the primary circuit (P1) and a variable flow pump on the secondary circuit (P2).</p>  <p>This layout shows the use of the hydraulic uncoupling pipe (circuit breaker) between primary and secondary circuit that is sized at 100% of the flow rate: if the users require only a percentage of the nominal capacity, the uncoupling pipe recirculates the excess flow rate with consequent waste of pumping energy.</p> <p>In the solution with the "Inverter for user-side pump" accessory, there is a single variable flow pumping unit (P1), already integrated in the chiller, which feeds both the primary and secondary circuits. Instead of a simple separation pipe, a bypass valve (VBP) is inserted and this guarantees that the minimum water flow rate to the evaporator is maintained even when demand from the users is well below nominal demand.</p> <p>This system also allows the separation pipe and the bypass valve to be sized for a much lower water flow rate than the nominal flow rate, to therefore obtain a net reduction in energy losses due to water recirculation.</p> <p>The benefits obtained with the use of this accessory are therefore:</p> <ul style="list-style-type: none"> insertion of a single set of pumps in the system, with consequent reduction in investment and pumping costs reduction in the space necessary inside the technical compartment of the building simplification of the hydraulic circuit greater pumping energy efficiency <p>Also, by assessing the ESEER level of the unit, also counting the absorption of the integrated pump as well as the absorption of the compressors and fans, it can be seen that there is a gradual increase in efficiency as the degree of capacity reduction of the system is increased, with a consequent increase in ESEER up to 11%.</p>  <p>To understand more clearly how the accessory works, we refer to the following layout:</p>  <p>The whole system is controlled by a dedicated controller (provided with its display) that, through pressure transducers, detects the head losses on the evaporator (Δp_1) and the head losses on the system side (Δp_2). When all the users are in operation, the pump of the unit works at the nominal flow rate. The decrease in heat load of the system causes the shut-off valves of the users to close, with a consequent increase in head losses on the system side because of the increase in flow rate in the lines left open. The control therefore detects the variation of Δp_2 and, by also assessing the water outlet temperature from the exchanger (varied with respect to the decrease in head), implements a procedure of adjustment of the speed of the pump P1 in order to return the head losses to nominal conditions.</p>

CODE	Accessory	Operation and advantages																							
Again considering the water outlet temperature and the variation of Δp_1, the control checks that at the exchanger there is always the minimum flow rate necessary to ensure correct heat exchange. If the flow rate required by the system is too low to have the correct flow rate at the exchanger, the control modulates the bypass valve VBP until the correct operating conditions for both the system and the exchanger are restored.																									
		To ensure correct operation of this system in all conditions, it is necessary to assess the volumes of water present in the system and their position: when the system has most of the shut-off valves closed and therefore with heat load near zero, even if the machine is working in conditions of maximum capacity reduction, conditions that trigger the antifreeze alarm could occur. To avoid this problem, it is necessary to have a "thermal wheel minimum" in the section between the exchanger of the unit and the bypass valve (represented in the figure with the VFW tank). The required volume can be determined with the following formula:																							
		$V_{FW} = P_0 \cdot \frac{s_{min}}{100} \cdot k$																							
		Where V_{FW} is the volume of the "thermal wheel minimum" expressed in l P_0 is the total refrigeration capacity of the machine expressed in kW s_{min} is the minimum capacity reduction step expressed in % k is a coefficient equal to 14.3 l/kW																							
		The water content of the exchanger, the buffer tank of the hydraulic module (if present) and the pipes between bypass and exchanger, can contribute to the determination of the "thermal wheel minimum".																							
		If the accessory is combined with a cold only unit connected to a system in which an ethylene glycol mixture is used, the "thermal wheel minimum" can be reduced according to the following table:																							
		<table border="1"> <thead> <tr> <th rowspan="2">Nº of compressors</th> <th colspan="3">Glycol concentration</th> </tr> <tr> <th>0 to 10%</th> <th>10 to 20%</th> <th>20 to 30%</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0%</td> <td>-56%</td> <td>-77%</td> </tr> <tr> <td>2</td> <td>0%</td> <td>-58%</td> <td>-82%</td> </tr> <tr> <td>3</td> <td>0%</td> <td>-60%</td> <td>-84%</td> </tr> <tr> <td>4</td> <td>0%</td> <td>-62%</td> <td>-86%</td> </tr> </tbody> </table>	Nº of compressors	Glycol concentration			0 to 10%	10 to 20%	20 to 30%	1	0%	-56%	-77%	2	0%	-58%	-82%	3	0%	-60%	-84%	4	0%	-62%	-86%
Nº of compressors	Glycol concentration																								
	0 to 10%	10 to 20%	20 to 30%																						
1	0%	-56%	-77%																						
2	0%	-58%	-82%																						
3	0%	-60%	-84%																						
4	0%	-62%	-86%																						
		The "thermal wheel minimum" also allows correct operation of the unit in heat pump mode, but in this case, the presence of glycol does not allow its volume to be reduced.																							
		As indicated in the user, installation and maintenance manual, to guarantee correct operation of the unit and avoid excessive fluctuations on the temperatures, it is always necessary to ensure the presence of a minimum volume of water in the system. The thermal wheel minimum is a part of it, but while V_{FW} must obligatorily be positioned as shown in the figure, the remaining minimum volume can be distributed in the system.																							
		We strongly recommend the use of three-way valves on the users that are furthest away from the machine and a calibration gate valve that connects the final part of the backbones of the system, in order to guarantee a minimum flow of water to the system in any condition.																							
		The system is calibrated at the factory to work on a plant that, under nominal conditions, must work with a thermal gradient on the water of 5°C. For different values, please contact our sales department.																							
		When this accessory is present, even the minimum water outlet temperature is limited: in chiller operating mode, the minimum settable set point is 7°C.																							
RA	Antifreeze heater for /DS or /DC	Electric heaters are inserted on the recovery exchanger to prevent damage to the hydraulic components due to the formation of ice during periods when the machine is stopped.																							
V3M	3-way modulating valve	When the unit is working in purely free-cooling mode, control of the outgoing water temperature is done through stepped management of the fans. If external air temperatures become particularly harsh or the load extremely low, fitting the unit with the 3-way modulating valve accessory will allow the control to have finer control of the outgoing water temperature: after the ventilating section has been completely stopped, the control will modulate the position of the 3-way valve so as to reduce the water flow rate on the coils thereby reducing free-cooling capacity depending on the requirement of the system.																							
VSIW	Water-side safety valve	With this accessory, a safety valve is inserted in the hydraulic circuit of the unit: when the calibration pressure is reached, the valve opens and, by discharging (to be routed by the customer), prevents the system pressure from reaching limits that are dangerous for the components present in the system. The valves have positive action, that is, performance is guaranteed even if the diaphragm deteriorates or breaks.																							
FLUS	Flow switch (instead of the water differential pressure switch)	As an alternative to the differential pressure switch (standard flow sensor), it is possible to request the paddle flow switch as accessory. This detects when there is no water flow to the user-side exchanger and sends a signal to the control of the unit that will stop the compressors to prevent damage to the exchangers. The flow switch is supplied with the unit (installation by the customer) and replaces the water differential pressure switch (standard).																							

CODE	Accessory	Operation and advantages
ELECTRICAL ACCESSORIES		
PBA	BACnet protocol over IP (Ethernet)	The control is set for using the BACnet protocol (instead of Modbus) on the Ethernet port. By default, the programming gives read-only access to the control of the unit. Enabling of read/write access should be requested when ordering.
GLO	Lon Gateway	With this accessory, a RS485/Lon gateway is installed inside the electrical control panel. By default, the programming gives read-only access to the control of the unit. Enabling of read/write access should be requested when ordering.
FM2	Multilogic function for Master unit for managing up to 2 Slaves	With this accessory, the unit is programmed as master of a system of machines in Multilogic network (for further details, refer to the control manual). Also, a network gateway with 4 ports is installed in the electrical control panel of the unit to allow the unit to be connected to an external LAN network and up to 2 slave units to be managed.
FM6	Multilogic function for Master unit for managing up to 6 Slaves	With this accessory, the unit is programmed as master of a system of machines in Multilogic network (for further details, refer to the control manual). Also, a network gateway with 8 ports is installed in the electrical control panel of the unit to allow the unit to be connected to an external LAN network and up to 6 slave units to be managed.
FMO	Multilogic function for Slave unit	With this accessory, the unit is programmed as slave of a system of machines in Multilogic network (for further details, refer to the control manual).
LIID	Limitation of the current absorbed by digital input	When this accessory is requested, a digital input is prepared in the terminal board to activate the forced capacity reduction of the unit to a set fixed level. This accessory is useful when there is a need to necessarily limit the power absorbed by the unit as regards particular conditions.
LIRA	Absorbed current limitation with measurement of absorption	For the unit equipped with this accessory, it is possible to set, directly in the control, a maximum current that can be absorbed by the machine. The control instantly checks the absorptions, through an amperometric transformer, and, in case of need, applies a dynamic forced capacity reduction able to always keep the absorbed current below the set threshold.
RIF	Power factor correction to $\cos\phi \geq 0.9$	With this accessory, an electrical control panel, containing power factor correction condensers to bring the $\cos\phi$ of the unit to being greater than 0.9, is supplied with the unit. The condensers should be connected (by the customer) to the electrical control panel of the unit in the specially prepared terminal board. Besides reducing the absorbed reactive power, the use of this accessory also allows the maximum absorbed current to be lowered.
SETD	Double set point from digital input	For units fitted with this accessory, it is possible to preset two different operating set points and manage the change from one to the other through a digital signal. The set point temperatures must be specified when ordering.
SETV	Variable set point with remote signal (0-1V, 0-10V, 4-20mA)	For units fitted with this accessory, the set point can be varied continuously between two preset values, a maximum and a minimum, depending on an external signal that can be of the 0-1V, 0-10V or 4-20mA type.
CSP	Set point compensation depending on external air temperature	For units fitted with this accessory, the set point of the unit is set so that it can vary between two values, a maximum and a minimum, depending on the external air temperature. The compensation ramp and the maximum and minimum values of the set point can be changed by the user. Unless otherwise specified in the order, the control will be set to implement a negative compensation logic according to the temperatures shown in the following diagrams:
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Negative compensation</p>  <p>Chiller</p> </div> <div style="text-align: center;"> <p>Positive compensation</p>  <p>External air temperature</p> </div> </div>		
RE1P	Relay for management of 1 external pump	This accessory can be requested for units without pumps and allows a pump outside the machine to be controlled.
RE2P	Relay for management of 2 external pumps	This accessory can be requested for units without pumps and allows two pumps outside the machine to be controlled with a running/stand-by logic by implementing a rotation on the hours of operation.

CODE	Accessory	Operation and advantages
<p>Screw compressors (excluding inverter-controlled ones) are switched on using star-delta starting since this method allows very small effective average inrush currents to be obtained, but, as can be seen in the following diagrams, the connection change generates current peaks lasting a few ms.</p>		
SOFT	Electronic soft-starter	  <p>If the unit is equipped with the electronic soft-starter accessory, the starting of each compressor becomes of the DOL (Direct On Line) type, but with an acceleration ramp that allows the peaks of the star-delta system to be eliminated.</p>
TERM	Remote-controlled user terminal panel	<p>This accessory allows the terminal normally situated on the machine to be replicated on a support situated at a distance. It is particularly suitable when the unit is placed in an area that is not easily accessible.</p> <p>The accessory is supplied with the unit and is to be installed by the customer at a maximum distance of 120m from the unit.</p>
DAM	Double power supply with manual switching	<p>A manual switch to which to connect two separate power supply lines (for example, one from the mains power line and one from the uninterruptible power supply unit) is installed in the electrical control panel of the unit. The switching from one line to another is manual and obligatorily requires passing through the OFF position.</p>
DAA	Double power supply with automatic switching	<p>A motor-driven automatic switch to which to connect two separate power supply lines (for example, one from the mains power line and one from the uninterruptible power supply unit) is installed in the electrical control panel of the unit. The switching from one line to another is automatic and obligatorily requires passing through the OFF position.</p>
RMMT	Maximum and minimum voltage relay	<p>This accessory constantly monitors the voltage value and the unit's power supply phase sequence. If the supply voltage does not fall within the set parameters or there is a phase reversal, an alarm is generated that stops the machine to prevent damage to its main parts</p>
IA	Automatic circuit breakers	<p>With this accessory, automatic circuit breakers are installed instead of fuses for the protection of auxiliary loads. Also, the same accessory uses automatic circuit breakers with adjustable thermal overload protection to protect the compressors.</p> <p>This accessory is applied to high efficiency /LN version units with speed governor or to SLN units.</p>
NSS	Night Shift System	<p>In the day time slot, which is normally the one with the highest heat load, priority is given to efficiency and therefore the machine works with a fan control curve that maximises the EER. In this time slot, therefore, the unit is a high efficiency low noise machine (equivalent to HE/LN).</p> <p>In the night time slot, priority goes to keeping down the noise of the machine and therefore the control implements a reduction of the air flow rate using a specific speed governor control curve. So in this time slot, the unit is a super low noise machine (equivalent to SLN).</p> <p>The time slots can be set from the control depending on installation requirements.</p>
SQE	Heater for electrical control panel	<p>Electric heaters are positioned inside the electrical control panel and these prevent the formation of ice or condensation inside it.</p>

CODE	Accessory	Operation and advantages
OTHER ACCESSORIES		
AG	Rubber anti-vibration mounts	<p>These allow you to reduce the vibrations transmitted from the unit to the surface it is standing on.</p> <p>Accessory supplied with the unit.</p>
AM	Spring anti-vibration mounts	<p>These allow you to reduce the vibrations transmitted from the unit to the surface it is standing on.</p> <p>Accessory supplied with the unit.</p>
RAT	Anti-intrusion nets	<p>An arc-welded, painted net (RAL colour 7035) is installed to close off the external openings so as to prevent access to the technical compartment by unauthorized personnel.</p>
MCHE	E-coated microchannel coil	<p>The e-coated microchannel coils are treated by immersion of the whole exchanger in an emulsion of organic resins, solvents, ionic stabilisers and deionised water. This is all subjected to a suitable electric field that causes the formation of a solid, uniform deposit on the exchanger. The function of this deposit will be to protect the aluminium from corrosion without penalising its thermophysical properties.</p> <p>The choice of whether or not to treat the exchanger should be made in relation to the environment in which the unit is to be installed and through observation of other structures and machinery with exposed metal surfaces present in the destination environment.</p> <p>The cross observation criterion is the most valid method of selection currently available without having to carry out preliminary tests or measurements with instruments. The identified reference environments are:</p> <ul style="list-style-type: none"> • marine coastal • industrial • urban with a high housing density • rural <p>Please note that in cases where different conditions co-exist, even for short periods, the choice must be suitable for preserving the exchanger in the harsher environmental conditions and not in conditions between the worst and best situation.</p> <p>Particular attention must be given to cases where an environment that is not particularly aggressive becomes aggressive as a consequence of a local and/or temporal concomitant cause such as, for example, due to the presence of a heating flue outlet or an industrial kitchen or a solvent extraction fan in a small craft business.</p> <p>Protective treatment of the exchanger is strongly recommended if at least one of the points below is verified:</p> <ul style="list-style-type: none"> • there are obvious signs of corrosion of the exposed metal surfaces in the installation area • the prevailing winds come from the sea towards the unit • the environment is industrial with a significant concentration of pollutants • the environment is urban with a high population density • the environment is rural with the presence of organic discharges and effluents. <p>For installations within a kilometre of the coast, the use of Cu/Al coils with anti-corrosion treatment is strongly recommended for cold only units too.</p> <p>This accessory is not available for HP version units.</p>
		<p>This accessory uses finned pack coils with copper tubes and aluminium fins instead of microchannel coils.</p> <p>The treatment is applied exclusively to finned pack coils with copper tubes and aluminium fins and consists of aluminium passivation and coating with a polyurethane base; a double layer of paint, of which the first passivates the aluminium and acts as primer and the second is a polyurethane based surface coating. The product has high resistance to corrosion and all environmental conditions.</p> <p>The choice of whether or not to treat the exchanger should be made in relation to the environment in which the unit is to be installed and through observation of other structures and machinery with exposed metal surfaces present in the destination environment.</p> <p>The cross observation criterion is the most valid method of selection currently available without having to carry out preliminary tests or measurements with instruments. The identified reference environments are:</p> <ul style="list-style-type: none"> • marine coastal • industrial • urban with a high housing density • rural <p>Please note that in cases where different conditions co-exist, even for short periods, the choice must be suitable for preserving the exchanger in the harsher environmental conditions and not in conditions between the worst and best situation.</p> <p>Particular attention must be given to cases where an environment that is not particularly aggressive becomes aggressive as a consequence of a local and/or temporal concomitant cause such as, for example, due to the presence of a heating flue outlet or an industrial kitchen or a solvent extraction fan in a small craft business.</p> <p>Protective treatment of the exchanger is strongly recommended if at least one of the points below is verified:</p> <ul style="list-style-type: none"> • there are obvious signs of corrosion of the exposed metal surfaces in the installation area • the distance from the coast is less than 20 km • the prevailing winds come from the sea towards the unit • the environment is industrial with a significant concentration of pollutants • the environment is urban with a high population density • the environment is rural with the presence of organic discharges and effluents. <p>For the chiller section, this accessory also includes the "Cu/Al coil" accessory.</p>
ANTC	Coil treated with anti-corrosion paints	

CODE	Accessory	Operation and advantages
PREA	Partially assembled construction	<p>The unit is delivered so that it can be disassembled easily on site if this makes the installation operations easier.</p> <p>A unit requested with this option is supplied:</p> <ul style="list-style-type: none"> • screwed instead of riveted • with plugged and not welded pipes • without refrigerant charge • untested • covered by the warranty only if reassembled and screwed together by personnel authorized by the factory
SLIT	Skid for container shipment	<p>The unit is placed on a skid that makes the container loading and unloading operations easier.</p> <p>The accessory is mandatory if shipping by container is required</p>
FW	Water filter	<p>To protect the elements of the hydraulic circuit (in particular, the exchangers), there are Y filters that can stop and settle the particles that are normally present in the water flow and would otherwise settle in the more delicate parts of the hydraulic circuit and damage its heat exchange capacity.</p> <p>Installation of the water filter is mandatory even when it is not supplied as an accessory.</p> <p>Accessory supplied with the unit.</p>

TECHNICAL DATA - KAPPA REV FC BASIC

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Cooling										
Nominal cooling capacity	(1),(8) kW	353,1	386,9	424,6	466,4	525,7	551,0	611,0	695,7	782,7
Total power input for cooling	(1),(8) kW	102,4	106,3	122,4	140,7	158,4	164,0	184,8	214,3	232,9
EER	(1),(8)	3,45	3,64	3,47	3,32	3,32	3,36	3,31	3,25	3,36
Free-Cooling										
Nominal cooling capacity	(3) kW	159,9	212,2	220,9	228,0	234,8	242,3	291,4	344,2	356,4
Pressure drop on free-cooling coil	(3) kPa	34,6	54,4	65,2	75,5	86,6	100,7	84,0	78,4	92,5
TFT - Total Free-cooling Temperature	°C	-6,06	-2,44	-3,47	-4,72	-6,64	-7,22	-5,31	-4,51	-6,37
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	132,6	180,1	186,1	191,1	195,8	200,8	243,2	288,1	296,5
Pressure drop on free-cooling coil	(3) kPa	34,6	54,4	65,2	75,5	86,6	100,7	84,0	78,4	92,5
TFT - Total Free-cooling Temperature	°C	-9,92	-5,55	-6,97	-8,63	-11,12	-12,01	-9,47	-8,41	-10,86
Compressors										
Type		Screw								
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,7%	12,5%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%	12,5%
Fans (chiller section)										
Type		Axial								
Quantity	n°	5	6	6	6	7	8	9	10	
Air flow	m³/h	105.000	126.000	126.000	126.000	126.000	147.000	168.000	189.000	210.000
Fans (freecooling section)										
Type		Axial								
Quantity	n°	3	4	4	4	4	5	6	6	6
Evaporator										
Type		Shell&tube								
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	67.733	74.292	81.634	89.624	100.760	105.756	117.426	133.616	150.473
Total pressure drop	(7) kPa	50	61	73	88	45	64	81	59	68
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	172	101	91	111	127	145	124	111	120
External available pressure (with oversize pump)	(6),(7) kPa	261	210	162	182	198	245	200	181	257
Tank capacity	(6) l	300	300	300	300	300	300	740	740	740
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	94	95	95	96	96	97	98	98	99
Sound pressure value (standard unit)	(5) dB(A)	62	63	63	64	64	65	66	66	67
Sound power value (LN version)	(4) dB(A)	89	90	90	91	91	92	93	93	94
Sound pressure value (LN version)	(5) dB(A)	57	58	58	59	59	61	60	62	
Sound level (only freecooling)										
Sound power value (standard unit)	(4) dB(A)	76	77	77	77	77	78	79	79	
Sound pressure value (standard unit)	(5) dB(A)	44	45	45	45	45	45	46	47	47
Sound power value (LN version)	(4) dB(A)	73	74	74	74	74	74	75	76	76
Sound pressure value (LN version)	(5) dB(A)	41	42	42	42	42	43	44	44	
Basic unit size										
Length	mm	6.162	6.162	6.162	6.162	6.162	7.312	8.460	9.605	9.605
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV FC BASIC

Unit size		73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Cooling									
Nominal cooling capacity	(1),(8) kW	837,5	898,6	954,4	1006,1	1074,5	1121,1	1180,7	1263,8
Total power input for cooling	(1),(8) kW	241,9	252,5	279,0	306,6	326,9	344,7	364,0	382,9
EER	(1),(8)	3,46	3,56	3,42	3,28	3,29	3,25	3,24	3,30
Free-Cooling									
Nominal cooling capacity	(3) kW	417,1	430,7	438,7	446,6	553,2	567,8	644,7	655,8
Pressure drop on free-cooling coil	(3) kPa	64,5	74,7	81,4	88,5	66,9	75,3	58,1	62,7
TFT - Total Free-cooling Temperature	°C	-4,22	-5,05	-5,98	-6,83	-3,66	-4,07	-2,58	-3,46
Free-Cooling SLN									
Nominal cooling capacity	(3) kW	351,9	361,3	366,8	372,2	466,1	476,1	545,9	553,7
Pressure drop on free-cooling coil	(3) kPa	64,5	74,7	81,4	88,5	66,9	75,3	58,1	62,7
TFT - Total Free-cooling Temperature	°C	-7,84	-9,00	-10,22	-11,35	-7,21	-7,83	-5,77	-6,91
Compressors									
Type		Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%	12,5%
Fans (chiller section)									
Type		Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°	11	12	12	12	13	14	15	16
Air flow	m³/h	231.000	252.000	252.000	252.000	273.000	294.000	315.000	336.000
Fans (freecooling section)									
Type		Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°	8	8	8	8	10	10	12	12
Evaporator									
Type		Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	l/h	160.865	172.402	183.176	193.225	206.611	215.765	227.187	242.728
Total pressure drop	(7) kPa	79	54	59	68	80	91	80	39
Hydraulic module									
External available pressure (with standard pump)	(6),(7) kPa	164	141	179	152	138	97	105	123
External available pressure (with oversize pump)	(6),(7) kPa	226	221	282	253	236	191	195	209
Tank capacity	(6) l	900	900	900	900	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4) dB(A)	100	100	100	100	101	101	102	102
Sound pressure value (standard unit)	(5) dB(A)	67	67	68	68	68	68	69	69
Sound power value (LN version)	(4) dB(A)	95	95	95	95	96	96	97	97
Sound pressure value (LN version)	(5) dB(A)	63	63	63	62	63	63	64	64
Sound level (only freecooling)									
Sound power value (standard unit)	(4) dB(A)	80	80	80	80	81	81	82	82
Sound pressure value (standard unit)	(5) dB(A)	48	48	48	48	49	49	50	50
Sound power value (LN version)	(4) dB(A)	77	77	77	77	78	78	79	79
Sound pressure value (LN version)	(5) dB(A)	45	45	45	45	46	46	47	47
Basic unit size									
Length	mm	11.898	11.898	11.898	11.898	8465 + 5737	8465 + 5737	9610 + 6885	9610 + 6885
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV FC CUSTOM

