

# APPLICATION GUIDE



PROVIDING **GLOBAL SYSTEM** SOLUTIONS





# APPLICATION GUIDE

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*Our company is a member of the Eurovent Certification Programme, The ECOLOGIC™ LENNOX chillers are tested and rated in accordance with Eurovent certification program,*

Our products comply with the European standards,

*Product designed and manufactured under a quality management system certified to AFAQ ISO 9001 by AFAQ,*



LENNOX have been providing environmental solutions since 1895, our range of ECOLOGIC™ chillers continues to meet the standards that have made LENNOX a household name. Flexible design solutions to meet YOUR needs and uncompromising attention to detail. Engineered to last, simple to maintain and Quality that comes as standard. Information on local contacts at [www.lennox europe.com](http://www.lennox europe.com).

All the technical and technological information contained in this manual, including any drawing and technical descriptions provided by us, remain the property of Lennox and must not be utilised (except in operation of this product), reproduced, issued to or made available to third parties without the prior written agreement of Lennox.



The ECOLOGIC™ Chillers and condensing units and condensing units range from 145 to 386 kW has been engineered and designed to meet the needs of our customers while minimising the Environmental impact.

### LENNOX ECOLOGIC™ CHILLERS AND CONDENSING UNITS - ENGINEERED FOR FLEXIBILITY, ENVIRONMENTAL SENSITIVITY AND HIGH PERFORMANCE

LENNOX ECOLOGIC™ Chillers and condensing units are engineered for flexibility and with advanced environmental protection technology to accommodate the most demanding of industrial and commercial applications. To meet your specific design requirements, LENNOX ECOLOGIC™ Chillers and condensing units are semi-customized so you purchase what you need for your application.

LENNOX engineers have designed the ECOLOGIC™ Chillers and condensing units to reduce negative impacts on the environment by incorporating green refrigerants, recyclable materials, intelligent control for lower energy consumption, and noise reduction technology. Our company is a member of the Eurovent Certification Programme, LENNOX Chillers and condensing units are Tested & Rated in accordance with Eurovent Certification Programme.

The LENNOX ECOLOGIC™ range utilises the latest technology in heat exchanger and compressor design, controls and materials. This enable LENNOX to offer a unique combination of packages and options meeting the needs of the users while significantly reducing the environmental impact, This is evident in the following characteristics :

- Use of ozone benign refrigerants as standard
- Option to use high efficiency machines
- Recycling of the applied materials
- Ability to reduce energy consumption upto 30% compared to traditional systems



EUROVENT  
CERTIFIED PERFORMANCE



- Minimising the refrigerant charge by using and plate heat exchangers
- Opportunity to reduce noise emission with the Low noise and super low noise versions

### UNIQUE DESIGN PHILOSOPHY - GOING GREEN RIGHT FROM THE DRAWING BOARD

LENNOX's commitment to environmental responsibility is reflected in the re-engineering of our Chillers and condensing units and the development of the ECOLOGIC™ line.

These Chillers and condensing units maximize opportunities to reduce negative environmental impacts while maintaining exceptional performance :

#### **Efficiency**

LENNOX ECOLOGIC™ Chillers and condensing units are engineered for high energy efficiency to reduce power consumption and thus contribute to lower CO2 generation at power supply sources.

#### **Refrigerant**

The LENNOX ECOLOGIC™ mid-range Chillers and condensing units are among the first to be designed specifically for high performance using a green refrigerant.

The LENNOX ECOLOGIC™ utilizes HFC 407C, a zero ozone depleting refrigerant, and requires minimum refrigerant charge.

#### **Reduced leakage**

Computer-aided design and pipe-bending technology permits fewer mechanical points in the refrigerant circuit. Refrigerant carrying tubes never touch any metal end or center supports.

This innovative condenser coil design significantly reduces refrigerant leakage caused by end plate chafing and reduces costs of refrigerant replacement, emergency service calls and unit downtime.

#### **Intelligent control technology**

The LENNOX ECOLOGIC™ line of Chillers and condensing units incorporates intelligent control with CLIMATIC control system - providing up to 30% savings in energy consumption at partial loads as well as at full load (with CLIMATIC™ 50).

With its predictive control logic, CLIMATIC™ 50 reduces compressor cycle times, reducing operating costs as well as noise pollution.

#### **Acoustic treatment**

Noise from vibration and machinery movement is aggressively addressed by the LENNOX ECOLOGIC™ line of Chillers and condensing units. Rotary compressors in most models minimize vibrational noise transmission.

Advanced aerodynamic fan design insures quieter operation.

Noise abatement can be further enhanced with LENNOX's economic noise reduction option.

### **Recyclable components**

The ECOLOGIC™ Chiller is constructed from recyclable materials including sheet steel, plastics and copper. At the end of the unit's useful life (mini 10 years), the components can be recycled and the refrigerant recovered.

The LENNOX ECOLOGIC™ range is available as a chiller or condensing unit.

All with a low profile and small installed footprint.

Standard . . . . . to provide LENNOX quality and value on a standard unit with the flexibility of multiple options.

Low noise . . . . . for those installations where acoustic requirements and value are paramount.

High efficiency . . . . . a range that is the bench mark for lowest operating costs (not available in condensing unit).

Super low noise . . . . . when the chiller installation must have virtually no audible sound output.

### **Factory Testing**

Factory testing of all the EcoLogic range means trouble free start ups.

Each individual refrigerant circuit is pressure tested, evacuated and vacuum tested before being charged with refrigerant and oil.

The system is then subject to a complete functional test via the Climatic controller that is self diagnostic on all its external sensors. The unit is then placed on the test stand and given a full operational run test to ensure that the unit is fully functional and operating correctly before leaving the factory. This detailed testing insures that the Climatic has the standard operating parameters, communication and control sequence are installed. All the electrical wiring and connections are checked, condenser fans and compressors are operated and checked. The refrigeration system operation is checked for the correct refrigerant charge, setting of the expansion valves and the operation of the safety and protection devices are fully functional. Each and every EcoLogic unit spends a minimum of two hours in the test stand. All options that are factory fitted are tested to insure that they operate correctly and any customer external

connections such as flow switch or remote on/off are simulated.

After testing and recording the operation the unit is then given a final refrigerant leak test before passing for cleaning and finishing. All the external components are given a final coat of a clear epoxy coating to help maintain the appearance and corrosion resistance of the complete chiller (optional).

The LENNOX ECOLOGIC™ chiller range is made up of Chillers and condensing units packaged to meet the different market needs, flexibility, performance and quality From LENNOX.

All the Chillers and condensing units are built with high quality construction and are fully tested in our test stand before packing and shipping. This assures you that when the unit arrives at your project you can simply hook up the power supply and chilled water connections and be ready to operate (not in condensing unit case).

ECOLOGIC™ Chillers and condensing units are built using CEE guidelines to minimise refrigerant leakage potential and are part of the Eurovent chiller testing program.

- The standard unit is a range of Chillers and condensing units that provides cooling at the lowest first cost
- A low noise range that uses the basic platform but is enhanced with features to reduce the external sound level
- Where a customer requires the lowest operating costs then select from the ECOLOGIC™ HIGH Efficiency range of units engineered to provide the highest COP, which in turn gives the lowest operating costs
- For those applications that demand the lowest sound levels then the ECOLOGIC™ Super low noise chiller range is there to meet your needs, This range of units breaks new ground using the latest technology and materials to give the minimum audible sound emissions

The LENNOX ECOLOGIC™ chiller range features high efficiency fully hermetic scroll compressors through out. This offer the benefits of high-energy efficiency, low noise and vibration partnered with the high reliability levels expected from LENNOX products.

The scroll compressors are used in multiple refrigerant circuits that further enhances the reliability of this chiller range.

The LENNOX ECOLOGIC™ chiller range uses plate heat exchanger technology to maximise the thermodynamic properties of HFC refrigerants. When used with HFC407C the plate heat exchangers have a better performance than similar shell and tube evaporators and also benefit from the impact of the refrigerant glide.

The use of plate heat exchangers and multiple compressors on dual refrigerant circuits make these Chillers and condensing units excellent performers when operating under part load conditions.

The LENNOX ECOLOGIC™ units feature multiple option packages that can be added to the basic chiller platforms to insure that the chiller matches the users needs.

## FOUNDATION

The unit must be set on a flat and level foundation. On ground level installations, the unit should be mounted on a single piece concrete slab and not tied to the building structure. Footings should extend below the frost line.

Roof installations require adequate structural beams to support the weight of the unit and service personnel. The design of the beams/supports must minimize deflection and attendant vibration transmission. Also, for sound sensitive applications, unit vibration isolators should be used.

## SPACE AND LOCATION REQUIREMENTS

The location of the air cooled chiller must provide for a sufficient supply of ambient air to the condenser and adequate removal of heated air from the condensing unit or remote condenser area. Inadequate air circulation will result in higher head pressures which will cause poor operation and potential failure of equipment. Units must not be located in the vicinity of steam, hot air or fume exhausts. Corrosive atmospheres require custom designed condensers.

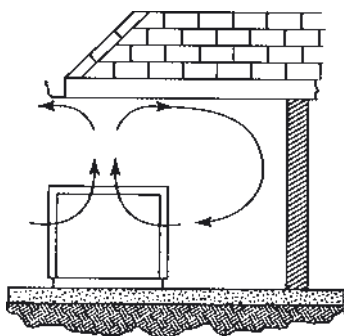
Units should be mounted away from noise sensitive spaces whenever possible and must have adequate support to avoid vibration and noise transmission into the building. Units should be mounted over corridors, utility areas, restrooms and other auxiliary areas where elevated levels of sound are not an important factor. Sound and structural consultants should be retained for recommendations.

## CLEARANCE

Always provide sufficient clearance room for unit maintenance and service. Minimum clearances are listed in the dimensional data section.

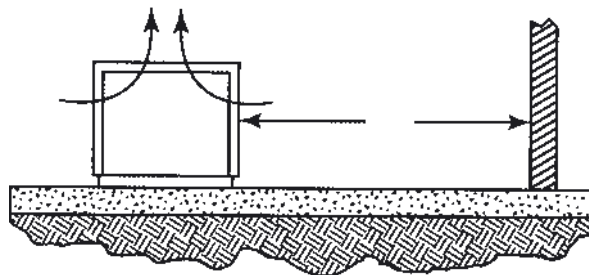
Additional clearance considerations are detailed below :

### Vertical Clearance :



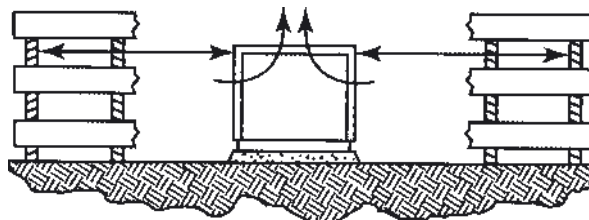
Overhead obstructions are not permitted. Vertical air discharge from the condenser must have no obstructions which can cause the discharge air to be recirculated back to the inlet side of the unit. Recirculation will adversely affect the performance of the unit.

### Lateral Clearance (Walls or Obstructions) :



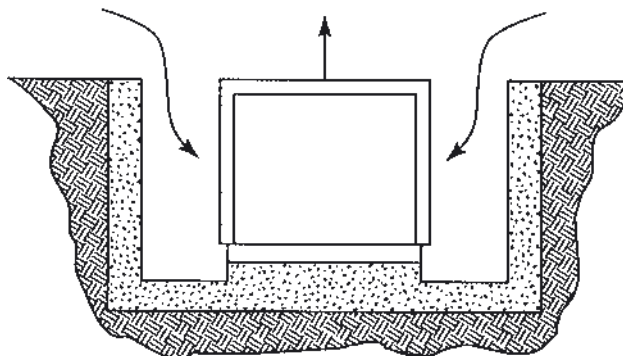
The unit should be located so that air may circulate freely and not be recirculated. For proper air flow and access all sides of the unit should be a minimum of 1,5 meters away from any wall or obstruction. It is preferred that this distance be increased whenever possible. Care should be taken to see that ample room is left for maintenance work through access doors and panels. When the unit is in an area where it is enclosed by three walls the unit must be installed under the guidelines for unit installation in pits.

### Decorative Fences :



Fences may be installed closer than the 1,5 meter lateral minimum requirement whenever fences permit sufficient free area to allow adequate air flow to the unit. Once again, care should be taken to leave ample room for unit service. Minimum clearances are listed in the dimensional data section.

### Units in Pits :

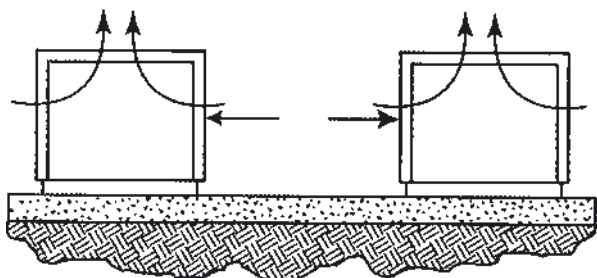


The top of the unit should be level with the top of the pit. If the top of the unit is not level with the top of the pit, a wider pit or discharge stacks must be used to raise discharge air to the top of the pit. This is a minimum requirement. These applications should be reviewed by an Application engineer. For proper air

flow and access all sides of the unit should be a minimum of 1,5 meters away from any wall or obstruction.

### **Multiple Units (Unit-to-Unit Clearance) :**

For units placed side by side, the minimum distance between units is 3 meters to prevent air recirculation.



### **ALTITUDE CORRECTION FACTORS**

All LENNOX Ecologic™ Chiller performance data is calculated at sea level. Higher altitudes result in decreased air density. This will have a negative effect on the heat transfer capabilities of the condenser which will reduce the overall system performance. These factors can be applied to the rated performance to determine system capacity.

### **AMBIENT RESTRICTIONS**

LENNOX Ecologic™ Chillers offer year-round operations under a wide variety of ambient conditions :

- Standard equipment allows for operation in an ambient range from 0°C through 43°C,
- Optional low ambient controls allow for operation down to -10°C,
- Options for operation at high ambient temperatures are also available,
- Please consult us for higher or lower ambient conditions.

### **COOLER FREEZE PROTECTION**

The cooler heater cable is designed to protect the cooler to -20°C ambient. However there is no freeze protection in the event of a power failure or a heater cable failure.

Therefore, one of the following additional measures will provide added protection : add the appropriate percentage of ethylene glycol and/or drain the cooler and piping if the chiller is not operated during the winter months.

## STANDARD (STD)

The ECOLOGIC Standard range of Air cooled helical rotary scroll chillers from LENNOX bring to specifies, owners and operators performance and reliability in a compact package.

The ECOLOGIC standard range consists of 6 units with a capacity from 145 to 386kW. This range of units is intended to offer the lowest cost per kW cooling solution. It will operate up to a nominal ambient limit of 40°C with the basic condenser fan.

The Standard unit uses all the basic components of the ECOLOGIC range :

- Scroll compressors in single or on larger units dual refrigerant circuits,
- A single plate heat exchanger (not available on condensing unit range),
- Cu/Al air cooled condenser,
- Mechanical thermal expansion valve (not available on condensing unit range),
- Solenoid stop valve,
- Brazed refrigerant drier and liquid line isolation and charging valve,
- CLIMATIC™ 30 controller as standard.

The control and power sections are mounted in a single wardrobe weatherproof panel.

All the compressor and condenser fan power supplies are individually fitted with thermal overloads.

The three phase power and earth connections is via a low level gland plate and connects to a fused thermal overload ensuring complete discrimination.

The unit is provided with our basic microprocessor controller as standard.

The frame and base are galvanised and the external sheet metal surfaces are fully painted with Epoxy paint to RAL9002.

The evaporator includes a drain, and is insulated with 13 mm (1/2 inch) (K-0,26) fire classification M1 (not applicable on condensing unit range).

This unit is intended to be used in Central and Northern European applications.

ECOLOGIC standard range has a large number of customer configurable options to meet the local legislative requirements and specific customer needs.

## LOW NOISE (LN)

The ECOLOGIC Low Noise range uses the same range of Quality components that are utilised in the Standard range previously detailed.

CLIMATIC™ 30 controller is fitted as standard.

In addition the Low Noise range uses larger condenser surface with low speed fans to achieve similar capacity range as the standard units.

The already low noise rotary scroll compressors are enclosed in an acoustical jacket, which is constructed of sound attenuating material. This combination significantly reduces the sound power of the chiller. The utilisation of low speed rotary scroll compressors and the management of the oil system within the compressor combined with the acoustic compressor treatment results in an extremely low emitted sound level radiated from the chiller.

The ECOLOGIC Low Noise range is supplied with both low speed fans and the compressor acoustic jacket as the standard.

The addition of additional condenser surface area means there is no compromise in performance when selecting an ECOLOGIC Low Noise chiller.

These units are built and factory tested to the same demanding quality standards that the LENNOX brand is renown for.

This range has 6 units and capacity range 140 to 371 kW. This version is positioned to give an alternative to the Super Low Noise units. It has a lower sound level than the Standard units. It is intended to be used in applications that are sound sensitive but that do not need the performance of the super low noise version.

## SUPER LOW NOISE (SLN)

The SUPER LOW NOISE version is the leading low noise chiller in Europe of those listed in the Eurovent directory.

It has a range of 6 units with capacities from 150 to 375 kW. It has a larger footprint than the Standard and LN versions. It is always one size larger to accommodate the larger condenser surface required. The SUPER LOW NOISE uses the same compressors and basic unit assembly as the standard unit. It is fitted as standard with the advanced CLIMATIC™ 50 controller with a DC 50 user interface.

The super low noise version uses very low noise condensing fans and more efficiency compressor jackets, compared to low noise version.

These machines are built and tested according to the same famous LENNOX requirements for quality.

## HIGH EFFICIENCY (HE) (NOT AVAILABLE ON CONDENSING UNIT RANGE)

The ECOLOGIC high efficiency range of units is designed to ensure that cooling both at full and part load is provided at the minimum electrical power absorbed.

This provides the owner with the lowest operating costs and by reducing power consumption the indirect global warming impact is minimised.

The indirect global warming is the generation of CO<sub>2</sub> in producing the electrical power to operate the chiller by selecting from ECOLOGIC high efficiency range CO<sub>2</sub> production is minimised. The HIGH EFFICIENCY range is made up of 6 units capacity from 150 to 355 kW.

When selecting an ECOLOGIC high efficiency unit, the additional costs associated with the additional components required can be recovered in the first few years of operation. A LENNOX ECOLOGIC unit has a life expectancy of 15 years. So after the initial capital, difference is recovered in the first few years. The continued cost savings can be utilised for other purposes.

The ECOLOGIC high efficiency range uses oversized heat exchanger surfaces in both condenser to get the highest efficiencies.

The CLIMATIC™ 50 controller is supplied with DC 50 display screen.

The unit is fitted with the very latest in Electronic expansion valve technology that is controlled by the CLIMATIC 50 and uses LENNOX unique control algorithms to operate the compressors, condenser fans and expansion valve to provide the best operating efficiency at all operating conditions. The CLIMATIC™ 50 controller checks at different operating parameters every minute and makes adjustments to ensure the efficient and safe operation of the chiller.

The ECOLOGIC uses the same range of components as the ECOLOGIC Standard range of chillers and is also fully factory tested to insure trouble free start up.

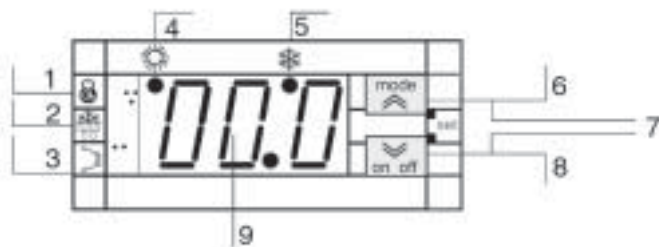


### CLIMATIC™ 30

As standard on STD and LN versions

The STD, LN units all come supplied with the standard microprocessor controller.

This gives the information via a digital screen display for the operation, chilled water temperature and alarm conditions. The controller can be scrolled through various menu modes for both reading and to set operating parameters.



1. Compressor led

2. Defrost led

3. Electrical heater led

4. Heating mode led

5. Cooling mode led

6. ON/OFF - Reset button :

Turns the unit on and off. Resets all manually reset alarms not currently active

7. Reach to menu mode

8. Mode button :

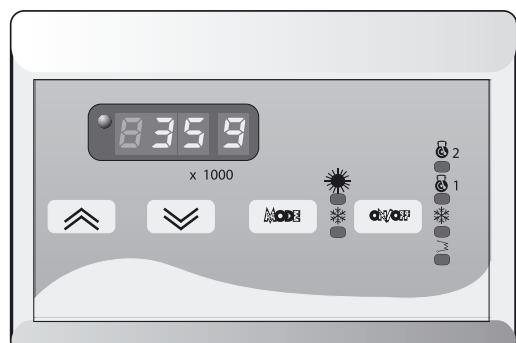
Selects operating mode

9. INTERFACE 3 DIGITS :

The display shows :

- Inlet water temperature
- Regulation parameters
- Alarm codes
- Status of the unit resources (operating hours, temporize, etc...)

There is the option for this controller of a remote display screen.



### CLIMATIC™ 50 SOFTWARE

The new generation of microprocessor based control, CLIMATIC™ 50 will equip the EcoLogic chiller range, It inherits 15 years of technology and field operating experience from its predecessors the CLIMATIC™ 1 and CLIMATIC™ 2,

LENNOX has found the latest hardware technology available on the market place and developed a software specifically designed for rooftop applications, maximising the LENNOX rooftops efficiency and performance,

CLIMATIC™ 50 has been thought to be more user-friendly than CLIMATIC™ 2 and easier to understand, However CLIMATIC™ 50 has been designed to be as powerful and even more flexible,

CLIMATIC™ 50 provides flexibility and the ability to control multiple chillers on a single job site.

Enhanced with a 16 bit processor at 14 MHz and a 2 Megabytes flash memory. CLIMATIC™ 50 has been designed to save energy and to extend the operational life of the EcoLogic product range. It will, for example, optimise the running time of each compressor, automatically switch between compressors from those that start first and have an anti short-cycle program. It is able to control 34 fault signals and manage security algorithms generating various fault signals.

In terms of comfort, CLIMATIC™ 50 provides an innovative PI control.

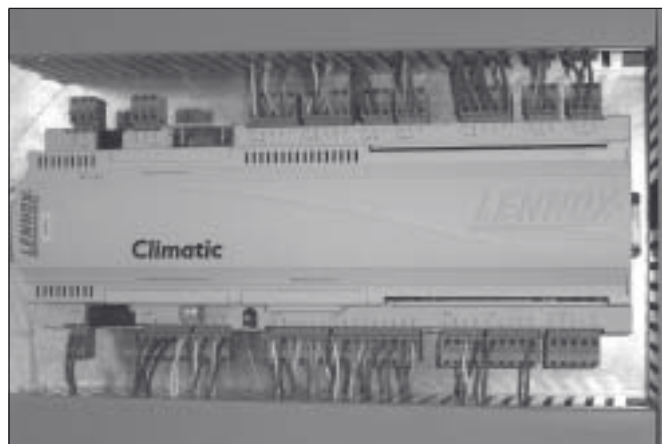
CLIMATIC™ 50 looks at difference between set point and actual water temperature and calculates the time needed to reach the set point and determines the capacity required.

This innovative control, will guaranty a better temperature accuracy, while saving energy in not bringing the full capacity when not needed.

As cooling is often not the only requirement, heat pump with multi step regulation can be available with WAH.

As a standard feature, CLIMATIC™50 provides 4 scheduling time zones per day on 7 days. This allows energy consumption management according to the building use.

On each of the 4 time zones, heating set point (WAH), cooling set point and the different authorisations for cooling and heating can be adjusted. CLIMATIC™ 50 provides a choice of different remote displays depending on customer requirement and application of the system.



**CONSTRUCTION**

The LENNOX ECOLOGIC™ Chillers and condensing units are designed for outdoor use. Its rugged chassis is constructed of heavy gauge, pre-painted, hot-dipped galvanized steel for superior corrosion resistance and appearance. Removable panels, made of galvanized steel, permit easy access to all maintenance and service components.

**COMPRESSORS**

LENNOX ECOLOGIC™ Chillers and condensing units are fitted with a scroll compressor.

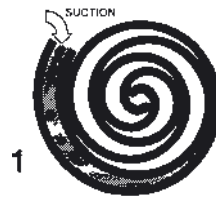
**SCROLL COMPRESSOR :**

Scroll compressors are comprised of two identical scrolls mated together to form concentric spiral shapes. During compression, one scroll remains stationary while the other orbits around it. The orbiting scroll draws gas into the pocket formed by the two scrolls. As the orbiting continues, the gas is forced toward the center of the scroll and the gas pockets become compressed. When the compressed gas reaches the center, it is discharged vertically into a chamber and discharge port in the top of the compressor.

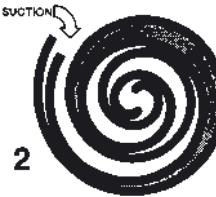
During a single orbit, several pockets of gas are compressed simultaneously providing smooth, continuous compression. Precisely designed, manufactured and balanced scrolls ensure high efficiency, no wasted motion and long term optimal performance. Scroll compressors are simple, efficient, durable and quiet.



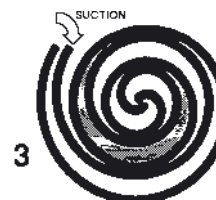
**SCROLL GAS FLOW**



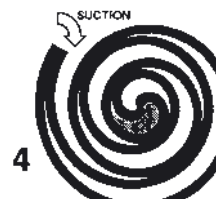
Compression in the scroll is created by the interaction of an orbiting scroll and a stationary scroll. Gas enters and exits as one of the scrolls orbit.



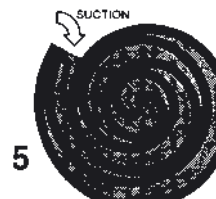
The open volume is sealed off as the gas is drawn into the scroll.



As the scroll continues to orbit, the gas is compressed into an increasingly smaller pocket.



By the time the gas arrives at the center port, discharge pressure has been reached.



Actually, during operation, all six gas passages are in various stages of compression at all times, resulting in nearly continuous suction and discharge.

**ALUCOAT Coils treated**

This is a anti corrosion sprayed coating that offers additional protection to the condenser fins for salt laden atmospheres such as seashores and in areas of industrial pollution. This is not suitable for heavy industrial pollution, strong alkalis, oxidizers, wet bromine and chlorine and fluorine in heavy concentrations. [www.altena.com](http://www.altena.com) for additional data.

**Antifreeze protection**

Resistance heating tape is wrapped around the evaporator barrel to help protect the evaporator from freezing down to -20°C. Controlled by a thermostat mounted in the main panel, this requires an electrical supply during winter operation. If mains switch is off then there is no supply to the anti freeze heater. A separate supply is recommended under these circumstances. This device will not protect external water pipework connected to the unit and additional frost protection measures are required.

**Anti-vibration mounts rubber**

Elastic supports (Rubber) made of 2 flat and parallel frames, connected together via a rubber ring, fixed under the unit at the points specified by our technical drawings. Reduces the transmission of vibration to the ground and the general sound level. The diameter and strength vary in accordance with the model. Delivered loose not fitted. This type of mounts is not adapted to concrete slabs. Supplied loose.

**Anti-vibration mounts spring**

Spring and cage type isolators with a 30 mm deflection for mounting under the unit. Recommended for rooftop installations and any vibration sensitive applications. Deflection and level is site adjustable and deflection may vary according to unit size. Anti-vibration mounts are coded and the correct anti-vibration mount should be positioned in accordance with the IOM data. Supplied loose.

**Buffer tank 200 litres**

The tank shall be manufactured from carbon steel and insulated with 13 mm thick closed neoprene elastomer foam. Capacity of buffer tank is 200 litres.

**Buffer tank 500 litres**

The tank shall be manufactured from carbon steel and insulated with 13 mm thick closed neoprene elastomer foam. Capacity of buffer tank is 500 litres.

**Coils protection Guards**

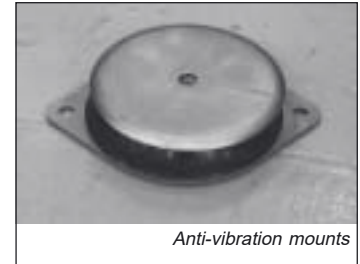
Removable polyester coated metal guards that protect the entire condenser coil outer surface from light accidental damage during shipping and on site. Also prevents direct contact by hand of the condenser coil sharp edges. The condenser coil guard is removable for cleaning of the condenser coil. The condenser coils guard's acts as a deterrent but do not offer total protection.

**Compressor noise insulation**

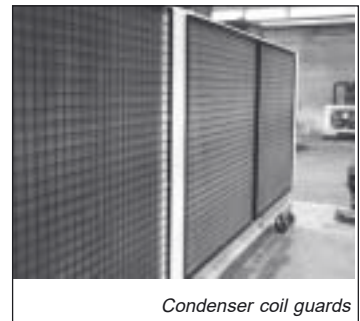
This option consists of a high efficiency jacket especially designed for the scroll compressors. It allows an increased output of the acoustic performances and gives good access to the compressors for maintenance.

**Cu / Cu Condenser coils**

The condenser is constructed with copper fins and copper tubes for resistance to most industrial and heavy salt laden conditions. This is not advised for use areas exposed to acid rain. This option adds weight to the unit and care should be taken when selecting the correct unit weights and point loads to ensure this is allowed for.



Anti-vibration mounts



Condenser coil guards

**DC 50 Comfort display**

This is a local or remote controller for non-technical customer. This display gives information such as flow or pump status, set point and outside air temperature. It can be used to set or change the scheduling of the different time zones, the temperature set point for each zone. It also has the capacity to force any of the different time zones for up to 7 days.

This new display controller is usually mounted on the electrical panel door.



DC 50 comfort display

**DS 50 display**

This display is only for maintenance people and is a plug and play feature.

**Double pump**

Centrifugal monocellular pump, made of a body with internal non return valve, and 2 class F motors.

**Electronic expansion valve**

On HE unit's electronic expansion valves are fitted as standard. There is the option to fit electronic expansion valve(s) (EEV). With this option the liquid line solenoid valve is not required as the EEV acts as a isolation valve. When selecting the option of electronic expansion valve it is also necessary to select the CLIMATIC™ 50 controller.

**Epoxy coated condenser fins**

Condenser coils constructed with epoxy coated aluminium condenser fin stock for corrosion protection resistance comparable to Cu/Cu coils in salt laden conditions. The pre-coated fins are assembled onto copper tubes with full form collars to enhance heat transfer and reduce corrosion.

**Expansion vessel 25 litres**

Important element of the hydraulic system, it allows the compensation for over-pressures of the network. It consists of a tank of 25 litres out of steel and on the third of the volume of a membrane under Nitrogen pressure.

**Expansion vessel 50 litres**

Important element of the hydraulic system, it allows the compensation for over-pressures of the network. It consists of a tank of 50 litres out of steel and on the third of the volume of a membrane under Nitrogen pressure.

**Flow switch (a paddle)**

The paddle switch is supplied loose for fitting in the chilled water line by the customer. It is also required that the customer wires the flow switch directly back to the control panel terminals provided. If a chiller is operated without a flow switch then freezing of the evaporator will occur. If the chiller is operated with no water flow, warranty will be voided if no flow switch is present in the chilled water system.