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Cooling										
Nominal cooling capacity	(1),(8) kW	353,1	386,8	424,5	466,4	525,7	551,0	610,9	695,6	782,6
Total power input for cooling	(1),(8) kW	102,4	106,4	122,5	140,7	158,4	164,1	184,9	214,4	233,0
EER	(1),(8)	3,45	3,64	3,47	3,31	3,32	3,36	3,31	3,24	3,36
Free-Cooling										
Nominal cooling capacity	(3) kW	207,3	273,9	285,8	295,6	305,1	315,5	331,7	395,9	410,8
Pressure drop on free-cooling coil	(3) kPa	45,1	26,8	31,8	36,7	41,9	48,5	60,5	46,9	55,1
TFT - Total Free-cooling Temperature	°C	-1,27	1,35	0,69	-0,13	-1,40	-1,68	-2,68	-1,77	-3,19
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	177,2	239,3	247,9	255,0	261,7	269,1	280,4	338,2	348,7
Pressure drop on free-cooling coil	(3) kPa	45,1	26,8	31,8	36,7	41,9	48,5	60,5	46,9	55,1
TFT - Total Free-cooling Temperature	°C	-3,98	-0,48	-1,38	-2,45	-4,07	-4,53	-5,93	-4,60	-6,45
Compressors										
Type		Screw								
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,7%	12,5%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%	12,5%
Fans (chiller section)										
Type		Axial								
Quantity	n°	5	6	6	6	7	8	9	10	
Air flow	m³/h	105.000	126.000	126.000	126.000	126.000	147.000	168.000	189.000	210.000
Fans (freecooling section)										
Type		Axial								
Quantity	n°	4	6	6	6	6	6	6	8	8
Evaporator										
Type		Shell&tube								
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	67.733	74.292	81.634	89.624	100.760	105.756	117.426	133.616	150.473
Total pressure drop	(7) kPa	50	61	73	88	45	64	81	59	68
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	161	127	85	112	171	125	147	140	154
External available pressure (with oversize pump)	(6),(7) kPa	250	235	193	219	242	196	223	210	291
Tank capacity	(6) l	300	300	300	300	300	300	740	740	740
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	94	95	95	96	96	97	98	98	99
Sound pressure value (standard unit)	(5) dB(A)	62	63	63	64	64	65	66	66	67
Sound power value (LN version)	(4) dB(A)	89	90	90	91	91	92	93	93	94
Sound pressure value (LN version)	(5) dB(A)	57	58	58	59	59	61	60	62	
Sound level (only freecooling)										
Sound power value (standard unit)	(4) dB(A)	77	79	79	79	79	79	80	80	
Sound pressure value (standard unit)	(5) dB(A)	45	47	47	47	47	47	48	48	
Sound power value (LN version)	(4) dB(A)	74	76	76	76	76	76	77	77	
Sound pressure value (LN version)	(5) dB(A)	42	44	44	44	44	44	45	45	
Basic unit size										
Length	mm	6.162	7.310	7.310	7.310	7.310	8.460	8.460	10.753	10.753
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV FC CUSTOM

Unit size		73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Cooling									
Nominal cooling capacity	(1),(8) kW	837,4	898,5	954,3	1005,9	1074,4	1120,9	1180,4	1263,6
Total power input for cooling	(1),(8) kW	242,0	252,6	279,1	306,8	327,1	344,9	364,2	383,1
EER	(1),(8)	3,46	3,56	3,42	3,28	3,28	3,25	3,24	3,30
Free-Cooling									
Nominal cooling capacity	(3) kW	510,9	528,2	538,4	548,5	628,7	645,8	720,1	732,8
Pressure drop on free-cooling coil	(3) kPa	43,1	49,8	54,2	58,9	47,7	53,6	43,7	47,1
TFT - Total Free-cooling Temperature	°C	-0,70	-1,28	-1,96	-2,57	-1,37	-1,68	-0,74	-1,49
Free-Cooling SLN									
Nominal cooling capacity	(3) kW	437,9	450,1	457,3	464,4	536,5	548,5	616,5	625,5
Pressure drop on free-cooling coil	(3) kPa	43,1	49,8	54,2	58,9	47,7	53,6	43,7	47,1
TFT - Total Free-cooling Temperature	°C	-3,25	-4,07	-4,96	-5,77	-4,15	-4,62	-3,32	-4,28
Compressors									
Type		Screw							
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%	12,5%
Fans (chiller section)									
Type		Axial							
Quantity	n°	11	12	12	12	13	14	15	16
Air flow	m³/h	231.000	252.000	252.000	252.000	273.000	294.000	315.000	336.000
Fans (freecooling section)									
Type		Axial							
Quantity	n°	10	10	10	10	12	12	14	14
Evaporator									
Type		Shell&tube							
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	l/h	160.865	172.402	183.176	193.225	206.611	215.765	227.187	242.728
Total pressure drop	(7) kPa	79	54	59	68	80	91	80	39
Hydraulic module									
External available pressure (with standard pump)	(6),(7) kPa	184	164	127	179	155	116	117	135
External available pressure (with oversize pump)	(6),(7) kPa	246	244	221	281	253	209	207	221
Tank capacity	(6) l	900	900	900	900	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4) dB(A)	100	100	100	100	101	101	102	102
Sound pressure value (standard unit)	(5) dB(A)	67	67	68	68	68	68	69	69
Sound power value (LN version)	(4) dB(A)	95	95	95	95	96	96	97	97
Sound pressure value (LN version)	(5) dB(A)	63	63	63	62	63	63	64	64
Sound level (only freecooling)									
Sound power value (standard unit)	(4) dB(A)	81	81	81	81	82	82	82	82
Sound pressure value (standard unit)	(5) dB(A)	49	49	49	49	50	50	50	50
Sound power value (LN version)	(4) dB(A)	78	78	78	78	79	79	79	79
Sound pressure value (LN version)	(5) dB(A)	46	46	46	46	47	47	47	47
Basic unit size									
Length	mm	7310 + 5737	7310 + 5737	7310 + 5737	7310 + 5737	8465 + 6885	8465 + 6885	9610 + 8034	9610 + 8034
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV FC EXTRA

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Cooling										
Nominal cooling capacity	(1),(8) kW	353,0	386,8	424,5	466,4	525,7	550,9	610,9	695,5	782,4
Total power input for cooling	(1),(8) kW	102,4	106,4	122,5	140,7	158,4	164,1	184,9	214,5	233,2
EER	(1),(8)	3,45	3,63	3,46	3,31	3,32	3,36	3,30	3,24	3,36
Free-Cooling										
Nominal cooling capacity	(3) kW	274,4	321,0	335,3	347,2	358,6	371,4	391,2	497,4	516,7
Pressure drop on free-cooling coil	(3) kPa	22,3	16,5	19,5	22,4	25,5	29,4	36,4	31,6	37,0
TFT - Total Free-cooling Temperature	°C	2,43	3,09	2,58	1,94	0,93	0,74	0,01	1,45	0,41
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	241,6	286,3	296,9	305,7	314,1	323,3	337,6	431,8	445,6
Pressure drop on free-cooling coil	(3) kPa	22,3	16,5	19,5	22,4	25,5	29,4	36,4	31,6	37,0
TFT - Total Free-cooling Temperature	°C	0,90	1,85	1,16	0,33	-0,93	-1,25	-2,27	-0,47	-1,81
Compressors										
Type		Screw								
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,7%	12,5%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%	12,5%
Fans (chiller section)										
Type		Axial								
Quantity	n°	5	6	6	6	6	7	8	9	10
Air flow	m³/h	105.000	126.000	126.000	126.000	126.000	147.000	168.000	189.000	210.000
Fans (freecooling section)										
Type		Axial								
Quantity	n°	6	8	8	8	8	8	8	10	10
Evaporator										
Type		Shell&tube								
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	67.733	74.292	81.634	89.624	100.760	105.756	117.426	133.616	150.473
Total pressure drop	(7) kPa	50	61	73	88	45	64	81	59	68
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	95	135	95	125	150	142	169	153	106
External available pressure (with oversize pump)	(6),(7) kPa	182	243	202	232	257	214	245	222	188
Tank capacity	(6) l	300	300	300	300	300	300	740	740	740
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	94	95	95	96	96	97	98	98	99
Sound pressure value (standard unit)	(5) dB(A)	62	63	63	64	64	65	66	66	67
Sound power value (LN version)	(4) dB(A)	89	90	90	91	91	92	93	93	94
Sound pressure value (LN version)	(5) dB(A)	57	58	58	59	59	59	61	60	62
Sound level (only freecooling)										
Sound power value (standard unit)	(4) dB(A)	79	80	80	80	80	80	80	81	81
Sound pressure value (standard unit)	(5) dB(A)	47	48	48	48	48	48	48	49	49
Sound power value (LN version)	(4) dB(A)	76	77	77	77	77	77	77	78	78
Sound pressure value (LN version)	(5) dB(A)	44	45	45	45	45	45	45	46	46
Basic unit size										
Length	mm	7.310	8.458	8.458	8.458	8.458	9.608	9.608	11.902	11.902
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV FC EXTRA

Unit size		73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Cooling									
Nominal cooling capacity									
(1),(8) Nominal cooling capacity	kW	837,4	898,4	954,0	1005,7	1074,1	1120,6	1180,0	1263,1
(1),(8) Total power input for cooling	kW	242,1	252,7	279,4	307,0	327,4	345,2	364,6	383,6
(1),(8) EER		3,46	3,56	3,41	3,28	3,28	3,25	3,24	3,29
Free-Cooling									
(3) Nominal cooling capacity	kW	595,4	616,0	686,7	700,2	778,8	800,8	873,1	889,0
(3) Pressure drop on free-cooling coil	kPa	31,0	35,7	29,4	31,8	28,4	31,8	28,3	30,5
TFT - Total Free-cooling Temperature	°C	1,38	0,93	1,54	1,12	1,61	1,41	1,83	1,26
Free-Cooling SLN									
(3) Nominal cooling capacity	kW	517,0	531,8	597,5	607,2	678,5	694,4	761,1	772,6
(3) Pressure drop on free-cooling coil	kPa	31,0	35,7	29,4	31,8	28,4	31,8	28,3	30,5
TFT - Total Free-cooling Temperature	°C	-0,54	-1,18	-0,32	-0,87	-0,22	-0,53	0,05	-0,68
Compressors									
Type		Screw							
Quantity / Circuits	n°/n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Min Capacity steps	%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%	12,5%
Fans (chiller section)									
Type		Axial							
Quantity	n°	11	12	12	12	13	14	15	16
Air flow	m³/h	231.000	252.000	252.000	252.000	273.000	294.000	315.000	336.000
Fans (freecooling section)									
Type		Axial							
Quantity	n°	12	12	14	14	16	16	18	18
Evaporator									
Type		Shell&tube							
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	l/h	160.865	172.402	183.176	193.225	206.611	215.765	227.187	242.728
Total pressure drop	(7) kPa	79	54	59	68	80	91	80	39
Hydraulic module									
External available pressure (with standard pump)	(6),(7) kPa	138	128	133	109	169	132	126	145
External available pressure (with oversize pump)	(6),(7) kPa	233	236	225	202	267	225	216	231
Tank capacity	(6) l	900	900	900	900	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4) dB(A)	100	100	100	100	101	101	102	102
Sound pressure value (standard unit)	(5) dB(A)	67	67	68	68	68	68	69	69
Sound power value (LN version)	(4) dB(A)	95	95	95	95	96	96	97	97
Sound pressure value (LN version)	(5) dB(A)	63	63	63	62	63	63	64	64
Sound level (only freecooling)									
Sound power value (standard unit)	(4) dB(A)	82	82	82	82	83	83	84	84
Sound pressure value (standard unit)	(5) dB(A)	50	50	50	50	51	51	52	52
Sound power value (LN version)	(4) dB(A)	79	79	79	79	80	80	81	81
Sound pressure value (LN version)	(5) dB(A)	47	47	47	47	48	48	49	49
Basic unit size									
Length	mm	7310+6885	7310+6885	7310+8034	7310+8034	8465+9183	8465+9183	9610+10330	9610+10330
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC BASIC

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	362,3	405,3	430,7	486,8	539,7	570,3	630,6	738,4
Total power input for cooling	(1),(8)	kW	104,0	116,5	120,8	139,0	155,7	162,6	181,1	213,9
EER	(1),(8)		3,48	3,48	3,57	3,50	3,47	3,51	3,48	3,45
Free-Cooling										
Nominal cooling capacity	(3)	kW	161,0	218,0	225,1	232,9	240,2	246,6	298,4	351,4
Pressure drop on free-cooling coil	(3)	kPa	36,3	61,4	71,1	83,3	96,5	109,8	94,1	86,4
TFT - Total Free-cooling Temperature		°C	-6,47	-2,81	-3,39	-5,20	-6,89	-7,70	-5,57	-5,35
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	133,4	184,1	189,1	194,4	199,4	203,8	248,0	293,1
Pressure drop on free-cooling coil	(3)	kPa	36,3	61,4	71,1	83,3	96,5	109,8	94,1	86,4
TFT - Total Free-cooling Temperature		°C	-10,43	-6,11	-6,95	-9,32	-11,56	-12,70	-9,90	-9,54
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	
Air flow	m³/h		96.000	112.000	128.000	128.000	128.000	144.000	176.000	192.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		3	4	4	4	4	4	5	
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		69.525	77.706	82.492	93.342	103.563	109.303	121.011	141.682
Total pressure drop	(7)	kPa	55	32	37	53	62	40	51	38
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	156	145	172	127	158	149	128	106
External available pressure (with oversize pump)	(6),(7)	kPa	250	216	243	198	259	245	202	173
Tank capacity	(6)	l	300	300	300	300	300	300	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	86	87	87	88	88	89	90	90
Sound pressure value (standard unit)	(5)	dB(A)	54	55	54	56	56	57	58	58
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	76	77	77	77	77	78	79	
Sound pressure value (standard unit)	(5)	dB(A)	44	45	45	45	45	46	47	
Sound power value (LN version)	(4)	dB(A)	73	74	74	74	74	75	76	
Sound pressure value (LN version)	(5)	dB(A)	41	42	42	42	42	43	44	
Basic unit size										
Length		mm	6.162	7.312	7.312	7.312	7.312	8.457	10.750	10.750
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC BASIC

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	801,5	844,9	894,5	968,3	1037,7	1113,3	1178,6	1246,1
Total power input for cooling	(1),(8)	kW	233,5	244,4	257,4	280,2	302,6	325,3	345,1	363,8
EER	(1),(8)		3,43	3,46	3,48	3,46	3,43	3,42	3,42	3,42
Free-Cooling										
Nominal cooling capacity	(3)	kW	359,7	420,5	433,5	444,8	549,4	563,9	644,3	655,0
Pressure drop on free-cooling coil	(3)	kPa	96,7	66,9	76,9	86,8	64,8	73,0	57,9	62,4
TFT - Total Free-cooling Temperature		°C	-6,71	-4,23	-4,87	-6,08	-3,15	-4,02	-2,56	-3,24
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	298,7	354,2	363,2	371,0	463,4	473,5	545,7	553,1
Pressure drop on free-cooling coil	(3)	kPa	96,7	66,9	76,9	86,8	64,8	73,0	57,9	62,4
TFT - Total Free-cooling Temperature		°C	-11,33	-7,89	-8,81	-10,42	-6,55	-7,73	-5,74	-6,63
Compressors										
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw	
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h		192.000	208.000	224.000	240.000	256.000	272.000	288.000	304.000
Fans (freecooling section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		6	8	8	10	10	12	12	
Evaporator										
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		153.886	162.009	171.639	185.960	199.499	214.010	226.786	239.315
Total pressure drop	(7)	kPa	42	49	56	66	78	71	79	39
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	130	184	128	158	148	125	106	125
External available pressure (with oversize pump)	(6),(7)	kPa	266	249	212	260	247	220	197	211
Tank capacity	(6)	l	740	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	91	92	92	92	92	93	93	94
Sound pressure value (standard unit)	(5)	dB(A)	59	59	59	59	59	60	60	61
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	79	80	80	80	81	81	82	82
Sound pressure value (standard unit)	(5)	dB(A)	47	48	48	48	49	49	50	50
Sound power value (LN version)	(4)	dB(A)	76	77	77	77	78	78	79	79
Sound pressure value (LN version)	(5)	dB(A)	44	45	45	45	46	46	47	47
Basic unit size										
Length		mm	10.750	8465 + 4588	8465 + 4588	9610 + 4588	9610 + 5737	10755 + 5737	10755 + 6885	11965 + 6885
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC CUSTOM

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	362,3	405,2	430,7	486,7	539,7	570,3	630,6	738,3
Total power input for cooling	(1),(8)	kW	104,0	116,6	120,8	139,1	155,7	162,7	181,1	214,0
EER	(1),(8)		3,48	3,47	3,56	3,50	3,47	3,50	3,48	3,45
Free-Cooling										
Nominal cooling capacity	(3)	kW	209,7	281,8	291,6	302,4	312,5	321,6	340,0	404,6
Pressure drop on free-cooling coil	(3)	kPa	47,5	30,1	34,6	40,4	46,5	52,7	67,6	51,6
TFT - Total Free-cooling Temperature		°C	-1,51	1,14	0,80	-0,40	-1,49	-1,94	-2,84	-2,40
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	178,9	245,0	252,1	259,8	267,0	273,4	286,2	344,3
Pressure drop on free-cooling coil	(3)	kPa	47,5	30,1	34,6	40,4	46,5	52,7	67,6	51,6
TFT - Total Free-cooling Temperature		°C	-4,31	-0,81	-1,31	-2,85	-4,26	-4,91	-6,23	-5,44
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	12
Air flow	m³/h		96.000	112.000	128.000	128.000	128.000	144.000	176.000	192.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		4	6	6	6	6	6	6	8
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	1
Water flow	l/h		69.525	77.706	82.492	93.342	103.563	109.303	121.011	141.682
Total pressure drop	(7)	kPa	55	32	37	53	62	40	51	38
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	144	137	172	169	135	132	154	138
External available pressure (with oversize pump)	(6),(7)	kPa	238	245	279	240	207	204	228	205
Tank capacity	(6)	l	300	300	300	300	300	300	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	86	87	87	88	88	89	90	90
Sound pressure value (standard unit)	(5)	dB(A)	54	55	54	56	56	57	58	58
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	77	79	79	79	79	79	80	80
Sound pressure value (standard unit)	(5)	dB(A)	45	47	47	47	47	47	47	48
Sound power value (LN version)	(4)	dB(A)	74	76	76	76	76	76	76	77
Sound pressure value (LN version)	(5)	dB(A)	42	44	44	44	44	44	44	45
Basic unit size										
Length		mm	6.162	8.460	8.460	8.460	8.460	9.605	10.750	11.898
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC CUSTOM

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	801,4	844,8	894,4	968,2	1037,6	1113,1	1178,4	1245,9
Total power input for cooling	(1),(8)	kW	233,6	244,4	257,5	280,3	302,7	325,5	345,3	364,1
EER	(1),(8)		3,43	3,46	3,47	3,45	3,43	3,42	3,41	3,42
Free-Cooling										
Nominal cooling capacity	(3)	kW	414,8	515,2	531,7	546,2	624,2	641,2	719,6	731,8
Pressure drop on free-cooling coil	(3)	kPa	57,6	44,7	51,3	57,8	46,2	52,0	43,6	46,8
TFT - Total Free-cooling Temperature		°C	-3,44	-0,69	-1,13	-2,01	-0,94	-1,65	-0,72	-1,29
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	351,5	440,9	452,6	462,8	533,4	545,3	616,1	624,8
Pressure drop on free-cooling coil	(3)	kPa	57,6	44,7	51,3	57,8	46,2	52,0	43,6	46,8
TFT - Total Free-cooling Temperature		°C	-6,79	-3,27	-3,91	-5,07	-3,61	-4,55	-3,30	-4,04
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial							
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h		192.000	208.000	224.000	240.000	256.000	272.000	288.000	304.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		8	10	10	10	12	12	14	14
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		153.886	162.009	171.639	185.960	199.499	214.010	226.786	239.315
Total pressure drop	(7)	kPa	42	49	56	66	78	71	79	39
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	166	204	151	184	164	143	118	137
External available pressure (with oversize pump)	(6),(7)	kPa	302	270	236	286	263	238	208	224
Tank capacity	(6)	l	740	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	91	92	92	92	92	93	93	94
Sound pressure value (standard unit)	(5)	dB(A)	59	59	59	59	59	60	60	61
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	80	81	81	81	82	82	82	82
Sound pressure value (standard unit)	(5)	dB(A)	48	49	49	49	50	50	50	50
Sound power value (LN version)	(4)	dB(A)	77	78	78	78	79	79	79	79
Sound pressure value (LN version)	(5)	dB(A)	45	46	46	46	47	47	47	47
Basic unit size										
Length		mm	11.898	8465+5737	8465+5737	9610+5737	9610+6885	10755+6885	10755+8034	11965+8034
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC EXTRA

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	362,2	405,2	430,7	486,7	539,6	570,2	630,5	738,1
Total power input for cooling	(1),(8)	kW	104,1	116,7	120,8	139,1	155,8	162,8	181,2	214,2
EER	(1),(8)		3,48	3,47	3,56	3,50	3,46	3,50	3,48	3,45
Free-Cooling										
Nominal cooling capacity	(3)	kW	277,9	330,5	342,3	355,4	367,7	378,8	401,4	508,7
Pressure drop on free-cooling coil	(3)	kPa	23,5	18,5	21,2	24,6	28,2	31,9	40,6	34,7
TFT - Total Free-cooling Temperature		°C	2,28	2,94	2,69	1,74	0,89	0,56	-0,07	1,00
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	244,1	293,4	302,1	311,7	320,7	328,7	344,9	439,9
Pressure drop on free-cooling coil	(3)	kPa	23,5	18,5	21,2	24,6	28,2	31,9	40,6	34,7
TFT - Total Free-cooling Temperature		°C	0,69	1,61	1,23	0,03	-1,05	-1,52	-2,46	-1,07
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	
Air flow	m³/h		96.000	112.000	128.000	128.000	128.000	144.000	176.000	192.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		6	8	8	8	8	8	10	
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		69.525	77.706	82.492	93.342	103.563	109.303	121.011	141.682
Total pressure drop	(7)	kPa	55	32	37	53	62	40	51	38
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	78	146	184	147	152	151	178	152
External available pressure (with oversize pump)	(6),(7)	kPa	166	254	291	254	223	223	253	218
Tank capacity	(6)	l	300	300	300	300	300	300	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	86	87	87	88	88	89	90	90
Sound pressure value (standard unit)	(5)	dB(A)	54	55	54	56	56	57	58	58
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	79	80	80	80	80	80	80	81
Sound pressure value (standard unit)	(5)	dB(A)	47	48	48	48	48	48	48	49
Sound power value (LN version)	(4)	dB(A)	76	77	77	77	77	77	77	78
Sound pressure value (LN version)	(5)	dB(A)	44	45	45	45	45	45	45	46
Basic unit size										
Length		mm	7.310	9.608	9.608	9.608	9.608	10.753	11.898	7310+5737
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV SLN FC EXTRA

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	801,2	844,7	894,3	968,0	1037,3	1112,8	1178,0	1245,4
Total power input for cooling	(1),(8)	kW	233,8	244,5	257,6	280,6	303,0	325,8	345,7	364,6
EER	(1),(8)		3,43	3,45	3,47	3,45	3,42	3,42	3,41	3,42
Free-Cooling										
Nominal cooling capacity	(3)	kW	521,9	600,4	620,2	697,1	773,1	794,9	872,5	887,8
Pressure drop on free-cooling coil	(3)	kPa	38,6	32,1	36,8	31,2	27,5	30,9	28,2	30,3
TFT - Total Free-cooling Temperature		°C	0,24	1,39	1,07	1,53	1,93	1,42	1,85	1,41
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	449,3	520,6	534,8	605,0	674,4	690,1	760,6	771,7
Pressure drop on free-cooling coil	(3)	kPa	38,6	32,1	36,8	31,2	27,5	30,9	28,2	30,3
TFT - Total Free-cooling Temperature		°C	-2,05	-0,55	-1,04	-0,38	0,17	-0,50	0,07	-0,49
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial							
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h		192.000	208.000	224.000	240.000	256.000	272.000	288.000	304.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		10	12	12	14	16	16	18	18
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		153.886	162.009	171.639	185.960	199.499	214.010	226.786	239.315
Total pressure drop	(7)	kPa	42	49	56	66	78	71	79	39
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	120	160	118	114	178	159	127	147
External available pressure (with oversize pump)	(6),(7)	kPa	205	258	230	207	277	254	217	233
Tank capacity	(6)	l	740	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	91	92	92	92	92	93	93	94
Sound pressure value (standard unit)	(5)	dB(A)	59	59	59	59	59	60	60	61
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	81	82	82	82	83	83	84	84
Sound pressure value (standard unit)	(5)	dB(A)	49	50	50	50	51	51	52	52
Sound power value (LN version)	(4)	dB(A)	78	79	79	79	80	80	81	81
Sound pressure value (LN version)	(5)	dB(A)	46	47	47	47	48	48	49	49
Basic unit size										
Length		mm	7310+5737	8465+6885	8465+6885	9610+8034	9610+9183	10755+9183	10755+10330	11965+10330
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC BASIC

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	376,2	419,6	444,0	505,2	562,3	591,9	651,9	766,7
Total power input for cooling	(1),(8)	kW	100,0	112,5	117,1	133,5	148,8	156,0	174,4	205,4
EER	(1),(8)		3,76	3,73	3,79	3,78	3,78	3,79	3,74	3,73
Free-Cooling										
Nominal cooling capacity	(3)	kW	161,3	221,0	228,0	236,4	244,0	287,0	337,9	356,4
Pressure drop on free-cooling coil	(3)	kPa	36,8	65,4	75,4	89,4	104,3	78,2	71,9	92,5
TFT - Total Free-cooling Temperature		°C	-7,22	-3,22	-3,76	-5,73	-7,56	-4,87	-3,58	-5,91
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	133,6	186,2	191,1	196,8	202,0	240,2	283,8	296,5
Pressure drop on free-cooling coil	(3)	kPa	36,8	65,4	75,4	89,4	104,3	78,2	71,9	92,5
TFT - Total Free-cooling Temperature		°C	-11,33	-6,67	-7,47	-10,05	-12,47	-8,85	-7,19	-10,29
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	
Air flow	m³/h		126.000	147.000	168.000	168.000	168.000	189.000	231.000	252.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		3	4	4	4	4	5	6	
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		72.195	80.509	85.104	96.908	107.930	113.479	125.149	147.155
Total pressure drop	(7)	kPa	56	42	48	57	67	42	54	40
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	152	122	151	109	135	177	137	148
External available pressure (with oversize pump)	(6),(7)	kPa	247	193	222	180	233	255	209	284
Tank capacity	(6)	l	300	300	300	300	300	740	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	94	95	95	96	96	97	98	98
Sound pressure value (standard unit)	(5)	dB(A)	62	62	62	63	63	65	66	66
Sound power value (LN version)	(4)	dB(A)	89	90	90	91	91	92	93	93
Sound pressure value (LN version)	(5)	dB(A)	57	58	58	59	59	59	61	60
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	76	77	77	77	77	78	79	79
Sound pressure value (standard unit)	(5)	dB(A)	44	45	45	45	45	46	47	47
Sound power value (LN version)	(4)	dB(A)	73	74	74	74	74	75	76	76
Sound pressure value (LN version)	(5)	dB(A)	41	42	42	42	42	43	44	44
Basic unit size										
Length		mm	6.162	7.312	7.312	7.312	7.312	9.605	10.750	10.750
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC BASIC

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity										
(1),(8)	kW	835,4	878,8	928,3	1004,5	1075,1	1155,4	1223,1	1291,1	
Total power input for cooling	(1),(8)	222,6	234,9	248,4	269,7	291,1	312,3	331,4	348,5	
EER	(1),(8)	3,75	3,74	3,74	3,72	3,69	3,70	3,69	3,70	
Free-Cooling										
Nominal cooling capacity	(3)	kW	413,4	427,2	440,0	451,4	557,6	572,1	654,2	664,6
Pressure drop on free-cooling coil	(3)	kPa	61,9	71,9	82,6	93,2	69,3	78,0	62,1	66,6
TFT - Total Free-cooling Temperature		°C	-4,27	-4,74	-5,38	-6,64	-3,56	-4,51	-2,97	-3,66
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	349,3	358,9	367,8	375,5	469,1	479,1	552,6	559,8
Pressure drop on free-cooling coil	(3)	kPa	61,9	71,9	82,6	93,2	69,3	78,0	62,1	66,6
TFT - Total Free-cooling Temperature		°C	-7,86	-8,58	-9,51	-11,18	-7,12	-8,40	-6,31	-7,21
Compressors										
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw	
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h	252.000	273.000	294.000	315.000	336.000	357.000	378.000	399.000	
Fans (freecooling section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		8	8	8	8	10	10	12	12
Evaporator										
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h	160.122	168.569	178.199	192.996	206.783	222.210	235.482	248.067	
Total pressure drop	(7)	kPa	45	52	60	71	83	76	85	42
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	210	156	175	136	126	102	80	101
External available pressure (with oversize pump)	(6),(7)	kPa	267	231	278	236	223	194	167	184
Tank capacity	(6)	l	900	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	99	100	100	100	100	101	101	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	67	67	67	68	68	69
Sound power value (LN version)	(4)	dB(A)	94	95	95	95	95	96	96	97
Sound pressure value (LN version)	(5)	dB(A)	62	62	62	62	62	63	63	64
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	80	80	80	80	81	81	82	82
Sound pressure value (standard unit)	(5)	dB(A)	48	48	48	48	49	49	50	50
Sound power value (LN version)	(4)	dB(A)	77	77	77	77	78	78	79	79
Sound pressure value (LN version)	(5)	dB(A)	45	45	45	45	46	46	47	47
Basic unit size										
Length		mm	11.898	8465 + 4588	8465 + 4588	9610 + 4588	9610 + 5737	10755 + 5737	10755 + 6885	11965 + 6885
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC CUSTOM

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	376,2	419,5	444,0	505,2	562,2	591,9	651,8	766,5
Total power input for cooling	(1),(8)	kW	100,0	112,5	117,1	133,5	148,9	156,0	174,5	205,6
EER	(1),(8)		3,76	3,73	3,79	3,78	3,78	3,79	3,73	3,73
Free-Cooling										
Nominal cooling capacity	(3)	kW	210,3	286,0	295,6	307,2	318,0	326,5	388,3	410,7
Pressure drop on free-cooling coil	(3)	kPa	48,1	31,9	36,6	43,2	50,2	56,4	43,1	55,1
TFT - Total Free-cooling Temperature		°C	-2,06	0,87	0,56	-0,73	-1,89	-2,33	-1,04	-2,82
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	179,4	248,0	254,9	263,2	270,8	276,8	332,8	348,6
Pressure drop on free-cooling coil	(3)	kPa	48,1	31,9	36,6	43,2	50,2	56,4	43,1	55,1
TFT - Total Free-cooling Temperature		°C	-4,98	-1,16	-1,63	-3,29	-4,81	-5,44	-3,66	-6,00
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	12
Air flow	m³/h		126.000	147.000	168.000	168.000	168.000	189.000	231.000	252.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		4	6	6	6	6	6	8	8
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	1
Water flow	l/h		72.195	80.509	85.104	96.908	107.930	113.479	125.149	147.155
Total pressure drop	(7)	kPa	56	42	48	57	67	42	54	40
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	140	116	152	153	115	198	163	182
External available pressure (with oversize pump)	(6),(7)	kPa	236	224	259	224	187	276	236	318
Tank capacity	(6)	l	300	300	300	300	300	740	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	94	95	95	96	96	97	98	98
Sound pressure value (standard unit)	(5)	dB(A)	62	62	62	63	63	65	66	66
Sound power value (LN version)	(4)	dB(A)	89	90	90	91	91	92	93	93
Sound pressure value (LN version)	(5)	dB(A)	57	58	58	59	59	59	61	60
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	77	79	79	79	79	80	80	80
Sound pressure value (standard unit)	(5)	dB(A)	45	47	47	47	47	47	48	48
Sound power value (LN version)	(4)	dB(A)	74	76	76	76	76	76	77	77
Sound pressure value (LN version)	(5)	dB(A)	42	44	44	44	44	44	45	45
Basic unit size										
Length		mm	6.162	8.460	8.460	8.460	8.460	9.605	11.898	11.898
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC CUSTOM

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	835,3	878,7	928,2	1004,4	1074,9	1155,2	1222,9	1290,9
Total power input for cooling	(1),(8)	kW	222,7	235,0	248,5	269,8	291,3	312,5	331,6	348,8
EER	(1),(8)		3,75	3,74	3,74	3,72	3,69	3,70	3,69	3,70
Free-Cooling										
Nominal cooling capacity	(3)	kW	506,2	523,7	540,1	554,7	633,9	650,8	731,0	742,8
Pressure drop on free-cooling coil	(3)	kPa	41,4	48,0	55,0	61,9	49,4	55,5	46,6	50,0
TFT - Total Free-cooling Temperature		°C	-0,76	-1,06	-1,49	-2,40	-1,27	-2,04	-1,07	-1,64
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	434,5	447,0	458,5	468,7	540,2	552,1	624,2	632,5
Pressure drop on free-cooling coil	(3)	kPa	41,4	48,0	55,0	61,9	49,4	55,5	46,6	50,0
TFT - Total Free-cooling Temperature		°C	-3,28	-3,77	-4,40	-5,61	-4,06	-5,08	-3,77	-4,52
Compressors										
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw	
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h		252.000	273.000	294.000	315.000	336.000	357.000	378.000	399.000
Fans (freecooling section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		10	10	10	10	12	12	14	14
Evaporator										
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		160.122	168.569	178.199	192.996	206.783	222.210	235.482	248.067
Total pressure drop	(7)	kPa	45	52	60	71	83	76	85	42
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	229	178	121	165	143	121	92	114
External available pressure (with oversize pump)	(6),(7)	kPa	286	253	217	265	240	213	179	197
Tank capacity	(6)	l	900	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	99	100	100	100	100	101	101	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	67	67	67	68	68	69
Sound power value (LN version)	(4)	dB(A)	94	95	95	95	95	96	96	97
Sound pressure value (LN version)	(5)	dB(A)	62	62	62	62	62	63	63	64
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	81	81	81	81	82	82	82	82
Sound pressure value (standard unit)	(5)	dB(A)	49	49	49	49	50	50	50	50
Sound power value (LN version)	(4)	dB(A)	78	78	78	78	79	79	79	79
Sound pressure value (LN version)	(5)	dB(A)	46	46	46	46	47	47	47	47
Basic unit size										
Length		mm	7310 + 5737	8465 + 5737	8465 + 5737	9610 + 5737	9610 + 6885	10755 + 6885	10755 + 8034	11965 + 8034
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC EXTRA

Unit size		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	376,1	419,4	443,9	505,1	562,1	591,8	651,7	766,4
Total power input for cooling	(1),(8)	kW	100,1	112,6	117,2	133,6	149,0	156,1	174,6	205,7
EER	(1),(8)		3,76	3,72	3,79	3,78	3,77	3,79	3,73	3,73
Free-Cooling										
Nominal cooling capacity	(3)	kW	278,7	335,5	347,1	361,3	374,4	384,9	487,5	516,6
Pressure drop on free-cooling coil	(3)	kPa	23,7	19,6	22,4	26,2	30,3	34,0	29,1	37,0
TFT - Total Free-cooling Temperature		°C	1,90	2,73	2,50	1,49	0,58	0,27	1,99	0,70
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	244,7	297,1	305,7	316,0	325,5	333,1	424,6	445,5
Pressure drop on free-cooling coil	(3)	kPa	23,7	19,6	22,4	26,2	30,3	34,0	29,1	37,0
TFT - Total Free-cooling Temperature		°C	0,24	1,33	0,99	-0,30	-1,46	-1,92	0,22	-1,47
Compressors										
Type			Screw							
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		11,7%	11,8%	12,5%	11,3%	12,5%	11,7%	11,8%	11,7%
Fans (chiller section)										
Type			Axial							
Quantity	n°		6	7	8	8	8	9	11	
Air flow	m³/h		126.000	147.000	168.000	168.000	168.000	189.000	231.000	252.000
Fans (freecooling section)										
Type			Axial							
Quantity	n°		6	8	8	8	8	8	10	
Evaporator										
Type			Shell&tube							
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		72.195	80.509	85.104	96.908	107.930	113.479	125.149	147.155
Total pressure drop	(7)	kPa	56	42	48	57	67	42	54	40
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	75	126	166	133	133	219	175	133
External available pressure (with oversize pump)	(6),(7)	kPa	163	233	272	240	205	297	247	216
Tank capacity	(6)	l	300	300	300	300	300	740	740	740
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	94	95	95	96	96	97	98	98
Sound pressure value (standard unit)	(5)	dB(A)	62	62	62	63	63	65	66	66
Sound power value (LN version)	(4)	dB(A)	89	90	90	91	91	92	93	93
Sound pressure value (LN version)	(5)	dB(A)	57	58	58	59	59	59	61	60
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	79	80	80	80	80	81	81	
Sound pressure value (standard unit)	(5)	dB(A)	47	48	48	48	48	49	49	
Sound power value (LN version)	(4)	dB(A)	76	77	77	77	77	78	78	
Sound pressure value (LN version)	(5)	dB(A)	44	45	45	45	45	46	46	
Basic unit size										
Length		mm	7.310	9.608	9.608	9.608	9.608	10.753	7310 + 5737	
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HE FC EXTRA

Unit size		67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Cooling										
Nominal cooling capacity	(1),(8)	kW	835,2	878,6	928,0	1004,1	1074,6	1154,8	1222,4	1290,4
Total power input for cooling	(1),(8)	kW	222,8	235,1	248,7	270,1	291,6	312,8	332,1	349,3
EER	(1),(8)		3,75	3,74	3,73	3,72	3,69	3,69	3,68	3,69
Free-Cooling										
Nominal cooling capacity	(3)	kW	589,7	610,6	689,0	708,5	785,5	807,3	886,8	901,6
Pressure drop on free-cooling coil	(3)	kPa	29,8	34,4	29,8	33,4	29,4	32,9	30,2	32,3
TFT - Total Free-cooling Temperature		°C	1,33	1,11	1,90	1,27	1,69	1,15	1,59	1,16
Free-Cooling SLN										
Nominal cooling capacity	(3)	kW	512,9	528,0	599,1	613,1	683,3	699,1	770,9	781,7
Pressure drop on free-cooling coil	(3)	kPa	29,8	34,4	29,8	33,4	29,4	32,9	30,2	32,3
TFT - Total Free-cooling Temperature		°C	-0,58	-0,94	0,09	-0,73	-0,15	-0,87	-0,28	-0,84
Compressors										
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw	
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	2/2	2/2	
Min Capacity steps	%		12,5%	11,8%	12,5%	11,5%	12,5%	11,7%	12,5%	11,5%
Fans (chiller section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		12	13	14	15	16	17	18	19
Air flow	m³/h		252.000	273.000	294.000	315.000	336.000	357.000	378.000	399.000
Fans (freecooling section)										
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial	
Quantity	n°		12	12	14	14	16	16	18	18
Evaporator										
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	
Quantity	n°		1	1	1	1	1	1	1	
Water flow	l/h		160.122	168.569	178.199	192.996	206.783	222.210	235.482	248.067
Total pressure drop	(7)	kPa	45	52	60	71	83	76	85	42
Hydraulic module										
External available pressure (with standard pump)	(6),(7)	kPa	181	139	129	96	158	138	102	124
External available pressure (with oversize pump)	(6),(7)	kPa	272	244	222	189	255	230	189	207
Tank capacity	(6)	l	900	900	900	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4)	dB(A)	99	100	100	100	100	101	101	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	67	67	67	68	68	69
Sound power value (LN version)	(4)	dB(A)	94	95	95	95	95	96	96	97
Sound pressure value (LN version)	(5)	dB(A)	62	62	62	62	62	63	63	64
Sound level (only freecooling)										
Sound power value (LN version)	(4)	dB(A)	82	82	82	82	83	83	84	84
Sound pressure value (standard unit)	(5)	dB(A)	50	50	50	50	51	51	52	52
Sound power value (LN version)	(4)	dB(A)	79	79	79	79	80	80	81	81
Sound pressure value (LN version)	(5)	dB(A)	47	47	47	47	48	48	49	49
Basic unit size										
Length		mm	7310 + 6885	8465 + 6885	8465 + 8034	9610 + 8034	9610 + 9183	10755 + 9183	10755 + 10330	11965 + 10330
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HEi FC BASIC

Unit size		58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Cooling									
Nominal cooling capacity									
(1),(8)	kW	642,8	742,0	826,5	889,4	1009,6	1070,0	1171,3	1241,6
Total power input for cooling	(1),(8)	166,0	196,0	220,3	235,2	270,9	288,9	307,6	333,0
EER	(1),(8)	3,87	3,79	3,75	3,78	3,73	3,70	3,81	3,73
Free-Cooling									
Nominal cooling capacity	(3)	kW	308,8	359,5	422,4	436,3	545,8	562,0	653,4
Pressure drop on free-cooling coil	(3)	kPa	73,8	96,4	68,3	79,3	62,9	71,9	61,7
TFT - Total Free-cooling Temperature		°C	-4,65	-5,15	-3,79	-4,68	-2,77	-3,37	-2,25
Free-Cooling SLN									
Nominal cooling capacity	(3)	kW	263,5	298,6	355,6	365,2	460,9	472,2	552,0
Pressure drop on free-cooling coil	(3)	kPa	73,8	96,4	68,3	79,3	62,9	71,9	61,7
TFT - Total Free-cooling Temperature		°C	-8,07	-9,41	-7,38	-8,62	-6,06	-6,93	-5,43
Compressors									
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	3/3	3/3
Min Capacity steps	%		12,5%	11,0%	10,0%	9,4%	8,4%	7,8%	7,0%
Fans (chiller section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		12	13	14	15	16	18	20
Air flow	m³/h	252.000	273.000	294.000	315.000	336.000	378.000	420.000	441.000
Fans (freecooling section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		6	6	8	8	10	10	12
Evaporator									
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube
Quantity	n°		1	1	1	1	1	1	1
Water flow	l/h	123.242	142.483	158.539	170.743	193.893	205.639	224.937	238.609
Total pressure drop	(7)	kPa	32	44	54	63	61	67	38
Hydraulic module									
External available pressure (with standard pump)	(6),(7)	kPa	152	129	171	109	171	133	130
External available pressure (with oversize pump)	(6),(7)	kPa	224	265	240	198	271	228	217
Tank capacity	(6)	l	740	740	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4)	dB(A)	99	100	101	101	101	103	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	68	68	68	70	69
Sound power value (LN version)	(4)	dB(A)	95	96	97	97	97	99	98
Sound pressure value (LN version)	(5)	dB(A)	63	63	64	64	64	66	65
Sound level (only freecooling)									
Sound power value (LN version)	(4)	dB(A)	79	79	80	80	81	81	82
Sound pressure value (standard unit)	(5)	dB(A)	47	47	48	48	49	49	50
Sound power value (LN version)	(4)	dB(A)	76	76	77	77	78	78	79
Sound pressure value (LN version)	(5)	dB(A)	44	44	45	45	46	46	47
Basic unit size									
Length		mm	10.750	11.905	8465 + 4588	9610 + 4588	9610 + 5737	10755 + 5737	11965 + 6885
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HEI FC CUSTOM

Unit size		58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Cooling									
Nominal cooling capacity									
(1),(8)	kW	642,7	741,9	826,4	889,3	1009,4	1069,8	1171,1	1241,3
Total power input for cooling	(1),(8)	166,1	196,2	220,4	235,3	271,1	289,1	307,8	333,3
EER	(1),(8)	3,87	3,78	3,75	3,78	3,72	3,70	3,80	3,72
Free-Cooling									
Nominal cooling capacity	(3)	kW	353,6	414,6	517,7	535,3	620,0	639,0	730,0
Pressure drop on free-cooling coil	(3)	kPa	44,2	57,4	45,6	52,9	44,9	51,2	46,3
TFT - Total Free-cooling Temperature		°C	-2,10	-2,17	-0,34	-0,97	-0,63	-1,10	-0,44
Free-Cooling SLN									
Nominal cooling capacity	(3)	kW	307,9	351,3	442,7	455,2	530,4	543,8	623,5
Pressure drop on free-cooling coil	(3)	kPa	44,2	57,4	45,6	52,9	44,9	51,2	46,3
TFT - Total Free-cooling Temperature		°C	-4,58	-5,26	-2,87	-3,74	-3,21	-3,88	-3,01
Compressors									
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	3/3	3/3
Min Capacity steps	%		12,5%	11,0%	10,0%	9,4%	8,4%	7,8%	7,0%
Fans (chiller section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		12	13	14	15	16	18	20
Air flow	m³/h	252.000	273.000	294.000	315.000	336.000	378.000	420.000	441.000
Fans (freecooling section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		8	8	10	10	12	12	14
Evaporator									
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube
Quantity	n°		1	1	1	1	1	1	1
Water flow	l/h	123.242	142.483	158.539	170.743	193.893	205.639	224.937	238.609
Total pressure drop	(7)	kPa	32	44	54	63	61	67	38
Hydraulic module									
External available pressure (with standard pump)	(6),(7)	kPa	179	165	192	133	187	151	142
External available pressure (with oversize pump)	(6),(7)	kPa	251	301	261	223	287	246	229
Tank capacity	(6)	l	740	740	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4)	dB(A)	99	100	101	101	101	103	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	68	68	68	70	69
Sound power value (LN version)	(4)	dB(A)	95	96	97	97	97	99	98
Sound pressure value (LN version)	(5)	dB(A)	63	63	64	64	64	66	65
Sound level (only freecooling)									
Sound power value (LN version)	(4)	dB(A)	80	80	81	81	82	82	82
Sound pressure value (standard unit)	(5)	dB(A)	48	48	49	49	50	50	50
Sound power value (LN version)	(4)	dB(A)	77	77	78	78	79	79	79
Sound pressure value (LN version)	(5)	dB(A)	45	45	46	46	47	47	47
Basic unit size									
Length		mm	11.898	8465 + 4588	8465 + 5737	9610 + 5737	9610 + 6885	10755 + 6885	11965 + 8034
Width		mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height		mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV HEi FC EXTRA

Unit size		58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Cooling									
Nominal cooling capacity									
(1),(8)	kW	642,6	741,7	826,3	889,2	1009,2	1069,5	1170,7	1240,8
Total power input for cooling	(1),(8)	166,2	196,3	220,5	235,4	271,3	289,4	308,2	333,8
EER	(1),(8)	3,87	3,78	3,75	3,78	3,72	3,70	3,80	3,72
Free-Cooling									
Nominal cooling capacity	(3)	kW	442,9	521,6	603,4	624,5	767,7	792,2	885,6
Pressure drop on free-cooling coil	(3)	kPa	29,8	38,5	32,8	37,9	26,8	30,4	33,4
TFT - Total Free-cooling Temperature		°C	1,07	1,21	1,70	1,21	2,16	1,84	2,09
Free-Cooling SLN									
Nominal cooling capacity	(3)	kW	392,0	449,1	522,8	537,9	670,4	688,1	770,1
Pressure drop on free-cooling coil	(3)	kPa	29,8	38,5	32,8	37,9	26,8	30,4	33,4
TFT - Total Free-cooling Temperature		°C	-0,60	-0,89	-0,21	-0,89	0,47	0,00	0,32
Compressors									
Type			Screw	Screw	Screw	Screw	Screw	Screw	Screw
Quantity / Circuits	n°/n°		2/2	2/2	2/2	2/2	2/2	3/3	3/3
Min Capacity steps	%		12,5%	11,0%	10,0%	9,4%	8,4%	7,8%	7,0%
Fans (chiller section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		12	13	14	15	16	18	20
Air flow	m³/h	252.000	273.000	294.000	315.000	336.000	378.000	420.000	441.000
Fans (freecooling section)									
Type			Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°		10	10	12	12	16	16	18
Evaporator									
Type			Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube
Quantity	n°		1	1	1	1	1	1	1
Water flow	l/h	123.242	142.483	158.539	170.743	193.893	205.639	224.937	238.609
Total pressure drop	(7)	kPa	32	44	54	63	61	67	38
Hydraulic module									
External available pressure (with standard pump)	(6),(7)	kPa	191	118	150	102	200	166	151
External available pressure (with oversize pump)	(6),(7)	kPa	263	204	249	218	300	262	238
Tank capacity	(6)	l	740	740	900	900	900	900	900
Expansion vessel	l		24	24	24	24	24	24	24
Sound level (only chiller)									
Sound power value (standard unit)	(4)	dB(A)	99	100	101	101	101	103	102
Sound pressure value (standard unit)	(5)	dB(A)	67	67	68	68	68	70	69
Sound power value (LN version)	(4)	dB(A)	95	96	97	97	97	99	98
Sound pressure value (LN version)	(5)	dB(A)	63	63	64	64	64	66	65
Sound level (only freecooling)									
Sound power value (LN version)	(4)	dB(A)	81	81	82	82	83	83	84
Sound pressure value (standard unit)	(5)	dB(A)	49	49	50	50	51	51	52
Sound power value (LN version)	(4)	dB(A)	78	78	79	79	80	80	81
Sound pressure value (LN version)	(5)	dB(A)	46	46	47	47	48	48	49
Basic unit size									
Length	mm	7310 + 5737	8465 + 5737	8465 + 6885	9610 + 6885	9610 + 9183	10755 + 9183	11965 + 10330	13110 + 10330
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV XEi FC BASIC

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Cooling										
Nominal cooling capacity	(1),(8) kW	322,0	401,6	503,7	640,1	723,4	816,9	901,8	1003,1	1140,1
Total power input for cooling	(1),(8) kW	84,9	109,3	141,4	169,4	194,2	218,0	251,0	285,3	304,5
EER	(1),(8)	3,79	3,67	3,56	3,78	3,73	3,75	3,59	3,52	3,74
Free-Cooling										
Nominal cooling capacity	(3) kW	159,2	221,5	241,4	339,8	356,4	420,8	440,6	458,6	578,6
Pressure drop on free-cooling coil	(3) kPa	33,4	66,0	98,9	73,9	92,4	67,1	83,0	100,6	82,3
TFT - Total Free-cooling Temperature	°C	-4,37	-2,48	-5,34	-3,15	-4,75	-3,61	-4,80	-6,37	-4,06
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	132,1	186,6	200,2	285,1	296,5	354,5	368,1	380,4	483,6
Pressure drop on free-cooling coil	(3) kPa	33,4	66,0	98,9	73,9	92,4	67,1	83,0	100,6	82,3
TFT - Total Free-cooling Temperature	°C	-7,90	-5,78	-9,69	-6,70	-8,88	-7,15	-8,81	-10,95	-7,91
Compressors										
Type		Screw								
Quantity / Circuits	n°/n°	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	3/3
Min Capacity steps	%	25,0%	20,0%	16,0%	12,5%	11,0%	10,0%	8,9%	8,0%	7,0%
Fans (chiller section)										
Type		Axial								
Quantity	n°	6	8	10	12	14	16	18	20	22
Air flow	m³/h	126.000	168.000	210.000	252.000	294.000	336.000	378.000	420.000	462.000
Fans (freecooling section)										
Type		Axial								
Quantity	n°	3	4	4	6	6	8	8	8	10
Evaporator										
Type		Shell&tube								
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	61.764	77.229	96.508	122.727	138.879	156.689	173.165	192.691	218.835
Total pressure drop	(7) kPa	49	77	36	32	42	53	66	65	36
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	181	85	107	152	82	178	168	122	127
External available pressure (with oversize pump)	(6),(7) kPa	267	156	178	224	146	244	271	220	216
Tank capacity	(6) l	300	300	300	740	740	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	99	100	101	102	103	103	104	104	105
Sound pressure value (standard unit)	(5) dB(A)	67	68	69	69	70	70	71	71	71
Sound power value (LN version)	(4) dB(A)	95	96	97	98	99	99	100	100	101
Sound pressure value (LN version)	(5) dB(A)	63	64	65	65	66	66	67	67	67
Sound level (only freecooling)										
Sound power value (LN version)	(4) dB(A)	76	77	77	79	79	80	80	80	81
Sound pressure value (standard unit)	(5) dB(A)	44	45	45	47	47	48	48	48	49
Sound power value (LN version)	(4) dB(A)	73	74	74	76	76	77	77	77	78
Sound pressure value (LN version)	(5) dB(A)	41	42	42	44	44	45	45	45	46
Basic unit size										
Length	mm	6.162	7.312	7.457	10.750	11.905	9610+4588	10755+4588	11965+4588	13110+5737
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV XEi FC CUSTOM