**Flow switch (pressure drop control)**

In the case when a differential flow switch has been selected and the option «antifreeze heater» is selected the lines to the flow switch are protected from freezing. This switch comes piped and fitted on the evaporator and is tested by the factory. If a chiller is operated without a flow switch then Freezing of the evaporator will occur. If the chiller is operated with no water flow warranty will be voided if no flow switch is present in the chilled water system.



DS 50 display



Paddle Flow switch

**Full panels around the unit**

This option provides a full panel enclosure on the STD, and LN 100E to 150D versions. The side of the unit which contains the compressors is fully enclosed from the base to the top of the unit with painted RAL 9002 removable sheet metal panels.



Service Panels

**Heat recovery**

This option is available only on the standard version. It makes it possible to recover the totality of the calorific power through exchanger with brazed plates with double refrigerating circuit and only one hydraulic system equipped with a controller with flow to pallet and a valve with safety with dimensions water. This exchanger is assembled in series and upstream of the air condenser, a tank of liquid to compensate for the difference in load between the two exchangers and to allow a constant power supply of the evaporator.

The principle of operation is the following : once the flow is established, the capacity is transferred to the heat recovery exchanger without any ventilation on the condenser. This configuration will be maintained until obtaining the set point. Once this point is reached, it will be maintained by the adjustment of the ventilation.

**HP&LP pressure gauges**

Liquid filled gauges that measures the evaporating Low pressure (LP) and condensing high pressure (HP) on each refrigerant circuit. Gauges are «glycerin» filled to damp gas pulsation and are mounted externally. The gauges are compound gauges that display the saturated refrigerant temperature for the various refrigerants available. The same information is available on the CLIMATIC™ 50 controller. Be careful not to duplicate functions. Display of High and low pressure is available from the CLIMATIC™ 50 controller and it is not necessary to add gauges.



HP/LP gauge set

**Hydraulic anti-freeze protection**

Tracing by heating resistance on the pump housing and pipings.

**Hydronic anti-freeze protection**

Tracing by heating resistance on the pump housing, pipings and tank.

**Kit for groove lock coupling**

The chilled water connections on all units are Victaulic connections. Each unit is supplied with a Victaulic connector and seal for the chilled water connections as standard. In the event the customer needs to have a grooved Victaulic pipe stub, which he can weld, screw or fit flanges too. This option provides the two additional pipe stubs sections groove at one end for the Victaulic connector and unfinished at the other end for the customer to make the connection of his choice.

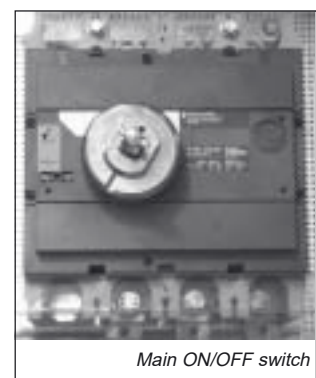
**Low Ambient kit**

Allows start-up and operation of the unit up to outside temperature down to -10°C (recommended for outside temperatures below +6°C). The unit is generally equipped with a low pressure switch and an antifreeze thermostatic function. This option includes the antifreeze protection for the evaporator.

**Main ON/OFF switch**

It allows the general cut-off and isolation of the mains 3 phase power supply, when the machine is running or stopped. The mains switch is interlocked so that the panel can not be opened until the power has been turned off. This ensures that the unit cannot be accessed until power has been isolated. If the mains transformer is fitted, this switch will also cut power from the control and anti freeze Heaters.

CAUTION : If the mains switch is in the off position and a separate power supply is NOT provided to the anti freeze heaters, freezing can occur. The mains switch is supplied with covers on the connections. The mains switch is used to isolate power from the unit for safe working on the electrical components.



Main ON/OFF switch

**Mod-Bus interface**

This is an additional microprocessor board that is able to provide information using JBUS protocol to allow exchanges between the CLIMATIC™ control system and an external BMS system. LENNOX have existing protocols in place with most BMS companies but this option can require additional support above the basic costs of the interface module.

**Power Factor Correction**

This option consists in reducing the excessive consumption of reactive energy and to decrease the losses joules by the addition of capacitor batteries for a cos phi 0,95.

**R22**

The units are supplied with HCFC22 as the refrigerant. This is only available as an option outside of the EEC. When specified with R22, the unit is supplied with operational set points and components that are suitable for operation with the refrigerant.

**Reinforced evaporator insulation**

One additional layer of thermal insulation of the evaporator increases the insulation from 12,7mm to 26mm closed cell foam that is resistant to water. Classification for fire: M1.

**Removable Cartridge filter drier**

Installed after the condensers, allows the replacement of the hygroscopic cores without having to remove the body of the core filter.

**Sight Glass**

A sight glass is provided for determining refrigerant condition if on the liquid line, one sight glass per circuit is provided.

**Simple pump**

Pump centrifugal monocellulaire a body and one motor of class F.

**Soft Starter**

This option available on all models is to provide for the lowest starting current on the compressors. The overall starting current is reduced by 15% to 30% depending on the number of compressors and model selected.

**Suction and discharge isolation valves on refrigerant circuit**

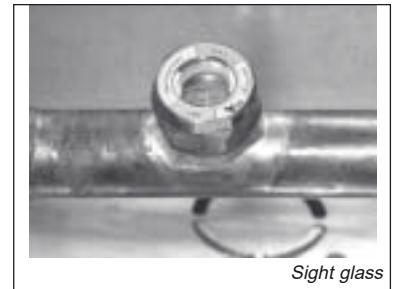
The supply and fitting of manual suction and discharge isolation valves on either side of each circuit to allow service on the compressors with out removal of the full refrigerant charge.

**Water filter**

Water strainer/filter is to be installed upstream on the water inlet to protect the evaporator from any possible impurities (900 microns efficiency). It is recommended for shell and tube heat exchangers and must be fitted on units with plate heat exchangers. Supplied loose.



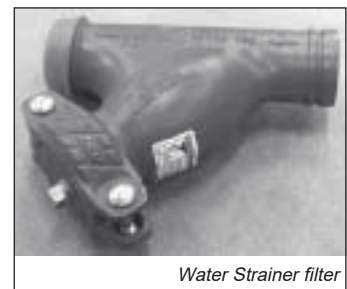
Replaceable core filter drier



Sight glass



Single pump



Water Strainer filter

**Water inlet/outlet manometer**

Pressure gauges with oil bath with a posting of the pressure in bars. They are assembled directly on the inlet/outlet water connections or supplied loose.

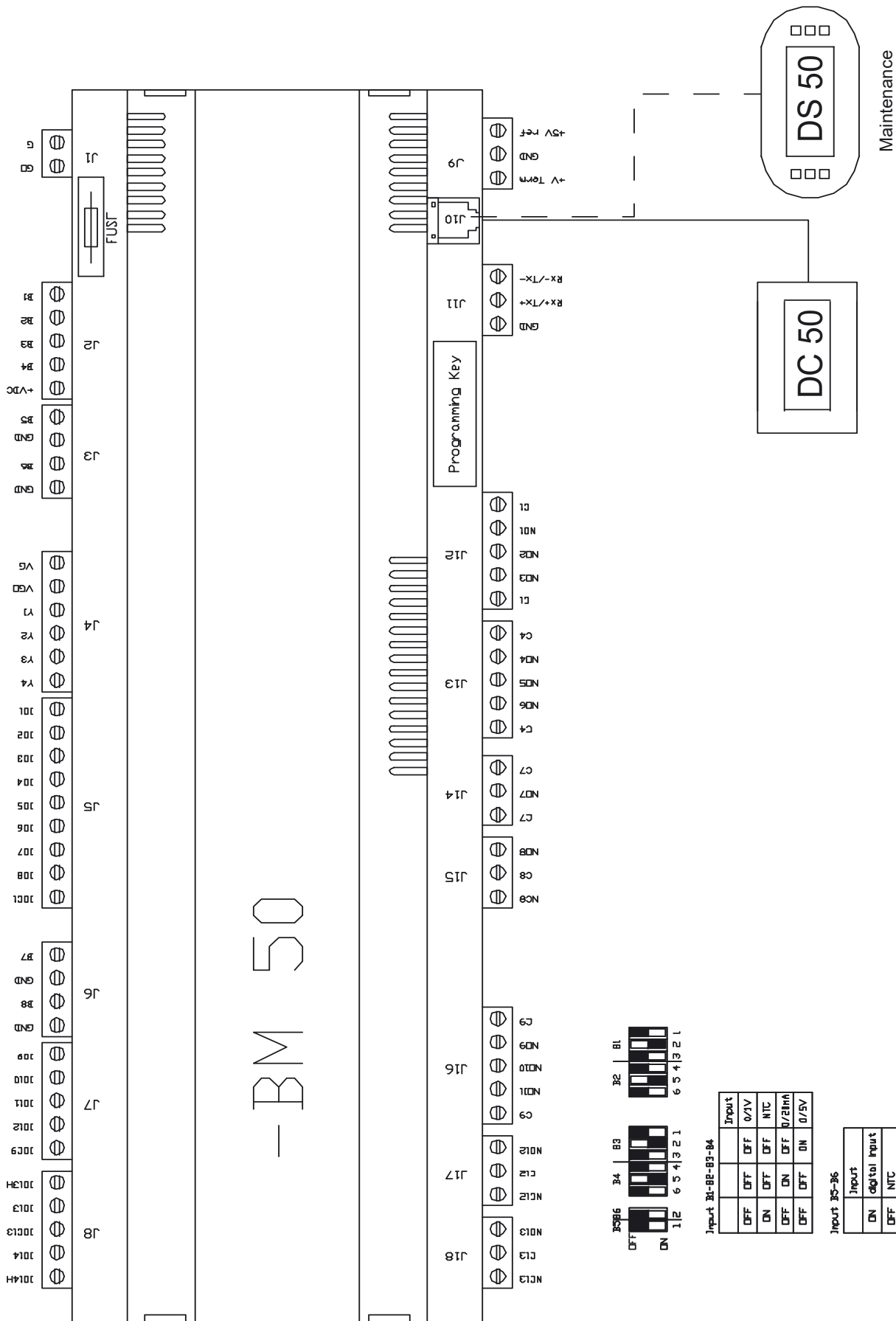
**Water inlet/outlet valves**

Two valves with 1/4 turn, will allow isolation of the chiller from the hydraulic system. Supplied loose.

**Free cooling**

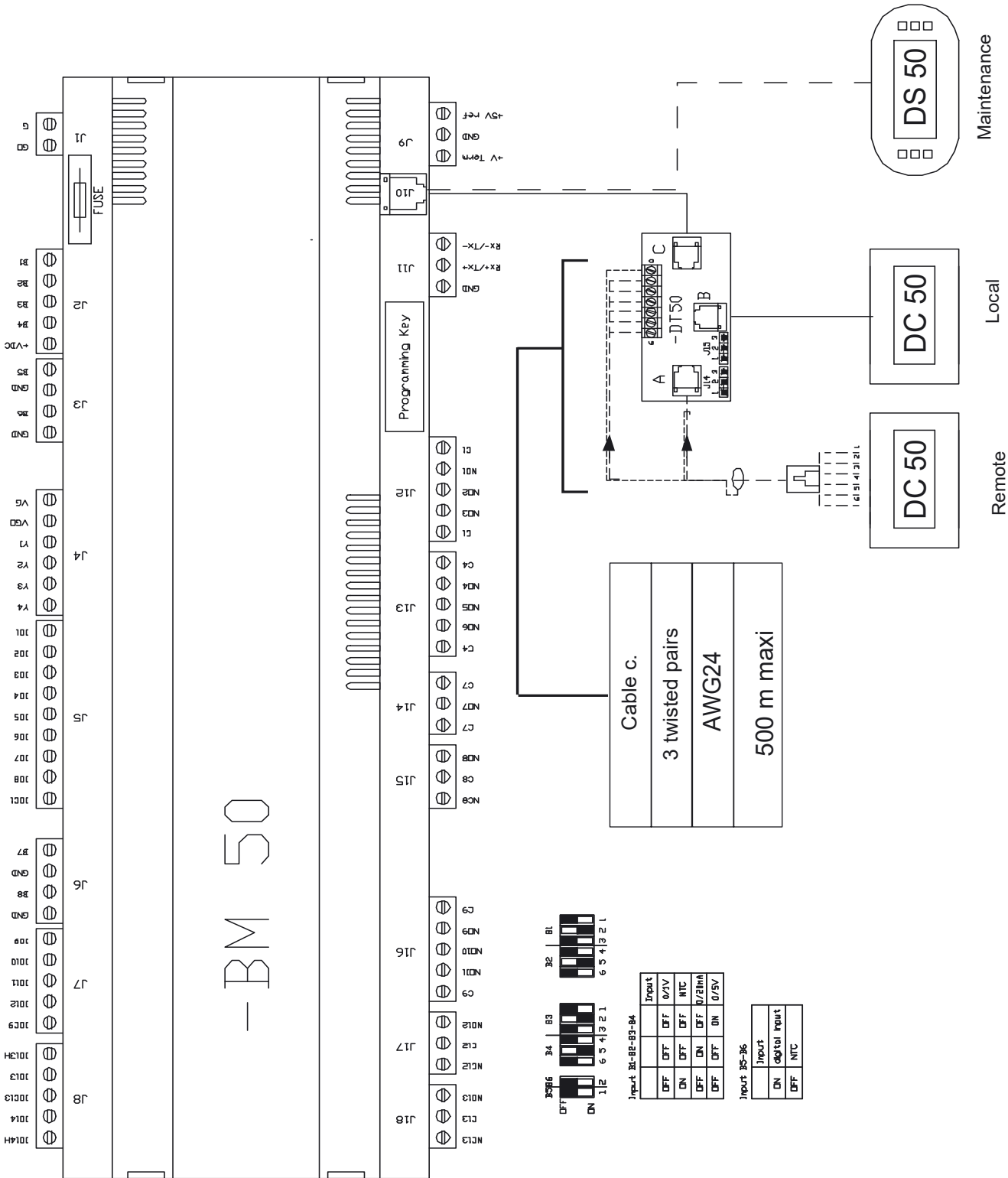
Free cooling offers exceptional energy saving in all conditions in which the ambient temperature is lower than the designed temperature of the system in industrial processes, Close control application etc. The Free cooling capacity depends directly from the temperature difference of the ambient temperature and the water temperature of the system. The compressors intervene in case the capacity in Free cooling mode is not sufficient. The modulating 3 way valve guarantees a maximum utilization of the Free cooling potential of the environment. Return of investments can be achieved in shortest terms, depending on the climatic conditions of the place of installation. The units with Free cooling option are provided with a 3 way valve in order to divert the water flow directly to the Free cooling coils and to take advantage of the low ambient temperature. The valve is controlled by a Microprocessor control which is constantly monitoring the temperature difference between return water temperature and ambient temperature.

# CLIMATIC 50 CONTROLLER

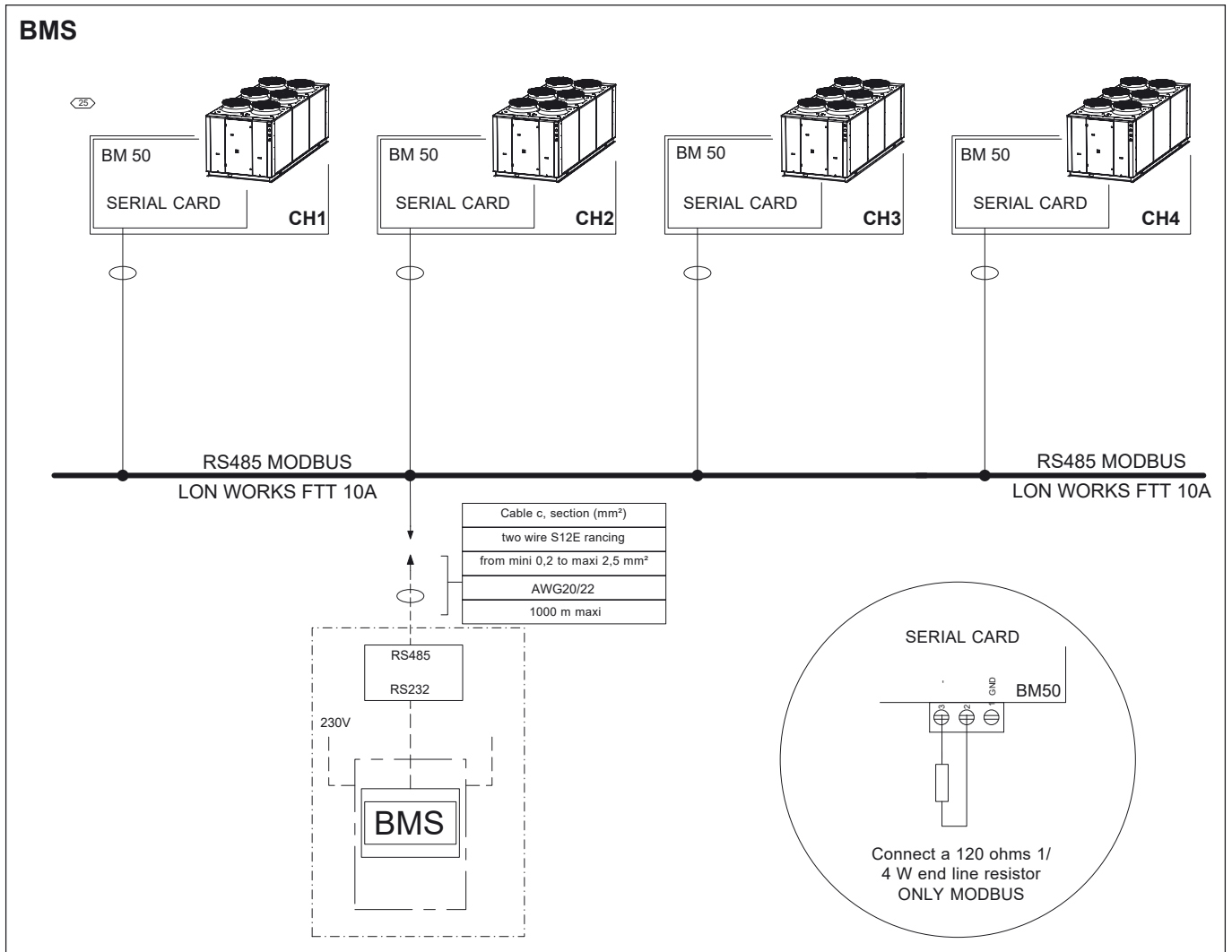




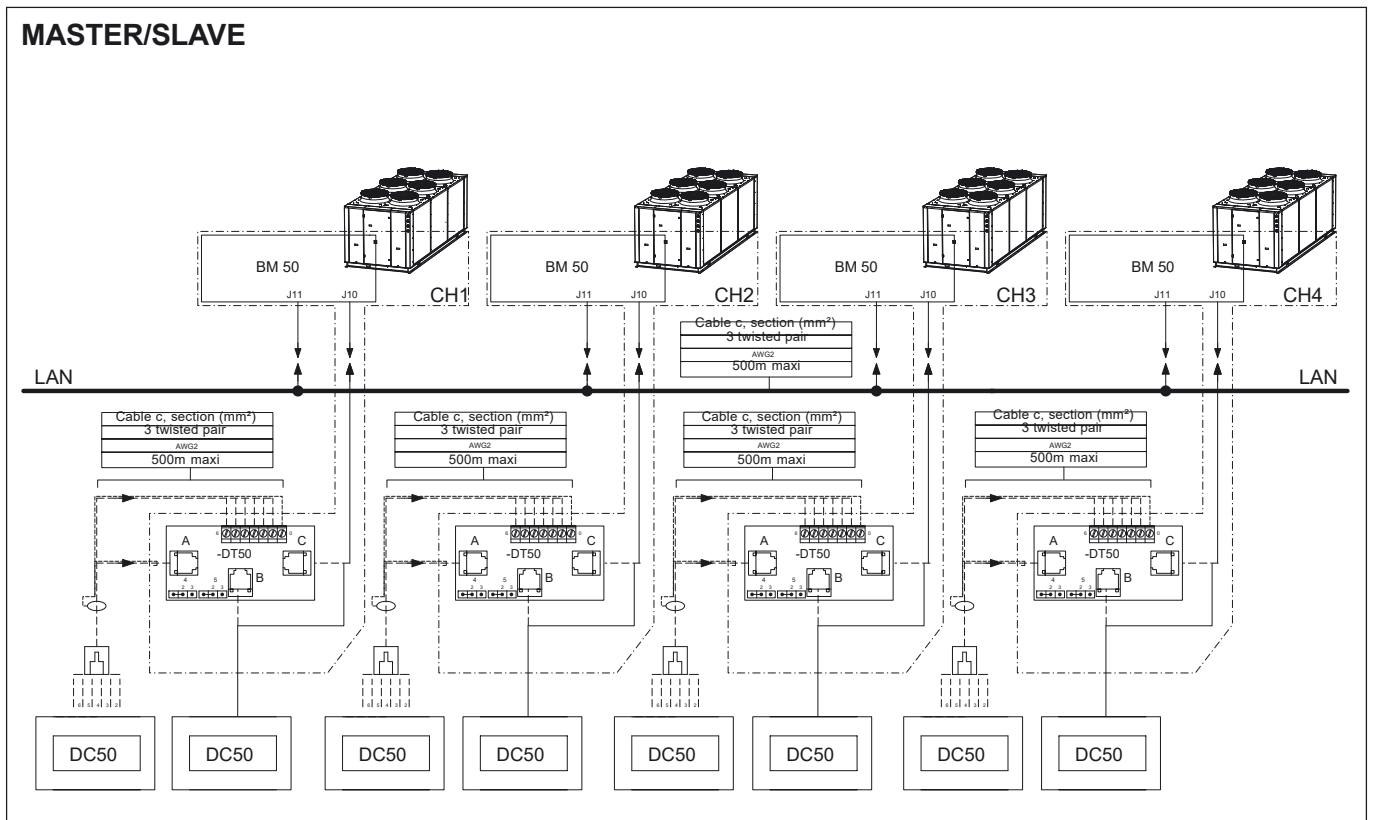
**CLIMATIC 50 CONTROLLER - OPTION DC50 REMOTE CONNECTION**

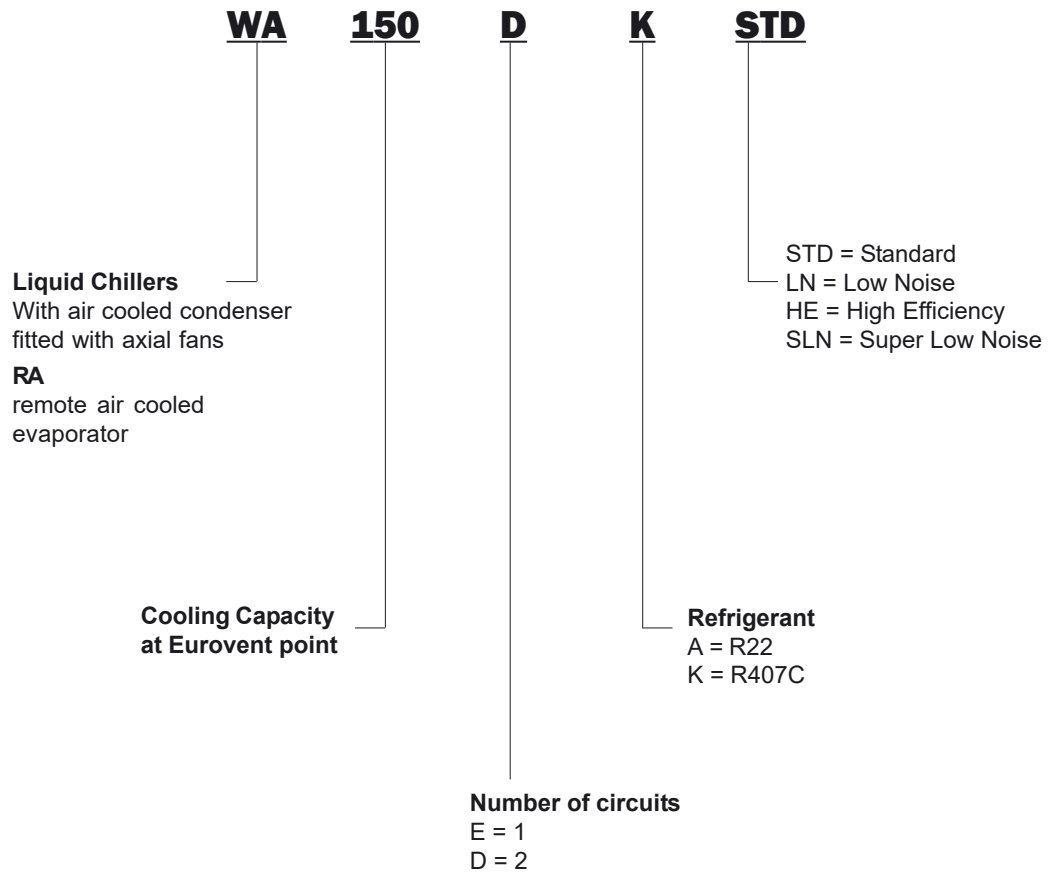


**BMS**



**MASTER/SLAVE**





wa - dk

STANDar d

| <b>ECOLOGIC</b>                                                         | <b>WA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|-------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity <sup>(1)</sup>                                         | kW                | 144,6                                        | 184,7                | 220,8                | 266,7                | 283,4          | 350,9                |
| Power input <sup>(1)</sup>                                              | kW                | 68,4                                         | 79,5                 | 95,3                 | 118,8                | 134,2          | 157,1                |
| Full load amps <sup>(1)</sup>                                           | A                 | 114,0                                        | 137,8                | 166,1                | 206,3                | 231,6          | 273,2                |
| EER <sup>(2)</sup>                                                      |                   | 2,4                                          | 2,7                  | 2,6                  | 2,6                  | 2,4            | 2,5                  |
| EER global <sup>(3)</sup>                                               |                   | 2,1                                          | 2,3                  | 2,3                  | 2,2                  | 2,1            | 2,2                  |
| <b>Compressor</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>Scroll - hermetic</b>                                                |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                                                    | nr                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                                          | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                               | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                                                | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| <b>R407C</b>                                                            |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                                               | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                                                       | nr                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                                                      | kg                | 19,8                                         | 18,6                 | 28,2                 | 28,2                 | 28,2           | 42,6                 |
| <b>Condenser</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b>                         |                   |                                              |                      |                      |                      |                |                      |
| Face area                                                               | m <sup>2</sup>    | 5,85                                         | 8,4                  | 8,4                  | 12,6                 | 12,6           | 12,6                 |
| Number of rows                                                          | nr                | 3                                            | 2                    | 3                    | 2                    | 2              | 3                    |
| Fin per inch                                                            | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 1,8            | 2                    |
| <b>Fan &amp; Motor</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>Axial fan</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                                           | nr                | 3                                            | 4                    | 4                    | 6                    | 6              | 6                    |
| Diameter                                                                | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                                           | RPM               | 1350                                         | 1350                 | 1350                 | 1350                 | 1350           | 1350                 |
| Nominal air flow                                                        | m <sup>3</sup> /h | 57 500                                       | 78 000               | 75 400               | 117 000              | 117 000        | 113 600              |
| External static pressure                                                | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                                                 | kW                | 7,5                                          | 10                   | 10                   | 15                   | 15             | 15                   |
| <b>Evaporator</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>AISI 316 stainless steel plate brazed with copper heat exchanger</b> |                   |                                              |                      |                      |                      |                |                      |
| Water flow <sup>(1)</sup>                                               | m <sup>3</sup> /h | 24,4                                         | 31,1                 | 37,2                 | 44,9                 | 47,7           | 59,1                 |
| Water volume                                                            | l                 | 12,4                                         | 19,1                 | 19,1                 | 23,9                 | 23,9           | 31,5                 |
| Pressure drop <sup>(1)</sup>                                            | kPa               | 38,6                                         | 31,6                 | 44,4                 | 36,3                 | 41             | 39                   |
| Water operating pressure                                                | kPa               | 600                                          | 600                  | 600                  | 600                  | 600            | 600                  |
| <b>Hydraulic connections</b>                                            |                   |                                              |                      |                      |                      |                |                      |
| <b>Victaulic</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Water inlet/outlet with Hydro                                           | Inches            | 2"1/2                                        | 2"1/2                | 2"1/2                | 4                    | 4              | 4                    |
| Water inlet/outlet without Hydro                                        | Inches            | 2"                                           | 2"                   | 2"                   | 2"1/2                | 2"1/2          | 2"1/2                |
| <b>Acoustic</b>                                                         |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level <sup>(1)</sup>                                 | dB(A)             | 92                                           | 94                   | 95                   | 96                   | 97             | 97                   |
| <b>Electrical data</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>400V/3/50Hz</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                                                      | A                 | 299,1                                        | 385,8                | 456,6                | 500,9                | 524,8          | 536,3                |
| Maximum current                                                         | A                 | 129,7                                        | 160,4                | 195,2                | 239,5                | 263,3          | 310,9                |
| <b>Operating limits</b>                                                 |                   |                                              |                      |                      |                      |                |                      |
| Min. outlet water temperature                                           | °C                | 5                                            | 5                    | 5                    | 5                    | 5              | 5                    |
| Max. inlet water temperature                                            | °C                | 20                                           | 20                   | 20                   | 20                   | 20             | 20                   |
| Min. difference water inlet/outlet                                      | °C                | 3                                            | 3                    | 3                    | 3                    | 3              | 3                    |
| Max. difference water inlet/outlet                                      | °C                | 8                                            | 8                    | 8                    | 8                    | 8              | 8                    |
| Min. outside air temperature                                            | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature <sup>(4)</sup>                             | °C                | 51                                           | 49                   | 49                   | 51                   | 51             | 48                   |
| <b>Dimensions</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| Length                                                                  | mm                | 4704                                         | 3304                 | 3304                 | 4704                 | 4704           | 4704                 |
| Width                                                                   | mm                | 1054                                         | 1904                 | 1904                 | 1904                 | 1904           | 1904                 |
| Height                                                                  | mm                | 1940                                         | 1959                 | 1959                 | 1961                 | 1961           | 1961                 |
| Footprint                                                               | m <sup>2</sup>    | 4,9                                          | 6,2                  | 6,2                  | 8,9                  | 8,9            | 8,9                  |
| Operating weight                                                        | kg                | 1480                                         | 1860                 | 2019                 | 2559                 | 2627           | 2986                 |
| Shipping weight                                                         | kg                | 1468                                         | 1841                 | 2000                 | 2535                 | 2603           | 2954                 |
| <b>Construction</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Frame                                                                   |                   | Galvanised steel base                        |                      |                      |                      |                |                      |
| Casing                                                                  |                   | ALUZINC                                      |                      |                      |                      |                |                      |
| Painting                                                                |                   | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                                        |                   | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition,  
Gross cooling capacity with 12/7°C water temperature and 35°C air ambient,  
Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature,

(2) EER and COP compressors only,

(3) EER and COP with fans,

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available,

wa - ek - dk

LOW NOISE

| <b>ECOLOGIC</b>                                                                                                              | <b>WA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                                                                                                          |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity <sup>(1)</sup>                                                                                              | kW                | 140,9                                        | 180,4                | 214,3                | 259,9                | 275,3          | 339                  |
| Power input <sup>(1)</sup>                                                                                                   | kW                | 68,2                                         | 78,7                 | 96,3                 | 117,9                | 134,4          | 159,4                |
| Full load amps <sup>(1)</sup>                                                                                                | A                 | 111,7                                        | 134,1                | 163,8                | 201,2                | 228,0          | 272,8                |
| EER <sup>(2)</sup>                                                                                                           |                   | 2,2                                          | 2,5                  | 2,4                  | 2,4                  | 2,2            | 2,3                  |
| EER global <sup>(3)</sup>                                                                                                    |                   | 2,1                                          | 2,3                  | 2,2                  | 2,2                  | 2,0            | 2,1                  |
| <b>Compressor</b> <span style="float: right;"><b>Scroll - hermetic</b></span>                                                |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                                                                                                         | nr                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                                                                                               | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                                                                                    | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                                                                                                     | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b> <span style="float: right;"><b>R407C</b></span>                                                           |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                                                                                                    | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                                                                                                            | nr                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                                                                                                           | kg                | 19,8                                         | 18,6                 | 28,2                 | 28,2                 | 28,2           | 42,6                 |
| <b>Condenser</b> <span style="float: right;"><b>Copper tube - Aluminium fin - Air cooled</b></span>                          |                   |                                              |                      |                      |                      |                |                      |
| Face area                                                                                                                    | m <sup>2</sup>    | 5,85                                         | 8,4                  | 8,4                  | 12,6                 | 12,6           | 12,6                 |
| Number of rows                                                                                                               | nr                | 3                                            | 2                    | 3                    | 2                    | 2              | 3                    |
| Fin per inch                                                                                                                 | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 1,8            | 2                    |
| <b>Fan &amp; Motor</b> <span style="float: right;"><b>Axial fan</b></span>                                                   |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                                                                                                | nr                | 3                                            | 4                    | 4                    | 6                    | 6              | 6                    |
| Diameter                                                                                                                     | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                                                                                                | RPM               | 1090                                         | 1090                 | 1090                 | 1090                 | 1090           | 1090                 |
| Nominal air flow                                                                                                             | m <sup>3</sup> /h | 47 000                                       | 64 200               | 61 850               | 96 000               | 96 000         | 92 700               |
| External static pressure                                                                                                     | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                                                                                                      | kW                | 5,1                                          | 6,8                  | 6,8                  | 10,2                 | 10,2           | 10,2                 |
| <b>Evaporator</b> <span style="float: right;"><b>AISI 316 stainless steel plate brazed with copper heat exchanger</b></span> |                   |                                              |                      |                      |                      |                |                      |
| Water flow <sup>(1)</sup>                                                                                                    | m <sup>3</sup> /h | 23,8                                         | 30,4                 | 36,2                 | 43,8                 | 46,4           | 57,2                 |
| Water volume                                                                                                                 | l                 | 12,4                                         | 19,1                 | 19,1                 | 23,9                 | 23,9           | 31,5                 |
| Pressure drop <sup>(1)</sup>                                                                                                 | kPa               | 36,9                                         | 30,3                 | 42,1                 | 34,7                 | 38,8           | 36,6                 |
| Water operating pressure                                                                                                     | kPa               | 600                                          | 600                  | 600                  | 600                  | 600            | 600                  |
| <b>Hydraulic connections</b> <span style="float: right;"><b>Victaulic</b></span>                                             |                   |                                              |                      |                      |                      |                |                      |
| Water inlet/outlet with Hydro                                                                                                | Inches            | 2"1/2                                        | 2"1/2                | 2"1/2                | 4                    | 4              | 4                    |
| Water inlet/outlet without Hydro                                                                                             | Inches            | 2"                                           | 2"                   | 2"                   | 2"1/2                | 2"1/2          | 2"1/2                |
| <b>Acoustic</b>                                                                                                              |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level <sup>(1)</sup>                                                                                      | dB(A)             | 88                                           | 89                   | 90                   | 91                   | 91             | 91                   |
| <b>Electrical data</b> <span style="float: right;"><b>400V/3/50Hz</b></span>                                                 |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                                                                                                           | A                 | 293,7                                        | 378,6                | 449,4                | 490,1                | 514,0          | 525,5                |
| Maximum current                                                                                                              | A                 | 124,3                                        | 153,2                | 188,0                | 228,7                | 252,5          | 300,1                |
| <b>Operating limits</b>                                                                                                      |                   |                                              |                      |                      |                      |                |                      |
| Min. outlet water temperature                                                                                                | °C                | 5                                            | 5                    | 5                    | 5                    | 5              | 5                    |
| Max. inlet water temperature                                                                                                 | °C                | 20                                           | 20                   | 20                   | 20                   | 20             | 20                   |
| Min. difference water inlet/outlet                                                                                           | °C                | 3                                            | 3                    | 3                    | 3                    | 3              | 3                    |
| Max. difference water inlet/outlet                                                                                           | °C                | 8                                            | 8                    | 8                    | 8                    | 8              | 8                    |
| Min. outside air temperature                                                                                                 | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature <sup>(4)</sup>                                                                                  | °C                | 50                                           | 48                   | 47                   | 50                   | 50             | 47                   |
| <b>Dimensions</b>                                                                                                            |                   |                                              |                      |                      |                      |                |                      |
| Length                                                                                                                       | mm                | 4704                                         | 3304                 | 3304                 | 4704                 | 4704           | 4704                 |
| Width                                                                                                                        | mm                | 1054                                         | 1904                 | 1904                 | 1904                 | 1904           | 1904                 |
| Height                                                                                                                       | mm                | 1940                                         | 1959                 | 1959                 | 1961                 | 1961           | 1961                 |
| Footprint                                                                                                                    | m <sup>2</sup>    | 4,9                                          | 6,2                  | 6,2                  | 8,9                  | 8,9            | 8,9                  |
| Operating weight                                                                                                             | kg                | 1480                                         | 1860                 | 2019                 | 2559                 | 2627           | 2986                 |
| Shipping weight                                                                                                              | kg                | 1468                                         | 1841                 | 2000                 | 2535                 | 2603           | 2954                 |
| <b>Construction</b>                                                                                                          |                   |                                              |                      |                      |                      |                |                      |
| Frame                                                                                                                        |                   | Galvanised steel base                        |                      |                      |                      |                |                      |
| Casing                                                                                                                       |                   | ALUZINC                                      |                      |                      |                      |                |                      |
| Painting                                                                                                                     |                   | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                                                                                             |                   | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.

Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.

Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

**Wa - ek - dk**
**HIGH  
EFFICIENCY**

| <b>ECOLOGIC</b>                                                         | <b>WA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|-------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity <sup>(1)</sup>                                         | kW                | 151,8                                        | 190,3                | 226,9                | 273,6                | 299,7          | 354,9                |
| Power input <sup>(1)</sup>                                              | kW                | 59,9                                         | 71,5                 | 86,7                 | 106,9                | 116,0          | 146,7                |
| Full load amps <sup>(1)</sup>                                           | A                 | 100,3                                        | 124,3                | 151,7                | 185,3                | 201,5          | 254,4                |
| EER <sup>(2)</sup>                                                      |                   | 2,7                                          | 2,9                  | 2,8                  | 2,8                  | 2,8            | 2,6                  |
| EER global <sup>(3)</sup>                                               |                   | 2,5                                          | 2,7                  | 2,6                  | 2,6                  | 2,6            | 2,4                  |
| <b>Compressor</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>Scroll - hermetic</b>                                                |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                                                    | nr                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                                          | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                               | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                                                | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| <b>R407C</b>                                                            |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                                               | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                                                       | nr                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                                                      | kg                | 28,2                                         | 28,2                 | 42,6                 | 37,2                 | 56,4           | 56,4                 |
| <b>Condenser</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b>                         |                   |                                              |                      |                      |                      |                |                      |
| Face area                                                               | m <sup>2</sup>    | 8,4                                          | 12,6                 | 12,6                 | 16,8                 | 16,8           | 16,8                 |
| Number of rows                                                          | nr                | 3                                            | 2                    | 3                    | 2                    | 3              | 3                    |
| Fin per inch                                                            | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 2              | 2                    |
| <b>Fan &amp; Motor</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>Axial fan</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                                           | nr                | 4                                            | 6                    | 6                    | 8                    | 8              | 8                    |
| Diameter                                                                | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                                           | RPM               | 900                                          | 900                  | 900                  | 900                  | 900            | 900                  |
| Nominal air flow                                                        | m <sup>3</sup> /h | 51300                                        | 79 200               | 77 000               | 105 600              | 102 600        | 102 600              |
| External static pressure                                                | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                                                 | kW                | 3,92                                         | 5,88                 | 5,88                 | 7,84                 | 7,84           | 7,84                 |
| <b>Evaporator</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>AISI 316 stainless steel plate brazed with copper heat exchanger</b> |                   |                                              |                      |                      |                      |                |                      |
| Water flow <sup>(1)</sup>                                               | m <sup>3</sup> /h | 25,6                                         | 32,1                 | 38,3                 | 46,2                 | 50,6           | 59,9                 |
| Water volume                                                            | l                 | 12,4                                         | 19,1                 | 19,1                 | 23,9                 | 23,9           | 31,5                 |
| Pressure drop <sup>(1)</sup>                                            | kPa               | 42,5                                         | 33,6                 | 47                   | 38,5                 | 46,1           | 40                   |
| Water operating pressure                                                | kPa               | 600                                          | 600                  | 600                  | 600                  | 600            | 600                  |
| <b>Hydraulic connections</b>                                            |                   |                                              |                      |                      |                      |                |                      |
| <b>Victaulic</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Water inlet/outlet with Hydro                                           | Inches            | 2" 1/2                                       | 2" 1/2               | 2" 1/2               | 4                    | 4              | 4                    |
| Water inlet/outlet without Hydro                                        | Inches            | 2"                                           | 2"                   | 2"                   | 2" 1/2               | 2" 1/2         | 2" 1/2               |
| <b>Acoustic</b>                                                         |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level <sup>(1)</sup>                                 | dB(A)             | 88                                           | 91                   | 92                   | 93                   | 94             | 94                   |
| <b>Electrical data</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>400V/3/50Hz</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                                                      | A                 | 292,0                                        | 377,5                | 448,3                | 486,7                | 510,6          | 522,0                |
| Maximum current                                                         | A                 | 122,6                                        | 152,1                | 186,9                | 225,3                | 249,1          | 296,7                |
| <b>Operating limits</b>                                                 |                   |                                              |                      |                      |                      |                |                      |
| Min. outlet water temperature                                           | °C                | 5                                            | 5                    | 5                    | 5                    | 5              | 5                    |
| Max. inlet water temperature                                            | °C                | 20                                           | 20                   | 20                   | 20                   | 20             | 20                   |
| Min. difference water inlet/outlet                                      | °C                | 3                                            | 3                    | 3                    | 3                    | 3              | 3                    |
| Max. difference water inlet/outlet                                      | °C                | 8                                            | 8                    | 8                    | 8                    | 8              | 8                    |
| Min. outside air temperature                                            | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature <sup>(4)</sup>                             | °C                | 53                                           | 51                   | 51                   | 52                   | 53             | 49                   |
| <b>Dimensions</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| Length                                                                  | mm                | 3304                                         | 4704                 | 4704                 | 6404                 | 6404           | 6404                 |
| Width                                                                   | mm                | 1904                                         | 1904                 | 1087                 | 1087                 | 1904           | 1904                 |
| Height                                                                  | mm                | 1959                                         | 1961                 | 1961                 | 2001                 | 2001           | 2001                 |
| Footprint                                                               | m <sup>2</sup>    | 6,2                                          | 8,9                  | 8,9                  | 12,1                 | 12,1           | 12,1                 |
| Operating weight                                                        | kg                | 1636                                         | 2034                 | 2225                 | 2800                 | 2986           | 3255                 |
| Shipping weight                                                         | kg                | 1623                                         | 2015                 | 2205                 | 2776                 | 2962           | 3224                 |
| <b>Construction</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Frame                                                                   |                   | Galvanised steel base                        |                      |                      |                      |                |                      |
| Casing                                                                  |                   | ALUZINC                                      |                      |                      |                      |                |                      |
| Painting                                                                |                   | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                                        |                   | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.  
Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.  
Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

**Wa - ek - dk**
**super  
low noise**

| <b>ECOLOGIC</b>                                                         | <b>WA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|-------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity <sup>(1)</sup>                                         | kW                | 147,3                                        | 185,5                | 219,9                | 268,5                | 291,2          | 341,9                |
| Power input <sup>(1)</sup>                                              | kW                | 60,6                                         | 71,1                 | 88,0                 | 105,6                | 117,0          | 150,6                |
| Full load amps <sup>(1)</sup>                                           | A                 | 100,9                                        | 123,5                | 153,2                | 183,3                | 202,8          | 260,0                |
| EER <sup>(2)</sup>                                                      |                   | 2,4                                          | 2,7                  | 2,6                  | 2,6                  | 2,6            | 2,3                  |
| EER global <sup>(3)</sup>                                               |                   | 2,5                                          | 2,6                  | 2,5                  | 2,5                  | 2,5            | 2,3                  |
| <b>Compressor</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>Scroll - hermetic</b>                                                |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                                                    | nr                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                                          | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                               | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                                                | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| <b>R407C</b>                                                            |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                                               | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                                                       | nr                | 2                                            | 2                    | 3                    | 2                    | 3              | 2                    |
| Charge per circuit                                                      | kg                | 28,2                                         | 28,2                 | 42,6                 | 37,2                 | 56,4           | 56,4                 |
| <b>Condenser</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b>                         |                   |                                              |                      |                      |                      |                |                      |
| Face area                                                               | m <sup>2</sup>    | 8,4                                          | 12,6                 | 12,6                 | 16,8                 | 16,8           | 16,8                 |
| Number of rows                                                          | nr                | 3                                            | 2                    | 3                    | 2                    | 3              | 3                    |
| Fin per inch                                                            | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 2              | 2                    |
| <b>Fan &amp; Motor</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>Axial fan</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                                           | nr                | 4                                            | 6                    | 6                    | 8                    | 8              | 8                    |
| Diameter                                                                | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                                           | RPM               | 680                                          | 680                  | 680                  | 680                  | 680            | 680                  |
| Nominal air flow                                                        | m <sup>3</sup> /h | 41 300                                       | 64 300               | 62 000               | 85 900               | 82 700         | 82 700               |
| External static pressure                                                | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                                                 | kW                | 1,68                                         | 2,52                 | 2,52                 | 3,36                 | 3,36           | 3,36                 |
| <b>Evaporator</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| <b>AISI 316 stainless steel plate brazed with copper heat exchanger</b> |                   |                                              |                      |                      |                      |                |                      |
| Water flow <sup>(1)</sup>                                               | m <sup>3</sup> /h | 24,9                                         | 31,3                 | 37,1                 | 45,3                 | 49,2           | 57,7                 |
| Water volume                                                            | l                 | 12,4                                         | 19,1                 | 19,1                 | 23,9                 | 23,9           | 31,5                 |
| Pressure drop <sup>(1)</sup>                                            | kPa               | 40,2                                         | 32                   | 44,3                 | 37                   | 43,5           | 37,3                 |
| Water operating pressure                                                | kPa               | 600                                          | 600                  | 600                  | 600                  | 600            | 600                  |
| <b>Hydraulic connections</b>                                            |                   |                                              |                      |                      |                      |                |                      |
| <b>Victaulic</b>                                                        |                   |                                              |                      |                      |                      |                |                      |
| Water inlet/outlet with Hydro                                           | Inches            | 2" 1/2                                       | 2" 1/2               | 2" 1/2               | 4                    | 4              | 4                    |
| Water inlet/outlet without Hydro                                        | Inches            | 2"                                           | 2"                   | 2"                   | 2" 1/2               | 2" 1/2         | 2" 1/2               |
| <b>Acoustic</b>                                                         |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level <sup>(1)</sup>                                 | dB(A)             | 79                                           | 82                   | 83                   | 85                   | 86             | 85                   |
| <b>Electrical data</b>                                                  |                   |                                              |                      |                      |                      |                |                      |
| <b>400V/3/50Hz</b>                                                      |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                                                      | A                 | 288,7                                        | 372,6                | 443,5                | 480,3                | 504,1          | 515,6                |
| Maximum current                                                         | A                 | 199,4                                        | 147,2                | 182,0                | 218,8                | 242,6          | 290,2                |
| <b>Operating limits</b>                                                 |                   |                                              |                      |                      |                      |                |                      |
| Min. outlet water temperature                                           | °C                | 5                                            | 5                    | 5                    | 5                    | 5              | 5                    |
| Max. inlet water temperature                                            | °C                | 20                                           | 20                   | 20                   | 20                   | 20             | 20                   |
| Min. difference water inlet/outlet                                      | °C                | 3                                            | 3                    | 3                    | 3                    | 3              | 3                    |
| Max. difference water inlet/outlet                                      | °C                | 8                                            | 8                    | 8                    | 8                    | 8              | 8                    |
| Min. outside air temperature                                            | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature <sup>(4)</sup>                             | °C                | 52                                           | 50                   | 49,5                 | 51,5                 | 52,3           | 47,1                 |
| <b>Dimensions</b>                                                       |                   |                                              |                      |                      |                      |                |                      |
| Length                                                                  | mm                | 3304                                         | 4704                 | 4704                 | 6404                 | 6404           | 6404                 |
| Width                                                                   | mm                | 1904                                         | 1904                 | 1087                 | 1087                 | 1904           | 1904                 |
| Height                                                                  | mm                | 1959                                         | 1961                 | 1961                 | 2001                 | 2001           | 2001                 |
| Footprint                                                               | m <sup>2</sup>    | 6,2                                          | 8,9                  | 8,9                  | 12,1                 | 12,1           | 12,1                 |
| Operating weight                                                        | kg                | 1656                                         | 2054                 | 2245                 | 2820                 | 3006           | 3285                 |
| Shipping weight                                                         | kg                | 1643                                         | 2035                 | 2225                 | 2796                 | 2982           | 3254                 |
| <b>Construction</b>                                                     |                   |                                              |                      |                      |                      |                |                      |
| Frame                                                                   |                   | Galvanised steel base                        |                      |                      |                      |                |                      |
| Casing                                                                  |                   | ALUZINC                                      |                      |                      |                      |                |                      |
| Painting                                                                |                   | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                                        |                   | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.  
Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.  
Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

waH - ek - dk

STANDar d

| <b>ECOLOGIC</b>                                                         | <b>WAH</b>        | <b>150</b>                                   | <b>200</b>           | <b>230</b>           |
|-------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|
| <b>Cooling mode</b>                                                     |                   |                                              |                      |                      |
| Cooling capacity <sup>(1)</sup>                                         | kW                | 135,2                                        | 173,2                | 203,9                |
| Power input <sup>(1)</sup>                                              | kW                | 68,5                                         | 76,1                 | 93,5                 |
| Full load amps(1)                                                       | A                 | 115,4                                        | 133,2                | 163,7                |
| EER <sup>(2)</sup>                                                      |                   | 2,3                                          | 2,6                  | 2,4                  |
| EER global <sup>(3)</sup>                                               |                   | 2,0                                          | 2,3                  | 2,2                  |
| <b>Heating mode</b>                                                     |                   |                                              |                      |                      |
| Heating capacity <sup>(1)</sup>                                         | kW                | 165,7                                        | 201,7                | 246                  |
| Power input <sup>(1)</sup>                                              | kW                | 68,7                                         | 77,1                 | 94,9                 |
| Full load amps(1)                                                       | A                 | 115,5                                        | 134,7                | 165,4                |
| COP <sup>(2)</sup>                                                      |                   | 2,8                                          | 3,0                  | 2,9                  |
| COP global <sup>(3)</sup>                                               |                   | 2,4                                          | 2,6                  | 2,6                  |
| <b>Compressor</b>                                                       |                   |                                              |                      |                      |
| <b>Scroll - hermetic</b>                                                |                   |                                              |                      |                      |
| Number of compressor                                                    | nr                | 4                                            | 4                    | 4                    |
| Capacity steps                                                          | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                               | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            |
| Oil type                                                                | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |
| <b>Refrigerant</b>                                                      |                   |                                              |                      |                      |
| <b>R407C</b>                                                            |                   |                                              |                      |                      |
| Expansion                                                               | type              | Thermostatic expansion valve                 |                      |                      |
| Number of circuit                                                       | nr                | 2                                            | 2                    | 2                    |
| Charge per circuit                                                      | kg                | 15                                           | 21,6                 | 28,8                 |
| <b>Condenser</b>                                                        |                   |                                              |                      |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b>                         |                   |                                              |                      |                      |
| Face area                                                               | m <sup>2</sup>    | 5,85                                         | 8,4                  | 8,4                  |
| Number of rows                                                          | nr                | 3                                            | 3                    | 4                    |
| Fin per inch                                                            | mm                | 1,8                                          | 1,6                  | 1,8                  |
| <b>Fan &amp; Motor</b>                                                  |                   |                                              |                      |                      |
| <b>Axial fan</b>                                                        |                   |                                              |                      |                      |
| Number of fan                                                           | nr                | 4                                            | 4                    | 4                    |
| Diameter                                                                | mm                | 710                                          | 710                  | 710                  |
| Maximum speed                                                           | RPM               | 1350                                         | 1350                 | 1350                 |
| Nominal air flow                                                        | m <sup>3</sup> /h | 35 900                                       | 38 200               | 37 200               |
| External static pressure                                                | Pa                | 0                                            | 0                    | 0                    |
| Total motor power input                                                 | kW                | 10                                           | 10                   | 10                   |
| <b>Evaporator</b>                                                       |                   |                                              |                      |                      |
| <b>AISI 316 stainless steel plate brazed with copper heat exchanger</b> |                   |                                              |                      |                      |
| Water flow(1)                                                           | m <sup>3</sup> /h | 23,3                                         | 29,8                 | 35,1                 |
| Water volume                                                            | l                 | 12,4                                         | 19,1                 | 19,1                 |
| Pressure drop(1)                                                        | kPa               | 35,5                                         | 29,2                 | 39,8                 |
| Water operating pressure                                                | kPa               | 600                                          | 600                  | 600                  |
| <b>Hydraulic connections</b>                                            |                   |                                              |                      |                      |
| <b>Victaulic</b>                                                        |                   |                                              |                      |                      |
| Water inlet/outlet with Hydro                                           | Inches            | 2" 1/2                                       | 2" 1/2               | 2" 1/2               |
| Water inlet/outlet without Hydro                                        | Inches            | 2"                                           | 2"                   | 2"                   |
| <b>Acoustic</b>                                                         |                   |                                              |                      |                      |
| Global sound power level <sup>(1)</sup>                                 | dB(A)             | 92                                           | 94                   | 95                   |
| <b>Electrical data</b>                                                  |                   |                                              |                      |                      |
| <b>400V/3/50Hz</b>                                                      |                   |                                              |                      |                      |
| Start-up intensity                                                      | A                 | 303,8                                        | 445,7                | 456,6                |
| Maximum current                                                         | A                 | 134,4                                        | 184,2                | 195,2                |
| <b>Operating limits</b>                                                 |                   |                                              |                      |                      |
| Min. outlet water temperature                                           | °C                | 5                                            | 5                    | 5                    |
| Max. inlet water temperature                                            | °C                | 20                                           | 20                   | 20                   |
| Min. difference water inlet/outlet                                      | °C                | 3                                            | 3                    | 3                    |
| Max. difference water inlet/outlet                                      | °C                | 8                                            | 8                    | 8                    |
| Min. outside air temperature                                            | °C                | 6                                            | 6                    | 6                    |
| Max. outside air temperature(4)                                         | °C                | 51                                           | 50                   | 49                   |
| <b>Dimensions</b>                                                       |                   |                                              |                      |                      |
| Length                                                                  | mm                | 4704                                         | 3304                 | 3304                 |
| Width                                                                   | mm                | 1054                                         | 1904                 | 1904                 |
| Height                                                                  | mm                | 1940                                         | 1959                 | 1959                 |
| Footprint                                                               | m <sup>2</sup>    | 4,9                                          | 6,2                  | 6,2                  |
| Operating weight                                                        | kg                | 1479                                         | 1924                 | 2075                 |
| Shipping weight                                                         | kg                | 1467                                         | 1905                 | 2056                 |
| <b>Construction</b>                                                     |                   |                                              |                      |                      |
| Frame                                                                   |                   | Galvanised steel base                        |                      |                      |
| Casing                                                                  |                   | ALUZINC                                      |                      |                      |
| Painting                                                                |                   | Polyester - RAL 9002                         |                      |                      |
| Insulation class                                                        |                   | M1                                           |                      |                      |

(1) All data are at Eurovent condition.

Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.

Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.



reminder : RA=condensing unit

RA - dk

standard

| <b>ECOLOGIC</b>                                 | <b>RA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|-------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                             |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity (1)                            | kW                | 158,2                                        | 199,2                | 243,9                | 293                  | 313,4          | 386,2                |
| Power input (1)                                 | kW                | 70,2                                         | 81,4                 | 98,3                 | 122,7                | 139,3          | 162,7                |
| Full load amps (1)                              | A                 | 116,6                                        | 139,5                | 165,6                | 206,3                | 229,8          | 278,5                |
| EER (2)                                         |                   | 2,5                                          | 2,8                  | 2,8                  | 2,7                  | 2,5            | 2,6                  |
| EER global (3)                                  |                   | 2,3                                          | 2,4                  | 2,5                  | 2,4                  | 2,2            | 2,4                  |
| <b>Compressor</b>                               |                   |                                              |                      |                      |                      |                |                      |
| <b>Scroll - Hermetic</b>                        |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                            | nb                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                  | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                       | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                        | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b>                              |                   |                                              |                      |                      |                      |                |                      |
| <b>R 407 C</b>                                  |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                       | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                               | nb                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                              | kg                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| <b>Condenser</b>                                |                   |                                              |                      |                      |                      |                |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b> |                   |                                              |                      |                      |                      |                |                      |
| Face area                                       | m <sup>2</sup>    | 5,85                                         | 8,4                  | 8,4                  | 12,6                 | 12,6           | 12,6                 |
| Number of rows                                  | nb                | 3                                            | 2                    | 3                    | 2                    | 2              | 3                    |
| Fin Spacing                                     | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 1,8            | 2                    |
| <b>Fan&amp;Motor</b>                            |                   |                                              |                      |                      |                      |                |                      |
| <b>Axial fan</b>                                |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                   | nb                | 3                                            | 4                    | 4                    | 6                    | 6              | 6                    |
| Diameter                                        | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                   | rpm               | 1350                                         | 1350                 | 1350                 | 1350                 | 1350           | 1350                 |
| Nominal air flow                                | m <sup>3</sup> /h | 57 500                                       | 78 000               | 75 400               | 117 000              | 117 000        | 113 600              |
| External static pressure                        | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                         | kW                | 7,5                                          | 10                   | 10                   | 15                   | 15             | 15                   |
| <b>Evaporator</b>                               |                   |                                              |                      |                      |                      |                |                      |
| Water flow                                      | m <sup>3</sup> /h | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water volume                                    | l                 | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Pressure drop                                   | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water operating pressure                        | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Hydraulic connections                           |                   |                                              |                      |                      |                      |                |                      |
| Water inlet / outlet                            | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water drain / bleed                             | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| <b>Acoustic</b>                                 |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level (1)                    | dB(A)             | 95                                           | 99                   | 99                   | 101                  | 101            | 101                  |
| <b>Electrical data</b>                          |                   |                                              |                      |                      |                      |                |                      |
| <b>400V/III/50Hz</b>                            |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                              | A                 | 299,1                                        | 385,8                | 456,6                | 500,9                | 524,8          | 536,3                |
| Maximum current                                 | A                 | 129,7                                        | 160,4                | 195,2                | 239,5                | 263,3          | 310,9                |
| <b>Operating limits</b>                         |                   |                                              |                      |                      |                      |                |                      |
| Min. inlet evap temperature                     | °C                | -5                                           | -5                   | -5                   | -5                   | -5             | -5                   |
| Max. inlet evap temperature                     | °C                | 15                                           | 15                   | 15                   | 15                   | 15             | 15                   |
| Min. difference water inlet/outlet              | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Max. difference water inlet/outlet              | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Min. outside air temperature                    | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature (4)                | °C                | 51                                           | 49                   | 49                   | 51                   | 51             | 48                   |
| <b>Dimensions</b>                               |                   |                                              |                      |                      |                      |                |                      |
| Length                                          | mm                | 4704                                         | 3304                 | 3304                 | 4704                 | 4704           | 4704                 |
| Width                                           | mm                | 1054                                         | 1904                 | 1904                 | 1904                 | 1904           | 1904                 |
| Height                                          | mm                | 1940                                         | 1959                 | 1959                 | 1961                 | 1961           | 1961                 |
| Footprint                                       | m <sup>2</sup>    | 4,9                                          | 6,2                  | 6,2                  | 8,9                  | 8,9            | 8,9                  |
| Operating Weight                                | kg                | 1480                                         | 1860                 | 2019                 | 2559                 | 2627           | 2986                 |
| Shipping Weight                                 | kg                | 1468                                         | 1841                 | 2000                 | 2535                 | 2603           | 2954                 |
| <b>Construction</b>                             |                   |                                              |                      |                      |                      |                |                      |
| Frame                                           |                   | typeSteel base with galvanised               |                      |                      |                      |                |                      |
| Casing                                          | type              | Aluzinc                                      |                      |                      |                      |                |                      |
| Painting                                        | type              | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                | type              | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.

Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.

Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

reminder : RA=condensing unit

RA EK- dk

low noise

| <b>ECOLOGIC</b>                                 | <b>RA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|-------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                             |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity (1)                            | kW                | 153,5                                        | 193,9                | 235,4                | 284,3                | 302,9          | 370,6                |
| Power input (1)                                 | kW                | 70,1                                         | 80,8                 | 99,4                 | 121,9                | 139,7          | 165,3                |
| Full load amps (1)                              | A                 | 114,5                                        | 136,0                | 164,6                | 201,6                | 226,7          | 278,9                |
| EER (2)                                         |                   | 2,4                                          | 2,6                  | 2,5                  | 2,5                  | 2,3            | 2,4                  |
| EER global (3)                                  |                   | 2,2                                          | 2,4                  | 2,4                  | 2,3                  | 2,2            | 2,2                  |
| <b>Compressor</b>                               |                   |                                              |                      |                      |                      |                |                      |
| <b>Scroll - Hermetic</b>                        |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                            | nb                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                  | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                       | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                        | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b>                              |                   |                                              |                      |                      |                      |                |                      |
| <b>R 407 C</b>                                  |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                       | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                               | nb                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                              | kg                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| <b>Condenser</b>                                |                   |                                              |                      |                      |                      |                |                      |
| <b>Copper tube - Aluminium fin - Air cooled</b> |                   |                                              |                      |                      |                      |                |                      |
| Face area                                       | m <sup>2</sup>    | 5,85                                         | 8,4                  | 8,4                  | 12,6                 | 12,6           | 12,6                 |
| Number of rows                                  | nb                | 3                                            | 2                    | 3                    | 2                    | 2              | 3                    |
| Fin Spacing                                     | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 1,8            | 2                    |
| <b>Fan&amp;Motor</b>                            |                   |                                              |                      |                      |                      |                |                      |
| <b>Axial fan</b>                                |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                   | nb                | 3                                            | 4                    | 4                    | 6                    | 6              | 6                    |
| Diameter                                        | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                   | rpm               | 1090                                         | 1090                 | 1090                 | 1090                 | 1090           | 1090                 |
| Nominal air flow                                | m <sup>3</sup> /h | 47000                                        | 64200                | 61850                | 96000                | 96000          | 92700                |
| External static pressure                        | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                         | kW                | 5,1                                          | 6,8                  | 6,8                  | 10,2                 | 10,2           | 10,2                 |
| <b>Evaporator</b>                               |                   |                                              |                      |                      |                      |                |                      |
| Water flow                                      | m <sup>3</sup> /h | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water volume                                    | l                 | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Pressure drop                                   | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water operating pressure                        | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Hydraulic connections                           |                   |                                              |                      |                      |                      |                |                      |
| Water inlet / outlet                            | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water drain / bleed                             | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| <b>Acoustic</b>                                 |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level (1)                    | dB(A)             | 89                                           | 90                   | 90                   | 92                   | 92             | 92                   |
| <b>Electrical data</b>                          |                   |                                              |                      |                      |                      |                |                      |
| <b>400V/III/50Hz</b>                            |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                              | A                 | 293,7                                        | 378,6                | 449,4                | 490,1                | 514,0          | 525,5                |
| Maximum current                                 | A                 | 124,3                                        | 153,2                | 188,0                | 228,7                | 252,5          | 300,1                |
| <b>Operating limits</b>                         |                   |                                              |                      |                      |                      |                |                      |
| Min. inlet evap temperature                     | °C                | -5                                           | -5                   | -5                   | -5                   | -5             | -5                   |
| Max. inlet evap temperature                     | °C                | 15                                           | 15                   | 15                   | 15                   | 15             | 15                   |
| Min. difference water inlet/outlet              | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Max. difference water inlet/outlet              | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Min. outside air temperature                    | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature (4)                | °C                | 50                                           | 48                   | 47                   | 50                   | 50             | 47                   |
| <b>Dimensions</b>                               |                   |                                              |                      |                      |                      |                |                      |
| Length                                          | mm                | 4704                                         | 3304                 | 3304                 | 4704                 | 4704           | 4704                 |
| Width                                           | mm                | 1054                                         | 1904                 | 1904                 | 1904                 | 1904           | 1904                 |
| Height                                          | mm                | 1940                                         | 1959                 | 1959                 | 1961                 | 1961           | 1961                 |
| Footprint                                       | m <sup>2</sup>    | 4,9                                          | 6,2                  | 6,2                  | 8,9                  | 8,9            | 8,9                  |
| Operating Weight                                | kg                | 1480                                         | 1860                 | 2019                 | 2559                 | 2627           | 2986                 |
| Shipping Weight                                 | kg                | 1468                                         | 1841                 | 2000                 | 2535                 | 2603           | 2954                 |
| <b>Construction</b>                             |                   |                                              |                      |                      |                      |                |                      |
| Frame                                           |                   | typeSteel base with galvanised               |                      |                      |                      |                |                      |
| Casing                                          | type              | Aluzinc                                      |                      |                      |                      |                |                      |
| Painting                                        | type              | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                | type              | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.

Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.

Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

reminder : RA=condensing unit

RA EK- dk

super low  
noise

| <b>ECOLOGIC</b>                                                                                   | <b>RA</b>         | <b>150</b>                                   | <b>200</b>           | <b>230</b>           | <b>270</b>           | <b>300</b>     | <b>370</b>           |
|---------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------|----------------------|----------------------|----------------------|----------------|----------------------|
| <b>Cooling mode</b>                                                                               |                   |                                              |                      |                      |                      |                |                      |
| Cooling capacity (1)                                                                              | kW                | 162                                          | 200,1                | 242,6                | 295,9                | 324,7          | 375,1                |
| Power input (1)                                                                                   | kW                | 62,2                                         | 73,1                 | 91,2                 | 109,2                | 121,5          | 156,0                |
| Full load amps (1)                                                                                | A                 | 103,3                                        | 125,3                | 153,0                | 182,9                | 199,9          | 265,3                |
| EER (2)                                                                                           |                   | 2,7                                          | 2,8                  | 2,7                  | 2,8                  | 2,7            | 2,5                  |
| EER global (3)                                                                                    |                   | 2,6                                          | 2,7                  | 2,7                  | 2,7                  | 2,7            | 2,4                  |
| <b>Compressor</b> <span style="float:right"><b>Scroll - Hermetic</b></span>                       |                   |                                              |                      |                      |                      |                |                      |
| Number of compressor                                                                              | nb                | 4                                            | 4                    | 4                    | 4                    | 4              | 6                    |
| Capacity steps                                                                                    | %                 | 0-25-50-75-100                               | 0-17-33-50-67-83-100 | 0-17-33-50-67-83-100 | 0-22-28-50-55-78-100 | 0-25-50-75-100 | 0-17-33-50-67-83-100 |
| Oil charge per compressor                                                                         | l                 | 4,1                                          | 6,3 & 4,1            | 5,9 & 4,1            | 5,9 & 6,3            | 5,9            | 6,3                  |
| Oil type                                                                                          | type              | MOBIL EAL Arctic 22CC or ICI EMKARATE RL32CF |                      |                      |                      |                |                      |
| <b>Refrigerant</b> <span style="float:right"><b>R 407 C</b></span>                                |                   |                                              |                      |                      |                      |                |                      |
| Expansion                                                                                         | type              | Thermostatic expansion valve                 |                      |                      |                      |                |                      |
| Number of circuit                                                                                 | nb                | 2                                            | 2                    | 2                    | 2                    | 2              | 2                    |
| Charge per circuit                                                                                | kg                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| <b>Condenser</b> <span style="float:right"><b>Copper tube - Aluminium fin - Air cooled</b></span> |                   |                                              |                      |                      |                      |                |                      |
| Face area                                                                                         | m <sup>2</sup>    | 8,4                                          | 12,6                 | 12,6                 | 16,8                 | 16,8           | 16,8                 |
| Number of rows                                                                                    | nb                | 3                                            | 2                    | 3                    | 2                    | 3              | 3                    |
| Fin Spacing                                                                                       | mm                | 2                                            | 1,8                  | 2                    | 1,8                  | 2              | 2                    |
| <b>Fan&amp;Motor</b> <span style="float:right"><b>Axial fan</b></span>                            |                   |                                              |                      |                      |                      |                |                      |
| Number of fan                                                                                     | nb                | 4                                            | 6                    | 6                    | 8                    | 8              | 8                    |
| Diameter                                                                                          | mm                | 710                                          | 710                  | 710                  | 710                  | 710            | 710                  |
| Maximum speed                                                                                     | rpm               | 680                                          | 680                  | 680                  | 680                  | 680            | 680                  |
| Nominal air flow                                                                                  | m <sup>3</sup> /h | 41300                                        | 64300                | 62000                | 85900                | 82700          | 82700                |
| External static pressure                                                                          | Pa                | 0                                            | 0                    | 0                    | 0                    | 0              | 0                    |
| Total motor power input                                                                           | kW                | 1,68                                         | 2,52                 | 2,52                 | 3,36                 | 3,36           | 3,36                 |
| <b>Evaporator</b>                                                                                 |                   |                                              |                      |                      |                      |                |                      |
| Water flow                                                                                        | m <sup>3</sup> /h | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water volume                                                                                      | l                 | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Pressure drop                                                                                     | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water operating pressure                                                                          | kPa               | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Hydraulic connections                                                                             |                   |                                              |                      |                      |                      |                |                      |
| Water inlet / outlet                                                                              | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Water drain / bleed                                                                               | Inches            | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| <b>Acoustic</b>                                                                                   |                   |                                              |                      |                      |                      |                |                      |
| Global sound power level (1)                                                                      | dB(A)             | 82                                           | 83                   | 84                   | 85                   | 86             | 86                   |
| <b>Electrical data</b> <span style="float:right"><b>400V/III/50Hz</b></span>                      |                   |                                              |                      |                      |                      |                |                      |
| Start-up intensity                                                                                | A                 | 288,7                                        | 372,6                | 443,5                | 480,3                | 504,1          | 515,6                |
| Maximum current                                                                                   | A                 | 119,4                                        | 147,2                | 182,0                | 218,8                | 242,6          | 290,2                |
| <b>Operating limits</b>                                                                           |                   |                                              |                      |                      |                      |                |                      |
| Min. inlet evap temperature                                                                       | °C                | -5                                           | -5                   | -5                   | -5                   | -5             | -5                   |
| Max. inlet evap temperature                                                                       | °C                | 15                                           | 15                   | 15                   | 15                   | 15             | 15                   |
| Min. difference water inlet/outlet                                                                | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Max. difference water inlet/outlet                                                                | °C                | N/A                                          | N/A                  | N/A                  | N/A                  | N/A            | N/A                  |
| Min. outside air temperature                                                                      | °C                | 6                                            | 6                    | 6                    | 6                    | 6              | 6                    |
| Max. outside air temperature (4)                                                                  | °C                | 52                                           | 50                   | 50                   | 52                   | 52             | 47                   |
| <b>Dimensions</b>                                                                                 |                   |                                              |                      |                      |                      |                |                      |
| Length                                                                                            | mm                | 3304                                         | 4704                 | 4704                 | 6404                 | 6404           | 6404                 |
| Width                                                                                             | mm                | 1904                                         | 1904                 | 1904                 | 1904                 | 1904           | 1904                 |
| Height                                                                                            | mm                | 1959                                         | 1961                 | 1961                 | 2001                 | 2001           | 2001                 |
| Footprint                                                                                         | m <sup>2</sup>    | 6,2                                          | 8,9                  | 8,9                  | 12,1                 | 12,1           | 12,1                 |
| Operating Weight                                                                                  | kg                | 1656                                         | 2054                 | 2245                 | 2820                 | 3006           | 3285                 |
| Shipping Weight                                                                                   | kg                | 1643                                         | 2035                 | 2225                 | 2796                 | 2982           | 3254                 |
| <b>Construction</b>                                                                               |                   |                                              |                      |                      |                      |                |                      |
| Frame                                                                                             |                   | typeSteel base with galvanised               |                      |                      |                      |                |                      |
| Casing                                                                                            | type              | Aluzinc                                      |                      |                      |                      |                |                      |
| Painting                                                                                          | type              | Polyester - RAL 9002                         |                      |                      |                      |                |                      |
| Insulation class                                                                                  | type              | M1                                           |                      |                      |                      |                |                      |

(1) All data are at Eurovent condition.

Gross cooling capacity with 12/7°C water temperature and 35°C air ambient.

Gross heating capacity with 7°C air inlet temperature and 40/45°C water temperature.

(2) EER and COP compressors only.

(3) EER and COP with fans.

(4) Normal cooling operation with CLIMATIC™ 50, 12°C/7°C water and one compressor unloaded

(NA) Not available.

all units

wa

**ESEER - Calculations**

| <b>ESEER</b>    |      |
|-----------------|------|
| WA 150 STD      | 2,48 |
| WA 200 STD      | 2,67 |
| WA 230 STD      | 2,75 |
| WA 270 STD      | 2,55 |
| WA 300 STD      | 2,46 |
| WA 370 STD      | 2,68 |
| WA 150 LN       | 2,57 |
| WA 200 LN       | 2,83 |
| WA 230 LN       | 2,82 |
| WA 270 LN       | 2,68 |
| WA 300 LN       | 2,55 |
| WA 370 LN       | 2,72 |
| WA 150 HE       | 3,22 |
| WA 200 HE       | 3,27 |
| WA 230 HE       | 3,30 |
| WA 270 HE       | 3,20 |
| WA 300 HE       | 3,26 |
| WA 370 HE       | 3,15 |
| WA 150 SLN      | 3,36 |
| WA 200 SLN      | 3,55 |
| WA 230 SLN      | 3,45 |
| WA 270 SLN      | 3,49 |
| WA 300 SLN      | 3,44 |
| WA 370 SLN      | 3,21 |
| WAH 150 cooling | 2,22 |
| WAH 200 cooling | 2,61 |
| WAH 230 cooling | 2,62 |

| <b>Water cooled chillers</b> |                          |                 |
|------------------------------|--------------------------|-----------------|
| Part load ratio              | Cond Water (Entering °C) | Weighting coeff |
| 100%                         | 35°C                     | 3%              |
| 75%                          | 30°C                     | 33%             |
| 50%                          | 25°C                     | 41%             |
| 25%                          | 19°C                     | 23%             |

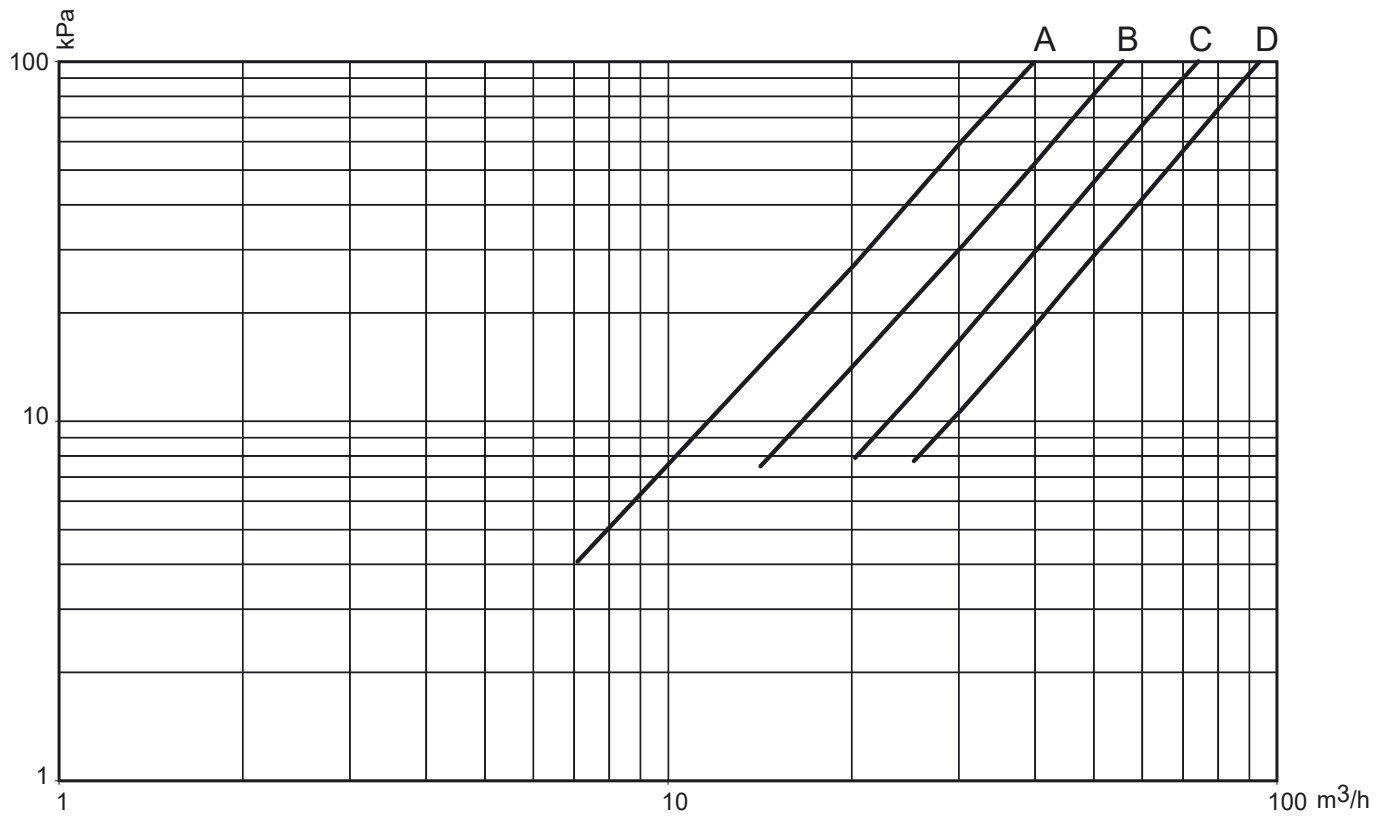
+ For evaporator side, the water is 12°C entry, 7°C leaving.

+ For water cooled unit, consider 5° delta T on the condenser.

+ Fouling factor equal to 0,004403 m<sup>2</sup>C/W".

+ For water keep the flow defined at full load as constant at all capacity reduction.

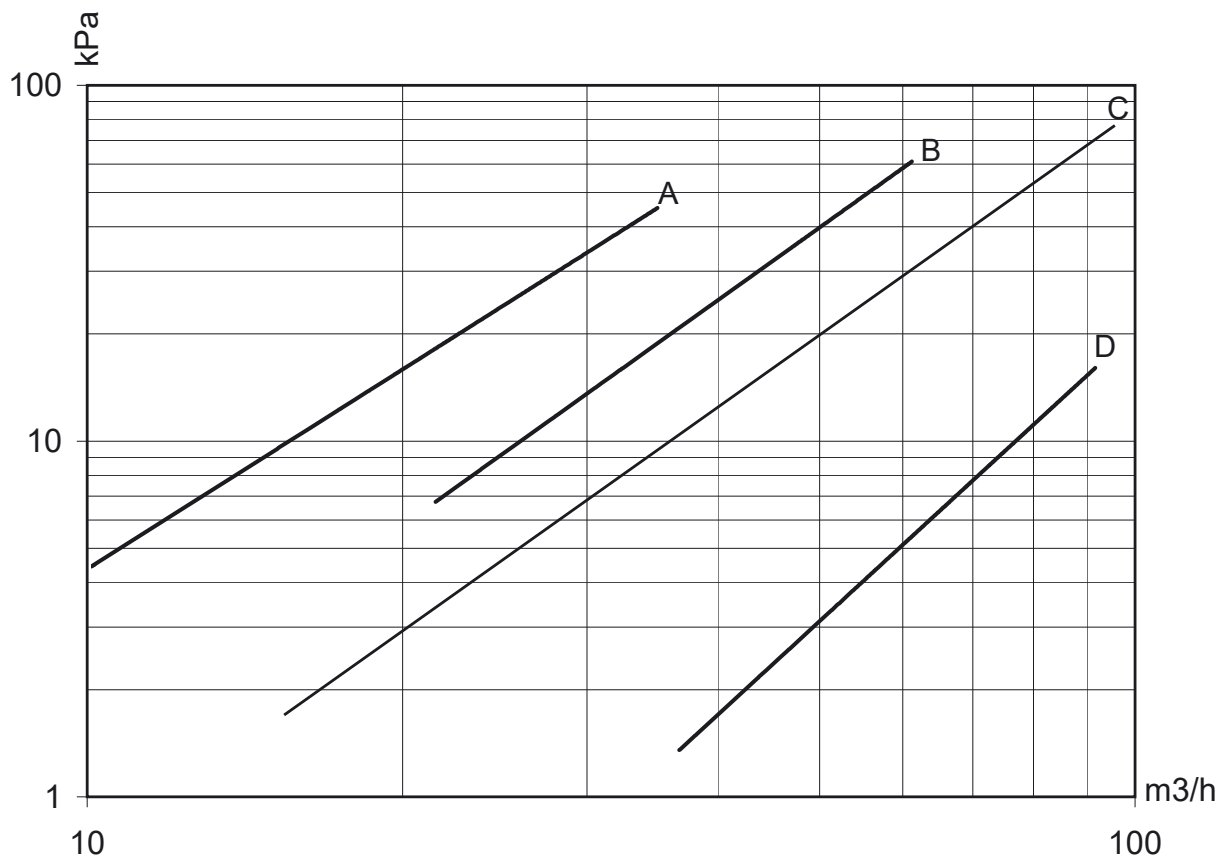
**EVAPORATORS CURVE**



| <b>ECOLOGIC</b>   | <b>WA</b> | <b>150</b> | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|-------------------|-----------|------------|------------|------------|------------|------------|------------|
| Evaporators curve |           | A          | B          | B          | C          | C          | D          |

*Pressure drops are given for informations only, A tolerance of +/- 20kPa must be considered when selecting water pumps,*

**FILTER CURVE**



Size of the filter mesh: A = 0,8 mm  
 B = 0,8 mm  
 C = 0,8 mm  
 D = 1,0 mm

| <b>ECOLOGIC</b>                                               | <b>WA</b> | <b>150</b> | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|---------------------------------------------------------------|-----------|------------|------------|------------|------------|------------|------------|
| <b>Filter curve</b><br>without hydraulic module               |           | <b>A</b>   | <b>B</b>   | <b>B</b>   | <b>C</b>   | <b>C</b>   | <b>C</b>   |
| <b>Connect. size after Filter</b><br>Without Hydraulic module |           | DN50       | DN50       | DN50       | DN65       | DN65       | DN65       |
| <b>Filter curve</b><br>with hydraulic module                  |           | <b>B</b>   | <b>B</b>   | <b>B</b>   | <b>D</b>   | <b>D</b>   | <b>D</b>   |
| <b>Connect. size after Filter</b><br>With Hydraulic module    |           | DN65       | DN65       | DN65       | DN100      | DN100      | DN100      |

Pressure drops are given for informations only, A tolerance of +/- 20kPa must be considered when selecting water pumps,

|              |               |
|--------------|---------------|
| wa - ek - dk | std/ln/he/sln |
|--------------|---------------|

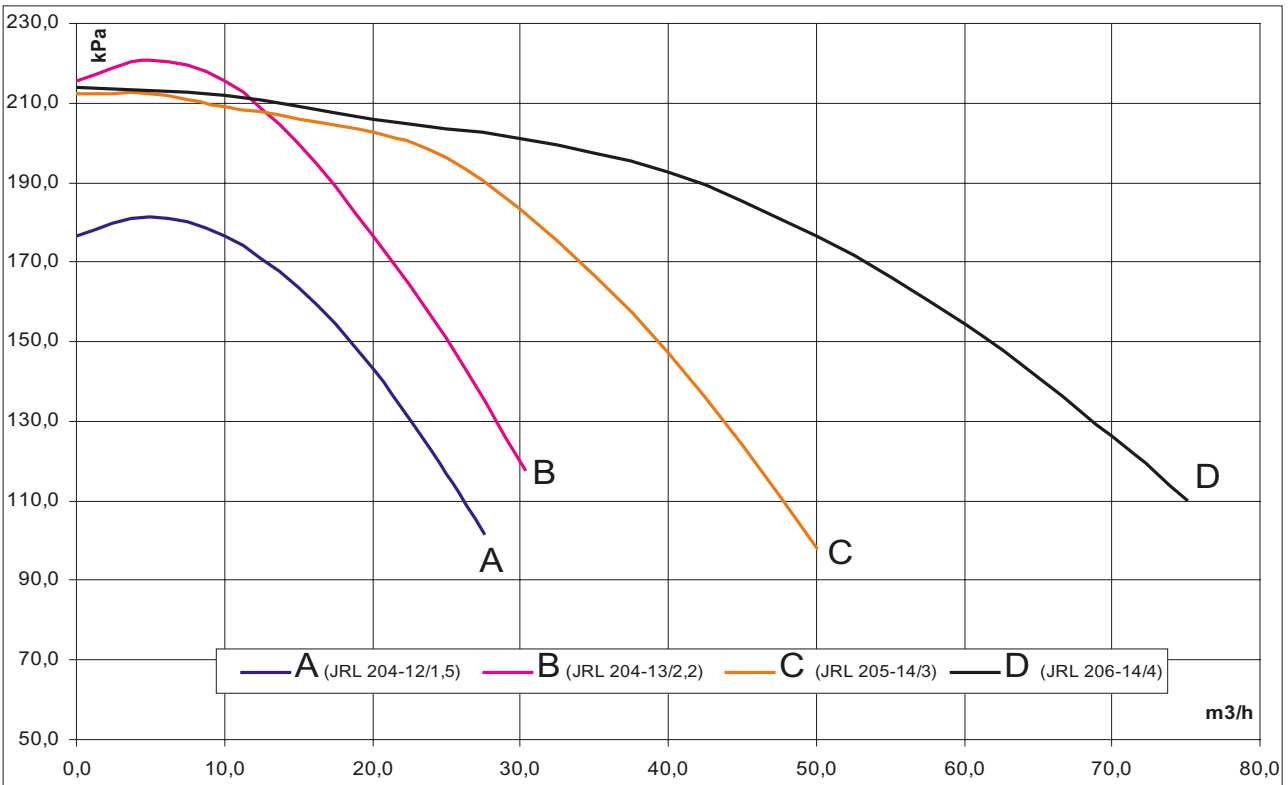
| <b>WA</b>                   |                   | <b>150</b>               | <b>200</b>      | <b>230</b> | <b>270</b>      | <b>300</b> | <b>370</b> |
|-----------------------------|-------------------|--------------------------|-----------------|------------|-----------------|------------|------------|
| <b>Single pump</b>          |                   | SHC<br>20-134            | LRL<br>205-14/3 |            | LRL<br>206-14/4 |            |            |
| Curve                       |                   | A                        | B               |            | C               |            |            |
| Nominal water flow          | m <sup>3</sup> /h | 26                       | 33              | 39         | 46              | 51         | 62         |
| Available static pressure   | kPa               | 117                      | 147             | 113        | 147             | 129        | 108        |
| <b>Double pump</b>          |                   | JLR<br>204-13/2,2        | JRL<br>205-14/3 |            | JRL<br>206-14/4 |            |            |
| Curve                       |                   | D                        | E               |            | F               |            |            |
| Nominal water flow          | m <sup>3</sup> /h | 26                       | 33              | 39         | 46              | 51         | 62         |
| Available static pressure   | kPa               | 102                      | 147             | 113        | 147             | 129        | 108        |
| <b>Expansion vessel</b>     |                   |                          |                 |            |                 |            |            |
| Volume                      |                   | 25                       | 25              | 25         | 25              | 25         | 25         |
| Maximum pressure            | kPa               | 400                      | 400             | 400        | 400             | 400        | 400        |
| Gross Weight                | kg                | 6,9                      | 6,9             | 6,9        | 6,9             | 6,9        | 6,9        |
| <b>Buffer tank</b>          |                   |                          |                 |            |                 |            |            |
| Volume                      | l                 | 200/500 <sup>(2)</sup>   | NA              | NA         | NA              | NA         | NA         |
| Weight                      | kg                | 50,7/85,8 <sup>(2)</sup> | NA              | NA         | NA              | NA         | NA         |
| Anti-freeze heater (option) | kW                | 130                      | NA              | NA         | NA              | NA         | NA         |