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Cooling										
Nominal cooling capacity	(1),(8) kW	322,0	401,5	503,7	640,0	723,3	816,8	901,6	1002,9	1139,9
Total power input for cooling	(1),(8) kW	84,9	109,4	141,4	169,5	194,3	218,1	251,2	285,5	304,7
EER	(1),(8)	3,79	3,67	3,56	3,78	3,72	3,75	3,59	3,51	3,74
Free-Cooling										
Nominal cooling capacity	(3) kW	205,6	286,6	314,3	390,7	410,7	515,6	540,8	564,0	658,5
Pressure drop on free-cooling coil	(3) kPa	43,6	32,2	47,6	44,3	55,1	44,9	55,3	66,8	58,5
TFT - Total Free-cooling Temperature	°C	-0,04	1,41	-0,38	-0,68	-1,87	-0,21	-1,04	-2,14	-1,63
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	176,0	248,5	268,2	334,5	348,6	441,2	459,0	475,2	557,5
Pressure drop on free-cooling coil	(3) kPa	43,6	32,2	47,6	44,3	55,1	44,9	55,3	66,8	58,5
TFT - Total Free-cooling Temperature	°C	-2,49	-0,54	-2,95	-3,24	-4,87	-2,70	-3,86	-5,37	-4,64
Compressors										
Type		Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw
Quantity / Circuits	n°/n°	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	3/3
Min Capacity steps	%	25,0%	20,0%	16,0%	12,5%	11,0%	10,0%	8,9%	8,0%	7,0%
Fans (chiller section)										
Type		Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°	6	8	10	12	14	16	18	20	22
Air flow	m³/h	126.000	168.000	210.000	252.000	294.000	336.000	378.000	420.000	462.000
Fans (freecooling section)										
Type		Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Quantity	n°	4	6	6	8	8	10	10	10	12
Evaporator										
Type		Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube	Shell&tube
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	61.764	77.229	96.508	122.727	138.879	156.689	173.165	192.691	218.835
Total pressure drop	(7) kPa	49	77	36	32	42	53	66	65	36
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	170	79	157	179	116	198	113	154	147
External available pressure (with oversize pump)	(6),(7) kPa	257	187	228	251	180	265	210	252	237
Tank capacity	(6) l	300	300	300	740	740	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	99	100	101	102	103	103	104	104	105
Sound pressure value (standard unit)	(5) dB(A)	67	68	69	69	70	70	71	71	71
Sound power value (LN version)	(4) dB(A)	95	96	97	98	99	99	100	100	101
Sound pressure value (LN version)	(5) dB(A)	63	64	65	65	66	66	67	67	67
Sound level (only freecooling)										
Sound power value (LN version)	(4) dB(A)	77	79	79	80	80	81	81	81	82
Sound pressure value (standard unit)	(5) dB(A)	45	47	47	48	48	49	49	49	50
Sound power value (LN version)	(4) dB(A)	74	76	76	77	77	78	78	78	79
Sound pressure value (LN version)	(5) dB(A)	42	44	44	45	45	46	46	46	47
Basic unit size										
Length	mm	6.162	8.460	8.605	11.898	8465 + 4588	9610 + 5737	10755 + 5737	11965 + 5737	13110 + 6885
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

TECHNICAL DATA - KAPPA REV XEi FC EXTRA

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Cooling										
Nominal cooling capacity	(1),(8) kW	322,0	401,4	503,6	639,9	723,1	816,7	901,4	1002,6	1139,5
Total power input for cooling	(1),(8) kW	84,9	109,5	141,5	169,6	194,5	218,2	251,4	285,8	305,1
EER	(1),(8)	3,79	3,67	3,56	3,77	3,72	3,74	3,59	3,51	3,73
Free-Cooling										
Nominal cooling capacity	(3) kW	272,2	336,3	369,8	490,6	516,6	601,0	689,9	721,0	817,3
Pressure drop on free-cooling coil	(3) kPa	21,6	19,8	28,9	29,8	37,0	32,2	29,9	35,9	34,6
TFT - Total Free-cooling Temperature	°C	3,30	3,18	1,80	2,28	1,42	1,80	2,24	1,50	1,48
Free-Cooling SLN										
Nominal cooling capacity	(3) kW	239,9	297,7	322,2	426,9	445,5	521,0	599,8	622,1	706,2
Pressure drop on free-cooling coil	(3) kPa	21,6	19,8	28,9	29,8	37,0	32,2	29,9	35,9	34,6
TFT - Total Free-cooling Temperature	°C	1,92	1,84	0,00	0,54	-0,61	-0,08	0,48	-0,52	-0,51
Compressors										
Type		Screw								
Quantity / Circuits	n°/n°	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	3/3
Min Capacity steps	%	25,0%	20,0%	16,0%	12,5%	11,0%	10,0%	8,9%	8,0%	7,0%
Fans (chiller section)										
Type		Axial								
Quantity	n°	6	8	10	12	14	16	18	20	22
Air flow	m³/h	126.000	168.000	210.000	252.000	294.000	336.000	378.000	420.000	462.000
Fans (freecooling section)										
Type		Axial								
Quantity	n°	6	8	8	10	10	12	14	14	16
Evaporator										
Type		Shell&tube								
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	l/h	61.764	77.229	96.508	122.727	138.879	156.689	173.165	192.691	218.835
Total pressure drop	(7) kPa	49	77	36	32	42	53	66	65	36
Hydraulic module										
External available pressure (with standard pump)	(6),(7) kPa	104	89	138	191	131	155	122	86	165
External available pressure (with oversize pump)	(6),(7) kPa	191	197	245	263	195	253	214	179	254
Tank capacity	(6) l	300	300	300	740	740	900	900	900	900
Expansion vessel	l	24	24	24	24	24	24	24	24	24
Sound level (only chiller)										
Sound power value (standard unit)	(4) dB(A)	99	100	101	102	103	103	104	104	105
Sound pressure value (standard unit)	(5) dB(A)	67	68	69	69	70	70	71	71	71
Sound power value (LN version)	(4) dB(A)	95	96	97	98	99	99	100	100	101
Sound pressure value (LN version)	(5) dB(A)	63	64	65	65	66	66	67	67	67
Sound level (only freecooling)										
Sound power value (LN version)	(4) dB(A)	79	80	80	81	81	82	82	82	83
Sound pressure value (standard unit)	(5) dB(A)	47	48	48	49	49	50	50	50	51
Sound power value (LN version)	(4) dB(A)	76	77	77	78	78	79	79	79	80
Sound pressure value (LN version)	(5) dB(A)	44	45	45	46	46	47	47	47	48
Basic unit size										
Length	mm	7.310	9.608	9.753	7310+5737	8465+5737	9610+6885	10755+8034	11965+8034	13110+9183
Width	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
Height	mm	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440	2.440

(1) Ambient air temperature 30°C; evaporator inlet/outlet water temperature 10-15 °C; Glycol at 30%

(2) Total power input is sum of compressors and fans power input

(3) Ambient air temperature 5°C; evaporator inlet fluid temperature 15 °C; Glycol at 30%

(4) Sound power values calculate in compliance with ISO 3744

(5) Sound pressure values measured at 10 meters from the unit in free field conditions and directional factor Q=2

(6) ST 2PS version

(7) With free-cooling active

(8) Values in compliance with EN 14511-3:2011

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

ELECTRICAL DATA - KAPPA REV FC BASIC

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	149 (156) [163]	162 (168) [175]	182 (191) [195]	200 (210) [214]	219 (229) [233]	234 (247) [250]	266 (282) [286]	302 (318) [321]	320 (339) [347]
Maximum current absorbed with free cooling fans	(2),(3)	A	253 (267) [282]	275 (290) [304]	303 (324) [331]	336 (358) [365]	370 (391) [398]	395 (424) [430]	450 (484) [492]	508 (542) [550]	537 (579) [592]
Maximum input current with free cooling fans	(4)	A	329 (343) [357]	351 (365) [379]	402 (424) [431]	408 (429) [436]	442 (463) [470]	497 (526) [532]	547 (581) [589]	710 (744) [752]	739 (781) [794]
Maximum input current with soft-starter with free cooling fans	(4)	A	185 (199) [214]	212 (227) [241]	220 (242) [249]	244 (266) [273]	259 (281) [288]	278 (307) [312]	331 (365) [373]	327 (361) [369]	365 (407) [420]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	147 (155) [162]	159 (166) [174]	179 (190) [194]	198 (209) [213]	216 (227) [231]	231 (246) [249]	262 (280) [284]	297 (316) [319]	316 (338) [346]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	248 (262) [276]	268 (283) [297]	295 (317) [324]	329 (351) [358]	363 (384) [391]	388 (417) [422]	441 (475) [483]	497 (531) [539]	526 (568) [581]
Maximum input current with free cooling fans (SLN)	(4)	A	324 (338) [352]	344 (358) [372]	394 (416) [423]	401 (422) [429]	435 (456) [463]	490 (519) [525]	538 (572) [580]	699 (733) [741]	728 (770) [783]
Maximum input current with soft-starter with free cooling fans (SLN)			180 (194) [209]	205 (220) [234]	212 (234) [241]	237 (259) [266]	252 (274) [281]	271 (300) [305]	322 (356) [364]	316 (350) [358]	354 (396) [409]
Fan nominal power - mechanical side	n° x kW		5 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	7 x 2,0	8 x 2,0	9 x 2,0	10 x 2,0
Fan nominal current - mechanical side	n° x A		5 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	7 x 4,3	8 x 4,3	9 x 4,3	10 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		3 x 2,0	4 x 2,0	5 x 2,0	6 x 2,0	6 x 2,0				
Fan nominal current - basic version free cooling side	n° x A		3 x 4,3	4 x 4,3	5 x 4,3	6 x 4,3	6 x 4,3				
Fan nominal power - SLN version free cooling side	n° x kW		3 x 1,1	4 x 1,1	5 x 1,1	6 x 1,1	6 x 1,1				
Fan nominal current - SLN version free cooling side	n° x A		3 x 2,1	4 x 2,1	5 x 2,1	6 x 2,1	6 x 2,1				
Standard motor pump nominal power	KW		7,5	7,5	11,0	11,0	11,0	15,0	18,5	18,5	22,0
Standard motor pump nominal current	A		14,4	14,4	21,6	21,6	21,6	28,6	34,2	34,2	42,0
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	15,0	18,5	22,0	22,0	30,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	28,6	34,2	42,0	42,0	55,0
Main power supply	V/ph/Hz							400/3~/50			
Auxiliary power supply	V/ph/Hz							230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC BASIC

Unit size			73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	343 [362] [370]	362 [381] [389]	389 [416] [423]	415 [442] [449]	446 [473] [480]	472 [499] [506]	506 [533] [540]	536 [562] [569]
Maximum current absorbed with free cooling fans	(2),(3)	A	574 [616] [627]	602 [644] [656]	650 [704] [716]	698 [752] [764]	750 [803] [816]	793 [847] [859]	849 [903] [915]	896 [950] [962]
Maximum input current with free cooling fans	(4)	A	781 [823] [835]	809 [851] [863]	930 [984] [996]	978 [1.032] [1.044]	1.055 [1.109] [1.121]	1.098 [1.152] [1.164]	1.266 [1.320] [1.332]	1.313 [1.367] [1.379]
Maximum input current with soft-starter with free cooling fans	(4)	A	394 [436] [448]	404 [446] [458]	415 [469] [481]	450 [503] [515]	482 [536] [548]	526 [580] [592]	184 [237] [249]	184
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	337 [359] [367]	357 [379] [387]	383 [413] [420]	410 [440] [447]	439 [469] [476]	465 [495] [502]	498 [528] [535]	527 [557] [564]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	559 [601] [613]	588 [630] [641]	636 [689] [701]	684 [737] [749]	732 [785] [798]	775 [829] [841]	828 [881] [893]	875 [928] [940]
Maximum input current with free cooling fans (SLN)	(4)	A	766 [808] [820]	795 [837] [849]	916 [970] [982]	964 [1.018] [1.030]	1.037 [1.091] [1.103]	1.080 [1.134] [1.146]	1.245 [1.299] [1.311]	1.292 [1.346] [1.358]
Maximum input current with soft-starter with free cooling fans (SLN)			379 [421] [433]	398 [440] [451]	409 [462] [474]	443 [497] [509]	464 [518] [530]	508 [562] [574]	182 [236] [248]	182 [236] [248]
Fan nominal power - mechanical side	n° x kW		11 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [13 x 2,0]	12 x 2,0 [13 x 2,0]	13 x 2,0 [14 x 2,0]	14 x 2,0 [15 x 2,0]	15 x 2,0 [16 x 2,0]	16 x 2,0
Fan nominal current - mechanical side	n° x A		11 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	12 x 4,3 [13 x 4,3]	13 x 4,3 [14 x 4,3]	14 x 4,3 [15 x 4,3]	15 x 4,3 [16 x 4,3]		
Fan nominal power - basic version free cooling side	n° x kW		8 x 2,0 [8 x 4,3]	8 x 2,0 [8 x 4,3]	8 x 2,0 [8 x 4,3]	8 x 2,0 [10 x 2,0]	10 x 2,0 [10 x 2,0]	10 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	
Fan nominal current - basic version free cooling side	n° x A		8 x 4,3 [8 x 4,3]	8 x 4,3 [8 x 4,3]	8 x 4,3 [10 x 4,3]	8 x 4,3 [10 x 4,3]	10 x 4,3 [10 x 4,3]	10 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	
Fan nominal power - SLN version free cooling side	n° x kW		8 x 1,1 [8 x 2,1]	8 x 1,1 [8 x 2,1]	8 x 1,1 [8 x 2,1]	8 x 1,1 [10 x 2,1]	10 x 1,1 [10 x 2,1]	10 x 1,1 [12 x 2,1]	12 x 1,1 [12 x 2,1]	
Fan nominal current - SLN version free cooling side	n° x A		8 x 2,1 [8 x 2,1]	8 x 2,1 [8 x 2,1]	8 x 2,1 [8 x 2,1]	8 x 2,1 [10 x 2,1]	10 x 2,1 [10 x 2,1]	10 x 2,1 [12 x 2,1]	12 x 2,1 [12 x 2,1]	
Standard motor pump nominal power	kW		22,0	22,0	30,0	30,0	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A		42,0	42,0	53,5	53,5	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power			30,0	30,0	37,0	37,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current			53,5	53,5	65,6	65,6	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC CUSTOM

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	151 [158] [165]	166 [174] [179]	186 [193] [199]	204 [212] [218]	223 [233] [237]	238 [247] [251]	268 [284] [288]	306 [322] [325]	324 [343] [351]
Maximum current absorbed with free cooling fans	(2),(3)	A	257 [272] [286]	284 [303] [313]	311 [330] [340]	345 [364] [373]	378 [400] [407]	404 [426] [433]	454 [488] [496]	516 [550] [558]	545 [587] [600]
Maximum input current with free cooling fans	(4)	A	333 [347] [361]	360 [379] [388]	410 [429] [439]	417 [436] [445]	450 [471] [478]	506 [528] [535]	551 [585] [593]	718 [752] [760]	747 [789] [802]
Maximum input current with soft-starter with free cooling fans	(4)	A	189 [203] [217]	216 [235] [245]	224 [243] [253]	248 [267] [276]	263 [284] [291]	282 [304] [311]	335 [369] [377]	331 [365] [373]	369 [411] [424]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	149 [156] [164]	162 [171] [177]	181 [190] [196]	200 [209] [215]	219 [230] [234]	233 [244] [248]	263 [282] [285]	300 [318] [322]	318 [340] [348]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	250 [264] [279]	273 [292] [302]	300 [319] [329]	334 [353] [363]	368 [389] [396]	393 [415] [422]	443 [477] [485]	502 [536] [544]	531 [573] [586]
Maximum input current with free cooling fans (SLN)	(4)	A	326 [340] [354]	349 [368] [377]	399 [418] [428]	406 [425] [434]	440 [461] [468]	495 [517] [524]	540 [574] [582]	704 [738] [746]	733 [775] [788]
Maximum input current with soft-starter with free cooling fans (SLN)			186 [200] [214]	213 [232] [241]	221 [240] [249]	245 [264] [273]	260 [281] [288]	276 [297] [304]	328 [363] [370]	325 [359] [367]	362 [404] [417]
Fan nominal power - mechanical side	n° x kW		5 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	7 x 2,0	8 x 2,0	9 x 2,0	10 x 2,0
Fan nominal current - mechanical side	n° x A		5 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	7 x 4,3	8 x 4,3	9 x 4,3	10 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		4 x 2,0	6 x 2,0	8 x 2,0	8 x 2,0					
Fan nominal current - basic version free cooling side	n° x A		4 x 4,3	6 x 4,3	8 x 4,3	8 x 4,3					
Fan nominal power - SLN version free cooling side	n° x kW		4 x 1,1	6 x 1,1	8 x 1,1	8 x 1,1					
Fan nominal current - SLN version free cooling side	n° x A		4 x 2,1	6 x 2,1	8 x 2,1	8 x 2,1					
Standard motor pump nominal power	kW		7,5	9,2	9,2	9,2	11,0	11,0	18,5	18,5	22,0
Standard motor pump nominal current	A		14,4	19,0	19,0	19,0	21,6	21,6	34,2	34,2	42,0
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	15,0	15,0	22,0	22,0	30,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	28,6	28,6	42,0	42,0	55,0
Main power supply	V/ph/Hz							400/3~/50			
Auxiliary power supply	V/ph/Hz							230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC CUSTOM

Unit size			73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	347 (366) [374]	366 (385) [393]	393 (412) [420]	419 (446) [453]	450 (477) [484]	476 (503) [510]	510 (537) [544]	540 (566) [573]
Maximum current absorbed with free cooling fans	(2),(3)	A	582 (624) [636]	611 (653) [664]	659 (701) [712]	707 (760) [772]	759 (812) [824]	802 (855) [867]	858 (911) [923]	905 (959) [971]
Maximum input current with free cooling fans	(4)	A	789 (831) [843]	818 (860) [872]	939 (981) [993]	987 (1.041) [1.053]	1.064 (1.118) [1.130]	1.107 (1.161) [1.173]	1.275 (1.329) [1.341]	1.322 (1.376) [1.388]
Maximum input current with soft-starter with free cooling fans	(4)	A	398 (440) [451]	411 (453) [465]	422 (464) [476]	457 (511) [523]	489 (543) [555]	533 (587) [599]	187 (241) [253]	187
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	340 (362) [370]	359 (381) [389]	386 (408) [416]	412 (442) [449]	441 (471) [478]	468 (498) [505]	500 (530) [537]	530 (560) [567]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	564 (606) [618]	593 (635) [646]	641 (683) [694]	689 (742) [754]	737 (790) [803]	780 (834) [846]	833 (886) [898]	880 (933) [945]
Maximum input current with free cooling fans (SLN)	(4)	A	771 (813) [825]	800 (842) [854]	921 (963) [975]	969 (1.023) [1.035]	1.042 (1.096) [1.108]	1.085 (1.139) [1.151]	1.250 (1.304) [1.316]	1.297 (1.363)
Maximum input current with soft-starter with free cooling fans (SLN)			391 (433) [445]	402 (444) [455]	413 (455) [466]	447 (501) [513]	480 (533) [545]	524 (577) [589]	184 (238) [250]	184 (238) [250]
Fan nominal power - mechanical side	n° x kW		11 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [13 x 2,0]	12 x 2,0 [13 x 2,0]	13 x 2,0 [14 x 2,0]	14 x 2,0 [15 x 2,0]	15 x 2,0 [16 x 2,0]	16 x 2,0
Fan nominal current - mechanical side	n° x A		11 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	12 x 4,3 [13 x 4,3]	12 x 4,3 [14 x 4,3]	13 x 4,3 [15 x 4,3]	14 x 4,3 [16 x 4,3]	15 x 4,3 [16 x 4,3]	16 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		10 x 2,0 [10 x 2,0]	10 x 2,0 [10 x 2,0]	10 x 2,0 [10 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	14 x 2,0 [14 x 2,0]	14 x 2,0 [14 x 2,0]	14 x 2,0
Fan nominal current - basic version free cooling side	n° x A		10 x 4,3 [10 x 4,3]	10 x 4,3 [10 x 4,3]	10 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	12 x 4,3 [14 x 4,3]	14 x 4,3 [14 x 4,3]	14 x 4,3 [14 x 4,3]	14 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW		10 x 1,1 [10 x 1,1]	10 x 1,1 [10 x 1,1]	10 x 1,1 [12 x 1,1]	10 x 1,1 [12 x 1,1]	12 x 1,1 [12 x 1,1]	12 x 1,1 [14 x 1,1]	14 x 1,1 [14 x 1,1]	14 x 1,1
Fan nominal current - SLN version free cooling side	n° x A		10 x 2,1 [10 x 2,1]	10 x 2,1 [10 x 2,1]	10 x 2,1 [12 x 2,1]	10 x 2,1 [12 x 2,1]	12 x 2,1 [12 x 2,1]	12 x 2,1 [14 x 2,1]	14 x 2,1 [14 x 2,1]	14 x 2,1
Standard motor pump nominal power	kW		22,0	22,0	22,0	30,0	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A		42,0	42,0	42,0	53,5	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power			30,0	30,0	30,0	37,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current			53,5	53,5	53,5	65,6	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC EXTRA

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	155 [160] [162]	170 [178] [183]	190 [197] [203]	208 [216] [222]	227 [235] [241]	242 [251] [255]	272 [288] [292]	310 [326] [329]	328 [344] [355]
Maximum current absorbed with free cooling fans	(2),(3)	A	266 [277] [280]	293 [312] [321]	320 [339] [348]	353 [372] [382]	387 [406] [416]	413 [434] [441]	463 [497] [505]	525 [559] [567]	554 [588] [608]
Maximum input current with free cooling fans	(4)	A	342 [353] [356]	369 [388] [397]	419 [438] [448]	425 [444] [453]	459 [478] [487]	515 [537] [544]	560 [594] [602]	727 [761] [769]	756 [790] [810]
Maximum input current with soft-starter with free cooling fans	(4)	A	192 [203] [207]	220 [239] [248]	228 [247] [256]	251 [270] [280]	266 [285] [295]	289 [311] [318]	342 [376] [384]	338 [373] [380]	376 [410] [430]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	151 [157] [159]	164 [173] [179]	184 [193] [199]	203 [212] [218]	222 [231] [237]	236 [247] [251]	266 [284] [288]	302 [321] [324]	321 [339] [351]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	255 [266] [269]	278 [297] [307]	305 [324] [334]	339 [358] [368]	373 [392] [401]	398 [420] [427]	448 [482] [490]	507 [541] [549]	536 [570] [590]
Maximum input current with free cooling fans (SLN)	(4)	A	331 [342] [345]	354 [373] [382]	404 [423] [433]	411 [430] [439]	445 [464] [473]	500 [522] [529]	545 [579] [587]	709 [743] [751]	738 [772] [792]
Maximum input current with soft-starter with free cooling fans (SLN)			188 [198]	215 [234]	223 [242]	247 [266]	262 [281]	280 [301]	333 [367]	329 [363]	367 [401] [420]
Fan nominal power - mechanical side	n° x kW		5 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	6 x 2,0	7 x 2,0	8 x 2,0	9 x 2,0	10 x 2,0
Fan nominal current - mechanical side	n° x A		5 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	6 x 4,3	7 x 4,3	8 x 4,3	9 x 4,3	10 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		6 x 2,0	8 x 2,0	10 x 2,0	10 x 2,0					
Fan nominal current - basic version free cooling side	n° x A		6 x 4,3	8 x 4,3	10 x 4,3	10 x 4,3					
Fan nominal power - SLN version free cooling side	n° x kW		6 x 1,1	8 x 1,1	10 x 1,1	10 x 1,1					
Fan nominal current - SLN version free cooling side	n° x A		6 x 2,1	8 x 2,1	10 x 2,1	10 x 2,1					
Standard motor pump nominal power	kW		5,5	9,2	9,2	9,2	9,2	11,0	18,5	18,5	18,5
Standard motor pump nominal current	A		10,7	19,0	19,0	19,0	19,0	21,6	34,2	34,2	34,2
Motor enhanced pump nominal power			7,5	15,0	15,0	15,0	15,0	15,0	22,0	22,0	30,0
Motor enhanced pump nominal current			14,4	28,6	28,6	28,6	28,6	28,6	42,0	42,0	53,5
Main power supply	V/ph/Hz							400/3~/50			
Auxiliary power supply	V/ph/Hz							230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC EXTRA

Unit size			73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	351 (367) [378]	370 (386) [397]	401 (420) [428]	427 (446) [454]	458 (485) [492]	484 (511) [518]	518 (545) [552]	548 (574) [581]
Maximum current absorbed with free cooling fans	(2),(3)	A	591 (625) [644]	619 (653) [673]	676 (715) [729]	724 (763) [777]	776 (829) [841]	819 (873) [885]	875 (928) [941]	922 (976) [988]
Maximum input current with free cooling fans	(4)	A	798 (832) [852]	826 (860) [880]	956 (995) [1,010]	1,004 (1,043) [1,058]	1,081 (1,135) [1,147]	1,124 (1,178) [1,190]	1,292 (1,346) [1,358]	1,339 (1,393) [1,405]
Maximum input current with soft-starter with free cooling fans	(4)	A	405 (439) [459]	419 (453) [472]	430 (469) [483]	464 (503) [518]	497 (550) [562]	541 (594) [606]	191 (245) [257]	191
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	342 (361) [372]	362 (380) [392]	391 (413) [421]	417 (439) [447]	446 (476) [483]	473 (503) [510]	505 (535) [542]	535 (565) [572]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	569 (604) [623]	598 (632) [651]	651 (690) [704]	699 (738) [752]	747 (800) [813]	790 (844) [856]	843 (896) [908]	890 (943) [955]
Maximum input current with free cooling fans (SLN)	(4)	A	776 (810) [830]	805 (839) [859]	931 (970) [985]	979 (1,018) [1,033]	1,052 (1,106) [1,118]	1,095 (1,149) [1,161]	1,260 (1,314) [1,326]	1,307 (1,361) [1,373]
Maximum input current with soft-starter with free cooling fans (SLN)			396 (430) [449]	406 (440) [460]	417 (456) [471]	452 (491) [505]	484 (538) [550]	528 (582) [594]	186 (240) [252]	186 (240) [252]
Fan nominal power - mechanical side	n° x kW		11 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	13 x 2,0 [13 x 2,0]	14 x 2,0 [14 x 2,0]	15 x 2,0 [15 x 2,0]	16 x 2,0 [16 x 2,0]
Fan nominal current - mechanical side	n° x A		11 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	13 x 4,3 [13 x 4,3]	14 x 4,3 [14 x 4,3]	15 x 4,3 [15 x 4,3]	15 x 4,3 [16 x 4,3]	16 x 4,3 [16 x 4,3]
Fan nominal power - basic version free cooling side	n° x kW		12 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	14 x 2,0 [14 x 2,0]	14 x 2,0 [14 x 2,0]	16 x 2,0 [16 x 2,0]	16 x 2,0 [16 x 2,0]	18 x 2,0 [18 x 2,0]	18 x 2,0 [18 x 2,0]
Fan nominal current - basic version free cooling side	n° x A		12 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	14 x 4,3 [14 x 4,3]	14 x 4,3 [14 x 4,3]	16 x 4,3 [16 x 4,3]	16 x 4,3 [16 x 4,3]	18 x 4,3 [18 x 4,3]	18 x 4,3 [18 x 4,3]
Fan nominal power - SLN version free cooling side	n° x kW		12 x 1,1 [12 x 1,1]	12 x 1,1 [12 x 1,1]	14 x 1,1 [14 x 1,1]	14 x 1,1 [14 x 1,1]	16 x 1,1 [16 x 1,1]	16 x 1,1 [16 x 1,1]	18 x 1,1 [18 x 1,1]	18 x 1,1 [18 x 1,1]
Fan nominal current - SLN version free cooling side	n° x A		12 x 2,1 [12 x 2,1]	12 x 2,1 [12 x 2,1]	14 x 2,1 [14 x 2,1]	14 x 2,1 [14 x 2,1]	16 x 2,1 [16 x 2,1]	16 x 2,1 [16 x 2,1]	18 x 2,1 [18 x 2,1]	18 x 2,1 [18 x 2,1]
Standard motor pump nominal power	kW		18,5 [34,2]	18,5 [34,2]	22,0 [39,0]	22,0 [39,0]	30,0 [53,5]	30,0 [53,5]	30,0 [53,5]	30,0 [53,5]
Standard motor pump nominal current	A		34,2 [30,0]	34,2 [30,0]	39,0 [30,0]	39,0 [30,0]	53,5 [37,0]	53,5 [37,0]	53,5 [37,0]	53,5 [37,0]
Motor enhanced pump nominal power										
Motor enhanced pump nominal current			53,5 [53,5]	53,5 [53,5]	53,5 [53,5]	53,5 [53,5]	65,6 [65,6]	65,6 [65,6]	65,6 [65,6]	65,6 [65,6]
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV SLN FC BASIC

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	151 [157] [164]	174 [183] [187]	186 [195] [199]	204 [213] [217]	223 [236] [240]	238 [250] [254]	272 [287] [291]	308 [323] [327]
Maximum current absorbed with free cooling fans	(2),(3)	A	257 [272] [286]	293 [315] [322]	311 [333] [340]	345 [366] [373]	378 [407] [413]	404 [433] [438]	463 [497] [505]	520 [555] [562]
Maximum input current with free cooling fans	(4)	A	333 [347] [361]	392 [414] [421]	410 [432] [439]	417 [438] [445]	450 [478] [484]	506 [535] [541]	560 [594] [602]	722 [756] [764]
Maximum input current with soft-starter with free cooling fans	(4)	A	185 [199] [214]	212 [234] [241]	220 [242] [249]	244 [266] [273]	259 [288] [293]	278 [307] [312]	331 [365] [373]	327 [361] [369]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	149 [156] [164]	171 [182] [186]	183 [194] [198]	202 [213] [217]	220 [235] [239]	235 [250] [253]	268 [286] [290]	303 [322] [325]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	252 [266] [280]	286 [308] [315]	304 [326] [333]	338 [359] [366]	371 [400] [405]	397 [425] [431]	454 [488] [496]	510 [544] [552]
Maximum input current with free cooling fans (SLN)	(4)	A	328 [342] [356]	385 [407] [414]	403 [425] [432]	410 [431] [438]	443 [471] [477]	499 [528] [534]	551 [585] [593]	712 [746] [754]
Maximum input current with soft-starter with free cooling fans (SLN)			180 [194] [209]	205 [227] [234]	213 [235] [242]	237 [259] [266]	252 [281] [286]	271 [300] [305]	322 [356] [364]	317 [351] [359]
Fan nominal power - mechanical side	n° x kW		6 x 2,0	7 x 2,0	8 x 2,0	8 x 2,0	8 x 2,0	9 x 2,0	11 x 2,0	12 x 2,0
Fan nominal current - mechanical side	n° x A		6 x 4,3	7 x 4,3	8 x 4,3	8 x 4,3	8 x 4,3	9 x 4,3	11 x 4,3	12 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		3 x 2,0	4 x 2,0	5 x 2,0	6 x 2,0				
Fan nominal current - basic version free cooling side	n° x A		3 x 4,3	4 x 4,3	5 x 4,3	6 x 4,3				
Fan nominal power - SLN version free cooling side	n° x kW		3 x 1,1	4 x 1,1	5 x 1,1	6 x 1,1				
Fan nominal current - SLN version free cooling side	n° x A		3 x 2,1	4 x 2,1	5 x 2,1	6 x 2,1				
Standard motor pump nominal power	kW		7,5	11,0	11,0	11,0	15,0	15,0	18,5	18,5
Standard motor pump nominal current	A		14,4	21,6	21,6	21,6	28,6	28,6	34,2	34,2
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	18,5	18,5	22,0	22,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	34,2	34,2	42,0	42,0
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV SLN FC BASIC

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	324 [343] [351]	347 [366] [374]	366 [385] [393]	395 [421] [428]	427 [453] [460]	454 [480] [487]	484 [510] [517]	514 [540] [547]
Maximum current absorbed with free cooling fans	(2),(3)	A	545 [587] [600]	582 [624] [636]	611 [653] [664]	663 [716] [729]	724 [777] [789]	767 [821] [833]	819 [873] [885]	866 [920] [932]
Maximum input current with free cooling fans	(4)	A	747 [789] [802]	789 [831] [843]	818 [860] [872]	943 [997] [1.009]	1.004 [1.058] [1.070]	1.072 [1.126] [1.138]	1.124 [1.178] [1.190]	1.283 [1.337] [1.349]
Maximum input current with soft-starter with free cooling fans	(4)	A	365 [407] [420]	394 [436] [448]	404 [446] [458]	415 [469] [481]	450 [503] [515]	482 [536] [548]	526 [580] [592]	184 [237] [249]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	320 [342] [350]	341 [363] [371]	361 [383] [391]	389 [419] [426]	420 [450] [457]	447 [477] [484]	476 [506] [513]	506 [536] [543]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	535 [577] [590]	568 [610] [621]	596 [638] [650]	649 [702] [714]	706 [759] [771]	749 [803] [815]	797 [851] [863]	845 [898] [910]
Maximum input current with free cooling fans (SLN)	(4)	A	737 [779] [792]	775 [817] [829]	803 [845] [857]	929 [983] [995]	986 [1.040] [1.052]	1.054 [1.108] [1.120]	1.102 [1.156] [1.168]	1.262 [1.316] [1.328]
Maximum input current with soft-starter with free cooling fans (SLN)			355 [397] [410]	380 [422] [434]	398 [440] [451]	409 [462] [474]	443 [497] [509]	464 [518] [530]	504 [558] [570]	182 [236] [248]
Fan nominal power - mechanical side	n° x kW		12 x 2,0 [13 x 2,0] [14 x 2,0]	13 x 2,0 [14 x 2,0] [15 x 2,0]	14 x 2,0 [15 x 2,0] [16 x 2,0]	15 x 2,0 [16 x 2,0] [17 x 2,0]	16 x 2,0 [17 x 2,0] [17 x 2,0]	17 x 2,0 [18 x 2,0] [18 x 2,0]	18 x 2,0 [19 x 2,0] [19 x 2,0]	
Fan nominal current - mechanical side	n° x A		12 x 4,3 [13 x 4,3] [14 x 4,3]	13 x 4,3 [14 x 4,3] [15 x 4,3]	14 x 4,3 [15 x 4,3] [16 x 4,3]	15 x 4,3 [16 x 4,3] [17 x 4,3]	16 x 4,3 [17 x 4,3] [17 x 4,3]	17 x 4,3 [18 x 4,3] [18 x 4,3]	18 x 4,3 [19 x 4,3] [19 x 4,3]	
Fan nominal power - basic version free cooling side	n° x kW		6 x 2,0 [6 x 4,3]	8 x 2,0 [8 x 4,3]	8 x 2,0 [8 x 4,3]	8 x 2,0 [8 x 4,3]	10 x 2,0 [10 x 4,3]	10 x 2,0 [10 x 4,3]	12 x 2,0 [12 x 4,3]	12 x 2,0 [12 x 4,3]
Fan nominal current - basic version free cooling side	n° x A		6 x 4,3 [6 x 1,1]	8 x 4,3 [8 x 1,1]	8 x 4,3 [8 x 1,1]	8 x 4,3 [8 x 1,1]	10 x 4,3 [10 x 1,1]	10 x 4,3 [10 x 1,1]	12 x 4,3 [12 x 1,1]	12 x 4,3 [12 x 1,1]
Fan nominal power - SLN version free cooling side	n° x kW		6 x 1,1 [6 x 2,1]	8 x 1,1 [8 x 2,1]	8 x 1,1 [8 x 2,1]	8 x 1,1 [8 x 2,1]	10 x 1,1 [10 x 2,1]	10 x 1,1 [10 x 2,1]	12 x 1,1 [12 x 2,1]	12 x 1,1 [12 x 2,1]
Fan nominal current - SLN version free cooling side	n° x A		6 x 2,1 [6 x 2,1]	8 x 2,1 [8 x 2,1]	8 x 2,1 [8 x 2,1]	8 x 2,1 [8 x 2,1]	10 x 2,1 [10 x 2,1]	10 x 2,1 [10 x 2,1]	12 x 2,1 [12 x 2,1]	12 x 2,1 [12 x 2,1]
Standard motor pump nominal power	kW		22,0	22,0	22,0	30,0	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A		42,0	42,0	42,0	53,5	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power			30,0	30,0	30,0	37,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current			55,0	53,5	53,5	65,6	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV SLN FC CUSTOM

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	153 [159] [166]	178 [185] [191]	190 [197] [203]	208 [217] [221]	227 [236] [240]	242 [250] [254]	274 [289] [293]	312 [327] [331]
Maximum current absorbed with free cooling fans	(2),(3)	A	262 [276] [290]	302 [321] [331]	320 [339] [348]	353 [375] [382]	387 [409] [416]	413 [434] [441]	467 [501] [509]	529 [563] [571]
Maximum input current with free cooling fans	(4)	A	338 [352] [366]	401 [420] [430]	419 [438] [448]	425 [446] [453]	459 [480] [487]	515 [537] [544]	564 [598] [606]	731 [765] [773]
Maximum input current with soft-starter with free cooling fans	(4)	A	189 [203] [217]	216 [235] [245]	224 [243] [253]	248 [269] [276]	263 [284] [291]	282 [304] [311]	335 [369] [377]	331 [365] [373]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	150 [158] [165]	173 [183] [188]	185 [194] [200]	204 [215] [219]	223 [234] [238]	237 [248] [252]	269 [288] [291]	306 [324] [328]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	254 [269] [283]	291 [310] [320]	309 [328] [338]	343 [364] [371]	376 [398] [405]	402 [423] [430]	456 [490] [498]	515 [549] [557]
Maximum input current with free cooling fans (SLN)	(4)	A	330 [344] [358]	390 [409] [419]	408 [427] [437]	415 [436] [443]	448 [469] [476]	504 [526] [533]	553 [587] [595]	717 [751] [759]
Maximum input current with soft-starter with free cooling fans (SLN)			186 [200] [214]	213 [232] [241]	221 [240] [249]	245 [266] [273]	260 [281] [288]	276 [297] [304]	328 [363] [370]	325 [359] [367]
Fan nominal power - mechanical side	n° x kW		6 x 2,0	7 x 2,0	8 x 2,0	8 x 2,0	8 x 2,0	9 x 2,0	11 x 2,0	12 x 2,0
Fan nominal current - mechanical side	n° x A		6 x 4,3	7 x 4,3	8 x 4,3	8 x 4,3	8 x 4,3	9 x 4,3	11 x 4,3	12 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		4 x 2,0	6 x 2,0	8 x 2,0					
Fan nominal current - basic version free cooling side	n° x A		4 x 4,3	6 x 4,3	8 x 4,3					
Fan nominal power - SLN version free cooling side	n° x kW		4 x 1,1	6 x 1,1	8 x 1,1					
Fan nominal current - SLN version free cooling side	n° x A		4 x 2,1	6 x 2,1	8 x 2,1					
Standard motor pump nominal power	kW		7,5	9,2	9,2	11,0	11,0	11,0	18,5	18,5
Standard motor pump nominal current	A		14,4	19,0	19,0	21,6	21,6	21,6	34,2	34,2
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	15,0	15,0	22,0	22,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	28,6	28,6	42,0	42,0
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV SLN FC CUSTOM

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	328 (347) [355]	351 (370) [378]	370 (389) [397]	399 (425) [432]	431 (457) [464]	458 (484) [491]	488 (514) [521]	518 (544) [551]
Maximum current absorbed with free cooling fans	(2),(3)	A	554 (596) [609]	591 (633) [644]	619 (661) [673]	672 (725) [737]	732 (786) [798]	776 (829) [841]	828 (881) [893]	875 (928) [941]
Maximum input current with free cooling fans	(4)	A	756 (798) [811]	798 (840) [852]	826 (868) [880]	952 (1.006) [1.018]	1.012 (1.066) [1.078]	1.081 (1.135) [1.147]	1.133 (1.187) [1.199]	1.292 (1.346) [1.358]
Maximum input current with soft-starter with free cooling fans	(4)	A	369 (411) [424]	398 (440) [451]	411 (453) [465]	422 (476) [488]	457 (511) [523]	489 (543) [555]	533 (587) [599]	187 (241) [253]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	322 (344) [352]	344 (366) [374]	363 (385) [393]	392 (422) [429]	423 (453) [460]	449 (479) [486]	478 (508) [515]	508 (538) [545]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	540 (582) [595]	573 (615) [626]	601 (643) [655]	654 (707) [719]	711 (764) [776]	754 (808) [820]	802 (856) [868]	850 (903) [915]
Maximum input current with free cooling fans (SLN)	(4)	A	742 (784) [797]	780 (822) [834]	808 (850) [862]	934 (988) [1.000]	991 (1.045) [1.057]	1.059 (1.113) [1.125]	1.107 (1.161) [1.173]	1.267 (1.321) [1.333]
Maximum input current with soft-starter with free cooling fans (SLN)			362 (404) [417]	391 (433) [445]	402 (444) [455]	413 (466) [478]	447 (501) [513]	480 (533) [545]	524 (577) [589]	184 (238) [250]
Fan nominal power - mechanical side	n° x kW		12 x 2,0	13 x 2,0	14 x 2,0	15 x 2,0	16 x 2,0	17 x 2,0	18 x 2,0	19 x 2,0
Fan nominal current - mechanical side	n° x A		12 x 4,3	13 x 4,3	14 x 4,3	15 x 4,3	16 x 4,3	17 x 4,3	18 x 4,3	19 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		8 x 2,0	10 x 2,0	10 x 2,0	10 x 2,0	12 x 2,0	12 x 2,0	14 x 2,0	14 x 2,0
Fan nominal current - basic version free cooling side	n° x A		8 x 4,3	10 x 4,3	10 x 4,3	10 x 4,3	12 x 4,3	12 x 4,3	14 x 4,3	14 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW		8 x 1,1	10 x 1,1	10 x 1,1	10 x 1,1	12 x 1,1	12 x 1,1	14 x 1,1	14 x 1,1
Fan nominal current - SLN version free cooling side	n° x A		8 x 2,1	10 x 2,1	10 x 2,1	10 x 2,1	12 x 2,1	12 x 2,1	14 x 2,1	14 x 2,1
Standard motor pump nominal power	kW		22,0	22,0	22,0	30,0	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A		42,0	42,0	42,0	53,5	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power			30,0	30,0	30,0	37,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current			55,0	53,5	53,5	65,6	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-241~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC EXTRA

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	157 (161) [163]	182 (189) [195]	194 (201) [207]	212 (220) [225]	231 (240) [244]	246 (254) [258]	278 (293) [297]	316 (331) [335]
Maximum current absorbed with free cooling fans	(2),(3)	A	270 (281) [285]	311 (330) [339]	328 (347) [357]	362 (381) [391]	396 (417) [424]	421 (443) [450]	475 (510) [517]	538 (572) [580]
Maximum input current with free cooling fans	(4)	A	346 (357) [360]	410 (429) [439]	427 (446) [456]	434 (453) [462]	468 (489) [496]	523 (545) [552]	572 (606) [614]	740 (774) [782]
Maximum input current with soft-starter with free cooling fans	(4)	A	192 (203) [207]	220 (239) [248]	228 (247) [256]	251 (270) [280]	266 (288) [295]	289 (311) [318]	342 (376) [384]	338 (373) [380]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	153 (158) [160]	176 (185) [191]	188 (197) [203]	207 (216) [222]	226 (237) [241]	240 (251) [255]	272 (290) [294]	308 (327) [330]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	259 (270) [274]	296 (315) [325]	314 (333) [343]	348 (367) [376]	381 (403) [410]	407 (428) [435]	461 (495) [503]	520 (554) [562]
Maximum input current with free cooling fans (SLN)	(4)	A	335 (346) [349]	395 (414) [424]	413 (432) [442]	420 (439) [448]	453 (474) [481]	509 (531) [538]	558 (592) [600]	722 (756) [764]
Maximum input current with soft-starter with free cooling fans (SLN)			188 (198) [202]	215 (234) [243]	223 (242) [251]	247 (266) [275]	262 (283) [290]	280 (301) [308]	333 (367) [375]	329 (363) [371]
Fan nominal power - mechanical side	n° x kW		6 x 2,0 6 x 4,3	7 x 2,0 7 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	9 x 2,0 9 x 4,3	11 x 2,0 11 x 4,3	12 x 2,0 12 x 4,3
Fan nominal current - mechanical side	n° x A									
Fan nominal power - basic version free cooling side	n° x kW		6 x 2,0 6 x 4,3	8 x 2,0 8 x 4,3	10 x 2,0 10 x 4,3					
Fan nominal current - basic version free cooling side	n° x A									
Fan nominal power - SLN version free cooling side	n° x kW		6 x 1,1 6 x 2,1	8 x 1,1 8 x 2,1	10 x 1,1 10 x 2,1					
Fan nominal current - SLN version free cooling side	n° x A									
Standard motor pump nominal power	kW		5,5	9,2	9,2	9,2	11,0	11,0	18,5	18,5
Standard motor pump nominal current	A		10,7	19,0	19,0	19,0	21,6	21,6	34,2	34,2
Motor enhanced pump nominal power				7,5	15,0	15,0	15,0	15,0	22,0	22,0
Motor enhanced pump nominal current				14,4	28,6	28,6	28,6	28,6	42,0	42,0
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV FC EXTRA

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	332 (347) [359]	355 (370) [382]	374 (389) [401]	407 (425) [433]	439 (465) [472]	466 (492) [499]	496 (522) [529]	526 (552) [559]
Maximum current absorbed with free cooling fans	(2),(3)	A	563 (597) [616]	600 (634) [653]	628 (662) [681]	689 (728) [742]	750 (803) [815]	793 (846) [859]	845 (898) [910]	892 (946) [958]
Maximum input current with free cooling fans	(4)	A	765 (799) [819]	807 (841) [861]	835 (869) [889]	969 (1.008) [1.023]	1.030 (1.084) [1.096]	1.098 (1.152) [1.164]	1.150 (1.204) [1.216]	1.309 (1.363) [1.375]
Maximum input current with soft-starter with free cooling fans	(4)	A	376 (410) [430]	405 (439) [459]	419 (453) [472]	430 (469) [483]	464 (518) [530]	497 (550) [562]	541 (594) [606]	191 (245) [257]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	325 (343) [355]	346 (365) [376]	366 (384) [396]	397 (419) [427]	428 (458) [465]	454 (484) [491]	483 (513) [520]	513 (543) [550]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	545 (579) [598]	578 (612) [631]	606 (640) [660]	664 (703) [717]	721 (774) [786]	764 (818) [830]	812 (866) [878]	860 (913) [925]
Maximum input current with free cooling fans (SLN)	(4)	A	747 (781) [801]	785 (819) [839]	813 (847) [867]	944 (983) [998]	1.001 (1.055) [1.067]	1.069 (1.123) [1.135]	1.117 (1.171) [1.183]	1.277 (1.331) [1.343]
Maximum input current with soft-starter with free cooling fans (SLN)			367 (401) [420]	396 (430) [449]	406 (440) [460]	417 (456) [471]	452 (505) [517]	484 (538) [550]	528 (582) [594]	186 (240) [252]
Fan nominal power - mechanical side	n° x kW		12 x 2,0 [13 x 2,0]	13 x 2,0 [14 x 2,0]	14 x 2,0 [15 x 2,0]	15 x 2,0 [16 x 2,0]	16 x 2,0 [17 x 2,0]	17 x 2,0 [18 x 2,0]	18 x 2,0 [19 x 2,0]	
Fan nominal current - mechanical side	n° x A		12 x 4,3 [13 x 4,3]	13 x 4,3 [14 x 4,3]	14 x 4,3 [15 x 4,3]	15 x 4,3 [16 x 4,3]	16 x 4,3 [17 x 4,3]	17 x 4,3 [18 x 4,3]	18 x 4,3 [19 x 4,3]	
Fan nominal power - basic version free cooling side	n° x kW		10 x 2,0 [12 x 2,0]	12 x 2,0 [12 x 2,0]	12 x 2,0 [14 x 2,0]	14 x 2,0 [16 x 2,0]	16 x 2,0 [16 x 2,0]	16 x 2,0 [18 x 2,0]	18 x 2,0 [18 x 2,0]	
Fan nominal current - basic version free cooling side	n° x A		10 x 4,3 [12 x 4,3]	12 x 4,3 [12 x 4,3]	12 x 4,3 [14 x 4,3]	14 x 4,3 [16 x 4,3]	16 x 4,3 [16 x 4,3]	16 x 4,3 [18 x 4,3]	18 x 4,3 [18 x 4,3]	
Fan nominal power - SLN version free cooling side	n° x kW		10 x 1,1 [12 x 1,1]	12 x 1,1 [12 x 1,1]	12 x 1,1 [14 x 1,1]	14 x 1,1 [16 x 1,1]	16 x 1,1 [16 x 1,1]	16 x 1,1 [18 x 1,1]	18 x 1,1 [18 x 1,1]	
Fan nominal current - SLN version free cooling side	n° x A		10 x 2,1 [12 x 2,1]	12 x 2,1 [12 x 2,1]	12 x 2,1 [14 x 2,1]	14 x 2,1 [16 x 2,1]	16 x 2,1 [16 x 2,1]	16 x 2,1 [18 x 2,1]	18 x 2,1 [18 x 2,1]	
Standard motor pump nominal power	kW		18,5 [34,2]	18,5 [34,2]	18,5 [34,2]	22,0 [39,0]	30,0 [53,5]	30,0 [53,5]	30,0 [53,5]	30,0
Standard motor pump nominal current	A		34,2 [30,0]	34,2 [30,0]	34,2 [30,0]	39,0 [30,0]	53,5 [37,0]	53,5 [37,0]	53,5 [37,0]	53,5
Motor enhanced pump nominal power										
Motor enhanced pump nominal current										
Main power supply	V/ph/Hz							400/3~/50		
Auxiliary power supply	V/ph/Hz							230-24/1~/50		