(1) : Pump external static pressure - Evaporator pressure drop

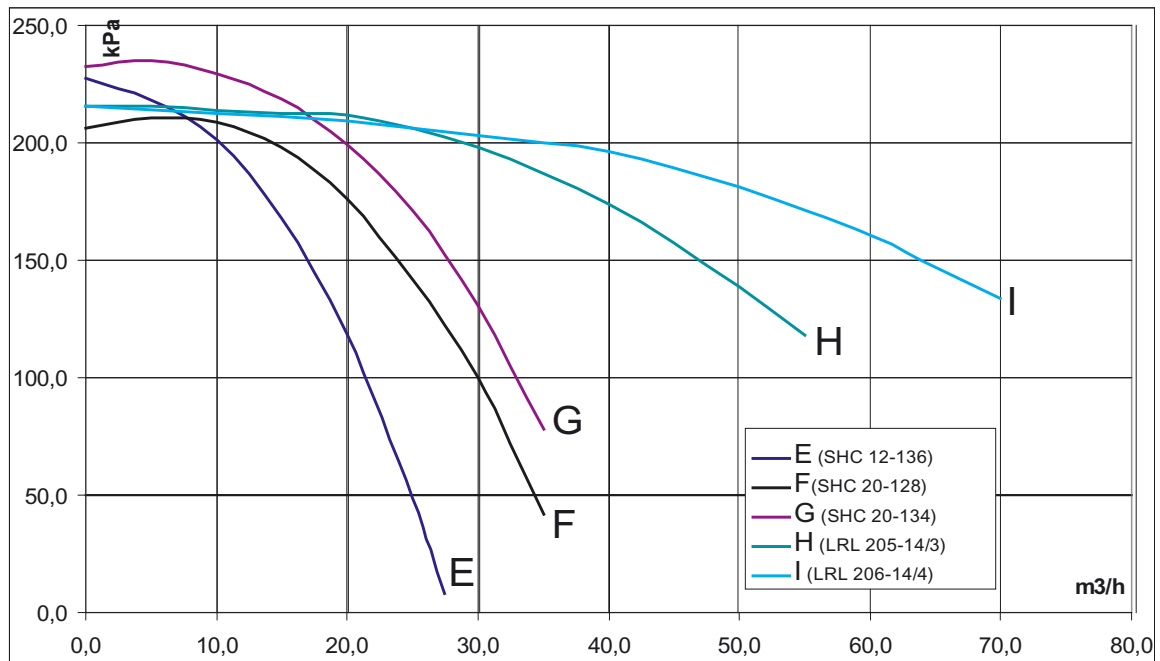
(2) : WA 150 STD and LN only

NA : Not available

**WA DOUBLE PUMP ESP**

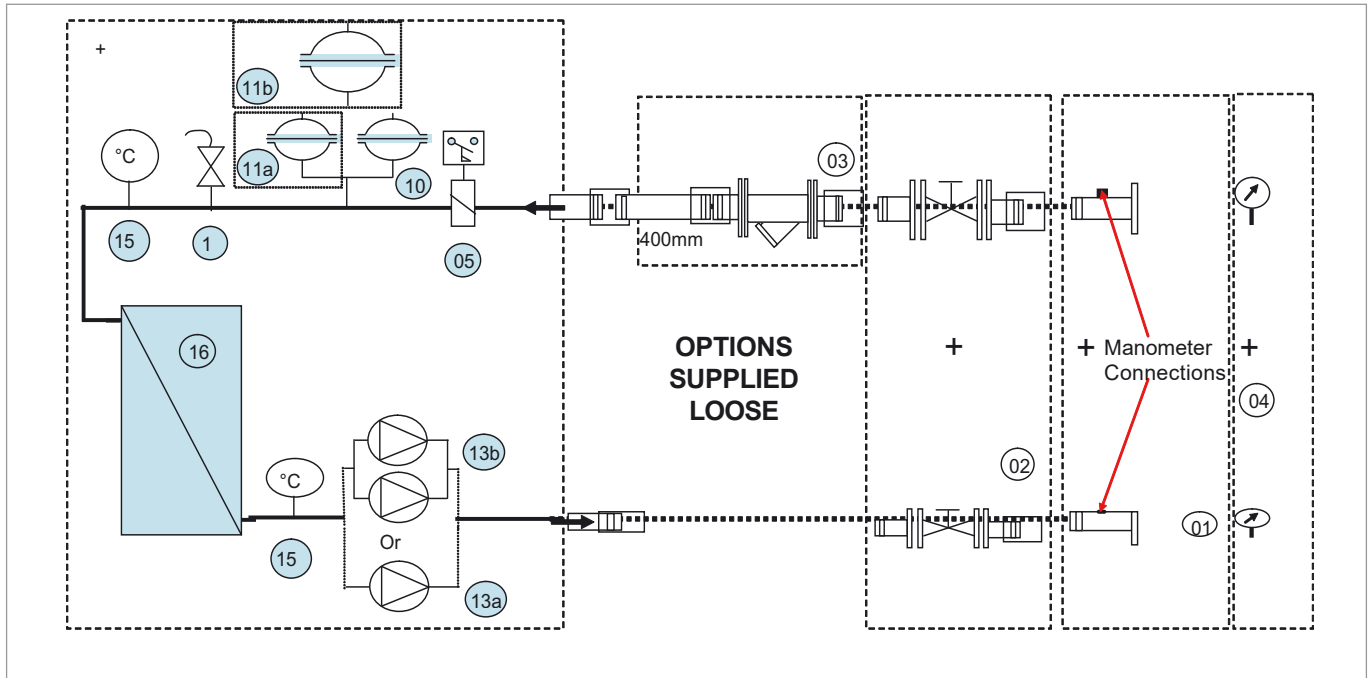


**WA SINGLE PUMP ESP**





**UNIT WITH HYDRAULIC MODULE AND WATER TANK**



**COMPONENTS SUPPLIED LOOSE**

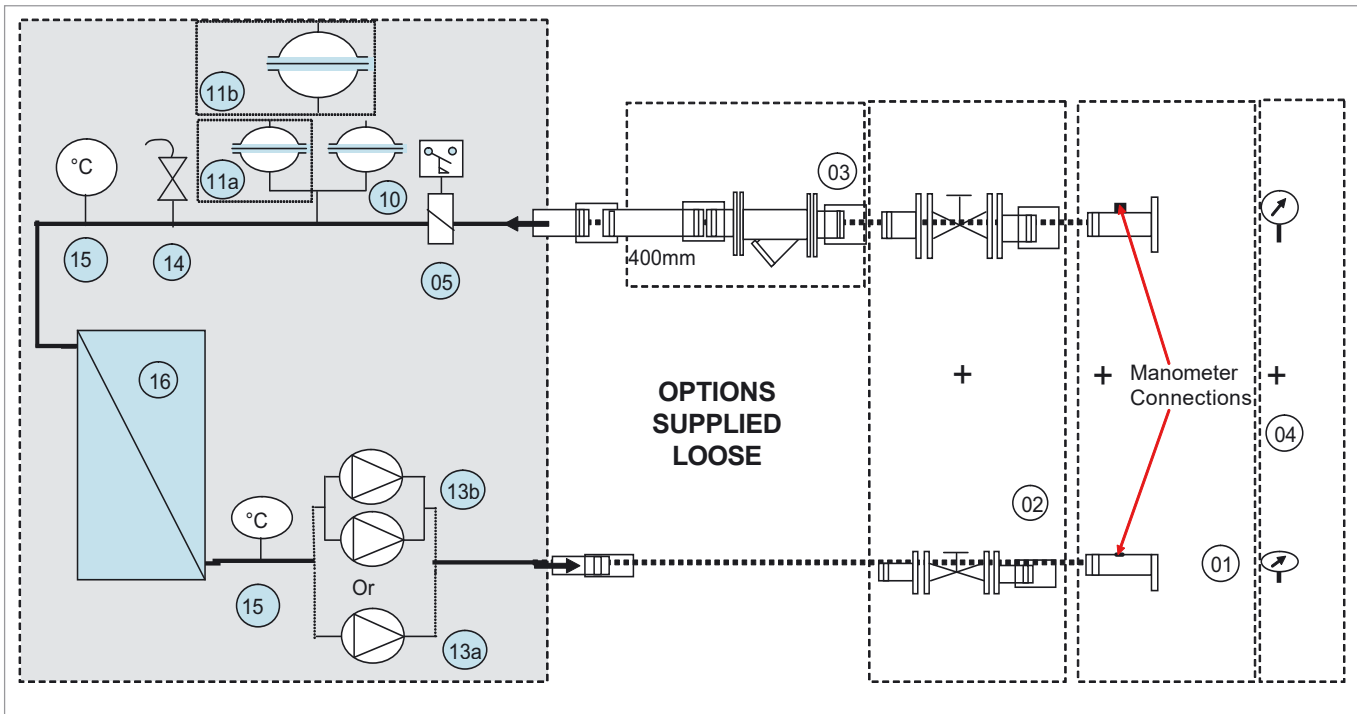
- 01 Kit for Groove lock coupling
- 02 Unit isolation valve
- 03 Inlet Water filter
- 04 Inlet /Outlet manometers

**COMPONENTS MOUNTED INSIDE THE UNIT**

- 05 Paddle flow switch
- 06 200L or 500L Tank
- 07 Discharge
- 08 Water Tank air vent.
- 09 Water Tank drain port.
- 10 Expansion vessel 25L
- 11 Single 50L expansion vessel (WA1L)
- 12 Pump isolation Valve
- 13 Single or Double Pump
- 14 Air Vent.
- 15 Temperature Probe
- 16 Heat Exchanger

| Basic Unit<br>200/500L tank and<br>Single or Double<br>Pump | OPTIONS                      |                    |                |                              |                                    |                      |                        |                             |                              |                          |                                                         |
|-------------------------------------------------------------|------------------------------|--------------------|----------------|------------------------------|------------------------------------|----------------------|------------------------|-----------------------------|------------------------------|--------------------------|---------------------------------------------------------|
|                                                             | Flow Switch (Paddle) Mounted | Water Inlet Filter | Exp vessel 25L | Exp vessel 50L for WA 150STD | Exp vessel 50L for all other units | Pump Isolation Valve | Unit Isolation Valve   | Pump + Unit Isolation Valve | Kit for Groove Lock Coupling | Inlet / Outlet Manometer | Inlet / Outlet Manometer + Kit for Groove Lock Coupling |
| SPUM or DPUM                                                | FLSP                         | HFIL               | EX25           | EX50                         | EX50                               | PISV                 | UISV                   | PISV + IISV                 | HGRL                         | HINO                     | HINO + HGRL                                             |
| 6 / 7 / 8 / 9<br>13 / 14 / 15a / 15b / 16                   | Add<br>05                    | Add<br>03          | Add<br>10      | Add<br>11b                   | Add<br>10 / 11a                    | Add<br>12 +<br>02    | Add<br>02<br>In/Outlet | Add<br>12+ 02<br>In/Outlet  | Add<br>01                    | Add<br>04                | Add<br>01 /04                                           |

**UNIT WITH HYDRAULIC MODULE**



**COMPONENTS SUPPLIED LOOSE**

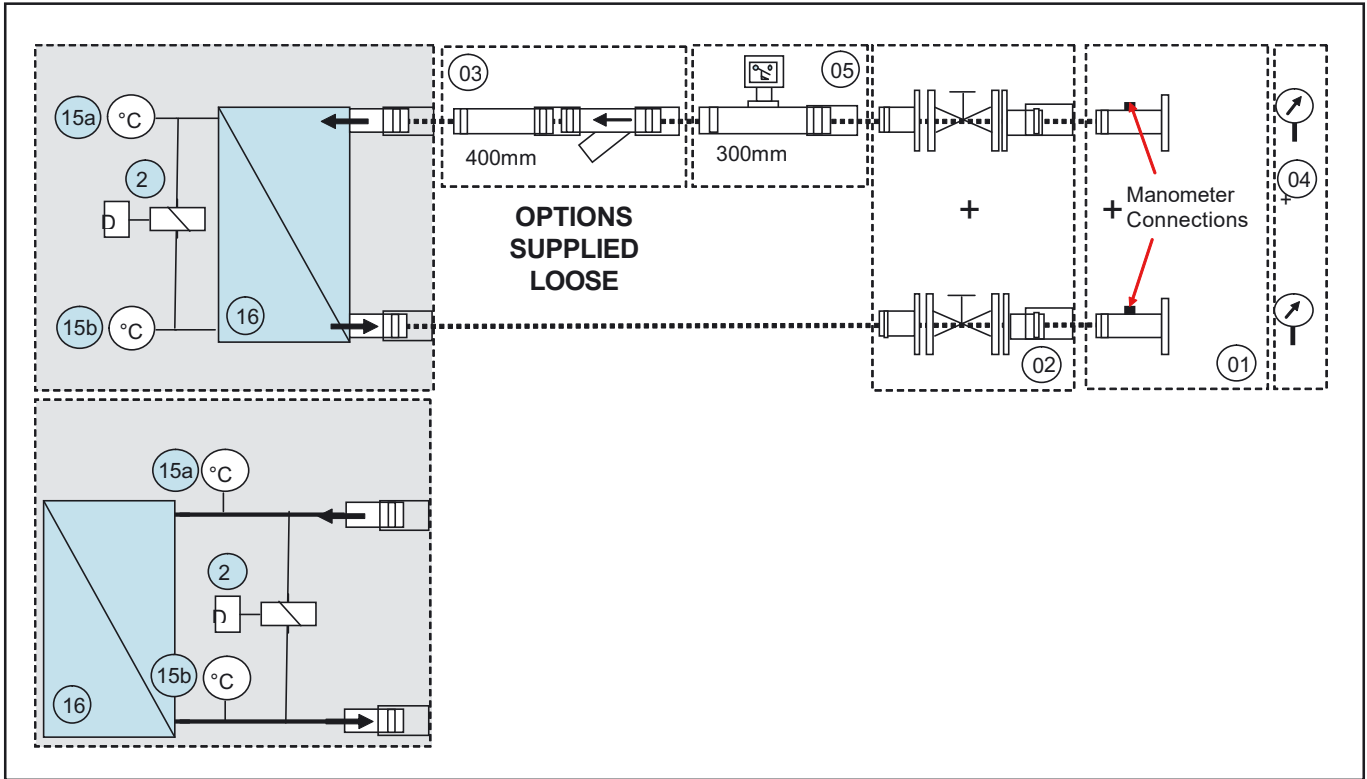
- 01 Kit for Groove lock coupling
- 02 Unit isolation valve
- 03 Inlet Water filter
- 04 Inlet /Outlet manometers

**COMPONENTS MOUNTED INSIDE THE UNIT**

- 05 Paddle flow switch
- 10 Expansion vessel 25L
- 11a Second Expansion vessel 25L (WA2L)
- 11b Single Expansion vessel 50L (WA2L)
- 13 Single / Double Pump
- 14 Air Vent.
- 15 Temperature Probe
- 16 Heat Exchanger

|                                    | OPTIONS                      |                    |                |                              |                                       |                      |                              |                          |                                                         |
|------------------------------------|------------------------------|--------------------|----------------|------------------------------|---------------------------------------|----------------------|------------------------------|--------------------------|---------------------------------------------------------|
| Basic Unit + Single or Double Pump | Flow Switch (Paddle) Mounted | Water Inlet Filter | Exp vessel 25L | Exp vessel 50L for WA 150STD | Exp vessel 50L for All other WA units | Unit Isolation Valve | Kit for Groove Lock Coupling | Inlet / Outlet Manometer | Inlet / Outlet Manometer + Kit for Groove Lock Coupling |
| SPUM or DPUM                       | FLSP                         | HFIL               | EX25           | EX50                         | EX50                                  | UISV                 | HGRL                         | HINO                     | HINO + HGRL                                             |
| 14 / 15a / 15b / 16 / 13a or 13b   | Add 05                       | Add 03             | Add 10         | Add 11b                      | Add 10 / 11a                          | Add 02               | Add 01                       | Add 04                   | Add 04 /01                                              |

**UNIT WITHOUT HYDRAULIC MODULE**



**COMPONENTS SUPPLIED LOOSE**

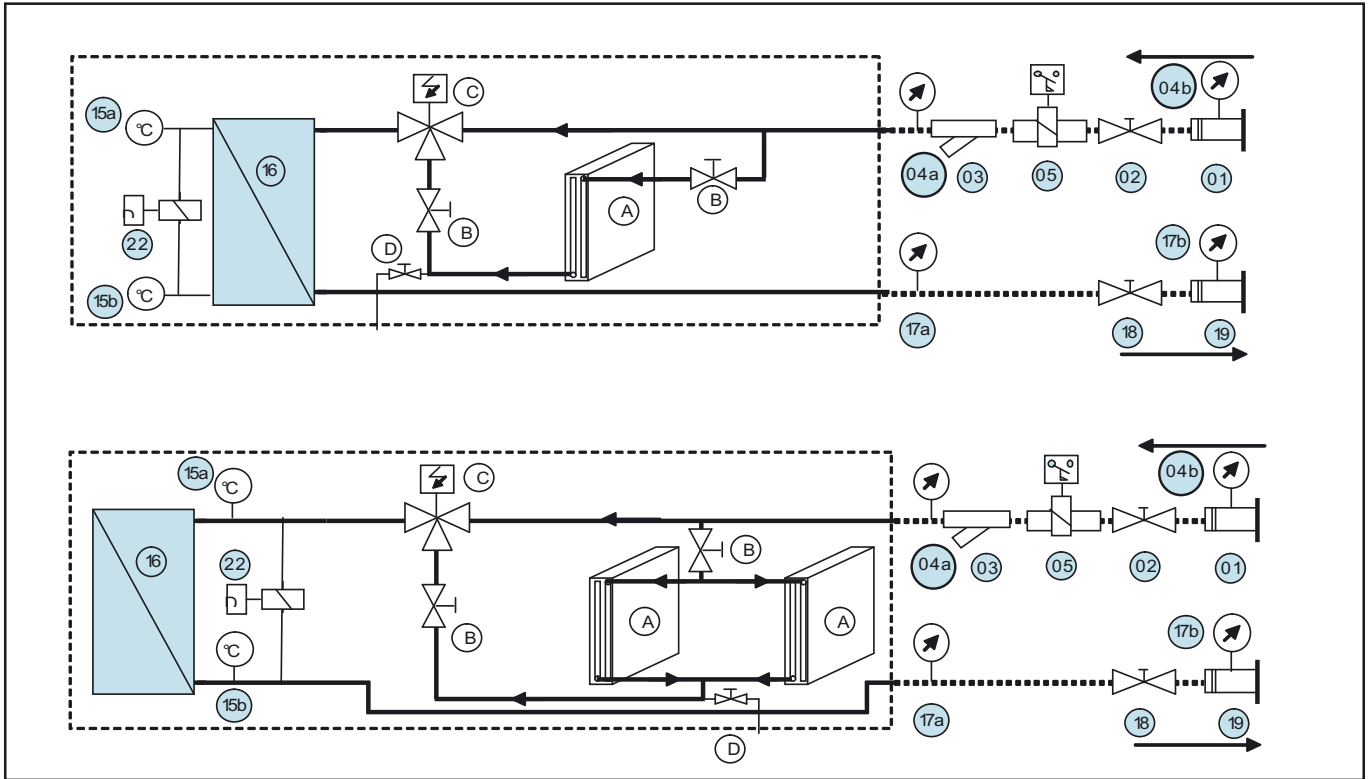
- 01 Kit for Groove lock coupling
- 02 Unit isolation valve
- 03 Inlet Water filter
- 04 Inlet /Outlet manometers

**COMPONENTS MOUNTED INSIDE THE UNIT**

- 05 Paddle flow switch
- 15 Temperature Probe
- 16 Heat Exchanger
- 22 Differential Pressure switch

|                 | OPTIONS            |                                     |                                     |                      |                              |                          |                                                         |
|-----------------|--------------------|-------------------------------------|-------------------------------------|----------------------|------------------------------|--------------------------|---------------------------------------------------------|
| Basic Unit      | Water inlet Filter | Flow Switch (Paddle) Supplied loose | Flow Switch (Differential) Supplied | Unit Isolation Valve | Kit for Groove Lock Coupling | Inlet / Outlet Manometer | Inlet / Outlet Manometer + Kit for Groove Lock Coupling |
| No              | HFIL               | FLSP                                | FLSD                                | UISV                 | HGRL                         | HINO                     | HINO + HGRL                                             |
| 16<br>15a / 15b | Add<br>03          | Add<br>05                           | Add<br>22                           | Add<br>02            | Add<br>01                    | Add<br>04                | Add<br>04 / 01                                          |

**UNIT WITH FREE COOLING OPTION**



**COMPONENTS SUPPLIED LOOSE**

- 01 19 Kit for Groove lock coupling
- 02 18 Unit isolation valve
- 03 Inlet Water filter
- 04a 17a Inlet /Outlet manometers without groove lock coupling Option

**COMPONENTS MOUNTED INSIDE THE UNIT**

- 05 Paddle flow switch mounted on tube
- 16 Plate Heat exchanger
- 15a 15b Temperature sensors
- 22 Flow switch / Differential
- A Free cooling coil
- B Isolating valves
- C Three way valves
- D Drain

|                 | OPTIONS            |                                      |                                              |                      |                              |                          |                                                         |
|-----------------|--------------------|--------------------------------------|----------------------------------------------|----------------------|------------------------------|--------------------------|---------------------------------------------------------|
| Basic Unit      | Water inlet Filter | Flow Sw itch (Paddle) Supplied loose | Flow Sw itch (Differential) Supplied Mounted | Unit Isolation Valve | Kit for Groove Lock Coupling | Inlet / Outlet Manometer | Inlet / Outlet Manometer + Kit for Groove Lock Coupling |
| No Options      | HFIL               | FLSP                                 | FLSD                                         | UISV                 | HGRL                         | HINO                     | HINO + HGRL                                             |
| 16<br>15a / 15b | Add<br>03          | Add<br>05                            | Add<br>22                                    | Add<br>02 / 18       | Add<br>01 / 19               | Add<br>04a / 17a         | Add<br>04b / 17b and<br>01 / 19                         |

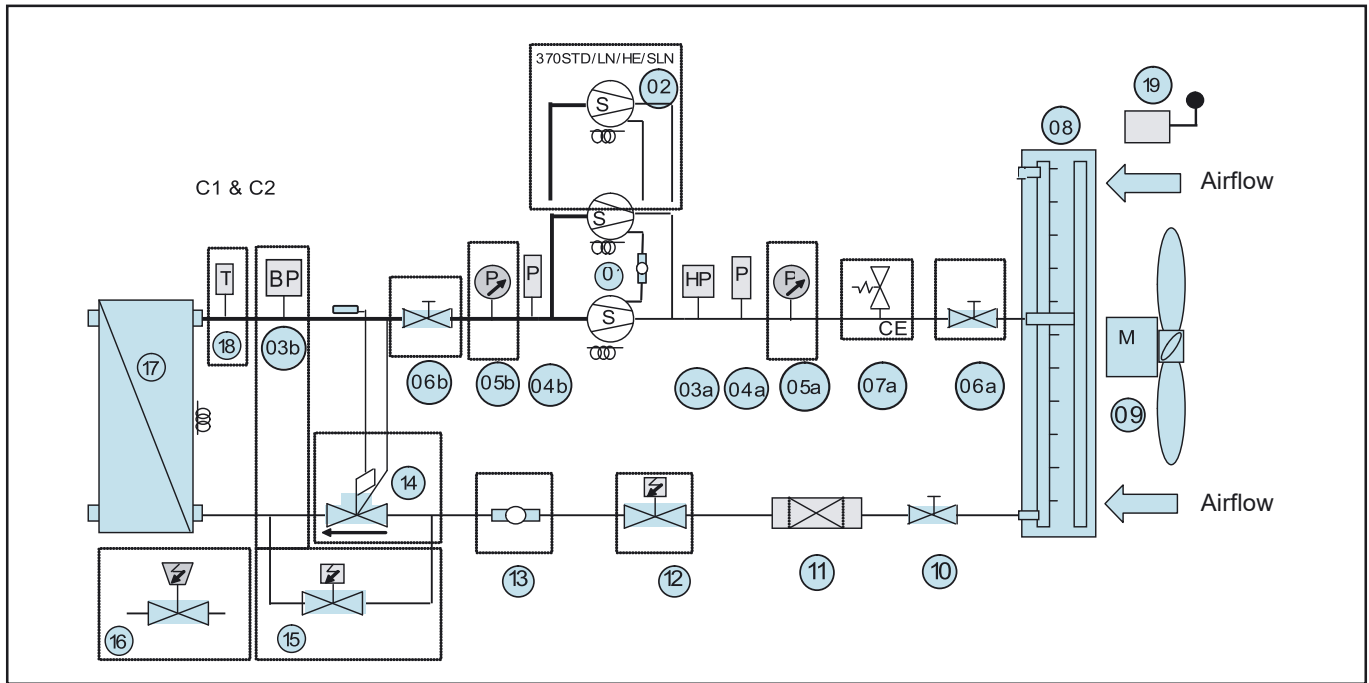
## GLYCOL CORRECTION FACTOR

| Minimum Ambient Temperature<br>or Water Outlet Temperature | Ethylene<br>Glycol | Pressure<br>Drop | Water<br>Flow | CAPACITIES |       |
|------------------------------------------------------------|--------------------|------------------|---------------|------------|-------|
|                                                            |                    |                  |               | Cool       | Heat  |
| FROM +5°C TO 0°C                                           | 10%                | 1,05             | 1,02          | 0,99       | 0,994 |
| FROM 0°C TO -5°C                                           | 20%                | 1,10             | 1,05          | 0,98       | 0,993 |
| FROM -5°C TO -10°C                                         | 30%                | 1,15             | 1,08          | 0,97       | 0,99  |
| FROM -10°C TO -15°C                                        | 35%                | 1,18             | 1,10          | 0,96       | 0,987 |

Example : 10% glycol  
 Minimum flow : 1,19 m<sup>3</sup>/h x 1,02  
 Pressure drop x 1,07  
 System capacity x 0,99

| ALTITUDE<br><i>sea level</i> | CORRECTION<br>1000 |
|------------------------------|--------------------|
| 300                          | 0,996              |
| 600                          | 0,992              |
| 900                          | 0,988              |
| 1200                         | 0,984              |
| 1500                         | 0,980              |

REFRIGERANT DRAWING



REFRIGERATION CIRCUIT COMPONENTS

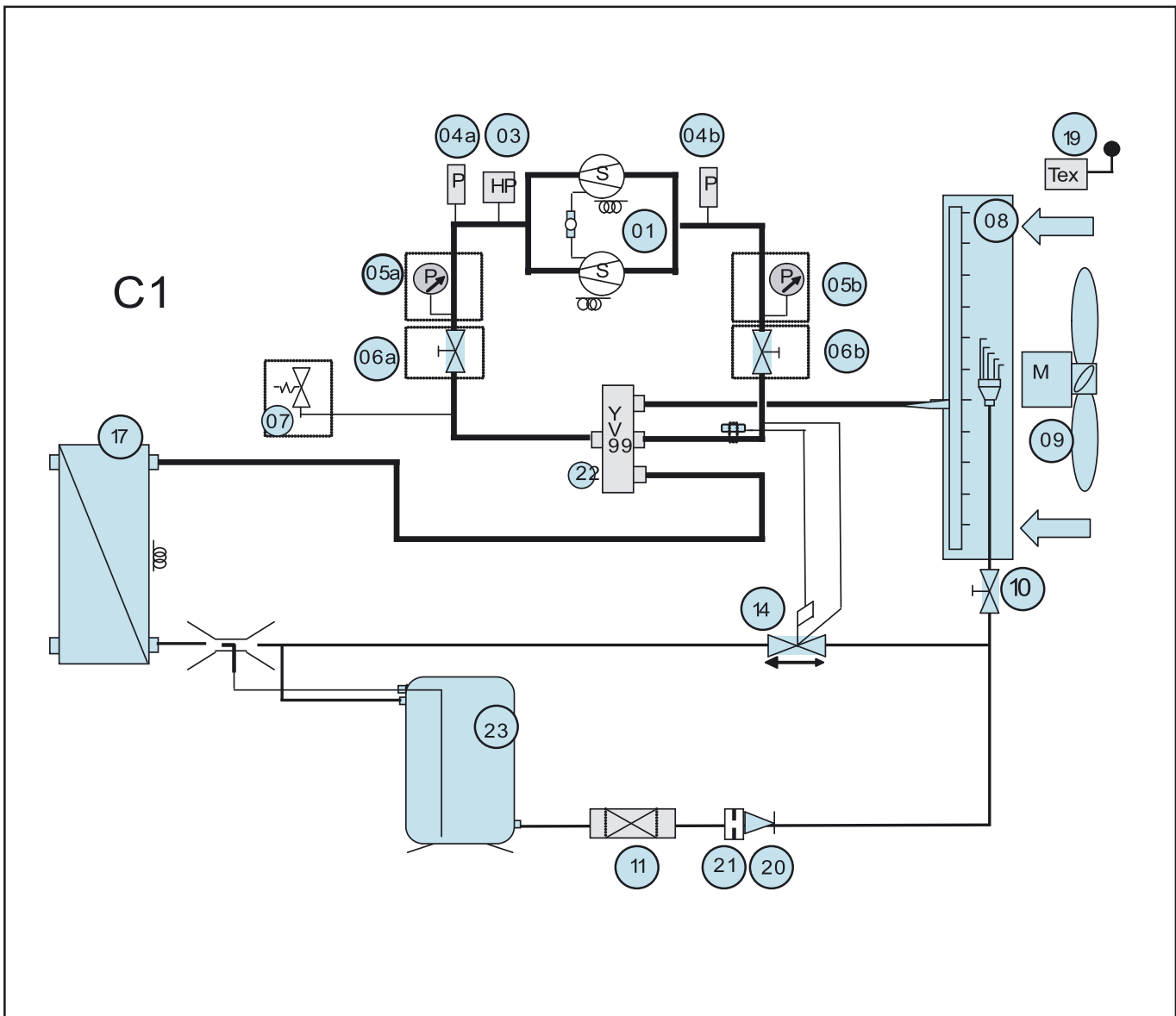
- |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>01 1st &amp; 2nd scroll compressors</p> <p>02 3rd scroll compressor on size 370 STD/LN/HE &amp; SLN</p> <p>03a 03b High / Low pressure switch</p> <p>04a 04b Pressure transducers HP &amp; BP</p> <p>05a 05b Low and High pressure manometer</p> <p>06a 06b Suction and discharge isolation valves</p> <p>07a Safety valve CE</p> | <p>08 Air cooled condenser</p> <p>09 Fan motor</p> <p>10 Manual isolating valve</p> <p>11 Filter drier</p> <p>12 Solenoid valve</p> <p>13 Sight glass</p> <p>14 Thermostatic expansion valve</p> | <p>15 Expansion valve bypass for low ambient operations</p> <p>16 Electronic expansion valve</p> <p>17 Evaporator heat exchanger</p> <p>18 Suction temperature sensor</p> <p>19 External temperature sensor</p> <p>☉ Heating resistance (option)</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| VARIANTS                         |                        |                   | EXPANSION DEVICES            |                                       |                            | OPTIONS               |                                        |             |
|----------------------------------|------------------------|-------------------|------------------------------|---------------------------------------|----------------------------|-----------------------|----------------------------------------|-------------|
| BASIC UNIT                       | Size 370 STD LN HE SLN | WA unit CE or UDT | Thermostatic Expansion Valve | Thermostatic Expansion + Low Ambient  | Electronic Expansion Valve | HP LP Pressure Gauges | Suction and Discharge Isolating Valves | Sight Glass |
| WA                               | WA370                  |                   | NO EEVA                      | NO EEVA + LAKT                        | EEVA                       | HPLP                  | SUDI                                   | SIGL        |
| 01 03a 04a 04b 08 09 10 11 17 19 | Add 02                 | 07a               | Add 14 & 12                  | Add 14 12 and 15 + 3b if Clim atic 30 | Add 16 and 18              | Add 05a 05b           | Add 06a 06b                            | Add 13      |


waH

std

REFRIGERANT DRAWING

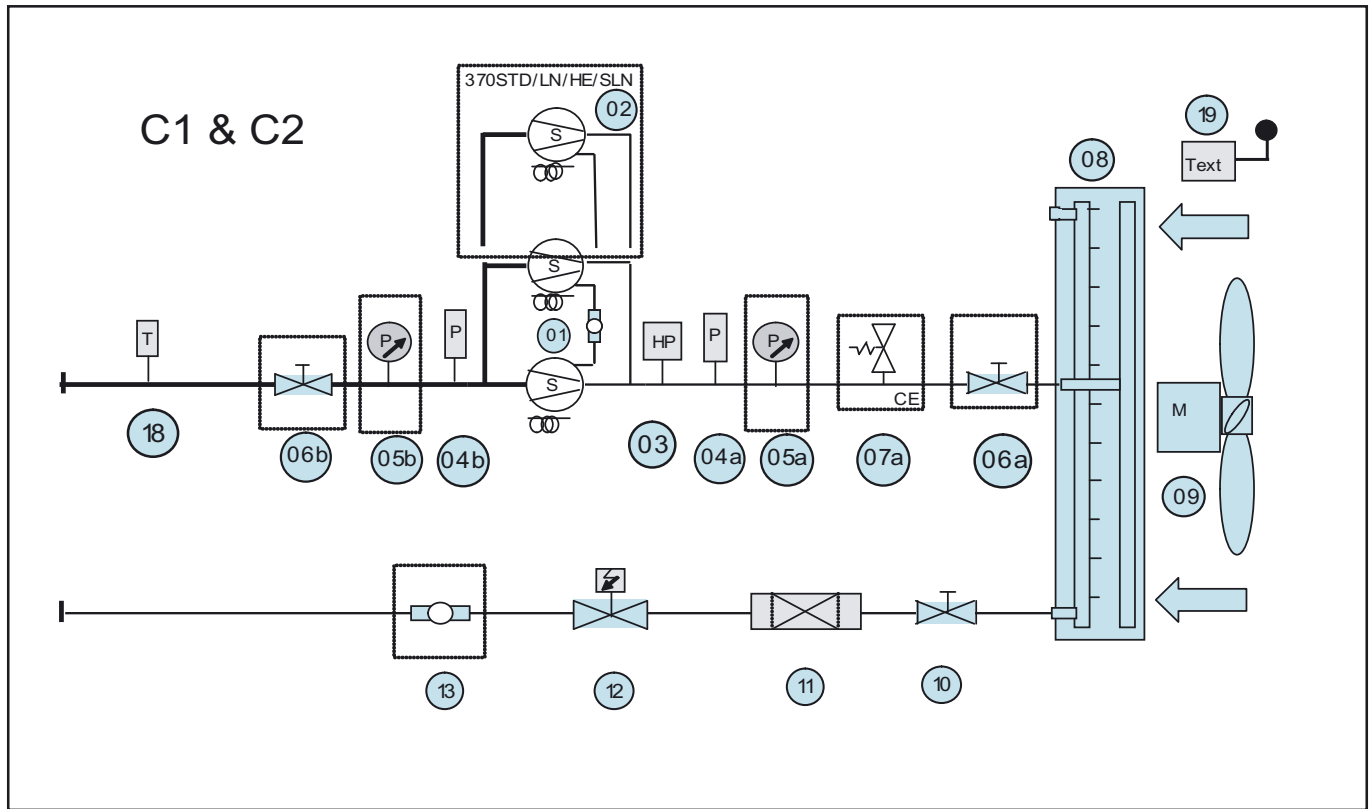


**REFRIGERATION CIRCUIT COMPONENTS**

- |                                                                                                                                                                                                                                                               |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>01 1st &amp; 2nd scroll compressors</p> <p>03 High pressure switch</p> <p>04a 04b Pressure transducers HP &amp; BP</p> <p>05a 05b Low and High pressure manometer</p> <p>06a 06b Suction and discharge isolation valves</p> <p>07a 07b Safety valve CE</p> | <p>08 Air cooled condenser/Evaporator</p> <p>09 Fan motor</p> <p>10 Manual isolating valve</p> <p>11 Filter drier</p> <p>14 Thermostatic expansion valve</p> <p>17 Evaporator/Condenser heat exchanger</p> | <p>19 External temperature sensor</p> <p>20 Check valve</p> <p>21 Restrictor</p> <p>22 4-way inverting valve</p> <p>23 Liquid receiver</p> <p> Venturi</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Ra std/LN/SLN