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC BASIC

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	151 [157] [164]	174 [183] [187]	186 [195] [199]	204 [213] [217]	223 [236] [240]	240 [256] [259]	274 [289] [293]	308 [327] [335]
Maximum current absorbed with free cooling fans	(2),(3)	A	257 [272] [286]	293 [315] [322]	311 [333] [340]	345 [366] [373]	378 [407] [413]	408 [443] [450]	467 [501] [509]	520 [562] [575]
Maximum input current with free cooling fans	(4)	A	333 [347] [361]	392 [414] [421]	410 [432] [439]	417 [438] [445]	450 [478] [484]	510 [545] [552]	564 [598] [606]	722 [764] [777]
Maximum input current with soft-starter with free cooling fans	(4)	A	185 [199] [214]	212 [234] [241]	220 [242] [249]	244 [266] [273]	259 [288] [293]	278 [312] [320]	331 [365] [373]	327 [369] [382]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	149 [156] [164]	171 [182] [186]	183 [194] [198]	202 [213] [217]	220 [235] [239]	236 [255] [258]	269 [288] [291]	303 [325] [333]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	252 [266] [280]	286 [308] [315]	304 [326] [333]	338 [359] [366]	371 [400] [405]	399 [434] [441]	456 [490] [498]	510 [552] [565]
Maximum input current with free cooling fans (SLN)	(4)	A	328 [342] [356]	385 [407] [414]	403 [425] [432]	410 [431] [438]	443 [471] [477]	501 [536] [543]	553 [587] [595]	712 [754] [767]
Maximum input current with soft-starter with free cooling fans (SLN)			180 [194] [209]	205 [227] [234]	213 [235] [242]	237 [259] [266]	252 [281] [286]	269 [303] [311]	320 [354] [362]	317 [359] [372]
Fan nominal power - mechanical side	n° x kW		6 x 2,0 6 x 4,3	7 x 2,0 7 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	9 x 2,0 9 x 4,3	11 x 2,0 11 x 4,3	12 x 2,0 12 x 4,3
Fan nominal current - mechanical side	n° x A		3 x 2,0 3 x 4,3	4 x 2,0 4 x 4,3	5 x 2,0 5 x 4,3	6 x 2,0 6 x 4,3	6 x 2,0 6 x 4,3			
Fan nominal power - basic version free cooling side	n° x kW		3 x 2,0 3 x 4,3	4 x 2,0 4 x 4,3	5 x 2,0 5 x 4,3	6 x 2,0 6 x 4,3	6 x 2,0 6 x 4,3			
Fan nominal current - basic version free cooling side	n° x A		3 x 1,1 3 x 2,1	4 x 1,1 4 x 2,1	5 x 1,1 5 x 2,1	6 x 1,1 6 x 2,1	6 x 1,1 6 x 2,1			
Fan nominal power - SLN version free cooling side	n° x kW		3 x 1,1 3 x 2,1	4 x 1,1 4 x 2,1	5 x 1,1 5 x 2,1	6 x 1,1 6 x 2,1	6 x 1,1 6 x 2,1			
Fan nominal current - SLN version free cooling side	n° x A		3 x 2,1 3 x 4,3	4 x 2,1 4 x 4,3	5 x 2,1 5 x 4,3	6 x 2,1 6 x 4,3	6 x 2,1 6 x 4,3			
Standard motor pump nominal power	kW		7,5	11,0	11,0	11,0	15,0	18,5	18,5	22,0
Standard motor pump nominal current	A		14,4	21,6	21,6	21,6	28,6	34,2	34,2	42,0
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	18,5	22,0	22,0	30,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	34,2	42,0	42,0	55,0
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC BASIC

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	
Maximum power absorbed with free cooling fans	(1),(3)	kW		328 [347] [355]	347 [366] [374]	366 [393] [400]	395 [421] [428]	427 [453] [460]	454 [480] [487]	484 [510] [517]	514 [540] [547]
Maximum current absorbed with free cooling fans	(2),(3)	A		554 [596] [608]	582 [624] [636]	611 [664] [676]	663 [716] [729]	724 [777] [789]	767 [821] [833]	819 [873] [885]	866 [920] [932]
Maximum input current with free cooling fans	(4)	A		756 [798] [810]	789 [831] [843]	818 [872] [884]	943 [997] [1.009]	1.004 [1.058] [1.070]	1.072 [1.126] [1.138]	1.124 [1.178] [1.190]	1.283 [1.337] [1.349]
Maximum input current with soft-starter with free cooling fans	(4)	A		365 [407] [419]	394 [436] [448]	404 [458] [470]	415 [469] [481]	450 [503] [515]	482 [536] [548]	526 [580] [592]	184 [237] [249]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW		322 [344] [352]	341 [363] [371]	361 [391] [398]	389 [419] [426]	420 [450] [457]	447 [477] [484]	476 [506] [513]	506 [536] [543]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A		540 [582] [593]	568 [610] [621]	596 [650] [662]	649 [702] [714]	706 [759] [771]	749 [803] [815]	797 [851] [863]	845 [898] [910]
Maximum input current with free cooling fans (SLN)	(4)	A		742 [784] [796]	775 [817] [829]	803 [857] [869]	929 [983] [995]	986 [1.040] [1.052]	1.054 [1.108] [1.120]	1.102 [1.156] [1.168]	1.262 [1.316] [1.328]
Maximum input current with soft-starter with free cooling fans (SLN)				351 [393] [405]	380 [422] [434]	398 [451] [463]	409 [462] [474]	443 [497] [509]	464 [518] [530]	504 [558] [570]	182 [236] [248]
Fan nominal power - mechanical side	n° x kW		12 x 2,0	13 x 2,0	14 x 2,0	15 x 2,0	16 x 2,0	17 x 2,0	18 x 2,0	19 x 2,0	
Fan nominal current - mechanical side	n° x A		12 x 4,3	13 x 4,3	14 x 4,3	15 x 4,3	16 x 4,3	17 x 4,3	18 x 4,3	19 x 4,3	
Fan nominal power - basic version free cooling side	n° x kW		8 x 2,0	8 x 2,0	8 x 2,0	8 x 2,0	10 x 2,0	10 x 2,0	12 x 2,0	12 x 2,0	
Fan nominal current - basic version free cooling side	n° x A		8 x 4,3	8 x 4,3	8 x 4,3	8 x 4,3	10 x 4,3	10 x 4,3	12 x 4,3	12 x 4,3	
Fan nominal power - SLN version free cooling side	n° x kW		8 x 1,1	8 x 1,1	8 x 1,1	8 x 1,1	10 x 1,1	10 x 1,1	12 x 1,1	12 x 1,1	
Fan nominal current - SLN version free cooling side	n° x A		8 x 2,1	8 x 2,1	8 x 2,1	8 x 2,1	10 x 2,1	10 x 2,1	12 x 2,1	12 x 2,1	
Standard motor pump nominal power	kW		22,0	22,0	30,0	30,0	30,0	30,0	30,0	30,0	
Standard motor pump nominal current	A		42,0	42,0	53,5	53,5	53,5	53,5	53,5	53,5	
Motor enhanced pump nominal power			30,0	30,0	37,0	37,0	37,0	37,0	37,0	37,0	
Motor enhanced pump nominal current			53,5	53,5	65,6	65,6	65,6	65,6	65,6	65,6	
Main power supply	V/ph/Hz							400/3~/50			
Auxiliary power supply	V/ph/Hz							230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC CUSTOM

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	153 (159) [166]	178 (185) [191]	190 (197) [203]	208 (217) [221]	227 (236) [240]	242 (258) [261]	278 (293) [297]	312 (331) [339]
Maximum current absorbed with free cooling fans	(2),(3)	A	262 (276) [290]	302 (321) [331]	320 (339) [348]	353 (375) [382]	387 (409) [416]	413 (447) [455]	475 (510) [517]	529 (571) [584]
Maximum input current with free cooling fans	(4)	A	338 (352) [366]	401 (420) [430]	419 (438) [448]	425 (446) [453]	459 (480) [487]	515 (550) [557]	572 (606) [614]	731 (773) [786]
Maximum input current with soft-starter with free cooling fans	(4)	A	189 (203) [217]	216 (235) [245]	224 (243) [253]	248 (269) [276]	263 (284) [291]	282 (316) [324]	335 (369) [377]	331 (373) [386]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	150 (158) [165]	173 (183) [188]	185 (194) [200]	204 (215) [219]	223 (234) [238]	237 (256) [259]	272 (290) [294]	306 (328) [336]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	254 (269) [283]	291 (310) [320]	309 (328) [338]	343 (364) [371]	376 (398) [405]	402 (436) [444]	461 (495) [503]	515 (557) [570]
Maximum input current with free cooling fans (SLN)	(4)	A	330 (344) [358]	390 (409) [419]	408 (427) [437]	415 (436) [443]	448 (469) [476]	504 (539) [546]	558 (592) [600]	717 (759) [772]
Maximum input current with soft-starter with free cooling fans (SLN)			186 (200) [214]	213 (232) [241]	221 (240) [249]	245 (266) [273]	260 (281) [288]	276 (310) [318]	328 (363) [370]	325 (367) [380]
Fan nominal power - mechanical side	n° x kW		6 x 2,0	7 x 2,0	8 x 2,0	8 x 2,0	8 x 2,0	9 x 2,0	11 x 2,0	12 x 2,0
Fan nominal current - mechanical side	n° x A		6 x 4,3	7 x 4,3	8 x 4,3	8 x 4,3	8 x 4,3	9 x 4,3	11 x 4,3	12 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		4 x 2,0	6 x 2,0	8 x 2,0	8 x 2,0				
Fan nominal current - basic version free cooling side	n° x A		4 x 4,3	6 x 4,3	8 x 4,3	8 x 4,3				
Fan nominal power - SLN version free cooling side	n° x kW		4 x 1,1	6 x 1,1	8 x 1,1	8 x 1,1				
Fan nominal current - SLN version free cooling side	n° x A		4 x 2,1	6 x 2,1	8 x 2,1	8 x 2,1				
Standard motor pump nominal power	kW		7,5	9,2	9,2	11,0	11,0	18,5	18,5	22,0
Standard motor pump nominal current	A		14,4	19,0	19,0	21,6	21,6	34,2	34,2	42,0
Motor enhanced pump nominal power			15,0	15,0	15,0	15,0	15,0	22,0	22,0	30,0
Motor enhanced pump nominal current			28,6	28,6	28,6	28,6	28,6	42,0	42,0	55,0
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC CUSTOM

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	332 (351) [359]	351 (370) [378]	370 (389) [397]	399 (425) [432]	431 (457) [464]	458 (484) [491]	488 (514) [521]	518 (544) [551]
Maximum current absorbed with free cooling fans	(2),(3)	A	563 (605) [616]	591 (633) [644]	619 (661) [673]	672 (725) [737]	732 (786) [798]	776 (829) [841]	828 (881) [893]	875 (928) [941]
Maximum input current with free cooling fans	(4)	A	765 (807) [819]	798 (840) [852]	826 (868) [880]	952 (1.006) [1.018]	1.012 (1.066) [1.078]	1.081 (1.135) [1.147]	1.133 (1.187) [1.199]	1.292 (1.346) [1.358]
Maximum input current with soft-starter with free cooling fans	(4)	A	369 (411) [422]	398 (440) [451]	411 (453) [465]	422 (476) [488]	457 (511) [523]	489 (543) [555]	533 (587) [599]	187 (241) [253]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	325 (347) [355]	344 (366) [374]	363 (385) [393]	392 (422) [429]	423 (453) [460]	449 (479) [486]	478 (508) [515]	508 (538) [545]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	545 (587) [598]	573 (615) [626]	601 (643) [655]	654 (707) [719]	711 (764) [776]	754 (808) [820]	802 (856) [868]	850 (903) [915]
Maximum input current with free cooling fans (SLN)	(4)	A	747 (789) [801]	780 (822) [834]	808 (850) [862]	934 (988) [1.000]	991 (1.045) [1.057]	1.059 (1.113) [1.125]	1.107 (1.161) [1.173]	1.267 (1.321) [1.333]
Maximum input current with soft-starter with free cooling fans (SLN)			362 (404) [416]	391 (433) [445]	402 (444) [455]	413 (466) [478]	447 (501) [513]	480 (533) [545]	524 (577) [589]	184 (238) [250]
Fan nominal power - mechanical side	n° x kW		12 x 2,0	13 x 2,0	14 x 2,0	15 x 2,0	16 x 2,0	17 x 2,0	18 x 2,0	19 x 2,0
Fan nominal current - mechanical side	n° x A		12 x 4,3	13 x 4,3	14 x 4,3	15 x 4,3	16 x 4,3	17 x 4,3	18 x 4,3	19 x 4,3
Fan nominal power - basic version free cooling side	n° x kW		10 x 2,0	10 x 2,0	10 x 2,0	10 x 2,0	12 x 2,0	12 x 2,0	14 x 2,0	14 x 2,0
Fan nominal current - basic version free cooling side	n° x A		10 x 4,3	10 x 4,3	10 x 4,3	10 x 4,3	12 x 4,3	12 x 4,3	14 x 4,3	14 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW		10 x 1,1	10 x 1,1	10 x 1,1	10 x 1,1	12 x 1,1	12 x 1,1	14 x 1,1	14 x 1,1
Fan nominal current - SLN version free cooling side	n° x A		10 x 2,1	10 x 2,1	10 x 2,1	10 x 2,1	12 x 2,1	12 x 2,1	14 x 2,1	14 x 2,1
Standard motor pump nominal power	kW		22,0	22,0	22,0	30,0	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A		42,0	42,0	42,0	53,5	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power			30,0	30,0	30,0	37,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current			53,5	53,5	53,5	65,6	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC EXTRA

Unit size			33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	157 (161) [163]	182 (189) [195]	194 (201) [207]	212 (220) [225]	231 (240) [244]	246 (262) [265]	282 (297) [301]	316 (331) [343]
Maximum current absorbed with free cooling fans	(2),(3)	A	270 (281) [285]	311 (330) [339]	328 (347) [357]	362 (381) [391]	396 (417) [424]	421 (455) [463]	484 (518) [526]	538 (572) [591]
Maximum input current with free cooling fans	(4)	A	346 (357) [360]	410 (429) [439]	427 (446) [456]	434 (453) [462]	468 (489) [496]	523 (558) [565]	581 (615) [623]	740 (774) [794]
Maximum input current with soft-starter with free cooling fans	(4)	A	192 (203) [207]	220 (239) [248]	228 (247) [256]	251 (270) [280]	266 (288) [295]	289 (324) [331]	342 (376) [384]	338 (373) [392]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	153 (158) [160]	176 (185) [191]	188 (197) [203]	207 (216) [222]	226 (237) [241]	240 (258) [262]	274 (293) [296]	308 (327) [338]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	259 (270) [274]	296 (315) [325]	314 (333) [343]	348 (367) [376]	381 (403) [410]	407 (441) [449]	466 (500) [508]	520 (554) [573]
Maximum input current with free cooling fans (SLN)	(4)	A	335 (346) [349]	395 (414) [424]	413 (432) [442]	420 (439) [448]	453 (474) [481]	509 (544) [551]	563 (597) [605]	722 (756) [776]
Maximum input current with soft-starter with free cooling fans (SLN)			188 (198) [202]	215 (234) [243]	223 (242) [251]	247 (266) [275]	262 (283) [290]	280 (314) [322]	333 (367) [375]	329 (363) [382]
Fan nominal power - mechanical side	n° x kW		6 x 2,0 6 x 4,3	7 x 2,0 7 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	9 x 2,0 9 x 4,3	11 x 2,0 11 x 4,3	12 x 2,0 12 x 4,3
Fan nominal current - mechanical side	n° x A									
Fan nominal power - basic version free cooling side	n° x kW		6 x 2,0 6 x 4,3	8 x 2,0 8 x 4,3	10 x 2,0 10 x 4,3	10 x 2,0 10 x 4,3	10 x 2,0 10 x 4,3			
Fan nominal current - basic version free cooling side	n° x A									
Fan nominal power - SLN version free cooling side	n° x kW		6 x 1,1 6 x 2,1	8 x 1,1 8 x 2,1	10 x 1,1 10 x 2,1	10 x 1,1 10 x 2,1				
Fan nominal current - SLN version free cooling side	n° x A									
Standard motor pump nominal power	kW		5,5	9,2	9,2	9,2	11,0	18,5	18,5	18,5
Standard motor pump nominal current	A		10,7	19,0	19,0	19,0	21,6	34,2	34,2	34,2
Motor enhanced pump nominal power				7,5	15,0	15,0	15,0	22,0	22,0	30,0
Motor enhanced pump nominal current				14,4	28,6	28,6	28,6	42,0	42,0	53,5
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HE FC EXTRA

Unit size			67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2
Maximum power absorbed with free cooling fans	(1),(3)	kW	336 (351) [363]	355 (370) [382]	378 (397) [405]	407 (425) [433]	439 (465) [472]	466 (492) [499]	496 (522) [529]	526 (552) [559]
Maximum current absorbed with free cooling fans	(2),(3)	A	571 (605) [625]	600 (634) [653]	636 (675) [690]	689 (728) [742]	750 (803) [815]	793 (846) [859]	845 (898) [910]	892 (946) [958]
Maximum input current with free cooling fans	(4)	A	773 (807) [827]	807 (841) [861]	843 (882) [897]	969 (1.008) [1.023]	1.030 (1.084) [1.096]	1.098 (1.152) [1.164]	1.150 (1.204) [1.216]	1.309 (1.363) [1.375]
Maximum input current with soft-starter with free cooling fans	(4)	A	376 (410) [430]	405 (439) [459]	419 (458) [472]	430 (469) [483]	464 (518) [530]	497 (550) [562]	541 (594) [606]	191 (245) [257]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	327 (346) [357]	346 (365) [376]	368 (390) [398]	397 (419) [427]	428 (458) [465]	454 (484) [491]	483 (513) [520]	513 (543) [550]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	550 (584) [603]	578 (612) [631]	611 (650) [665]	664 (703) [717]	721 (774) [786]	764 (818) [830]	812 (866) [878]	860 (913) [925]
Maximum input current with free cooling fans (SLN)	(4)	A	752 (786) [806]	785 (819) [839]	818 (857) [872]	944 (983) [998]	1.001 (1.055) [1.067]	1.069 (1.123) [1.135]	1.117 (1.171) [1.183]	1.277 (1.331) [1.343]
Maximum input current with soft-starter with free cooling fans (SLN)			367 (401) [420]	396 (430) [449]	406 (445) [460]	417 (456) [471]	452 (505) [517]	484 (538) [550]	528 (582) [594]	186 (240) [252]
Fan nominal power - mechanical side	n° x kW		12 x 2,0 [13 x 2,0]	13 x 2,0 [14 x 2,0]	14 x 2,0 [15 x 2,0]	15 x 2,0 [16 x 2,0]	16 x 2,0 [17 x 2,0]	17 x 2,0 [18 x 2,0]	18 x 2,0 [19 x 2,0]	
Fan nominal current - mechanical side	n° x A		12 x 4,3 [13 x 4,3]	13 x 4,3 [14 x 4,3]	14 x 4,3 [15 x 4,3]	15 x 4,3 [16 x 4,3]	16 x 4,3 [17 x 4,3]	17 x 4,3 [18 x 4,3]	18 x 4,3 [19 x 4,3]	
Fan nominal power - basic version free cooling side	n° x kW		12 x 2,0 [12 x 2,0]	12 x 2,0 [14 x 2,0]	14 x 2,0 [14 x 2,0]	14 x 2,0 [16 x 2,0]	16 x 2,0 [16 x 2,0]	16 x 2,0 [18 x 2,0]	18 x 2,0 [18 x 2,0]	
Fan nominal current - basic version free cooling side	n° x A		12 x 4,3 [12 x 4,3]	12 x 4,3 [14 x 4,3]	14 x 4,3 [14 x 4,3]	14 x 4,3 [16 x 4,3]	16 x 4,3 [16 x 4,3]	16 x 4,3 [18 x 4,3]	18 x 4,3 [18 x 4,3]	
Fan nominal power - SLN version free cooling side	n° x kW		12 x 1,1 [12 x 1,1]	12 x 1,1 [14 x 1,1]	14 x 1,1 [14 x 1,1]	14 x 1,1 [16 x 1,1]	16 x 1,1 [16 x 1,1]	16 x 1,1 [18 x 1,1]	18 x 1,1 [18 x 1,1]	
Fan nominal current - SLN version free cooling side	n° x A		12 x 2,1 [12 x 2,1]	12 x 2,1 [14 x 2,1]	14 x 2,1 [14 x 2,1]	14 x 2,1 [16 x 2,1]	16 x 2,1 [16 x 2,1]	16 x 2,1 [18 x 2,1]	18 x 2,1 [18 x 2,1]	
Standard motor pump nominal power	kW		18,5 [34,2]	18,5 [34,2]	22,0 [39,0]	22,0 [39,0]	30,0 [53,5]	30,0 [53,5]	30,0 [53,5]	30,0
Standard motor pump nominal current	A		30,0 [53,5]	30,0 [53,5]	30,0 [53,5]	37,0 [65,6]	37,0 [65,6]	37,0 [65,6]	37,0 [65,6]	37,0
Motor enhanced pump nominal power										
Motor enhanced pump nominal current										
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HEI FC BASIC

Unit size			58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Maximum power absorbed with free cooling fans	(1),(3)	kW	157 (161) [163]	182 (189) [195]	194 (201) [207]	212 (220) [225]	231 (240) [244]	246 (262) [265]	282 (297) [301]	316 (331) [343]
Maximum current absorbed with free cooling fans	(2),(3)	A	270 (281) [285]	311 (330) [339]	328 (347) [357]	362 (381) [391]	396 (417) [424]	421 (455) [463]	484 (518) [526]	538 (572) [591]
Maximum input current with free cooling fans	(4)	A	346 (357) [360]	410 (429) [439]	427 (446) [456]	434 (453) [462]	468 (489) [496]	523 (558) [565]	581 (615) [623]	740 (774) [794]
Maximum input current with soft-starter with free cooling fans	(4)	A	192 (203) [207]	220 (239) [248]	228 (247) [256]	251 (270) [280]	266 (288) [295]	289 (324) [331]	342 (376) [384]	338 (373) [392]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	153 (158) [160]	176 (185) [191]	188 (197) [203]	207 (216) [222]	226 (237) [241]	240 (258) [262]	274 (293) [296]	308 (327) [338]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	259 (270) [274]	296 (315) [325]	314 (333) [343]	348 (367) [376]	381 (403) [410]	407 (441) [449]	466 (500) [508]	520 (554) [573]
Maximum input current with free cooling fans (SLN)	(4)	A	335 (346) [349]	395 (414) [424]	413 (432) [442]	420 (439) [448]	453 (474) [481]	509 (544) [551]	563 (597) [605]	722 (756) [776]
Maximum input current with soft-starter with free cooling fans (SLN)			188 (198) [202]	215 (234) [243]	223 (242) [251]	247 (266) [275]	262 (283) [290]	280 (314) [322]	333 (367) [375]	329 (363) [382]
Fan nominal power - mechanical side	n° x kW		6 x 2,0 6 x 4,3	7 x 2,0 7 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	8 x 2,0 9 x 4,3	9 x 2,0 11 x 4,3	11 x 2,0 12 x 4,3
Fan nominal current - mechanical side	n° x A		6 x 4,3 6 x 4,3	7 x 4,3 8 x 4,3	8 x 4,3 8 x 4,3	8 x 4,3 8 x 4,3	8 x 4,3 8 x 4,3	9 x 4,3 10 x 4,3	11 x 4,3 10 x 2,0	12 x 4,3 10 x 2,0
Fan nominal power - basic version free cooling side	n° x kW		6 x 2,0 6 x 4,3	8 x 2,0 8 x 4,3	10 x 2,0 10 x 4,3	10 x 2,0 10 x 4,3				
Fan nominal current - basic version free cooling side	n° x A		6 x 4,3 6 x 4,3	8 x 4,3 8 x 4,3	8 x 4,3 10 x 4,3	10 x 4,3 10 x 4,3	10 x 4,3 10 x 4,3			
Fan nominal power - SLN version free cooling side	n° x kW		6 x 1,1 6 x 2,1	8 x 1,1 8 x 2,1	10 x 1,1 10 x 2,1	10 x 1,1 10 x 2,1				
Fan nominal current - SLN version free cooling side	n° x A		6 x 2,1 6 x 2,1	8 x 2,1 8 x 2,1	10 x 2,1 10 x 2,1	10 x 2,1 10 x 2,1				
Standard motor pump nominal power	kW		5,5	9,2	9,2	9,2	11,0	18,5	18,5	18,5
Standard motor pump nominal current	A		10,7	19,0	19,0	19,0	21,6	34,2	34,2	34,2
Motor enhanced pump nominal power			7,5	15,0	15,0	15,0	15,0	22,0	22,0	30,0
Motor enhanced pump nominal current			14,4	28,6	28,6	28,6	28,6	42,0	42,0	53,5
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HEI FC CUSTOM