**REFRIGERANT DRAWING**



**REFRIGERATION CIRCUIT COMPONENTS**

- |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>01 1st &amp; 2nd scroll compressors</p> <p>02 3rd scroll compressor on size 370 STD/LN &amp; SLN</p> <p>03a 03b High / Low pressure switch</p> <p>04a 04b Pressure transducers HP &amp; BP</p> <p>05a 05b Low and High pressure manometer</p> <p>06a 06b Suction and discharge isolation valves</p> <p>07a 07b Safety valve CE</p> | <p>08 Air cooled condenser</p> <p>09 Fan motor</p> <p>10 Manual isolating valve</p> <p>11 Filter drier</p> <p>12 Solenoid valve</p> <p>13 Sight glass</p> <p>14 Thermostatic expansion valve</p> | <p>15 Expansion valve bypass for low ambient operations</p> <p>16 Electronic expansion valve</p> <p>17 Evaporator heat exchanger</p> <p>18 Suction temperature sensor</p> <p>19 External temperature sensor</p> <p>00 Heating resistance (option)</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| VARIANTS                              |                           |                      | OPTIONS                  |                                              |             |
|---------------------------------------|---------------------------|----------------------|--------------------------|----------------------------------------------|-------------|
| BASIC UNIT                            | Size 370 STD<br>LN HE SLN | WA unit<br>CE or UDT | HP LP Pressure<br>Gauges | Suction and<br>Discharge<br>Isolating Valves | Sight Glass |
| WA                                    | WA370                     |                      | HPLP                     | SUDI                                         | SIGL        |
| 01 03 04a 04b 08<br>09 10 11 12 18 19 | Add 02                    | 07a                  | Add<br>05a 05b           | Add<br>06a 06b                               | Add<br>13   |



wa / RA

STD

|     | Spectrum per octave band (dBA) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Pw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 51                             | 74     | 78     | 84     | 86      | 88      | 84      | 75      | 92                          | 64                                       | 61                                                           |
| 200 | 55                             | 79     | 83     | 87     | 91      | 93      | 88      | 79      | 94                          | 66                                       | 63                                                           |
| 230 | 55                             | 79     | 83     | 87     | 91      | 93      | 88      | 79      | 95                          | 67                                       | 64                                                           |
| 270 | 57                             | 81     | 84     | 89     | 93      | 95      | 90      | 80      | 96                          | 68                                       | 65                                                           |
| 300 | 57                             | 81     | 84     | 89     | 93      | 95      | 90      | 80      | 97                          | 69                                       | 65                                                           |
| 370 | 57                             | 81     | 84     | 89     | 93      | 95      | 90      | 80      | 97                          | 69                                       | 65                                                           |

wa / RA

LN

|     | Spectrum per octave band dB(A) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Pw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 49                             | 70     | 76     | 80     | 82      | 83      | 78      | 69      | 88                          | 60                                       | 57                                                           |
| 200 | 50                             | 71     | 77     | 81     | 84      | 85      | 80      | 71      | 89                          | 61                                       | 58                                                           |
| 230 | 50                             | 71     | 77     | 82     | 84      | 85      | 80      | 71      | 90                          | 62                                       | 58                                                           |
| 270 | 52                             | 73     | 79     | 83     | 86      | 87      | 82      | 72      | 91                          | 63                                       | 60                                                           |
| 300 | 52                             | 73     | 79     | 83     | 86      | 87      | 82      | 72      | 91                          | 64                                       | 60                                                           |
| 370 | 52                             | 73     | 79     | 83     | 86      | 87      | 82      | 72      | 91                          | 63                                       | 60                                                           |

wa

HE

|     | Spectrum per octave band dB(A) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Lw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 47                             | 72     | 74     | 79     | 81      | 84      | 78      | 68      | 88                          | 60                                       | 56                                                           |
| 200 | 52                             | 77     | 78     | 81     | 86      | 88      | 83      | 70      | 91                          | 63                                       | 59                                                           |
| 230 | 52                             | 77     | 78     | 82     | 87      | 89      | 82      | 68      | 92                          | 64                                       | 60                                                           |
| 270 | 53                             | 78     | 79     | 83     | 88      | 91      | 84      | 69      | 93                          | 65                                       | 62                                                           |
| 300 | 53                             | 78     | 79     | 84     | 89      | 91      | 84      | 69      | 94                          | 66                                       | 62                                                           |
| 370 | 53                             | 78     | 79     | 83     | 89      | 91      | 85      | 71      | 94                          | 66                                       | 62                                                           |

(1) : Only for information. Data are calculated by semi spheric method in free open field.

(2) : Only for information. Data are calculated by envelopping surface method in free open field.

wa

HE

## Unit with compressor acoustic enclosure (option)

|     | Spectrum per octave band (dBA) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Lw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 47                             | 72     | 73     | 78     | 78      | 78      | 73      | 58      | 84                          | 56                                       | 53                                                           |
| 200 | 49                             | 74     | 75     | 78     | 81      | 81      | 75      | 60      | 86                          | 58                                       | 55                                                           |
| 230 | 49                             | 74     | 75     | 80     | 81      | 82      | 75      | 59      | 87                          | 59                                       | 55                                                           |
| 270 | 50                             | 75     | 77     | 80     | 83      | 83      | 77      | 60      | 88                          | 60                                       | 56                                                           |
| 300 | 50                             | 75     | 77     | 81     | 83      | 84      | 77      | 60      | 88                          | 60                                       | 57                                                           |
| 370 | 50                             | 75     | 77     | 81     | 83      | 84      | 77      | 61      | 88                          | 60                                       | 57                                                           |

wa / RA

sl n

## Unit with compressor acoustic enclosure (option)

|     | Spectrum per octave band dB(A) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Lw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 52                             | 59     | 64     | 76     | 73      | 73      | 68      | 56      | 79                          | 51                                       | 48                                                           |
| 200 | 54                             | 61     | 67     | 76     | 77      | 77      | 72      | 59      | 82                          | 54                                       | 51                                                           |
| 230 | 54                             | 61     | 68     | 78     | 78      | 79      | 72      | 57      | 83                          | 55                                       | 52                                                           |
| 270 | 55                             | 62     | 70     | 78     | 80      | 80      | 74      | 58      | 85                          | 57                                       | 53                                                           |
| 300 | 55                             | 62     | 70     | 79     | 80      | 81      | 74      | 58      | 86                          | 58                                       | 54                                                           |
| 370 | 55                             | 62     | 70     | 79     | 80      | 81      | 75      | 59      | 85                          | 57                                       | 54                                                           |

wah

STd

## Unit with compressor acoustic enclosure (option)

|     | Spectrum per octave band dB(A) |        |        |        |         |         |         |         | Global sound power Lw dB(A) | Sound pressure at 10 meters (1) Lw dB(A) | Sound pressure at 10 meters envelopping surface (2) Pw dB(A) |
|-----|--------------------------------|--------|--------|--------|---------|---------|---------|---------|-----------------------------|------------------------------------------|--------------------------------------------------------------|
|     | 63 Hz                          | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |                             |                                          |                                                              |
| 150 | 52                             | 76     | 80     | 85     | 87      | 89      | 85      | 76      | 93                          | 65                                       | 62                                                           |
| 200 | 55                             | 79     | 83     | 87     | 91      | 93      | 88      | 79      | 94                          | 66                                       | 63                                                           |
| 230 | 55                             | 79     | 83     | 87     | 91      | 93      | 88      | 79      | 95                          | 67                                       | 64                                                           |

(1) : Only for information. Data are calculated by semi spheric method in free open field.

(2) : Only for information. Data are calculated by envelopping surface method in free open field.

Wa - ek - dk

STANDar d

## ECOLOGIC WA

| WA                                                                                            |    | 150 | 200 | 230 | 270 | 300 | 370 |
|-----------------------------------------------------------------------------------------------|----|-----|-----|-----|-----|-----|-----|
| Minimum outlet water temperature                                                              | °C | 5   |     |     |     |     |     |
| Maximum inlet water temperature                                                               | °C | 20  |     |     |     |     |     |
| Minimum difference water inlet/outlet                                                         | °C | 3   |     |     |     |     |     |
| Maximum difference water inlet/outlet                                                         | °C | 8   |     |     |     |     |     |
| Minimum outside air temperature                                                               | °C | 6   |     |     |     |     |     |
| Minimum outside air temperature with low ambient kit                                          | °C | -10 |     |     |     |     |     |
| Maximum outside air temperature :                                                             |    |     |     |     |     |     |     |
| • Normal operation with CLIMATIC™ 30<br>12°C water inlet/7°C water outlet                     | °C | 43  | 44  | 44  | 44  | 43  | 43  |
| • Normal operation with CLIMATIC™ 50<br>12°C/7°C water + one compressor unloaded              | °C | 51  | 49  | 49  | 51  | 51  | 48  |
| • Start-up with CLIMATIC™ 30<br>+ Thermostatic expansion valve<br>and NO unloading            | °C | 37  | 39  | 39  | 38  | 36  | 37  |
| • Start-up with CLIMATIC™ 50<br>+ Thermostatic expansion valve<br>and ONE compressor unloaded | °C | 49  | 46  | 46  | 48  | 48  | 45  |
| • Start-up with CLIMATIC™ 50<br>+ Electronic expansion valve<br>and ONE compressor unloaded   | °C | 49  | 47  | 47  | 49  | 49  | 46  |

Wa - ek - dk

Low noise

## ECOLOGIC WA

| WA                                                                                            |    | 150 | 200 | 230 | 270 | 300 | 370 |
|-----------------------------------------------------------------------------------------------|----|-----|-----|-----|-----|-----|-----|
| Minimum outlet water temperature                                                              | °C | 5   |     |     |     |     |     |
| Maximum inlet water temperature                                                               | °C | 20  |     |     |     |     |     |
| Minimum difference water inlet/outlet                                                         | °C | 3   |     |     |     |     |     |
| Maximum difference water inlet/outlet                                                         | °C | 8   |     |     |     |     |     |
| Minimum outside air temperature                                                               | °C | 6   |     |     |     |     |     |
| Minimum outside air temperature with low ambient kit                                          | °C | -10 |     |     |     |     |     |
| Maximum outside air temperature :                                                             |    |     |     |     |     |     |     |
| • Normal operation with CLIMATIC™ 30<br>12°C water inlet/7°C water outlet                     | °C | 41  | 43  | 42  | 42  | 41  | 41  |
| • Normal operation with CLIMATIC™ 50<br>12°C/7°C water + one compressor unloaded              | °C | 50  | 48  | 47  | 50  | 50  | 47  |
| • Start-up with CLIMATIC™ 30<br>+ Thermostatic expansion valve<br>and NO unloading            | °C | 35  | 37  | 36  | 36  | 33  | 33  |
| • Start-up with CLIMATIC™ 50<br>+ Thermostatic expansion valve<br>and ONE compressor unloaded | °C | 47  | 45  | 44  | 47  | 47  | 43  |
| • Start-up with CLIMATIC™ 50<br>+ Electronic expansion valve<br>and ONE compressor unloaded   | °C | 48  | 46  | 45  | 48  | 48  | 44  |

Wa - ek - dk

HIGH  
EFFICIENCY

**ECOLOGIC WA**

| WA                                                                                          |    | 150 | 200 | 230 | 270 | 300 | 370 |  |
|---------------------------------------------------------------------------------------------|----|-----|-----|-----|-----|-----|-----|--|
| Minimum outlet water temperature                                                            | °C |     |     |     |     |     | 5   |  |
| Maximum inlet water temperature                                                             | °C |     |     |     |     |     | 20  |  |
| Minimum difference water inlet/outlet                                                       | °C |     |     |     |     |     | 3   |  |
| Maximum difference water inlet/outlet                                                       | °C |     |     |     |     |     | 8   |  |
| Minimum outside air temperature                                                             | °C |     |     |     |     |     | 6   |  |
| Minimum outside air temperature with low ambient kit                                        | °C |     |     |     |     |     | -10 |  |
| Maximum outside air temperature :                                                           |    |     |     |     |     |     |     |  |
| • Normal operation with CLIMATIC™ 50<br>12°C/7°C water + one compressor unloaded            | °C | 53  | 51  | 51  | 52  | 53  | 49  |  |
| • Start-up with CLIMATIC™ 50<br>+ Electronic expansion valve<br>and ONE compressor unloaded | °C | 52  | 49  | 49  | 50  | 52  | 46  |  |

Wa - ek - dk

super  
low noise

| WA                                                                                            |    | 150 | 200 | 230  | 270  | 300  | 370  |  |
|-----------------------------------------------------------------------------------------------|----|-----|-----|------|------|------|------|--|
| Minimum outlet water temperature                                                              | °C |     |     |      |      |      | 5    |  |
| Maximum inlet water temperature                                                               | °C |     |     |      |      |      | 20   |  |
| Minimum difference water inlet/outlet                                                         | °C |     |     |      |      |      | 3    |  |
| Maximum difference water inlet/outlet                                                         | °C |     |     |      |      |      | 8    |  |
| Minimum outside air temperature                                                               | °C |     |     |      |      |      | 6    |  |
| Minimum outside air temperature with low ambient kit                                          | °C |     |     |      |      |      | -10  |  |
| Maximum outside air temperature :                                                             |    |     |     |      |      |      |      |  |
| • Normal operation with CLIMATIC™ 50<br>12°C/7°C water + one compressor unloaded              | °C | 52  | 50  | 49,5 | 51,5 | 52,3 | 47,1 |  |
| • Start-up with CLIMATIC™ 50<br>+ Thermostatic expansion valve<br>and ONE compressor unloaded | °C | 49  | 47  | 46   | 48   | 49   | 43   |  |
| • Start-up with CLIMATIC™ 50<br>+ Electronic expansion valve<br>and ONE compressor unloaded   | °C | 50  | 48  | 47   | 49   | 50   | 44   |  |

|            |                 |
|------------|-----------------|
| <b>waH</b> | <b>STANDARD</b> |
|------------|-----------------|

**ECOLOGIC WAH - COOLING MODE**

| WAH                                                                                           |    | 150 | 200 | 230 |
|-----------------------------------------------------------------------------------------------|----|-----|-----|-----|
| Minimum outlet water temperature                                                              | °C |     | 5   |     |
| Maximum inlet water temperature                                                               | °C |     | 20  |     |
| Minimum difference water inlet/outlet                                                         | °C |     | 3   |     |
| Maximum difference water inlet/outlet                                                         | °C |     | 8   |     |
| Minimum outside air temperature                                                               | °C |     | 6   |     |
| Maximum outside air temperature :                                                             |    |     |     |     |
| • Normal operation with CLIMATIC™ 50<br>12°C/7°C water<br>+ one compressor unloaded           | °C | 51  | 50  | 49  |
| • Start-up with CLIMATIC™ 50<br>+ Thermostatic expansion valve<br>and ONE compressor unloaded | °C | 49  | 47  | 46  |

**ECOLOGIC WAH - HEATING MODE**

| WAH                                                       |    | 150 | 200 | 230 |
|-----------------------------------------------------------|----|-----|-----|-----|
| Minimum inlet water temperature                           | °C |     | 10  |     |
| Maximum outlet water temperature                          | °C |     | 50  |     |
| Minimum difference water inlet/outlet                     | °C |     | 3   |     |
| Maximum difference water inlet/outlet                     | °C |     | 8   |     |
| Minimum outside air temperature<br>with water outlet 35°C | °C |     | -10 |     |
| Maximum outside air temperature                           | °C |     | 30  |     |

|         |     |
|---------|-----|
| wa - dk | std |
|---------|-----|

| <b>RA</b>                                                                    |     | <b>150</b> | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|------------------------------------------------------------------------------|-----|------------|------------|------------|------------|------------|------------|
| <b>Operating limits</b>                                                      |     |            |            |            |            |            |            |
| Min. inlet evaporating temperature                                           | °C  | -5         | -5         | -5         | -5         | -5         | -5         |
| Max. inlet evaporating temperature                                           | °C  | 15         | 15         | 15         | 15         | 15         | 15         |
| Min. outside air temperature                                                 | °C  | 6          | 6          | 6          | 6          | 6          | 6          |
| <b>Max. outdoor air temperature</b>                                          |     |            |            |            |            |            |            |
| Normal operation with Climatic 50<br>12°/7°C Water + One Compressor Unloaded | °C  | 51         | 49         | 49         | 51         | 51         | 48         |
| Start up with Climatic 50 +<br>TXV and One compressor Unloaded               | °C  | 49         | 46         | 46         | 48         | 48         | 45         |
| <b>Operating limits for Pressure gauge control</b>                           |     |            |            |            |            |            |            |
| Safety Cut of low pressure                                                   | Bar | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        |
| Safety Interlocking of low pressure                                          | Bar | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        |
| Safety Cut of high pressure                                                  | Bar | 29         | 29         | 29         | 29         | 29         | 29         |
| Safety Interlocking of high pressure                                         | Bar | 20         | 20         | 20         | 20         | 20         | 20         |

|         |           |
|---------|-----------|
| wa - dk | low noise |
|---------|-----------|

| <b>RA</b>                                                                    |     | <b>150</b> | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|------------------------------------------------------------------------------|-----|------------|------------|------------|------------|------------|------------|
| <b>Operating limits</b>                                                      |     |            |            |            |            |            |            |
| Min. inlet evaporating temperature                                           | °C  | -5         | -5         | -5         | -5         | -5         | -5         |
| Max. inlet evaporating temperature                                           | °C  | 15         | 15         | 15         | 15         | 15         | 15         |
| Min. outside air temperature                                                 | °C  | 6          | 6          | 6          | 6          | 6          | 6          |
| <b>Max. outdoor air temperature</b>                                          |     |            |            |            |            |            |            |
| Normal operation with Climatic 50<br>12°/7°C Water + One Compressor Unloaded | °C  | 50         | 48         | 47         | 50         | 50         | 47         |
| Start up with Climatic 50 +<br>TXV and One compressor Unloaded               | °C  | 47         | 45         | 44         | 47         | 47         | 43         |
| <b>Operating limits for Pressure gauge control</b>                           |     |            |            |            |            |            |            |
| Safety Cut of low pressure                                                   | Bar | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        |
| Safety Interlocking of low pressure                                          | Bar | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        |
| Safety Cut of high pressure                                                  | Bar | 29         | 29         | 29         | 29         | 29         | 29         |
| Safety Interlocking of high pressure                                         | Bar | 20         | 20         | 20         | 20         | 20         | 20         |

**wa -EK - dk** super low noise

| <b>RA</b>                                                                    |     | <b>150</b> | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|------------------------------------------------------------------------------|-----|------------|------------|------------|------------|------------|------------|
| <b>Operating limits</b>                                                      |     |            |            |            |            |            |            |
| Min. inlet evaporating temperature                                           | °C  | -5         | -5         | -5         | -5         | -5         | -5         |
| Max. inlet evaporating temperature                                           | °C  | 15         | 15         | 15         | 15         | 15         | 15         |
| Min. outside air temperature                                                 | °C  | 6          | 6          | 6          | 6          | 6          | 6          |
| <b>Max. outdoor air temperature</b>                                          |     |            |            |            |            |            |            |
| Normal operation with Climatic 50<br>12°/7°C Water + One Compressor Unloaded | °C  | 52         | 50         | 49,5       | 51,5       | 52,3       | 47,1       |
| Start up with Climatic 50 +<br>TXV and One compressor Unloaded               | °C  | 49         | 47         | 46         | 48         | 49         | 43         |
| <b>Operating limits for Pressure gauge control</b>                           |     |            |            |            |            |            |            |
| Safety Cut of low pressure                                                   | Bar | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        | 0,7        |
| Safety Interlocking of low pressure                                          | Bar | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        | 2,2        |
| Safety Cut of high pressure                                                  | Bar | 29         | 29         | 29         | 29         | 29         | 29         |
| Safety Interlocking of high pressure                                         | Bar | 20         | 20         | 20         | 20         | 20         | 20         |

**ra -EK - dk** all units

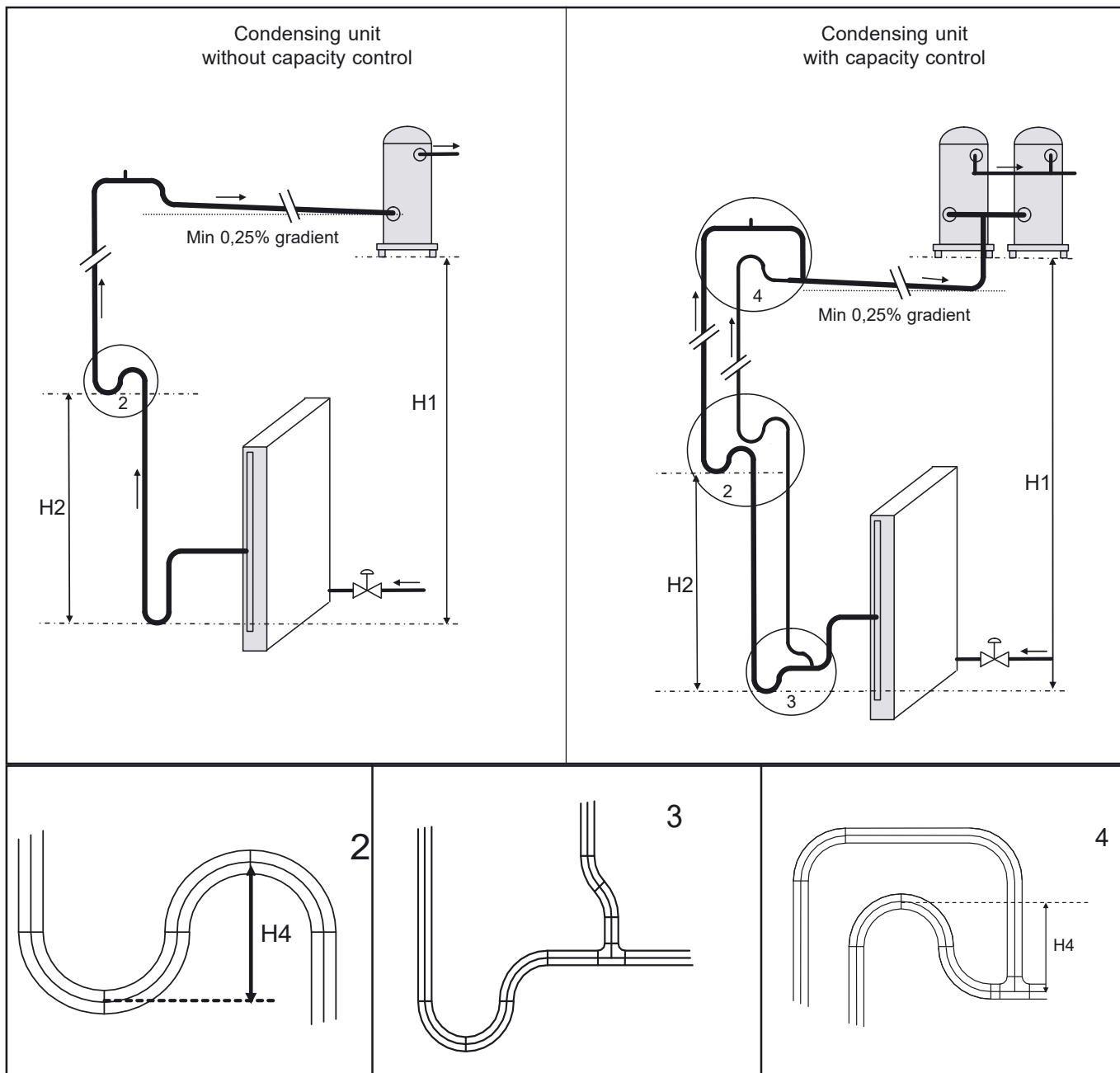
**Refrigerant lines Operating Limits**

| <b>SIZE</b> | <b>SUCTION LINE</b>    |                                  |                                |                     |                            |                                  | <b>LIQUID LINE</b>     |                          |                              |
|-------------|------------------------|----------------------------------|--------------------------------|---------------------|----------------------------|----------------------------------|------------------------|--------------------------|------------------------------|
|             | <b>Connection</b>      | <b>Refri. velocity (m/s)</b>     |                                |                     | <b>Line length (m)</b>     |                                  | <b>Connection</b>      | <b>Refrigerant (m/s)</b> |                              |
|             | <i>Diameter Inches</i> | <i>Min Velo. Horizontal Line</i> | <i>Min Velo. Vertical Line</i> | <i>Max Velocity</i> | <i>Max Vertical Height</i> | <i>TOTAL suction line length</i> | <i>Diameter Inches</i> | <i>Max Velocity</i>      | <i>Minimum Subcooling °K</i> |
| <b>075E</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>090D</b> | 1 " 5/8                | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>100E</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 1" 1/8                 | Max 3                    | 3 K                          |
| <b>110E</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 1" 1/8                 | Max 3                    | 3 K                          |
| <b>130D</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>150D</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>200D</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>230D</b> | 2" 1/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 7/8"                   | Max 3                    | 3 K                          |
| <b>270D</b> | 2" 5/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 1" 1/8                 | Max 3                    | 3 K                          |
| <b>300D</b> | 2" 5/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 1" 1/8                 | Max 3                    | 3 K                          |
| <b>370D</b> | 2" 5/8                 | min 2,5                          | min 5                          | 15                  | 15 (x)                     | 40                               | 1" 1/8                 | Max 3                    | 3 K                          |

(x) Oil traps must be installed every 5 meters (refer to the sketch below)

Delta A Gradient of X % must be installed for long horizontal sections of suction line.

**CONDENSING UNITS**



H1 : 15 m. maxi  
 H2 : 5 m. maxi  
 H4 : 0,15 m. maxi

- 1 - Lower trap with single tube
- 2 - Clode coupled trap
- 3 - Lower trap with double tubes
- 4 - Higher trap with double tubes

***If receiver option : PED declaration class 3***  
***If no receiver option : PED declaration class 1***



wa - dk

STANDar d

| WA                                            |                   | 150                | 200    | 230    | 270     | 300     | 370     |
|-----------------------------------------------|-------------------|--------------------|--------|--------|---------|---------|---------|
| <b>UNITS - Electrical data</b>                |                   | <b>400V/3/50hZ</b> |        |        |         |         |         |
| Minimum and maximum voltage                   | V                 | 360V/424V          |        |        |         |         |         |
| Maximum power                                 | kW                | 78,5               | 97,0   | 116,3  | 143,1   | 156,2   | 187,7   |
| Maximum current                               | A                 | 129,7              | 160,4  | 195,2  | 239,5   | 263,3   | 310,9   |
| Maximum current (with cos phi 0,95 option)    | A                 | 120,1              | 148,1  | 178,1  | 218,0   | 238,0   | 287,2   |
| Start-up intensity                            | A                 | 299,1              | 385,8  | 456,6  | 500,9   | 524,8   | 536,3   |
| Start-up intensity (with sofstarter option)   | A                 | 219,9              | 277,0  | 328,6  | 372,9   | 396,8   | 427,5   |
| Start-up intensity (with cos phi 0,95 option) | A                 | 291,2              | 376,6  | 444,6  | 484,5   | 504,4   | 515,7   |
| <b>FANS - Electrical data</b>                 |                   |                    |        |        |         |         |         |
| Nominal air flow                              | m <sup>3</sup> /h | 57 500             | 78 000 | 75 400 | 117 000 | 117 000 | 113 600 |
| Available static pressure                     | kPa               | 0                  | 0      | 0      | 0       | 0       | 0       |
| Absorbed power                                | kW                | 7,5                | 10,0   | 10,0   | 15,0    | 15,0    | 15,0    |
| <b>OPTIONS - Electrical data</b>              |                   |                    |        |        |         |         |         |
| Single pump                                   | kW                | 1,85               | 3,0    | 3,0    | 4,0     | 4,0     | 4,0     |
| Maximum current                               | A                 | 4,61               | 6,0    | 6,0    | 7,5     | 7,5     | 7,5     |
| Double pump                                   | kW                | 2,2                | 3,0    | 3,0    | 4,0     | 4,0     | 4,0     |
| Maximum current                               | A                 | 5,2                | 6,0    | 6,0    | 7,5     | 7,5     | 7,5     |
| Evaporator anti-freeze heater                 | kW                | 0,1                | 0,1    | 0,1    | 0,13    | 0,13    | 0,13    |
| Maximum current                               | A                 | 0,24               | 0,24   | 0,24   | 0,32    | 0,32    | 0,32    |
| Hydraulic anti-freeze heater                  | kW                | 0,1                | 0,1    | 0,1    | 0,1     | 0,1     | 0,1     |
| Maximum current                               | A                 | 0,24               | 0,24   | 0,24   | 0,24    | 0,24    | 0,24    |
| Hydronic anti-freeze heater                   | kW                | 0,13               | NA     | NA     | NA      | NA      | NA      |
| Maximum current                               | A                 | 0,32               | NA     | NA     | NA      | NA      | NA      |
| Anti-freeze heater                            | kW                | 0,28               | 0,44   | 0,44   | 0,6     | 0,6     | 0,9     |
| Maximum current                               | A                 | 0,7                | 1,1    | 1,1    | 1,5     | 1,5     | 2,25    |

NA : Not available

waH

REVERSIBLE

| WA                                            |                   | 150                | 200    | 230    |
|-----------------------------------------------|-------------------|--------------------|--------|--------|
| <b>UNITS - Electrical data</b>                |                   | <b>400V/3/50hZ</b> |        |        |
| Minimum and maximum voltage                   | V                 | 360V/424V          |        |        |
| Minimum power                                 | kW                | 81,0               | 97,0   | 116,3  |
| Maximum current                               | A                 | 134,4              | 160,4  | 195,2  |
| Maximum current (with cos phi 0,95 option)    | A                 | 123,9              | 148,1  | 178,1  |
| Start-up intensity                            | A                 | 303,8              | 385,8  | 364,5  |
| Start-up intensity (with sofstarter option)   | A                 | 224,6              | 277,0  | 285,3  |
| Start-up intensity (with cos phi 0,95 option) | A                 | 295,0              | 376,6  | 349,2  |
| <b>FANS - Electrical data</b>                 |                   |                    |        |        |
| Nominal air flow                              | m <sup>3</sup> /h | 57 500             | 57 500 | 78 000 |
| Available static pressure                     | kPa               | 0                  | 0      | 0      |
| Absorbed power                                | kW                | 10,0               | 10,0   | 10,0   |
| <b>OPTIONS - Electrical data</b>              |                   |                    |        |        |
| Single pump                                   | kW                | 1,85               | 3,0    | 3,0    |
| Maximum current                               | A                 | 4,61               | 3,0    | 6,0    |
| Double pump                                   | kW                | 2,20               | 3,0    | 3,0    |
| Maximum current                               | A                 | 5,20               | 6,0    | 6,0    |
| Evaporator anti-freeze heater                 | kW                | 0,1                | 0,1    | 0,1    |
| Maximum current                               | A                 | 0,24               | 0,24   | 0,24   |
| Anti-freeze heater                            | kW                | 0,28               | 0,44   | 0,44   |
| Maximum current                               | A                 | 0,70               | 1,10   | 1,10   |

wa - dk

LOW NOISE

| <b>WA</b>                                        |                   | <b>150</b>         | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|--------------------------------------------------|-------------------|--------------------|------------|------------|------------|------------|------------|
| <b>UNITS - Electrical data</b>                   |                   | <b>400V/3/50hZ</b> |            |            |            |            |            |
| Minimum and maximum voltage                      | V                 | 360V/424V          |            |            |            |            |            |
| Maximum power                                    | kW                | 76,1               | 93,8       | 113,1      | 138,3      | 151,4      | 182,9      |
| Maximum current                                  | A                 | 124,3              | 153,2      | 188,0      | 228,7      | 252,5      | 300,1      |
| Maximum current (with cos phi 0,95 option)       | A                 | 116,4              | 143,3      | 173,3      | 210,7      | 230,7      | 279,9      |
| Start-up intensity                               | A                 | 293,7              | 378,6      | 449,4      | 490,1      | 514,0      | 525,5      |
| Start-up intensity<br>(with sofstarter option)   | A                 | 214,5              | 269,8      | 321,4      | 362,1      | 386,0      | 416,7      |
| start-up intensity<br>(with cos phi 0,95 option) | A                 | 287,5              | 371,7      | 439,7      | 477,2      | 497,1      | 508,4      |
| <b>FANS - Electrical data</b>                    |                   |                    |            |            |            |            |            |
| Nominal air flow                                 | m <sup>3</sup> /h | 47 000             | 64 200     | 61 850     | 96 000     | 96 000     | 92 700     |
| Available static pressure                        | kPa               | 0                  | 0          | 0          | 0          | 0          | 0          |
| Absorbed power                                   | kW                | 5,1                | 6,8        | 6,8        | 10,2       | 10,2       | 10,2       |
| <b>OPTIONS - Electrical data</b>                 |                   |                    |            |            |            |            |            |
| Single pump                                      | kW                | 1,85               | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 4,61               | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Double pump                                      | kW                | 2,2                | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 5,2                | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Evaporator anti-freeze heater                    | kW                | 0,1                | 0,1        | 0,1        | 0,13       | 0,13       | 0,13       |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,32       | 0,32       | 0,32       |
| Hydraulic anti-freeze heater                     | kW                | 0,1                | 0,1        | 0,1        | 0,1        | 0,1        | 0,1        |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,24       | 0,24       | 0,24       |
| Hydronic anti-freeze heater                      | kW                | 0,13               | NA         | NA         | NA         | NA         | NA         |
| Maximum current                                  | A                 | 0,32               | NA         | NA         | NA         | NA         | NA         |
| Anti-freeze heater                               | kW                | 0,28               | 0,44       | 0,44       | 0,6        | 0,6        | 0,9        |
| Maximum current                                  | A                 | 0,7                | 1,1        | 1,1        | 1,5        | 1,5        | 2,25       |

NA : Not available

Wa - ek - dk

HIGH  
EFFICIENCY

| <b>WA</b>                                        |                   | <b>150</b>         | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|--------------------------------------------------|-------------------|--------------------|------------|------------|------------|------------|------------|
| <b>UNITS - Electrical data</b>                   |                   | <b>400V/3/50Hz</b> |            |            |            |            |            |
| Minimum and maximum voltage                      | V                 | 360V/424V          |            |            |            |            |            |
| Maximum power                                    | kW                | 75,0               | 92,9       | 112,2      | 135,9      | 149,1      | 180,6      |
| Maximum current                                  | A                 | 122,6              | 152,1      | 186,9      | 225,3      | 249,1      | 296,7      |
| Maximum current (with cos phi 0,95 option)       | A                 | 114,6              | 141,9      | 171,9      | 207,1      | 227,1      | 276,4      |
| Start-up intensity                               | A                 | 292,0              | 377,5      | 448,3      | 486,7      | 510,6      | 522,0      |
| Start-up intensity<br>(with sofstarter option)   | A                 | 212,8              | 268,7      | 320,3      | 358,7      | 382,6      | 413,3      |
| start-up intensity<br>(with cos phi 0,95 option) | A                 | 285,7              | 370,3      | 438,3      | 473,6      | 493,5      | 504,8      |
| <b>FANS - Electrical data</b>                    |                   |                    |            |            |            |            |            |
| Nominal air flow                                 | m <sup>3</sup> /h | 51 300             | 79 200     | 77 000     | 105 600    | 102 600    | 102 600    |
| Available static pressure                        | kPa               | 0                  | 0          | 0          | 0          | 0          | 0          |
| Absorbed power                                   | kW                | 3,92               | 5,88       | 5,88       | 7,84       | 7,84       | 7,84       |
| <b>OPTIONS - Electrical data</b>                 |                   |                    |            |            |            |            |            |
| Single pump                                      | kW                | 1,85               | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 4,61               | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Double pump                                      | kW                | 2,2                | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 5,2                | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Evaporator anti-freeze heater                    | kW                | 0,1                | 0,1        | 0,1        | 0,13       | 0,13       | 0,13       |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,32       | 0,32       | 0,32       |
| Hydraulic anti-freeze heater                     | kW                | 0,1                | 0,1        | 0,1        | 0,1        | 0,1        | 0,1        |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,24       | 0,24       | 0,24       |
| Hydronic anti-freeze heater                      | kW                | 0,13               | NA         | NA         | NA         | NA         | NA         |
| Maximum current                                  | A                 | 0,32               | NA         | NA         | NA         | NA         | NA         |
| Anti-freeze heater                               | kW                | 0,28               | 0,44       | 0,44       | 0,6        | 0,6        | 0,9        |
| Maximum current                                  | A                 | 0,7                | 1,1        | 1,1        | 1,5        | 1,5        | 2,25       |

wa - ek - dk

SUPER  
LOW NOISE

| <b>WA</b>                                        |                   | <b>150</b>         | <b>200</b> | <b>230</b> | <b>270</b> | <b>300</b> | <b>370</b> |
|--------------------------------------------------|-------------------|--------------------|------------|------------|------------|------------|------------|
| <b>UNITS - Electrical data</b>                   |                   | <b>400v/3/50hZ</b> |            |            |            |            |            |
| Minimum and maximum voltage                      | V                 | 360V/424V          |            |            |            |            |            |
| Maximum power                                    | kW                | 72,7               | 89,5       | 108,8      | 131,4      | 144,6      | 176,1      |
| Maximum current                                  | A                 | 119,4              | 147,2      | 182,0      | 218,8      | 242,6      | 290,2      |
| Maximum current (with cos phi 0,95 option)       | A                 | 111,2              | 136,8      | 166,8      | 200,3      | 220,3      | 269,6      |
| Start-up intensity                               | A                 | 288,7              | 372,6      | 443,5      | 480,3      | 504,1      | 515,6      |
| Start-up intensity<br>(with sofstarter option)   | A                 | 209,5              | 263,8      | 315,5      | 352,3      | 376,1      | 406,8      |
| start-up intensity<br>(with cos phi 0,95 option) | A                 | 282,3              | 365,2      | 433,2      | 466,8      | 486,7      | 498,0      |
| <b>FANS - Electrical data</b>                    |                   |                    |            |            |            |            |            |
| Nominal air flow                                 | m <sup>3</sup> /h | 41 300             | 64 300     | 62 000     | 85 900     | 82 700     | 82 700     |
| Available static pressure                        | kPa               | 0                  | 0          | 0          | 0          | 0          | 0          |
| Absorbed power                                   | kW                | 1,68               | 2,52       | 2,52       | 3,36       | 3,36       | 3,36       |
| <b>OPTIONS - Electrical data</b>                 |                   |                    |            |            |            |            |            |
| Single pump                                      | kW                | 1,85               | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 4,61               | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Double pump                                      | kW                | 2,2                | 3,0        | 3,0        | 4,0        | 4,0        | 4,0        |
| Maximum current                                  | A                 | 5,2                | 6,0        | 6,0        | 7,5        | 7,5        | 7,5        |
| Evaporator anti-freeze heater                    | kW                | 0,1                | 0,1        | 0,1        | 0,13       | 0,13       | 0,13       |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,32       | 0,32       | 0,32       |
| Hydraulic anti-freeze heater                     | kW                | 0,1                | 0,1        | 0,1        | 0,1        | 0,1        | 0,1        |
| Maximum current                                  | A                 | 0,24               | 0,24       | 0,24       | 0,24       | 0,24       | 0,24       |
| Hydronic anti-freeze heater                      | kW                | 0,13               | NA         | NA         | NA         | NA         | NA         |
| Maximum current                                  | A                 | 0,32               | NA         | NA         | NA         | NA         | NA         |
| Anti-freeze heater                               | kW                | 0,28               | 0,44       | 0,44       | 0,6        | 0,6        | 0,9        |
| Maximum current                                  | A                 | 0,7                | 1,1        | 1,1        | 1,5        | 1,5        | 2,25       |

Ra - dk

Standard

| RA                                            |                   | 150                  | 200    | 230    | 270     | 300     | 370     |
|-----------------------------------------------|-------------------|----------------------|--------|--------|---------|---------|---------|
| <b>Electrical Data Units</b>                  |                   | <b>400V/III/50Hz</b> |        |        |         |         |         |
| Minimum and Maximum Voltage                   | V                 | 360V / 424V          |        |        |         |         |         |
| Maximum power                                 | kW                | 76,1                 | 93,8   | 113,1  | 138,3   | 151,4   | 182,9   |
| Maximum current                               | A                 | 124,3                | 153,2  | 188,0  | 228,7   | 252,5   | 300,1   |
| Maximum current (with cos phi 0,95 option)    | A                 | 116,4                | 143,3  | 173,3  | 210,7   | 230,7   | 279,9   |
| Start-up intensity                            | A                 | 293,7                | 378,6  | 449,4  | 490,1   | 514,0   | 525,5   |
| Start-up intensity (with softstarter option)  | A                 | 214,5                | 269,8  | 321,4  | 362,1   | 386,0   | 416,7   |
| Start-up intensity (with cos phi 0,95 option) | A                 | 287,5                | 371,7  | 439,7  | 477,2   | 497,1   | 508,4   |
| <b>Electrical Data Fans</b>                   |                   |                      |        |        |         |         |         |
| Nominal air flow                              | m <sup>3</sup> /h | 57 500               | 78 000 | 75 400 | 117 000 | 117 000 | 113 600 |
| Available static pressure                     | kPa               | 0                    | 0      | 0      | 0       | 0       | 0       |
| Absorbed power                                | kW                | 7,5                  | 10,0   | 10,0   | 15,0    | 15,0    | 15,0    |

Ra - dk

low noise

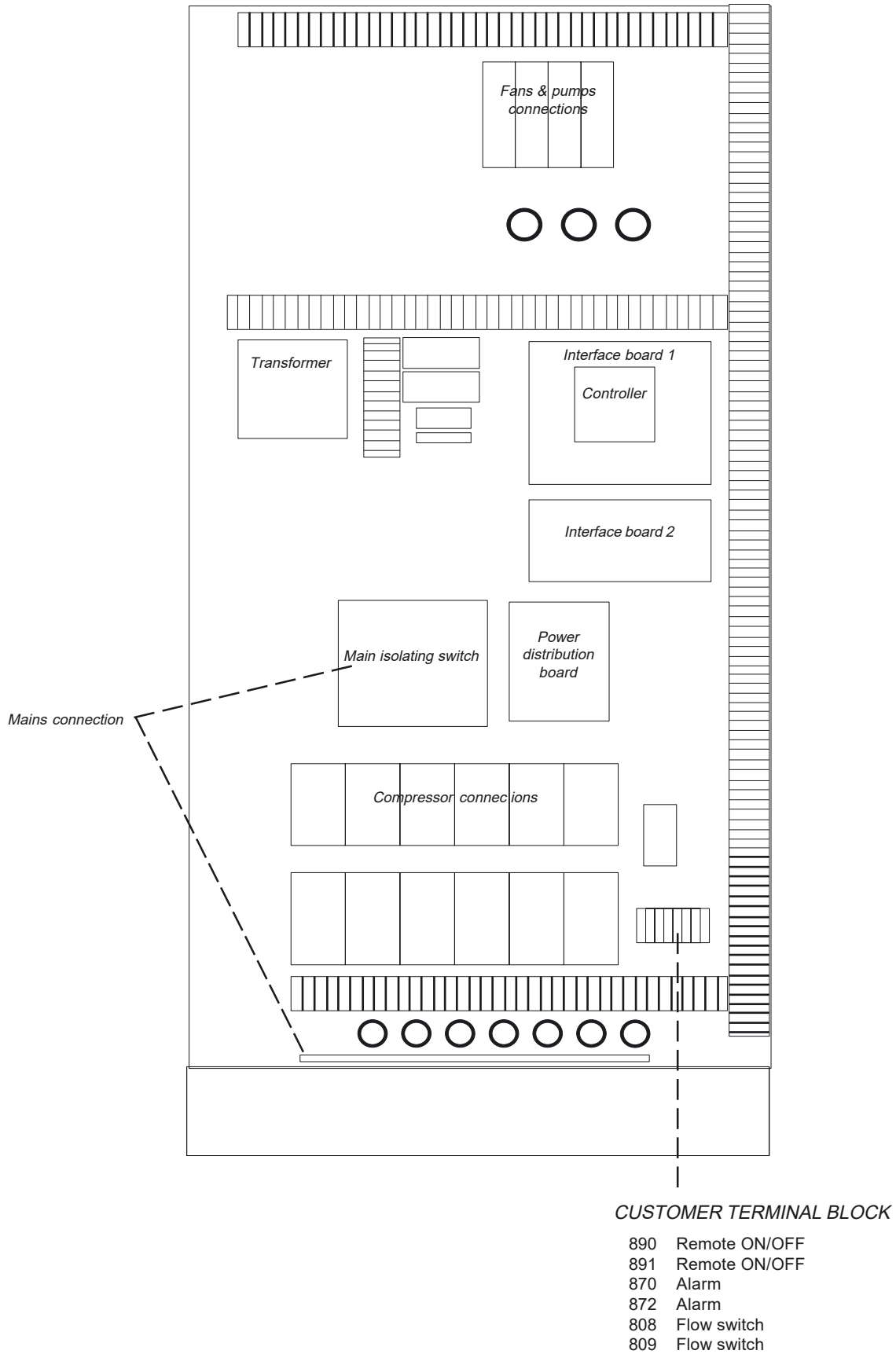
| RA                                            |                   | 150                  | 200   | 230   | 270   | 300   | 370   |
|-----------------------------------------------|-------------------|----------------------|-------|-------|-------|-------|-------|
| <b>Electrical Data Units</b>                  |                   | <b>400V/III/50Hz</b> |       |       |       |       |       |
| Maximum power                                 | kW                | 76,1                 | 93,8  | 113,1 | 138,3 | 151,4 | 182,9 |
| Maximum current                               | A                 | 124,3                | 153,2 | 188,0 | 228,7 | 252,5 | 300,1 |
| Maximum current (with cos phi 0,95 option)    | A                 | 116,4                | 143,3 | 173,3 | 210,7 | 230,7 | 279,9 |
| Start-up intensity                            | A                 | 293,7                | 378,6 | 449,4 | 490,1 | 514,0 | 525,5 |
| Start-up intensity (with softstarter option)  | A                 | 214,5                | 269,8 | 321,4 | 362,1 | 386,0 | 416,7 |
| Start-up intensity (with cos phi 0,95 option) | A                 | 287,5                | 371,7 | 439,7 | 477,2 | 497,1 | 508,4 |
| <b>Electrical Data Fans</b>                   |                   |                      |       |       |       |       |       |
| Nominal air flow                              | m <sup>3</sup> /h | 47000                | 64200 | 61850 | 96000 | 96000 | 92700 |
| Available static pressure                     | kPa               | 0                    | 0     | 0     | 0     | 0     | 0     |
| Absorbed power                                | kW                | 5,1                  | 6,8   | 6,8   | 10,2  | 10,2  | 10,2  |

Ra - dk

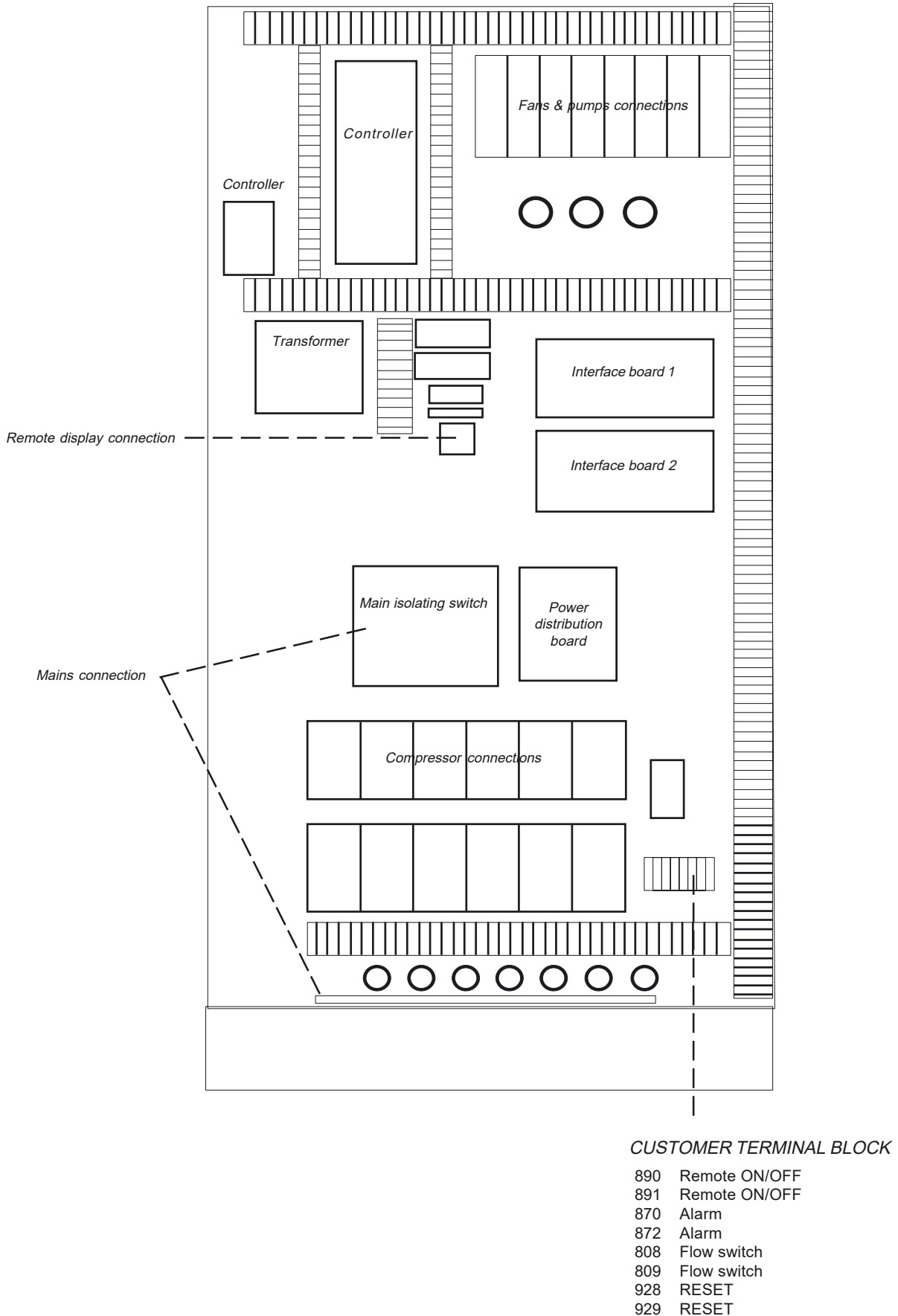
low noise

| RA                                            |                   | 150                  | 200   | 230   | 270   | 300   | 370   |
|-----------------------------------------------|-------------------|----------------------|-------|-------|-------|-------|-------|
| <b>Electrical Data Units</b>                  |                   | <b>400V/III/50Hz</b> |       |       |       |       |       |
| Maximum power                                 | kW                | 72,7                 | 89,5  | 108,8 | 131,4 | 144,6 | 176,1 |
| Maximum current                               | A                 | 119,4                | 147,2 | 182,0 | 218,8 | 242,6 | 290,2 |
| Maximum current (with cos phi 0,95 option)    | A                 | 111,2                | 136,8 | 166,8 | 200,3 | 220,3 | 269,6 |
| Start-up intensity                            | A                 | 288,7                | 372,6 | 443,5 | 480,3 | 504,1 | 515,6 |
| Start-up intensity (with softstarter option)  | A                 | 209,5                | 263,8 | 315,5 | 352,3 | 376,1 | 406,8 |
| Start-up intensity (with cos phi 0,95 option) | A                 | 282,3                | 365,2 | 433,2 | 466,8 | 486,7 | 498,0 |
| <b>Electrical Data Fans</b>                   |                   |                      |       |       |       |       |       |
| Nominal air flow                              | m <sup>3</sup> /h | 41300                | 64300 | 62000 | 85900 | 82700 | 82700 |
| Available static pressure                     | kPa               | 0                    | 0     | 0     | 0     | 0     | 0     |
| Absorbed power                                | kW                | 1,68                 | 2,52  | 2,52  | 3,36  | 3,36  | 3,36  |

CONNECTION DRAWING FOR UNIT WITH CLIMATIC™ 30



CONNECTION DRAWING FOR UNIT WITH CLIMATIC™ 50



wa - ek - dk

STANDar d

CLIMATIC™ 30 & 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |              |              |             |             |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|--------------|--------------|-------------|-------------|
|                          |      | 28°C                  |         |           |          | 30°C    |         |           |          | 32°C    |         |           |          | 35°C    |              |              |             |             |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW)      | Wf (m³/h)    | Dp (kPa)    |             |
| Water outlet temperature | 5°C  | 150D                  | 147,7   | 59,2      | 24,9     | 40,4    | 144,5   | 61,4      | 24,4     | 38,7    | 141,2   | 63,7      | 23,8     | 37,0    | 136,0        | 67,2         | 22,9        | 34,4        |
|                          |      | 200D                  | 188,2   | 68,5      | 31,8     | 32,9    | 184,2   | 71,1      | 31,1     | 31,5    | 180,1   | 73,7      | 30,4     | 30,2    | 173,7        | 78,0         | 29,2        | 28,1        |
|                          |      | 230D                  | 224,5   | 81,6      | 37,9     | 46,1    | 219,9   | 84,8      | 37,1     | 44,2    | 215,1   | 88,2      | 36,3     | 42,3    | 207,6        | 93,6         | 34,9        | 39,4        |
|                          |      | 270D                  | 271,1   | 103,1     | 45,8     | 37,7    | 265,6   | 106,7     | 44,8     | 36,2    | 259,9   | 110,4     | 43,8     | 34,6    | 250,8        | 116,5        | 42,2        | 32,2        |
|                          |      | 300D                  | 289,0   | 116,0     | 48,8     | 42,9    | 283,0   | 120,2     | 47,7     | 41,0    | 276,8   | 124,5     | 46,6     | 39,2    | 266,7        | 131,5        | 44,9        | 36,3        |
|                          |      | 370D                  | 357,8   | 135,2     | 60,4     | 40,8    | 350,3   | 140,1     | 59,1     | 39,0    | 342,6   | 145,4     | 57,7     | 37,3    | 330,3        | 153,9        | 55,6        | 34,6        |
|                          | 6°C  | 150D                  | 152,3   | 59,7      | 25,7     | 42,8    | 149,0   | 61,9      | 25,1     | 41,0    | 145,6   | 64,2      | 24,5     | 39,2    | 140,3        | 67,8         | 23,6        | 36,5        |
|                          |      | 200D                  | 194,0   | 69,2      | 32,8     | 34,9    | 189,9   | 71,7      | 32,0     | 33,4    | 185,7   | 74,4      | 31,3     | 32,0    | 179,1        | 78,7         | 30,2        | 29,8        |
|                          |      | 230D                  | 231,6   | 82,4      | 39,1     | 48,9    | 226,8   | 85,6      | 38,3     | 46,9    | 221,9   | 89,0      | 37,4     | 44,9    | 214,1        | 94,5         | 36,1        | 41,9        |
|                          |      | 270D                  | 279,4   | 104,3     | 47,2     | 40,1    | 273,8   | 107,9     | 46,2     | 38,4    | 268,0   | 111,6     | 45,2     | 36,8    | 258,7        | 117,6        | 43,6        | 34,2        |
|                          |      | 300D                  | 297,8   | 117,4     | 50,3     | 45,5    | 291,6   | 121,5     | 49,2     | 43,5    | 285,2   | 125,9     | 48,1     | 41,6    | 275,0        | 132,8        | 46,3        | 38,6        |
|                          |      | 370D                  | 368,8   | 136,8     | 62,3     | 43,3    | 361,2   | 141,8     | 60,9     | 41,4    | 353,2   | 147,0     | 59,5     | 39,6    | 340,5        | 155,5        | 57,3        | 36,7        |
|                          | 7°C  | 150D                  | 157,0   | 60,2      | 26,5     | 45,2    | 153,6   | 62,5      | 25,9     | 43,4    | 150,1   | 64,8      | 25,3     | 41,5    | <b>144,6</b> | <b>68,4</b>  | <b>24,4</b> | <b>38,6</b> |
|                          |      | 200D                  | 200,0   | 69,9      | 33,8     | 37,0    | 195,8   | 72,5      | 33,0     | 35,4    | 191,5   | 75,2      | 32,3     | 33,9    | <b>184,7</b> | <b>79,5</b>  | <b>31,1</b> | <b>31,6</b> |
|                          |      | 230D                  | 238,7   | 83,2      | 40,3     | 51,8    | 233,8   | 86,4      | 39,4     | 49,7    | 228,8   | 89,8      | 38,6     | 47,6    | <b>220,8</b> | <b>95,3</b>  | <b>37,2</b> | <b>44,4</b> |
|                          |      | 270D                  | 287,9   | 105,5     | 48,6     | 42,5    | 282,2   | 109,1     | 47,6     | 40,8    | 276,2   | 112,8     | 46,6     | 39,0    | <b>266,7</b> | <b>118,8</b> | <b>44,9</b> | <b>36,3</b> |
|                          |      | 300D                  | 306,7   | 118,8     | 51,8     | 48,2    | 300,4   | 122,9     | 50,7     | 46,2    | 293,9   | 127,3     | 49,5     | 44,1    | <b>283,4</b> | <b>134,2</b> | <b>47,7</b> | <b>41,0</b> |
|                          |      | 370D                  | 380,0   | 138,4     | 64,2     | 45,9    | 372,1   | 143,4     | 62,8     | 44,0    | 364,0   | 148,7     | 61,3     | 42,0    | <b>350,9</b> | <b>157,1</b> | <b>59,1</b> | <b>39,0</b> |
|                          | 8°C  | 150D                  | 161,8   | 60,7      | 27,3     | 47,8    | 158,3   | 63,0      | 26,7     | 45,8    | 154,7   | 65,3      | 26,1     | 43,8    | 149,0        | 69,0         | 25,1        | 40,8        |
|                          |      | 200D                  | 206,0   | 70,6      | 34,8     | 39,1    | 201,7   | 73,2      | 34,0     | 37,5    | 197,3   | 75,9      | 33,3     | 35,9    | 190,4        | 80,2         | 32,1        | 33,5        |
|                          |      | 230D                  | 246,0   | 84,0      | 41,5     | 54,8    | 241,0   | 87,3      | 40,7     | 52,6    | 235,8   | 90,7      | 39,7     | 50,4    | 227,6        | 96,2         | 38,3        | 47,0        |
|                          |      | 270D                  | 296,6   | 106,8     | 50,1     | 45,1    | 290,6   | 110,3     | 49,0     | 43,2    | 284,5   | 114,0     | 48,0     | 41,4    | 274,8        | 120,0        | 46,3        | 38,6        |
|                          |      | 300D                  | 315,8   | 120,2     | 53,3     | 51,1    | 309,3   | 124,4     | 52,2     | 48,9    | 302,6   | 128,7     | 51,0     | 46,8    | 291,9        | 135,7        | 49,1        | 43,5        |
|                          |      | 370D                  | 391,4   | 140,1     | 66,1     | 48,7    | 383,2   | 145,1     | 64,7     | 46,6    | 374,8   | 150,4     | 63,2     | 44,5    | 361,4        | 158,8        | 60,9        | 41,3        |
| 9°C                      | 150D | 166,6                 | 61,3    | 28,1      | 50,6     | 163,0   | 63,5    | 27,5      | 48,4     | 159,3   | 65,9    | 26,9      | 46,3     | 153,5   | 69,5         | 25,8         | 43,1        |             |
|                          | 200D | 212,2                 | 71,3    | 35,8      | 41,4     | 207,8   | 73,9    | 35,1      | 39,7     | 203,3   | 76,6    | 34,3      | 38,0     | 196,2   | 81,0         | 33,0         | 35,4        |             |
|                          | 230D | 253,4                 | 84,8    | 42,8      | 58,0     | 248,2   | 88,1    | 41,9      | 55,7     | 242,9   | 91,6    | 40,9      | 53,3     | 234,6   | 97,1         | 39,5         | 49,8        |             |
|                          | 270D | 305,3                 | 108,0   | 51,6      | 47,8     | 299,3   | 111,5   | 50,5      | 45,8     | 293,0   | 115,3   | 49,4      | 43,9     | 283,0   | 121,2        | 47,7         | 40,9        |             |
|                          | 300D | 325,0                 | 121,7   | 54,9      | 54,1     | 318,3   | 125,8   | 53,7      | 51,8     | 311,5   | 130,2   | 52,5      | 49,5     | 300,5   | 137,1        | 50,6         | 46,0        |             |
|                          | 370D | 402,8                 | 141,7   | 68,0      | 51,6     | 394,5   | 146,8   | 66,6      | 49,4     | 385,9   | 152,1   | 65,0      | 47,2     | 372,1   | 160,5        | 62,7         | 43,8        |             |
| 10°C                     | 150D | 171,5                 | 61,8    | 29,0      | 53,4     | 167,8   | 64,1    | 28,3      | 51,1     | 164,0   | 66,5    | 27,6      | 48,9     | 158,0   | 70,2         | 26,6         | 45,5        |             |
|                          | 200D | 218,5                 | 72,1    | 36,9      | 43,7     | 214,0   | 74,7    | 36,1      | 42,0     | 209,3   | 77,4    | 35,3      | 40,2     | 202,1   | 81,7         | 34,0         | 37,5        |             |
|                          | 230D | 260,9                 | 85,7    | 44,1      | 61,3     | 255,6   | 89,0    | 43,1      | 58,9     | 250,2   | 92,5    | 42,2      | 56,4     | 241,6   | 98,0         | 40,7         | 52,7        |             |
|                          | 270D | 314,2                 | 109,2   | 53,1      | 50,6     | 308,0   | 112,8   | 52,0      | 48,5     | 301,6   | 116,5   | 50,8      | 46,4     | 291,4   | 122,4        | 49,1         | 43,3        |             |
|                          | 300D | 334,3                 | 123,1   | 56,4      | 57,2     | 327,5   | 127,3   | 55,2      | 54,8     | 320,5   | 131,7   | 54,0      | 52,4     | 309,3   | 138,6        | 52,1         | 48,7        |             |
|                          | 370D | 414,5                 | 143,4   | 70,0      | 54,5     | 405,9   | 148,5   | 68,5      | 52,2     | 397,0   | 153,8   | 66,9      | 49,9     | 382,9   | 162,2        | 64,5         | 46,4        |             |
| 11°C                     | 150D | 176,5                 | 62,4    | 29,8      | 56,3     | 172,6   | 64,7    | 29,1      | 53,9     | 168,7   | 67,1    | 28,4      | 51,5     | 162,5   | 70,8         | 27,4         | 48,0        |             |
|                          | 200D | 224,9                 | 72,8    | 38,0      | 46,2     | 220,3   | 75,4    | 37,2      | 44,3     | 215,5   | 78,2    | 36,3      | 42,5     | 208,1   | 82,5         | 35,0         | 39,6        |             |
|                          | 230D | 268,5                 | 86,6    | 45,3      | 64,8     | 263,1   | 89,9    | 44,4      | 62,2     | 257,5   | 93,4    | 43,4      | 59,6     | 248,7   | 98,9         | 41,9         | 55,7        |             |
|                          | 270D | 323,2                 | 110,4   | 54,6      | 53,5     | 316,9   | 114,0   | 53,5      | 51,3     | 310,3   | 117,7   | 52,3      | 49,1     | 299,9   | 123,7        | 50,5         | 45,8        |             |
|                          | 300D | 343,7                 | 124,6   | 58,0      | 60,4     | 336,7   | 128,8   | 56,8      | 57,9     | 329,6   | 133,2   | 55,5      | 55,4     | 318,2   | 140,1        | 53,6         | 51,5        |             |
|                          | 370D | 426,2                 | 145,1   | 72,0      | 57,7     | 417,4   | 150,2   | 70,4      | 55,2     | 408,4   | 155,5   | 68,8      | 52,8     | 393,9   | 163,9        | 66,3         | 49,0        |             |
| 12°C                     | 150D | 181,5                 | 63,0    | 30,6      | 59,3     | 177,5   | 65,3    | 30,0      | 56,8     | 173,5   | 67,7    | 29,2      | 54,3     | 167,1   | 71,4         | 28,1         | 50,5        |             |
|                          | 200D | 231,4                 | 73,6    | 39,1      | 48,8     | 226,6   | 76,2    | 38,2      | 46,8     | 221,8   | 79,0    | 37,4      | 44,8     | 214,2   | 83,4         | 36,1         | 41,9        |             |
|                          | 230D | 276,2                 | 87,5    | 46,6      | 68,4     | 270,7   | 90,8    | 45,7      | 65,7     | 265,0   | 94,3    | 44,7      | 62,9     | 256,0   | 99,8         | 43,1         | 58,8        |             |
|                          | 270D | 332,4                 | 111,6   | 56,1      | 56,5     | 325,9   | 115,2   | 55,0      | 54,2     | 319,1   | 119,0   | 53,8      | 52,0     | 308,5   | 124,9        | 51,9         | 48,5        |             |
|                          | 300D | 353,2                 | 126,1   | 59,6      | 63,8     | 346,1   | 130,3   | 58,4      | 61,1     | 338,8   | 134,7   | 57,1      | 58,5     | 327,2   | 141,6        | 55,1         | 54,5        |             |
|                          | 370D | 438,2                 | 146,9   | 74,0      | 60,9     | 429,1   | 152,0   | 72,4      | 58,3     | 419,8   | 157,3   | 70,8      | 55,7     | 405,0   | 165,7        | 68,2         | 51,8        |             |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Pc :</b><br>Net cooling capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in kPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|