Unit size			58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Maximum power absorbed with free cooling fans	(1),(3)	kW	252 [267] [271]	286 [304] [312]	322 [341] [349]	342 [360] [368]	394 [420] [427]	425 [450] [457]	456 [481] [488]	488 [513] [520]
Maximum current absorbed with free cooling fans	(2),(3)	A	442 [476] [484]	495 [537] [550]	554 [596] [608]	583 [625] [636]	665 [719] [731]	722 [776] [788]	785 [839] [851]	836 [889] [901]
Maximum input current with free cooling fans	(4)	A	544 [579] [586]	697 [739] [752]	756 [832] [844]	790 [897] [909]	843 [1.002] [1.068]	1.002 [1.056] [1.068]	987 [1.041] [1.053]	1.038 [1.092] [1.104]
Maximum input current with soft-starter with free cooling fans	(4)	A	189 [223] [231]	216 [258] [271]	224 [266] [277]	248 [290] [301]	263 [316] [328]	282 [335] [348]	335 [388] [400]	331 [384] [397]
Maximum power absorbed with free cooling fans (SLN)	(1),(3)	kW	246 [264] [268]	280 [302] [310]	315 [337] [345]	334 [356] [364]	385 [415] [422]	416 [446] [453]	445 [475] [482]	478 [508] [515]
Maximum current absorbed with free cooling fans (SLN)	(2),(3)	A	427 [462] [469]	481 [523] [536]	536 [578] [590]	565 [607] [618]	644 [697] [709]	700 [754] [766]	760 [814] [826]	810 [864] [876]
Maximum input current with free cooling fans (SLN)	(4)	A	529 [564] [571]	683 [725] [738]	738 [780] [792]	772 [814] [826]	822 [876] [888]	980 [1.034] [1.046]	962 [1.016] [1.028]	1.012 [1.066] [1.078]
Maximum input current with soft-starter with free cooling fans (SLN)			186 [220] [228]	213 [255] [268]	221 [263] [274]	245 [287] [298]	260 [313] [325]	276 [329] [341]	328 [382] [394]	325 [378] [390]
Fan nominal power - mechanical side	n° x kW		12 x 2,0 13 x 2,0	13 x 2,0 14 x 2,0	14 x 2,0 15 x 2,0	15 x 2,0 16 x 2,0	16 x 2,0 18 x 2,0	18 x 2,0 20 x 2,0	20 x 2,0 21 x 2,0	
Fan nominal current - mechanical side	n° x A		12 x 4,3 13 x 4,3	13 x 4,3 14 x 4,3	14 x 4,3 15 x 4,3	15 x 4,3 16 x 4,3	16 x 4,3 18 x 4,3	18 x 4,3 20 x 4,3	20 x 4,3 21 x 4,3	
Fan nominal power - basic version free cooling side	n° x kW		8 x 2,0 8 x 4,3	8 x 2,0 8 x 4,3	10 x 2,0 10 x 4,3	10 x 2,0 12 x 4,3	12 x 2,0 12 x 4,3	12 x 2,0 14 x 4,3	14 x 2,0 14 x 4,3	
Fan nominal current - basic version free cooling side	n° x A		8 x 4,3 8 x 1,1	8 x 4,3 8 x 1,1	10 x 4,3 10 x 1,1	10 x 4,3 12 x 1,1	12 x 4,3 12 x 1,1	14 x 4,3 14 x 1,1	14 x 4,3 14 x 1,1	
Fan nominal power - SLN version free cooling side	n° x kW		8 x 1,1 8 x 2,1	8 x 1,1 8 x 2,1	10 x 1,1 10 x 2,1	10 x 1,1 12 x 2,1	12 x 1,1 12 x 2,1	14 x 1,1 14 x 2,1	14 x 1,1 14 x 2,1	
Fan nominal current - SLN version free cooling side	n° x A		8 x 2,1 8 x 2,1	8 x 2,1 8 x 2,1	10 x 2,1 10 x 2,1	10 x 2,1 12 x 2,1	12 x 2,1 12 x 2,1	14 x 2,1 14 x 2,1	14 x 2,1 14 x 2,1	
Standard motor pump nominal power	kW		18,5 34,2	22,0 42,0	22,0 42,0	22,0 42,0	30,0 53,5	30,0 53,5	30,0 53,5	30,0
Standard motor pump nominal current	A		22,0 42,0	30,0 55,0	30,0 53,5	37,0 53,5	37,0 65,6	37,0 65,6	37,0 65,6	37,0
Motor enhanced pump nominal power										
Motor enhanced pump nominal current										
Main power supply	V/ph/Hz						400/3~/50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV HEI FC EXTRA

Unit size		58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3
Maximum power absorbed with free cooling fans	(1),(3) kW	256 (271) [275]	290 (305) [316]	326 (341) [353]	346 (360) [372]	402 (428) [435]	433 (458) [465]	464 (489) [496]	496 (521) [528]
Maximum current absorbed with free cooling fans	(2),(3) A	450 (485) [492]	504 (538) [557]	563 (597) [616]	591 (625) [645]	683 (736) [748]	739 (793) [805]	802 (856) [868]	853 (906) [918]
Maximum input current with free cooling fans	(4) A	552 (587) [594]	706 (740) [760]	765 (799) [819]	798 (832) [852]	861 (915) [927]	1,019 (1,073) [1,085]	1,004 (1,058) [1,070]	1,055 (1,109) [1,121]
Maximum input current with soft-starter with free cooling fans	(4) A	192 (227) [234]	220 (254) [273]	228 (262) [281]	251 (286) [305]	266 (320) [332]	289 (343) [355]	342 (396) [408]	338 (392) [404]
Maximum power absorbed with free cooling fans (SLN)	(1),(3) kW	248 (267) [270]	282 (301) [312]	318 (336) [348]	337 (355) [367]	391 (421) [428]	421 (451) [458]	451 (481) [488]	483 (513) [520]
Maximum current absorbed with free cooling fans (SLN)	(2),(3) A	432 (467) [474]	486 (520) [539]	541 (575) [595]	570 (604) [623]	654 (707) [719]	710 (764) [776]	770 (824) [836]	820 (874) [886]
Maximum input current with free cooling fans (SLN)	(4) A	534 (569) [576]	688 (722) [742]	743 (777) [797]	777 (811) [831]	832 (886) [898]	990 (1,044) [1,056]	972 (1,026) [1,038]	1,022 (1,076) [1,088]
Maximum input current with soft-starter with free cooling fans (SLN)		188 (222) [230]	215 (249) [268]	223 (257) [276]	247 (281) [300]	262 (315) [327]	280 (333) [345]	333 (386) [398]	329 (382) [394]
Fan nominal power - mechanical side	n° x kW	12 x 2,0 13 x 2,0	13 x 2,0 14 x 2,0	14 x 2,0 15 x 2,0	15 x 2,0 16 x 2,0	16 x 2,0 18 x 2,0	18 x 2,0 20 x 2,0	20 x 2,0 21 x 2,0	21 x 2,0
Fan nominal current - mechanical side	n° x A	12 x 4,3 13 x 4,3	13 x 4,3 14 x 4,3	14 x 4,3 15 x 4,3	16 x 4,3 16 x 4,3	18 x 4,3 18 x 4,3	20 x 4,3 21 x 4,3		
Fan nominal power - basic version free cooling side	n° x kW	10 x 2,0 10 x 2,0	10 x 2,0 12 x 2,0	12 x 2,0 12 x 2,0	16 x 2,0 16 x 2,0	16 x 2,0 18 x 2,0	18 x 2,0 18 x 2,0		
Fan nominal current - basic version free cooling side	n° x A	10 x 4,3 10 x 4,3	10 x 4,3 12 x 4,3	12 x 4,3 12 x 4,3	16 x 4,3 16 x 4,3	16 x 4,3 18 x 4,3	18 x 4,3 18 x 4,3		
Fan nominal power - SLN version free cooling side	n° x kW	10 x 1,1 10 x 1,1	10 x 1,1 12 x 1,1	12 x 1,1 12 x 1,1	16 x 1,1 16 x 1,1	16 x 1,1 18 x 1,1	18 x 1,1 18 x 1,1		
Fan nominal current - SLN version free cooling side	n° x A	10 x 2,1 10 x 2,1	10 x 2,1 12 x 2,1	12 x 2,1 12 x 2,1	16 x 2,1 16 x 2,1	16 x 2,1 18 x 2,1	18 x 2,1 18 x 2,1		
Standard motor pump nominal power	kW	18,5	18,5	18,5	18,5	30,0	30,0	30,0	30,0
Standard motor pump nominal current	A	34,2	34,2	34,2	34,2	53,5	53,5	53,5	53,5
Motor enhanced pump nominal power		22,0	30,0	30,0	30,0	37,0	37,0	37,0	37,0
Motor enhanced pump nominal current		42,0	53,5	53,5	53,5	65,6	65,6	65,6	65,6
Main power supply	V/ph/Hz					400/3~/50			
Auxiliary power supply	V/ph/Hz					230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV XEi FC BASIC

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Maximum power absorbed with free cooling fans	(1),(3) kW	118 (124) [131]	155 (164) [168]	205 (214) [218]	235 (251) [254]	270 (285) [289]	309 (327) [335]	360 (385) [392]	410 (435) [442]	425 (449) [456]
Maximum current absorbed with free cooling fans	(2),(3) A	210 (224) [238]	269 (290) [297]	347 (369) [376]	419 (454) [461]	474 (508) [516]	537 (579) [591]	616 (669) [681]	694 (748) [760]	743 (796) [808]
Maximum input current with free cooling fans	(4) A	44 (58) [73]	57 (79) [86]	65 (87) [94]	253 (287) [295]	262 (296) [304]	325 (367) [379]	334 (388) [400]	412 (466) [478]	531 (585) [597]
Maximum input current with soft-starter with free cooling fans	(4) A	185 (199) [214]	212 (234) [241]	220 (242) [249]	244 (278) [286]	259 (293) [301]	278 (320) [332]	331 (385) [397]	327 (381) [393]	365 (419) [431]
Maximum power absorbed with free cooling fans (SLN)	(1),(3) kW	116 (123) [131]	152 (163) [167]	202 (213) [217]	231 (250) [253]	266 (284) [288]	303 (325) [333]	354 (384) [391]	404 (434) [441]	417 (447) [454]
Maximum current absorbed with free cooling fans (SLN)	(2),(3) A	204 (219) [233]	261 (283) [290]	340 (362) [369]	409 (443) [451]	463 (497) [505]	523 (565) [576]	601 (655) [667]	680 (734) [746]	725 (778) [790]
Maximum input current with free cooling fans (SLN)	(4) A	38 (52) [67]	49 (71) [78]	58 (80) [87]	243 (277) [285]	251 (285) [293]	311 (353) [365]	319 (373) [385]	398 (452) [464]	513 (567) [579]
Maximum input current with soft-starter with free cooling fans (SLN)		179 (193) [208]	204 (226) [233]	213 (235) [242]	234 (268) [276]	248 (282) [290]	264 (306) [318]	316 (370) [382]	313 (367) [379]	347 (401) [413]
Fan nominal power - mechanical side	n° x kW	6 x 2,0	8 x 2,0	10 x 2,0	12 x 2,0	14 x 2,0	16 x 2,0	18 x 2,0	20 x 2,0	22 x 2,0
Fan nominal current - mechanical side	n° x A	6 x 4,3	8 x 4,3	10 x 4,3	12 x 4,3	14 x 4,3	16 x 4,3	18 x 4,3	20 x 4,3	22 x 4,3
Fan nominal power - basic version free cooling side	n° x kW	3 x 2,0	4 x 2,0	4 x 2,0	6 x 2,0	6 x 2,0	8 x 2,0	8 x 2,0	10 x 2,0	
Fan nominal current - basic version free cooling side	n° x A	3 x 4,3	4 x 4,3	4 x 4,3	6 x 4,3	6 x 4,3	8 x 4,3	8 x 4,3	8 x 4,3	10 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW	3 x 1,1	4 x 1,1	4 x 1,1	6 x 1,1	6 x 1,1	8 x 1,1	8 x 1,1	10 x 1,1	
Fan nominal current - SLN version free cooling side	n° x A	3 x 2,1	4 x 2,1	4 x 2,1	6 x 2,1	6 x 2,1	8 x 2,1	8 x 2,1	10 x 2,1	
Standard motor pump nominal power	kW	7,5	11,0	11,0	18,5	18,5	22,0	30,0	30,0	30,0
Standard motor pump nominal current	A	14,4	21,6	21,6	34,2	34,2	42,0	53,5	53,5	53,5
Motor enhanced pump nominal power		15,0	15,0	15,0	22,0	22,0	30,0	37,0	37,0	37,0
Motor enhanced pump nominal current		28,6	28,6	28,6	42,0	42,0	53,5	65,6	65,6	65,6
Main power supply	V/ph/Hz						400/3~50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV XEi FC CUSTOM

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Maximum power absorbed with free cooling fans	(1),(3) kW	120 (126) [133]	159 (166) [172]	209 (218) [222]	239 (255) [258]	274 (289) [293]	313 (331) [339]	364 (381) [389]	414 (439) [446]	429 (453) [460]
Maximum current absorbed with free cooling fans	(2),(3) A	214 (228) [243]	277 (296) [306]	356 (377) [384]	428 (462) [470]	483 (517) [525]	546 (588) [599]	624 (666) [678]	703 (757) [769]	751 (805) [817]
Maximum input current with free cooling fans	(4) A	48 (62) [77]	65 (84) [94]	74 (96) [103]	262 (296) [304]	271 (305) [313]	334 (376) [388]	342 (384) [396]	421 (475) [487]	539 (593) [605]
Maximum input current with soft-starter with free cooling fans	(4) A	189 (203) [217]	216 (235) [245]	224 (246) [253]	248 (282) [290]	263 (297) [305]	282 (324) [335]	335 (377) [388]	331 (384) [397]	369 (422) [434]
Maximum power absorbed with free cooling fans (SLN)	(1),(3) kW	117 (124) [132]	154 (163) [169]	205 (216) [220]	234 (252) [256]	268 (287) [290]	306 (328) [336]	356 (378) [386]	407 (437) [444]	420 (450) [457]
Maximum current absorbed with free cooling fans (SLN)	(2),(3) A	207 (221) [235]	266 (285) [295]	345 (367) [374]	414 (448) [456]	468 (502) [510]	528 (570) [581]	606 (648) [660]	685 (739) [751]	730 (783) [795]
Maximum input current with free cooling fans (SLN)	(4) A	41 (55) [70]	54 (73) [83]	63 (85) [92]	248 (282) [290]	256 (290) [298]	316 (358) [370]	324 (366) [378]	403 (457) [469]	518 (572) [584]
Maximum input current with soft-starter with free cooling fans (SLN)		186 (200) [214]	213 (232) [241]	221 (242) [249]	245 (279) [287]	260 (294) [302]	276 (318) [329]	328 (370) [382]	325 (378) [390]	362 (416) [428]
Fan nominal power - mechanical side	n° x kW	6 x 2,0	8 x 2,0	10 x 2,0	12 x 2,0	14 x 2,0	16 x 2,0	18 x 2,0	20 x 2,0	22 x 2,0
Fan nominal current - mechanical side	n° x A	6 x 4,3	8 x 4,3	10 x 4,3	12 x 4,3	14 x 4,3	16 x 4,3	18 x 4,3	20 x 4,3	22 x 4,3
Fan nominal power - basic version free cooling side	n° x kW	4 x 2,0	6 x 2,0	6 x 2,0	8 x 2,0	8 x 2,0	10 x 2,0	10 x 2,0	10 x 2,0	12 x 2,0
Fan nominal current - basic version free cooling side	n° x A	4 x 4,3	6 x 4,3	6 x 4,3	8 x 4,3	8 x 4,3	10 x 4,3	10 x 4,3	10 x 4,3	12 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW	4 x 1,1	6 x 1,1	6 x 1,1	8 x 1,1	8 x 1,1	10 x 1,1	10 x 1,1	10 x 1,1	12 x 1,1
Fan nominal current - SLN version free cooling side	n° x A	4 x 2,1	6 x 2,1	6 x 2,1	8 x 2,1	8 x 2,1	10 x 2,1	10 x 2,1	10 x 2,1	12 x 2,1
Standard motor pump nominal power	kW	7,5	9,2	11,0	18,5	18,5	22,0	22,0	30,0	30,0
Standard motor pump nominal current	A	14,4	19,0	21,6	34,2	34,2	42,0	42,0	53,5	53,5
Motor enhanced pump nominal power		15,0	15,0	15,0	22,0	22,0	30,0	30,0	37,0	37,0
Motor enhanced pump nominal current		28,6	28,6	28,6	42,0	42,0	53,5	53,5	65,6	65,6
Main power supply	V/ph/Hz						400/3~50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

ELECTRICAL DATA - KAPPA REV XEi FC EXTRA

Unit size		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3
Maximum power absorbed with free cooling fans	(1),(3) kW	124 (128) [130]	163 (170) [176]	213 (220) [226]	243 (259) [262]	278 (293) [297]	317 (332) [343]	372 (389) [397]	422 (439) [447]	437 (461) [468]
Maximum current absorbed with free cooling fans	(2),(3) A	223 (233) [237]	286 (305) [314]	364 (383) [393]	437 (471) [479]	491 (525) [533]	554 (589) [608]	642 (681) [695]	720 (759) [774]	768 (822) [834]
Maximum input current with free cooling fans	(4) A	57 (68) [71]	74 (93) [103]	82 (101) [111]	271 (305) [313]	279 (313) [321]	342 (376) [396]	360 (399) [414]	438 (477) [492]	556 (610) [622]
Maximum input current with soft-starter with free cooling fans	(4) A	192 (203) [207]	220 (239) [248]	228 (247) [256]	251 (286) [293]	266 (301) [308]	289 (324) [343]	342 (381) [396]	338 (377) [392]	376 (430) [442]
Maximum power absorbed with free cooling fans (SLN)	(1),(3) kW	119 (125) [127]	157 (166) [172]	207 (216) [222]	236 (255) [258]	271 (289) [293]	308 (327) [338]	361 (383) [391]	412 (434) [442]	425 (455) [462]
Maximum current absorbed with free cooling fans (SLN)	(2),(3) A	212 (223) [226]	271 (290) [300]	350 (369) [379]	419 (453) [461]	473 (507) [515]	533 (567) [586]	616 (655) [670]	695 (734) [749]	740 (793) [805]
Maximum input current with free cooling fans (SLN)	(4) A	46 (57) [60]	59 (78) [88]	68 (87) [97]	253 (287) [295]	261 (295) [303]	321 (375) [388]	334 (373) [388]	413 (452) [467]	528 (582) [594]
Maximum input current with soft-starter with free cooling fans (SLN)		188 (198) [202]	215 (234) [243]	223 (242) [251]	247 (281) [289]	262 (296) [304]	280 (314) [333]	333 (372) [386]	329 (368) [382]	367 (420) [432]
Fan nominal power - mechanical side	n° x kW	6 x 2,0	8 x 2,0	10 x 2,0	12 x 2,0	14 x 2,0	16 x 2,0	18 x 2,0	20 x 2,0	22 x 2,0
Fan nominal current - mechanical side	n° x A	6 x 4,3	8 x 4,3	10 x 4,3	12 x 4,3	14 x 4,3	16 x 4,3	18 x 4,3	20 x 4,3	22 x 4,3
Fan nominal power - basic version free cooling side	n° x kW	6 x 2,0	8 x 2,0	8 x 2,0	10 x 2,0	10 x 2,0	12 x 2,0	14 x 2,0	14 x 2,0	16 x 2,0
Fan nominal current - basic version free cooling side	n° x A	6 x 4,3	8 x 4,3	8 x 4,3	10 x 4,3	10 x 4,3	12 x 4,3	14 x 4,3	14 x 4,3	16 x 4,3
Fan nominal power - SLN version free cooling side	n° x kW	6 x 1,1	8 x 1,1	8 x 1,1	10 x 1,1	10 x 1,1	12 x 1,1	14 x 1,1	14 x 1,1	16 x 1,1
Fan nominal current - SLN version free cooling side	n° x A	6 x 2,1	8 x 2,1	8 x 2,1	10 x 2,1	10 x 2,1	12 x 2,1	14 x 2,1	14 x 2,1	16 x 2,1
Standard motor pump nominal power	kW	5,5	9,2	9,2	18,5	18,5	18,5	22,0	22,0	30,0
Standard motor pump nominal current	A	10,7	19,0	19,0	34,2	34,2	34,2	39,0	39,0	53,5
Motor enhanced pump nominal power		7,5	15,0	15,0	22,0	22,0	30,0	30,0	30,0	37,0
Motor enhanced pump nominal current		14,4	28,6	28,6	42,0	42,0	53,5	53,5	53,5	65,6
Main power supply	V/ph/Hz						400/3~50			
Auxiliary power supply	V/ph/Hz						230-24/1~/50			

(1) Electrical power that must be supplied by the mains to power the unit

(2) Tripping current of unit internal breakers. This value is never exceeded and must be used to size the line and its protections (refer to the electric diagram supplied with the unit).

(3) The values in brackets refer to the ST version unit (with storage tank and pumps or units with pumps only).

(4) Maximum input current calculated considering the power of the compressor with the higher power and the maximum current absorbed by all other devices

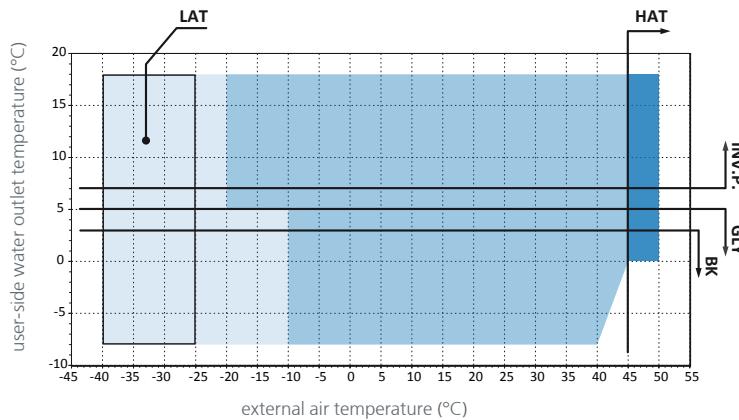
(5) Unit with standard pump

(6) Unit with oversize pump

(7) The values between the round brackets (...) refer to the ST versions with standard pumps, while those between the square brackets [...] refer to St units with enhanced pumps.

OPERATING LIMITS - KAPPA REV FC

COOLING



Operating limit in CH mode

Operating limit in CH mode with forced capacity reduction

HAT (High Air Temperature): in the area indicated by the arrow, the HAT accessory is strongly advised if high external air temperature conditions occur more than occasionally and are present for prolonged periods of time.

INV (INVerter pump on user side): the use of the "Inverter for user-side pump" accessory is allowed only in the area indicated by the arrow. For different conditions, please contact our sales department.

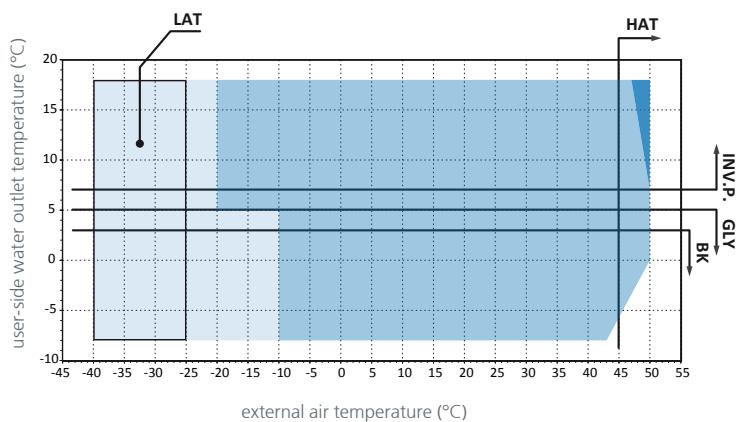
GLY (GLYcol): for SET point temperatures below 5°C, it is mandatory to use suitable percentages of antifreeze additives (glycols) to prevent ice formation in the exchanger.

BK (Brine Kit): for SET point temperatures below 3°C, it is mandatory to use the "Brine Kit" accessory.

LAT (Low Ambient Temperature): in this area the unit can only work if provided with the accessory "air heaters for unit operation below -25 ° C" and no wind. In this area is forbidden the use of EC fans.

OPERATING LIMITS - KAPPA REV FC HE-SLN

COOLING



Operating limit in CH mode

Operating limit in CH mode with forced capacity reduction

HAT (High Air Temperature): in the area indicated by the arrow, the HAT accessory is strongly advised if high external air temperature conditions occur more than occasionally and are present for prolonged periods of time.

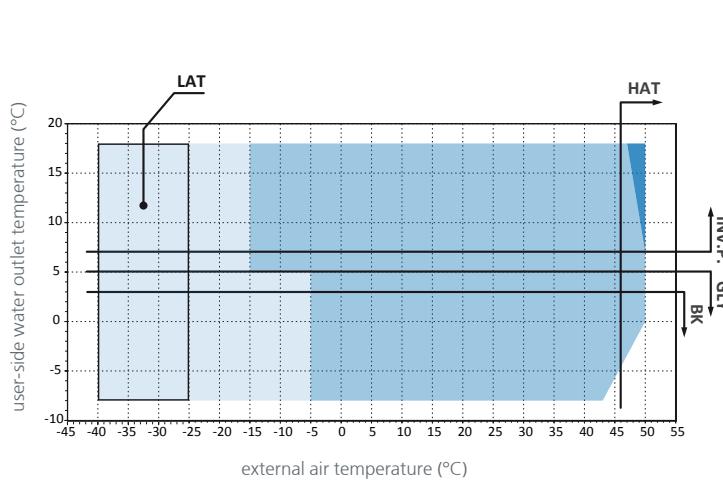
INV (INVerter pump on user side): the use of the "Inverter for user-side pump" accessory is allowed only in the area indicated by the arrow. For different conditions, please contact our sales department.

GLY (GLYcol): for SET point temperatures below 5°C, it is mandatory to use suitable percentages of antifreeze additives (glycols) to prevent ice formation in the exchanger.

BK (Brine Kit): for SET point temperatures below 3°C, it is mandatory to use the "Brine Kit" accessory.

LAT (Low Ambient Temperature): in this area the unit can only work if provided with the accessory "air heaters for unit operation below -25 ° C" and no wind. In this area is forbidden the use of EC fans.

OPERATING LIMITS - KAPPA REV FC HEI



COOLING

 Operating limit in CH mode

 Operating limit in CH mode with forced capacity reduction

HAT (High Air Temperature): in the area indicated by the arrow, the HAT accessory is strongly advised if high external air temperature conditions occur more than occasionally and are present for prolonged periods of time.

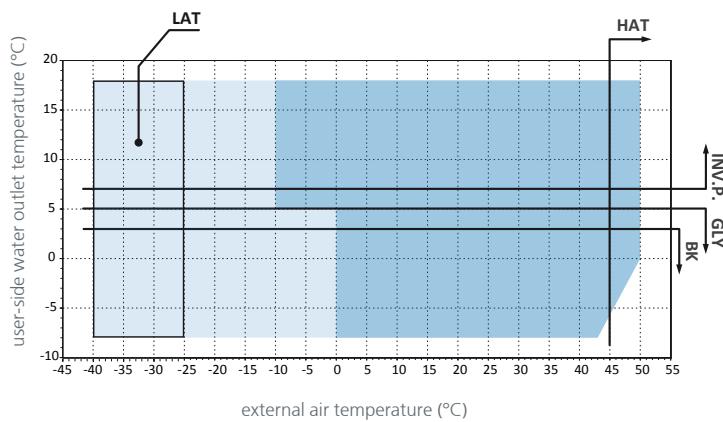
INV (INVerter pump on user side): the use of the "Inverter for user-side pump" accessory is allowed only in the area indicated by the arrow. For different conditions, please contact our sales department.

GLY (GLYcol): for SET point temperatures below 5°C, it is mandatory to use suitable percentages of antifreeze additives (glycols) to prevent ice formation in the exchanger.

BK (Brine Kit): for SET point temperatures below 3°C, it is mandatory to use the "Brine Kit" accessory.

LAT (Low Ambient Temperature): in this area the unit can only work if provided with the accessory "air heaters for unit operation below -25 ° C" and no wind. In this area is forbidden the use of EC fans.

OPERATING LIMITS - KAPPA REV FC XEi



COOLING

 Operating limit in CH mode

HAT (High Air Temperature): in the area indicated by the arrow, the HAT accessory is strongly advised if high external air temperature conditions occur more than occasionally and are present for prolonged periods of time.

INV (INVerter pump on user side): the use of the "Inverter for user-side pump" accessory is allowed only in the area indicated by the arrow. For different conditions, please contact our sales department.

GLY (GLYcol): for SET point temperatures below 5°C, it is mandatory to use suitable percentages of antifreeze additives (glycols) to prevent ice formation in the exchanger.

BK (Brine Kit): for SET point temperatures below 3°C, it is mandatory to use the "Brine Kit" accessory.

LAT (Low Ambient Temperature): in this area the unit can only work if provided with the accessory "air heaters for unit operation below -25 ° C" and no wind. In this area is forbidden the use of EC fans.

NOISE LEVELS CHILLER SECTION

KAPPA REV FC

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
33.2	71	39	74	42	89	57	90	58	91	59	86	54	79	47	71	39	94	62
35.2	73	41	82	50	90	58	91	59	92	60	87	55	79	47	71	39	95	63
37.2	73	41	84	52	90	58	91	59	92	60	88	56	78	46	70	38	95	63
40.2	70	38	79	47	88	56	95	63	93	61	86	54	76	44	68	36	96	64
43.2	66	34	67	35	86	54	95	63	93	61	85	53	74	42	67	35	96	64
51.2	68	36	71	39	87	55	95	63	94	62	88	56	75	43	68	36	97	65
54.2	76	44	77	45	87	55	95	63	95	63	90	58	76	44	70	38	98	66
58.2	77	45	87	55	94	62	95	63	96	64	88	56	80	48	71	39	98	66
67.2	77	45	90	58	97	65	94	62	97	65	88	56	83	51	73	41	99	67
73.2	77	45	90	58	99	67	96	64	97	65	90	58	83	51	73	41	100	67
80.2	76	44	88	56	100	68	97	65	97	65	90	58	82	50	73	41	100	67
85.2	76	44	87	55	101	69	97	65	96	64	91	59	80	48	72	40	100	68
90.2	76	44	86	54	102	70	97	65	95	63	91	59	77	45	71	39	100	68
95.2	76	44	87	55	102	70	98	66	97	65	92	60	80	48	73	41	101	68
100.2	75	43	87	55	101	69	97	65	98	66	91	59	82	50	73	41	101	68
105.2	81	49	87	55	101	69	97	65	100	68	91	59	82	50	74	42	102	69
115.2	82	50	86	54	100	68	96	64	100	68	90	58	81	49	74	42	102	69

NOISE LEVELS CHILLER SECTION

KAPPA REV FC LN

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
33.2	67	35	70	38	84	52	85	53	86	54	81	49	75	43	67	35	89	57
35.2	69	37	77	45	85	53	86	54	87	55	82	50	75	43	67	35	90	58
37.2	69	37	80	48	85	53	86	54	87	55	83	51	74	42	66	34	90	58
40.2	66	34	75	43	83	51	90	58	88	56	81	49	72	40	64	32	91	59
43.2	63	31	64	32	82	50	90	58	88	56	80	48	70	38	63	31	91	59
51.2	65	33	67	35	82	50	90	58	89	57	83	51	71	39	64	32	92	59
54.2	72	40	73	41	82	50	90	58	90	58	85	53	72	40	66	34	93	61
58.2	73	41	83	51	89	57	89	57	90	58	84	52	76	44	67	35	93	60
67.2	73	41	86	54	92	60	89	57	92	60	84	52	79	47	69	37	94	62
73.2	73	41	85	53	94	62	91	59	92	60	85	53	79	47	70	38	95	63
80.2	72	40	84	52	95	63	91	59	92	60	85	53	77	45	70	38	95	63
85.2	72	40	83	51	96	64	92	60	91	59	86	54	76	44	68	36	95	63
90.2	72	40	81	49	97	65	92	60	90	58	86	54	73	41	67	35	95	62
95.2	72	40	82	50	97	65	93	61	92	60	87	55	76	44	69	37	96	63
100.2	71	39	82	50	96	64	92	60	93	61	86	54	77	45	69	37	96	63
105.2	76	44	83	51	96	64	92	60	95	63	86	54	78	46	70	38	97	64
115.2	78	46	82	50	95	63	91	59	95	63	86	54	77	45	70	38	97	64

Lw: sound power values measured in free field calculated according to standard ISO 3744.

Lp: sound pressure levels measured at 1 metre from the unit in free field under nominal operating conditions, according to ISO 3744.

NOISE LEVELS CHILLER SECTION

KAPPA REV FC HE

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
33.2	71	39	74	42	89	57	90	58	91	59	86	54	79	47	71	39	94	62
35.2	73	41	82	50	90	58	91	59	92	60	87	55	79	47	72	40	95	62
37.2	73	41	84	52	90	58	91	59	92	60	88	56	79	47	71	39	95	62
40.2	70	38	79	47	88	56	95	63	93	61	86	54	76	44	69	37	96	63
43.2	67	35	68	36	86	54	95	63	93	61	85	53	74	42	67	35	96	63
51.2	68	36	71	39	87	55	95	63	94	62	88	56	76	44	69	37	97	65
54.2	76	44	77	45	87	55	95	63	95	63	90	58	77	45	71	39	98	66
58.2	77	45	87	55	94	62	94	62	95	63	89	57	81	49	72	40	98	66
67.2	77	45	90	58	97	65	94	62	97	65	88	56	83	51	73	41	99	67
73.2	77	45	90	58	99	67	96	64	97	65	90	58	83	51	74	42	100	67
80.2	76	44	88	56	100	68	97	65	97	65	90	58	82	50	74	42	100	67
85.2	76	44	87	55	101	69	97	65	96	64	91	59	80	48	73	41	100	67
90.2	76	44	86	54	102	70	97	65	95	63	91	59	78	46	72	40	100	67
95.2	76	44	87	55	102	70	98	66	97	65	92	60	81	49	73	41	101	68
100.2	75	43	87	55	101	69	97	65	98	66	91	59	82	50	74	42	101	68
105.2	81	49	87	55	101	69	97	65	100	68	91	59	82	50	75	43	102	69

NOISE LEVELS CHILLER SECTION

KAPPA REV FC HE LN

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
33.2	67	35	70	38	84	52	85	53	86	54	81	49	75	43	67	35	89	57
35.2	69	37	77	45	85	53	86	54	87	55	82	50	75	43	68	36	90	58
37.2	69	37	80	48	85	53	86	54	87	55	83	51	74	42	67	35	90	58
40.2	66	34	75	43	83	51	90	58	88	56	81	49	72	40	65	33	91	59
43.2	63	31	64	32	82	50	90	58	88	56	80	48	70	38	64	32	91	59
51.2	65	33	67	35	82	50	90	58	89	57	83	51	71	39	65	33	92	59
54.2	72	40	73	41	82	50	90	58	90	58	85	53	73	41	67	35	93	61
58.2	73	41	82	50	89	57	89	57	90	58	84	52	76	44	68	36	93	60
67.2	73	41	86	54	92	60	89	57	92	60	84	52	79	47	69	37	94	62
73.2	73	41	85	53	94	62	91	59	92	60	85	53	79	47	70	38	95	62
80.2	72	40	84	52	94	62	91	59	92	60	85	53	78	46	70	38	95	62
85.2	72	40	83	51	96	64	92	60	91	59	86	54	76	44	69	37	95	62
90.2	72	40	81	49	97	65	92	60	90	58	86	54	74	42	68	36	95	62
95.2	72	40	82	50	97	65	92	60	92	60	87	55	77	45	70	38	96	63
100.2	71	39	82	50	96	64	92	60	93	61	87	55	78	46	70	38	96	63
105.2	76	44	82	50	96	64	92	60	95	63	87	55	78	46	71	39	97	64

Lw: sound power values measured in free field calculated according to standard ISO 3744.

Lp: sound pressure levels measured at 1 metre from the unit in free field under nominal operating conditions, according to ISO 3744.

NOISE LEVELS CHILLER SECTION

KAPPA REV FC SLN

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
33.2	65	33	68	36	81	49	82	50	83	51	78	46	72	40	65	33	86	54
35.2	66	34	74	42	82	49	83	51	84	51	79	47	72	40	65	33	87	55
37.2	67	34	77	44	82	49	83	50	84	51	80	48	72	39	65	32	87	54
40.2	64	31	72	40	80	48	87	54	85	52	78	46	70	37	63	30	88	56
43.2	61	28	62	29	79	46	87	55	85	52	77	45	68	36	62	29	88	56
51.2	62	30	65	33	80	47	87	54	86	53	80	48	69	37	63	30	89	57
54.2	70	37	71	38	80	47	87	54	87	55	82	50	71	38	65	32	90	58
58.2	71	38	80	47	86	53	86	54	87	55	81	48	74	41	66	33	90	58
67.2	70	38	83	50	89	56	86	54	89	56	81	48	76	44	67	34	91	59
73.2	70	37	83	50	91	58	88	55	89	56	82	49	76	43	68	35	92	59
80.2	69	36	81	48	91	58	88	55	89	56	83	50	75	42	68	35	92	59
85.2	69	36	80	47	93	60	89	56	88	55	83	50	73	40	67	34	92	59
90.2	69	36	79	46	94	61	89	56	87	54	83	50	71	38	66	33	92	59
95.2	70	37	80	47	94	61	89	56	89	56	84	51	74	41	67	34	93	60
100.2	69	36	80	47	93	60	89	56	90	57	84	51	75	42	68	35	93	60
105.2	74	41	80	47	93	60	89	56	92	59	84	51	76	43	69	36	94	61

NOISE LEVELS CHILLER SECTION

KAPPA REV FC HEi

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
58.2	82	49	75	43	84	52	92	59	98	65	91	58	80	48	73	40	99	67
67.2	82	50	87	55	93	61	92	60	98	66	90	58	83	50	74	41	100	67
73.2	97	64	92	59	94	62	98	66	96	64	94	62	85	53	74	42	101	68
80.2	97	64	91	58	96	64	99	66	96	63	95	62	84	52	74	42	101	68
85.2	98	65	92	59	96	64	99	67	96	64	95	63	85	53	75	42	101	68
90.2	99	66	92	60	100	68	101	68	97	64	97	64	86	53	75	43	103	70
95.3	83	51	88	56	95	62	95	63	100	68	93	60	84	51	75	43	102	69
100.3	84	51	91	59	97	65	96	63	101	68	92	60	85	53	76	44	102	69
105.3	98	65	94	61	98	65	100	68	99	67	96	63	87	55	77	44	103	69

NOISE LEVELS CHILLER SECTION

KAPPA REV FC HEi LN

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
58.2	78	46	72	40	81	48	88	55	94	61	87	55	77	44	70	37	95	63
67.2	79	46	84	51	89	57	89	56	94	62	87	54	79	47	71	38	96	63
73.2	93	60	88	55	90	58	94	62	92	60	90	58	81	49	71	39	97	64
80.2	93	60	87	55	92	60	94	62	92	59	91	58	81	48	71	39	97	64
85.2	94	61	88	55	92	60	95	63	92	60	91	59	82	49	72	39	97	64
90.2	95	62	89	56	96	64	97	64	93	60	93	60	82	50	72	40	99	66
95.3	80	47	85	52	91	58	91	59	96	64	89	57	80	48	72	40	98	65
100.3	80	48	87	55	93	61	92	59	97	64	89	56	82	49	73	41	98	65
105.3	94	61	90	58	94	61	96	64	95	62	92	59	84	51	73	41	99	65

Lw: sound power values measured in free field calculated according to standard ISO 3744.

Lp: sound pressure levels measured at 1 metre from the unit in free field under nominal operating conditions, according to ISO 3744.

NOISE LEVELS CHILLER SECTION

KAPPA REV FC XEi

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
30.1	82	50	74	42	76	44	88	56	98	66	90	58	80	48	72	40	99	67
35.1	98	66	91	59	88	56	98	66	94	62	95	63	84	52	73	41	100	68
45.1	99	67	92	60	89	57	99	67	95	63	96	64	85	53	74	42	101	69
55.2	86	54	77	45	79	47	91	59	101	69	93	61	83	51	75	43	102	69
65.2	98	66	91	59	89	57	99	67	99	67	96	64	86	54	76	44	103	70
70.2	101	69	94	62	92	60	101	69	97	65	98	66	87	55	76	44	103	70
80.2	101	69	94	62	92	60	102	70	97	65	98	66	88	56	77	45	104	71
90.2	102	70	95	63	92	60	102	70	98	66	99	67	88	56	77	45	104	71
100.3	101	69	94	62	92	60	102	70	100	68	98	66	88	56	78	46	105	71

NOISE LEVELS CHILLER SECTION

KAPPA REV FC XEi LN

MODEL	Octave bands [dB]																Total [dB(A)]	
	63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz			
	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp
30.1	79	47	71	39	73	41	84	52	94	62	86	54	76	44	69	37	95	63
35.1	94	62	87	55	85	53	94	62	90	58	91	59	81	49	70	38	96	64
45.1	95	63	88	56	86	54	95	63	91	59	92	60	82	50	71	39	97	65
55.2	82	50	74	42	76	44	87	55	97	65	89	57	79	47	72	40	98	65
65.2	94	62	87	55	85	53	95	63	95	63	92	60	82	50	73	41	99	66
70.2	97	65	90	58	88	56	97	65	93	61	94	62	84	52	73	41	99	66
80.2	97	65	91	59	88	56	98	66	93	61	94	62	84	52	74	42	100	67
90.2	98	66	91	59	89	57	98	66	94	62	95	63	85	53	74	42	100	67
100.3	97	65	90	58	88	56	98	66	96	64	95	63	84	52	75	43	101	67

Lw: sound power values measured in free field calculated according to standard ISO 3744.

Lp: sound pressure levels measured at 1 metre from the unit in free field under nominal operating conditions, according to ISO 3744.

NOISE LEVELS FREECOOLING SECTION

Nº FC modules	Nº FC fans	Octave bands [dB]																Total [dB(A)]			
		63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz					
		Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp				
1,5	3	71	39	70	38	69	37	71	39	70	38	71	39	67	35	66	34	76	44		
2	4	72	40	71	39	70	38	72	40	71	39	72	40	68	36	67	35	77	45		
2,5	5	73	41	72	40	71	39	73	41	72	40	73	41	69	37	68	36	78	46		
3	6	74	42	73	41	72	40	74	42	73	41	74	42	70	38	69	37	79	47		
4	8	75	43	74	42	73	41	75	43	74	42	75	43	71	39	70	38	80	48		
5	10	76	44	75	43	74	42	76	44	75	43	76	44	72	40	71	39	81	49		
6	12	77	45	76	44	75	43	77	45	76	44	77	45	73	41	72	40	82	50		
7	14	77	45	76	44	75	43	77	45	76	44	77	45	73	41	72	40	83	51		
8	16	78	46	77	45	76	44	78	46	77	45	78	46	74	42	73	41	83	51		
9	18	79	47	78	46	77	45	79	47	78	46	79	47	75	43	74	42	84	52		

NOISE LEVELS FREECOOLING SECTION - SLN

Nº FC modules	Nº FC fans	Octave bands [dB]																Total [dB(A)]			
		63 Hz		125 Hz		250 Hz		500 Hz		1000 Hz		2000 Hz		4000 Hz		8000 Hz					
		Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp	Lw	Lp				
1	2	66	34	65	33	64	32	66	34	65	33	66	34	62	30	61	29	71	39		
1,5	3	68	36	67	35	66	34	68	36	67	35	68	36	64	32	63	31	73	41		
2	4	69	37	68	36	67	35	69	37	68	36	69	37	65	33	64	32	74	42		
2,5	5	70	38	69	37	68	36	70	38	69	37	70	38	66	34	65	33	75	43		
3	6	71	39	70	38	69	37	71	39	70	38	71	39	67	35	66	34	76	44		
4	8	72	40	71	39	70	38	72	40	71	39	72	40	68	36	67	35	77	45		
5	10	73	41	72	40	71	39	73	41	72	40	73	41	69	37	68	36	78	46		
6	12	74	42	73	41	72	40	74	42	73	41	74	42	70	38	69	37	79	47		
7	14	74	42	73	41	72	40	74	42	73	41	74	42	70	38	69	37	80	48		
8	16	75	43	74	42	73	41	75	43	74	42	75	43	71	39	70	38	80	48		
9	18	76	44	75	43	74	42	76	44	75	43	76	44	72	40	71	39	81	49		

Lw: sound power values measured in free field calculated according to standard ISO 3744.

Lp: sound pressure levels measured at 1 metre from the unit in free field under nominal operating conditions, according to ISO 3744.

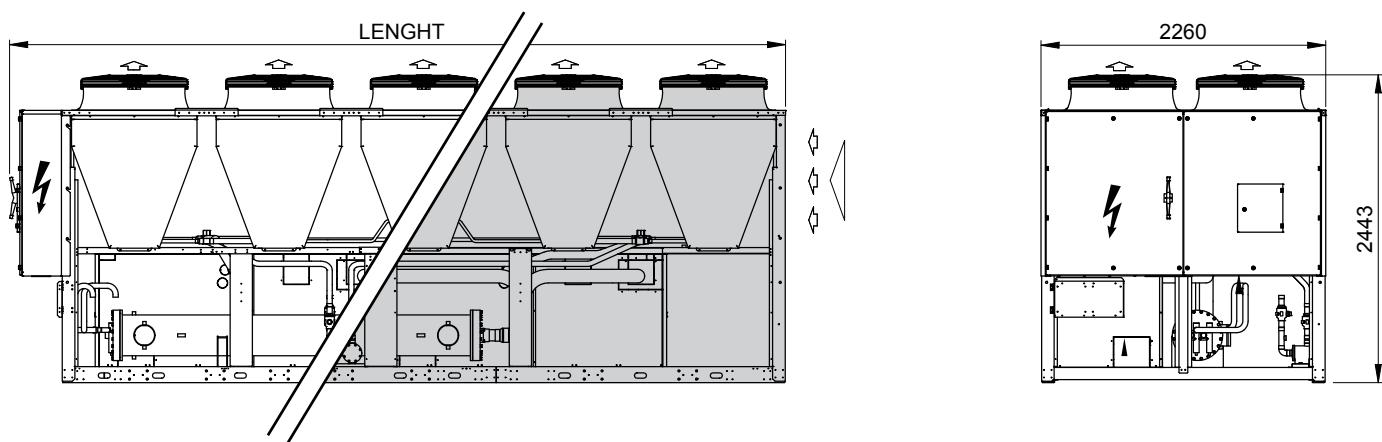
NOTE

The noise of the KAPPA REV FC is given separately (chiller and freecooling section).

For the section chiller must refer to data noise equivalent version / size of KAPPA REV.

For the section-cooling the noise level depends on the size of the module-cooling and the type of connection of the fans. These data are obtained from the following tables, depending on the number of modules FC or fans of the single-cooling section.

DIMENSIONAL DIAGRAMS



KAPPA REV FC		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2	115.2				
	BASIC	L CH [mm]	6.162	6.162	6.162	6.162	7.312	8.460	9.605	9.605	11.898	11.898	11.898	11.898	8.465	8.465	9.610	9.610				
	CUSTOM	L CH [mm]	6.162	7.310	7.310	7.310	7.310	8.460	8.460	10.753	10.753	13.047	13.047	13.047	13.047	8.465	8.465	9.610	9.610			
	EXTRA	L CH [mm]	7.310	8.458	8.458	8.458	8.458	9.608	9.608	11.902	11.902	7.310	7.310	7.310	7.310	8.465	8.465	9.610	9.610			
		L FC [mm]													6.885	6.885	8.034	8.034	9.183	9.183	10.330	10.330

KAPPA REV HEI FC		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2					
	BASIC	L CH [mm]	6.162	7.312	7.312	7.312	7.312	9.605	10.750	10.750	11.898	13.053	13.053	9.610	9.610	10.755	10.755	11.965				
	CUSTOM	L CH [mm]	6.162	8.460	8.460	8.460	8.460	9.605	10.750	11.898	11.898	13.047	8.465	8.465	9.610	9.610	10.755	10.755	11.965			
	EXTRA	L CH [mm]	7.310	9.608	9.608	9.608	9.608	10.753	13.047	13.047	7.310	8.465	8.465	9.610	9.610	10.755	10.755	11.965				
		L FC [mm]													6.885	6.885	8.034	8.034	9.183	9.183	10.330	10.330

KAPPA REV SLN FC		33.2	35.2	37.2	40.2	43.2	51.2	54.2	58.2	67.2	73.2	80.2	85.2	90.2	95.2	100.2	105.2					
	BASIC	L CH [mm]	6.162	7.312	7.312	7.312	7.312	8.457	10.750	10.750	10.750	13.053	13.053	9.610	9.610	10.755	10.755	11.965				
	CUSTOM	L CH [mm]	6.162	8.460	8.460	8.460	8.460	9.605	10.750	11.898	11.898	8.465	8.465	9.610	9.610	10.755	10.755	11.965				
	EXTRA	L CH [mm]	7.310	9.608	9.608	9.608	9.608	10.753	11.898	13.047	13.047	8.465	8.465	9.610	9.610	10.755	10.755	11.965				
		L FC [mm]													6.885	6.885	8.034	8.034	9.183	9.183	10.330	10.330

KAPPA REV HEI FC		58.2	67.2	73.2	80.2	85.2	90.2	100.3	105.3	
	BASIC	L CH [mm]	10.750	11.905	13.053	9.610	9.610	10.755	11.965	13.110
	CUSTOM	L CH [mm]	11.898	13.053	8.465	9.610	9.610	10.755	11.965	13.110
	EXTRA	L CH [mm]	13.047	8.465	8.465	9.610	9.610	10.755	11.965	13.110
		L FC [mm]								

KAPPA REV XEI FC		30.1	35.1	45.1	55.2	65.2	70.2	80.2	90.2	100.3	
	BASIC	L CH [mm]	6.162	7.312	7.457	10.750	11.905	9.610	10.755	11.965	13.110
	CUSTOM	L CH [mm]	6.162	8.460	8.605	11.898	13.053	9.610	10.755	11.965	13.110
	EXTRA	L CH [mm]	7.310	9.608	9.753	13.047	8.465	9.610	10.755	11.965	13.110
		L FC [mm]									

For any size and version of the unit has a height of 2.440mm, and a depth of 2.260mm

L CH [mm] If L2 is empty L1 indicates the length of the entire machine. Unlike L1 indicates the length of one section chiller

L FC [mm] If L2 indicates the length of the section FC when the unit is divided into two sections



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