wa - ek - dk

STANDar d

CLIMATIC™ 30 & 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |         |           |          |      |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|------|
|                          |      | 38°C                  |         |           |          | 40°C    |         |           |          | 43°C    |         |           |          | 46°C    |         |           |          |      |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) |      |
| Water outlet temperature | 5°C  | 150D                  | 130,6   | 71,0      | 22,0     | 31,9    | 127,0   | 73,6      | 21,3     | 30,1    | 121,0   | 77,6      | 20,3     | 27,6    | 70,1    | 39,1      | 11,8     | 9,9  |
|                          |      | 200D                  | 166,9   | 82,6      | 28,1     | 26,0    | 162,2   | 85,9      | 27,3     | 24,6    | 154,7   | 91,2      | 26,0     | 22,5    | 110,6   | 62,5      | 18,6     | 11,8 |
|                          |      | 230D                  | 199,6   | 99,5      | 33,6     | 36,5    | 194,0   | 103,6     | 32,6     | 34,6    | 185,0   | 110,2     | 31,1     | 31,6    | 133,4   | 74,8      | 22,4     | 16,9 |
|                          |      | 270D                  | 241,2   | 123,0     | 40,6     | 29,7    | 234,4   | 127,7     | 39,4     | 28,0    | 223,3   | 135,3     | 37,5     | 25,5    | 138,8   | 75,9      | 23,3     | 9,9  |
|                          |      | 300D                  | 256,0   | 139,1     | 43,1     | 33,4    | 248,5   | 144,5     | 41,8     | 31,5    | 236,2   | 153,3     | 39,7     | 28,5    | 138,9   | 76,5      | 23,3     | 9,9  |
|                          |      | 370D                  | 317,1   | 163,0     | 53,3     | 31,8    | 307,9   | 169,6     | 51,7     | 30,0    | 292,8   | 180,1     | 49,2     | 27,1    | 213,2   | 120,2     | 35,8     | 14,5 |
|                          | 6°C  | 150D                  | 134,7   | 71,6      | 22,7     | 33,7    | 130,9   | 74,2      | 22,0     | 31,9    | 124,8   | 78,3      | 21,0     | 29,2    | 72,5    | 39,3      | 12,2     | 10,6 |
|                          |      | 200D                  | 172,2   | 83,4      | 29,0     | 27,6    | 167,4   | 86,6      | 28,1     | 26,1    | 159,7   | 91,9      | 26,8     | 23,9    | 114,3   | 62,8      | 19,2     | 12,6 |
|                          |      | 230D                  | 205,9   | 100,3     | 34,6     | 38,8    | 200,3   | 104,5     | 33,7     | 36,7    | 191,1   | 111,1     | 32,1     | 33,6    | 137,9   | 75,2      | 23,2     | 18,0 |
|                          |      | 270D                  | 248,8   | 124,2     | 41,9     | 31,6    | 241,9   | 128,8     | 40,7     | 29,8    | 230,6   | 136,4     | 38,8     | 27,1    | 143,6   | 76,3      | 24,1     | 10,6 |
|                          |      | 300D                  | 264,1   | 140,4     | 44,4     | 35,6    | 256,4   | 145,8     | 43,1     | 33,5    | 243,9   | 154,6     | 41,0     | 30,3    | 143,7   | 76,9      | 24,1     | 10,6 |
|                          |      | 370D                  | 327,0   | 164,6     | 55,0     | 33,8    | 317,5   | 171,1     | 53,4     | 31,9    | 302,0   | 181,5     | 50,8     | 28,9    | 220,3   | 120,9     | 37,0     | 15,5 |
|                          | 7°C  | 150D                  | 138,9   | 72,2      | 23,4     | 35,7    | 134,9   | 74,8      | 22,7     | 33,8    | 128,6   | 78,9      | 21,6     | 30,9    | 75,0    | 39,4      | 12,6     | 11,3 |
|                          |      | 200D                  | 177,6   | 84,1      | 29,9     | 29,3    | 172,7   | 87,4      | 29,0     | 27,7    | 164,8   | 92,6      | 27,7     | 25,3    | 118,1   | 63,2      | 19,9     | 13,4 |
|                          |      | 230D                  | 212,4   | 101,2     | 35,7     | 41,1    | 206,6   | 105,4     | 34,7     | 39,0    | 197,2   | 112,0     | 33,1     | 35,7    | 142,5   | 75,7      | 24,0     | 19,2 |
|                          |      | 270D                  | 256,6   | 125,3     | 43,2     | 33,6    | 249,5   | 130,0     | 41,9     | 31,7    | 238,0   | 137,5     | 40,0     | 28,9    | 148,5   | 76,7      | 25,0     | 11,4 |
|                          |      | 300D                  | 272,2   | 141,8     | 45,8     | 37,8    | 264,5   | 147,2     | 44,4     | 35,6    | 251,7   | 155,9     | 42,3     | 32,3    | 148,6   | 77,3      | 25,0     | 11,4 |
|                          |      | 370D                  | 337,0   | 166,2     | 56,7     | 35,9    | 327,3   | 172,7     | 55,0     | 33,8    | 311,4   | 183,0     | 52,3     | 30,7    | 227,6   | 121,6     | 38,3     | 16,5 |
|                          | 8°C  | 150D                  | 143,1   | 72,8      | 24,1     | 37,7    | 139,0   | 75,4      | 23,4     | 35,7    | 81,2    | 37,6      | 13,6     | 13,1    | 77,5    | 39,6      | 13,0     | 12,0 |
|                          |      | 200D                  | 183,1   | 84,8      | 30,8     | 31,0    | 178,1   | 88,1      | 29,9     | 29,4    | 170,0   | 93,4      | 28,6     | 26,9    | 122,1   | 63,6      | 20,5     | 14,3 |
|                          |      | 230D                  | 219,0   | 102,1     | 36,8     | 43,6    | 213,1   | 106,2     | 35,8     | 41,3    | 203,5   | 112,9     | 34,2     | 37,8    | 147,3   | 76,1      | 24,8     | 20,4 |
|                          |      | 270D                  | 264,5   | 126,5     | 44,5     | 35,7    | 257,3   | 131,1     | 43,2     | 33,7    | 245,5   | 138,5     | 41,3     | 30,7    | 153,5   | 77,1      | 25,8     | 12,1 |
|                          |      | 300D                  | 280,5   | 143,2     | 47,2     | 40,1    | 272,6   | 148,6     | 45,8     | 37,8    | 160,8   | 73,8      | 27,0     | 13,3    | 153,7   | 77,7      | 25,8     | 12,2 |
|                          |      | 370D                  | 347,1   | 167,8     | 58,4     | 38,1    | 337,2   | 174,3     | 56,7     | 35,9    | 246,8   | 115,7     | 41,5     | 19,3    | 235,1   | 122,4     | 39,5     | 17,6 |
| 9°C                      | 150D | 147,3                 | 73,4    | 24,8      | 39,9     | 143,1   | 76,1    | 24,1      | 37,7     | 83,9    | 37,7    | 14,1      | 13,9     | 80,1    | 39,8    | 13,5      | 12,7     |      |
|                          | 200D | 188,7                 | 85,6    | 31,7      | 32,8     | 183,6   | 88,9    | 30,9      | 31,1     | 175,4   | 94,2    | 29,5      | 28,5     | 126,1   | 64,0    | 21,2      | 15,2     |      |
|                          | 230D | 225,8                 | 103,0   | 38,0      | 46,2     | 219,7   | 107,2   | 36,9      | 43,8     | 209,9   | 113,8   | 35,3      | 40,1     | 152,1   | 76,6    | 25,6      | 21,8     |      |
|                          | 270D | 272,5                 | 127,7   | 45,8      | 37,8     | 265,2   | 132,3   | 44,6      | 35,8     | 253,2   | 139,7   | 42,5      | 32,6     | 158,7   | 77,5    | 26,7      | 12,9     |      |
|                          | 300D | 289,0                 | 144,6   | 48,6      | 42,5     | 280,9   | 150,0   | 47,2      | 40,1     | 166,1   | 74,2    | 27,9      | 14,2     | 158,9   | 78,1    | 26,7      | 13,0     |      |
|                          | 370D | 357,5                 | 169,5   | 60,1      | 40,4     | 347,3   | 175,9   | 58,4      | 38,1     | 254,7   | 116,5   | 42,8      | 20,6     | 242,8   | 123,2   | 40,8      | 18,7     |      |
| 10°C                     | 150D | 151,6                 | 74,0    | 25,5      | 42,1     | 147,3   | 76,7    | 24,8      | 39,8     | 86,6    | 37,9    | 14,6      | 14,8     | 82,7    | 40,0    | 13,9      | 13,5     |      |
|                          | 200D | 194,5                 | 86,4    | 32,7      | 34,8     | 189,2   | 89,7    | 31,8      | 33,0     | 180,8   | 95,0    | 30,4      | 30,2     | 130,3   | 64,4    | 21,9      | 16,2     |      |
|                          | 230D | 232,6                 | 103,9   | 39,1      | 48,9     | 226,4   | 108,1   | 38,0      | 46,4     | 216,4   | 114,7   | 36,4      | 42,5     | 157,1   | 77,0    | 26,4      | 23,1     |      |
|                          | 270D | 280,6                 | 128,9   | 47,2      | 40,1     | 273,2   | 133,4   | 45,9      | 38,0     | 260,9   | 140,8   | 43,9      | 34,7     | 164,0   | 77,9    | 27,6      | 13,8     |      |
|                          | 300D | 297,5                 | 146,1   | 50,0      | 45,0     | 289,3   | 151,4   | 48,6      | 42,5     | 171,6   | 74,7    | 28,8      | 15,1     | 164,2   | 78,6    | 27,6      | 13,9     |      |
|                          | 370D | 367,9                 | 171,2   | 61,9      | 42,8     | 357,6   | 177,6   | 60,1      | 40,3     | 262,8   | 117,4   | 44,2      | 21,9     | 250,7   | 124,0   | 42,1      | 20,0     |      |
| 11°C                     | 150D | 156,0                 | 74,7    | 26,2      | 44,4     | 151,5   | 77,4    | 25,5      | 41,9     | 89,4    | 38,1    | 15,0      | 15,7     | 85,4    | 40,1    | 14,4      | 14,4     |      |
|                          | 200D | 200,3                 | 87,2    | 33,7      | 36,8     | 195,0   | 90,5    | 32,8      | 34,9     | 186,4   | 95,8    | 31,3      | 32,0     | 134,5   | 64,8    | 22,6      | 17,2     |      |
|                          | 230D | 239,5                 | 104,8   | 40,3      | 51,7     | 233,2   | 109,0   | 39,2      | 49,1     | 223,0   | 115,7   | 37,5      | 45,0     | 162,2   | 77,5    | 27,3      | 24,6     |      |
|                          | 270D | 288,9                 | 130,1   | 48,6      | 42,5     | 281,3   | 134,7   | 47,3      | 40,2     | 177,0   | 74,5    | 29,7      | 16,1     | 169,4   | 78,3    | 28,5      | 14,7     |      |
|                          | 300D | 306,2                 | 147,6   | 51,5      | 47,7     | 297,9   | 152,8   | 50,1      | 45,1     | 177,2   | 75,1    | 29,8      | 16,1     | 169,6   | 79,0    | 28,5      | 14,8     |      |
|                          | 370D | 378,6                 | 172,9   | 63,7      | 45,2     | 368,0   | 179,3   | 61,8      | 42,7     | 271,1   | 118,3   | 45,6      | 23,3     | 258,7   | 124,9   | 43,5      | 21,2     |      |
| 12°C                     | 150D | 160,4                 | 75,3    | 27,0      | 46,7     | 155,8   | 78,1    | 26,2      | 44,2     | 92,3    | 38,2    | 15,5      | 16,6     | 88,1    | 40,3    | 14,8      | 15,2     |      |
|                          | 200D | 206,3                 | 88,1    | 34,7      | 38,9     | 200,8   | 91,4    | 33,8      | 36,9     | 145,3   | 61,8    | 24,4      | 19,9     | 138,9   | 65,3    | 23,3      | 18,3     |      |
|                          | 230D | 246,6                 | 105,8   | 41,5      | 54,7     | 240,1   | 110,0   | 40,4      | 51,9     | 175,0   | 73,6    | 29,4      | 28,4     | 167,4   | 78,0    | 28,1      | 26,1     |      |
|                          | 270D | 297,3                 | 131,3   | 50,0      | 45,0     | 289,6   | 135,9   | 48,7      | 42,6     | 182,7   | 75,0    | 30,7      | 17,1     | 175,0   | 78,8    | 29,4      | 15,7     |      |
|                          | 300D | 315,0                 | 149,1   | 53,0      | 50,4     | 306,5   | 154,3   | 51,5      | 47,7     | 182,9   | 75,6    | 30,7      | 17,2     | 175,2   | 79,4    | 29,4      | 15,7     |      |
|                          | 370D | 389,4                 | 174,7   | 65,5      | 47,8     | 378,7   | 181,1   | 63,6      | 45,2     | 279,6   | 199,1   | 47,0      | 24,8     | 267,0   | 125,7   | 44,9      | 22,6     |      |

|                                             |                                    |                                                        |                                   |                                    |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|
| XXX :<br>High pressure offloading operation | Pc :<br>Net cooling capacity in kW | Pe(c) :<br>Effective power input input in cooling mode | Wf :<br>Water flow in m³ per hour | Dp :<br>Water pressure drop in KPa |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|

wa - ek - dk

LOW NOISE

CLIMATIC™ 30 & 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |              |              |             |             |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|--------------|--------------|-------------|-------------|
|                          |      | 28°C                  |         |           |          | 30°C    |         |           |          | 32°C    |         |           |          | 35°C    |              |              |             |             |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW)      | Wf (m³/h)    | Dp (kPa)    |             |
| Water outlet temperature | 5°C  | 150D                  | 144,5   | 58,7      | 24,4     | 38,9    | 141,3   | 61,0      | 23,9     | 37,2    | 137,9   | 63,3      | 23,3     | 35,5    | 132,7        | 66,9         | 22,4        | 33,0        |
|                          |      | 200D                  | 184,5   | 67,3      | 31,2     | 31,8    | 180,5   | 69,9      | 30,5     | 30,5    | 176,4   | 72,7      | 29,8     | 29,1    | 169,8        | 77,1         | 28,6        | 27,0        |
|                          |      | 230D                  | 219,0   | 81,8      | 37,1     | 44,1    | 214,3   | 85,1      | 36,2     | 42,2    | 209,4   | 88,7      | 35,4     | 40,3    | 201,6        | 94,3         | 34,0        | 37,5        |
|                          |      | 270D                  | 265,4   | 101,5     | 44,9     | 36,3    | 259,8   | 105,2     | 43,9     | 34,8    | 254,0   | 109,1     | 42,9     | 33,2    | 244,7        | 115,4        | 41,3        | 30,8        |
|                          |      | 300D                  | 282,3   | 115,3     | 47,8     | 41,1    | 276,1   | 119,6     | 46,7     | 39,2    | 269,7   | 124,1     | 45,5     | 37,4    | 259,3        | 131,4        | 43,8        | 34,5        |
|                          |      | 370D                  | 348,0   | 136,2     | 58,9     | 38,7    | 340,3   | 141,5     | 57,5     | 37,0    | 332,3   | 147,0     | 56,1     | 35,2    | 319,6        | 155,9        | 53,9        | 32,5        |
|                          | 6°C  | 150D                  | 149,0   | 59,3      | 25,2     | 41,1    | 145,6   | 61,6      | 24,6     | 39,4    | 142,2   | 63,9      | 24,0     | 37,6    | 136,8        | 67,5         | 23,1        | 34,9        |
|                          |      | 200D                  | 190,2   | 68,0      | 32,2     | 33,7    | 186,1   | 70,7      | 31,5     | 32,3    | 181,8   | 73,5      | 30,7     | 30,8    | 175,1        | 77,9         | 29,5        | 28,6        |
|                          |      | 230D                  | 225,7   | 82,7      | 38,2     | 46,7    | 220,9   | 86,1      | 37,3     | 44,7    | 215,9   | 89,6      | 36,5     | 42,7    | 207,9        | 95,3         | 35,1        | 39,7        |
|                          |      | 270D                  | 273,5   | 102,8     | 46,3     | 38,6    | 267,7   | 106,5     | 45,3     | 36,9    | 261,7   | 110,4     | 44,2     | 35,2    | 252,2        | 116,7        | 42,6        | 32,7        |
|                          |      | 300D                  | 290,8   | 116,7     | 49,2     | 43,5    | 284,4   | 121,1     | 48,1     | 41,6    | 277,8   | 125,6     | 46,9     | 39,6    | 267,3        | 132,9        | 45,1        | 36,6        |
|                          |      | 370D                  | 358,5   | 138,0     | 60,7     | 41,1    | 350,6   | 143,3     | 59,3     | 39,2    | 342,4   | 148,8     | 57,8     | 37,4    | 329,2        | 157,7        | 55,5        | 34,5        |
|                          | 7°C  | 150D                  | 153,5   | 59,9      | 26,0     | 43,5    | 150,0   | 62,1      | 25,4     | 41,6    | 146,5   | 64,5      | 24,7     | 39,7    | <b>140,9</b> | <b>68,2</b>  | <b>23,8</b> | <b>36,9</b> |
|                          |      | 200D                  | 196,0   | 68,8      | 33,2     | 35,7    | 191,7   | 71,5      | 32,4     | 34,2    | 187,4   | 74,3      | 31,6     | 32,6    | <b>180,4</b> | <b>78,7</b>  | <b>30,4</b> | <b>30,3</b> |
|                          |      | 230D                  | 232,6   | 83,6      | 39,4     | 49,5    | 227,6   | 87,0      | 38,5     | 47,4    | 222,5   | 90,6      | 37,6     | 45,3    | <b>214,3</b> | <b>96,3</b>  | <b>36,2</b> | <b>42,1</b> |
|                          |      | 270D                  | 281,7   | 104,1     | 47,7     | 40,9    | 275,8   | 107,8     | 46,6     | 39,1    | 269,6   | 111,7     | 45,5     | 37,4    | <b>259,9</b> | <b>117,9</b> | <b>43,8</b> | <b>34,7</b> |
|                          |      | 300D                  | 299,4   | 118,2     | 50,7     | 46,1    | 292,8   | 122,6     | 49,5     | 44,1    | 286,1   | 127,1     | 48,3     | 42,0    | <b>275,3</b> | <b>134,4</b> | <b>46,4</b> | <b>38,8</b> |
|                          |      | 370D                  | 369,2   | 139,8     | 62,5     | 43,5    | 361,0   | 145,1     | 61,0     | 41,6    | 352,5   | 150,6     | 59,5     | 39,6    | <b>339,0</b> | <b>159,4</b> | <b>57,2</b> | <b>36,6</b> |
|                          | 8°C  | 150D                  | 158,0   | 60,5      | 26,7     | 46,0    | 154,5   | 62,8      | 26,1     | 44,0    | 150,9   | 65,1      | 25,5     | 42,0    | 145,1        | 68,8         | 24,5        | 39,0        |
|                          |      | 200D                  | 201,9   | 69,6      | 34,2     | 37,8    | 197,5   | 72,3      | 33,4     | 36,1    | 193,0   | 75,1      | 32,6     | 34,5    | 185,9        | 79,5         | 31,4        | 32,1        |
|                          |      | 230D                  | 239,5   | 84,5      | 40,5     | 52,3    | 234,4   | 87,9      | 39,6     | 50,1    | 229,2   | 91,5      | 38,7     | 47,9    | 220,8        | 97,2         | 37,3        | 44,5        |
|                          |      | 270D                  | 290,0   | 105,4     | 49,1     | 43,3    | 283,9   | 109,1     | 48,0     | 41,5    | 277,7   | 113,0     | 46,9     | 39,6    | 267,7        | 119,2        | 45,2        | 36,7        |
|                          |      | 300D                  | 308,0   | 119,8     | 52,1     | 48,8    | 301,4   | 124,1     | 50,9     | 46,6    | 294,4   | 128,7     | 49,7     | 44,5    | 283,4        | 136,0        | 47,8        | 41,1        |
|                          |      | 370D                  | 379,9   | 141,6     | 64,3     | 46,1    | 371,5   | 146,9     | 62,8     | 44,0    | 362,8   | 152,5     | 61,3     | 41,9    | 348,9        | 161,3        | 58,9        | 38,7        |
| 9°C                      | 150D | 162,7                 | 61,1    | 27,5      | 48,5     | 159,0   | 63,4    | 26,9      | 46,4     | 155,3   | 65,8    | 26,2      | 44,3     | 149,4   | 69,5         | 25,2         | 41,1        |             |
|                          | 200D | 207,8                 | 70,4    | 35,2      | 39,9     | 203,3   | 73,1    | 34,4      | 38,2     | 198,7   | 75,9    | 33,6      | 36,5     | 191,5   | 80,4         | 32,3         | 34,0        |             |
|                          | 230D | 246,6                 | 85,5    | 41,7      | 55,3     | 241,4   | 88,9    | 40,8      | 53,0     | 236,0   | 92,5    | 39,8      | 50,6     | 227,4   | 98,2         | 38,4         | 47,1        |             |
|                          | 270D | 298,4                 | 106,7   | 50,5      | 45,8     | 292,2   | 110,4   | 49,4      | 43,9     | 285,8   | 114,3   | 48,3      | 41,9     | 275,6   | 120,5        | 46,5         | 38,9        |             |
|                          | 300D | 316,9                 | 121,3   | 53,6      | 51,6     | 310,0   | 125,7   | 52,4      | 49,3     | 302,9   | 130,3   | 51,2      | 47,0     | 291,7   | 137,6        | 49,2         | 43,6        |             |
|                          | 370D | 390,8                 | 143,5   | 66,1      | 48,7     | 382,1   | 148,8   | 64,6      | 46,5     | 373,2   | 154,3   | 63,0      | 44,3     | 359,0   | 163,1        | 60,6         | 41,0        |             |
| 10°C                     | 150D | 167,4                 | 61,7    | 28,3      | 51,1     | 163,6   | 64,0    | 27,7      | 48,9     | 159,7   | 66,4    | 27,0      | 46,7     | 153,7   | 70,1         | 25,9         | 43,4        |             |
|                          | 200D | 213,9                 | 71,2    | 36,2      | 42,2     | 209,3   | 73,9    | 35,4      | 40,4     | 204,6   | 76,7    | 34,5      | 38,6     | 197,1   | 81,2         | 33,3         | 35,9        |             |
|                          | 230D | 253,8                 | 86,5    | 42,9      | 58,4     | 248,4   | 89,9    | 42,0      | 56,0     | 242,9   | 93,5    | 41,0      | 53,5     | 234,1   | 99,3         | 39,5         | 49,8        |             |
|                          | 270D | 307,0                 | 108,0   | 51,9      | 48,5     | 300,6   | 111,7   | 50,8      | 46,4     | 294,0   | 115,6   | 49,7      | 44,3     | 283,6   | 121,8        | 47,8         | 41,2        |             |
|                          | 300D | 325,8                 | 122,9   | 55,1      | 54,5     | 318,8   | 127,3   | 53,9      | 52,1     | 311,5   | 131,9   | 52,6      | 49,7     | 300,1   | 139,2        | 50,6         | 46,1        |             |
|                          | 370D | 401,8                 | 145,4   | 68,0      | 51,5     | 392,9   | 150,7   | 66,4      | 49,2     | 383,7   | 156,2   | 64,8      | 46,8     | 369,2   | 165,0        | 62,3         | 43,3        |             |
| 11°C                     | 150D | 172,1                 | 62,3    | 29,1      | 53,9     | 168,2   | 64,7    | 28,4      | 51,5     | 164,2   | 67,1    | 27,7      | 49,2     | 158,0   | 70,8         | 26,7         | 45,7        |             |
|                          | 200D | 220,1                 | 72,0    | 37,2      | 44,5     | 215,3   | 74,7    | 36,4      | 42,6     | 210,5   | 77,6    | 35,5      | 40,8     | 202,9   | 82,1         | 34,2         | 37,9        |             |
|                          | 230D | 261,0                 | 87,4    | 44,2      | 61,6     | 255,6   | 90,9    | 43,2      | 59,1     | 249,9   | 94,5    | 42,2      | 56,5     | 240,9   | 100,3        | 40,6         | 52,6        |             |
|                          | 270D | 315,6                 | 109,4   | 53,4      | 51,2     | 309,1   | 113,1   | 52,3      | 49,1     | 302,4   | 117,0   | 51,1      | 46,9     | 291,7   | 123,2        | 49,2         | 43,6        |             |
|                          | 300D | 334,8                 | 124,6   | 56,6      | 57,6     | 327,6   | 129,0   | 55,4      | 55,0     | 320,2   | 133,5   | 54,1      | 52,5     | 308,5   | 140,8        | 52,1         | 48,7        |             |
|                          | 370D | 412,9                 | 147,3   | 69,9      | 54,3     | 403,8   | 152,6   | 68,3      | 51,9     | 394,4   | 158,2   | 66,6      | 49,4     | 379,5   | 167,0        | 64,0         | 45,7        |             |
| 12°C                     | 150D | 176,9                 | 63,0    | 29,9      | 56,7     | 172,9   | 65,3    | 29,2      | 54,2     | 168,8   | 67,7    | 28,5      | 51,8     | 162,4   | 71,5         | 27,4         | 48,1        |             |
|                          | 200D | 226,3                 | 72,8    | 38,3      | 46,9     | 221,5   | 75,6    | 37,4      | 45,0     | 216,6   | 78,5    | 36,6      | 43,0     | 208,8   | 83,0         | 35,2         | 40,0        |             |
|                          | 230D | 268,4                 | 88,5    | 45,4      | 65,0     | 262,8   | 91,9    | 44,4      | 62,3     | 257,0   | 95,6    | 43,4      | 59,6     | 247,9   | 101,3        | 41,8         | 55,5        |             |
|                          | 270D | 324,4                 | 110,7   | 54,9      | 54,1     | 317,7   | 114,4   | 53,7      | 51,8     | 310,9   | 118,3   | 52,5      | 49,5     | 300,0   | 124,5        | 50,6         | 46,1        |             |
|                          | 300D | 343,9                 | 126,2   | 58,2      | 60,7     | 336,6   | 130,6   | 56,9      | 58,1     | 329,0   | 135,2   | 55,6      | 55,4     | 317,1   | 142,4        | 53,5         | 51,4        |             |
|                          | 370D | 424,1                 | 149,2   | 71,8      | 57,3     | 414,8   | 154,6   | 70,1      | 54,7     | 405,2   | 160,1   | 68,4      | 52,1     | 390,0   | 168,9        | 65,8         | 48,3        |             |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Pc :</b><br>Net cooling capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in kPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|

wa - ek - dk

LOW NOISE

CLIMATIC™ 30 & 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |         |           |          |      |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|------|
|                          |      | 38°C                  |         |           |          | 40°C    |         |           |          | 43°C    |         |           |          | 46°C    |         |           |          |      |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) |      |
| Water outlet temperature | 5°C  | 150D                  | 127,3   | 70,7      | 21,5     | 30,4    | 123,5   | 73,3      | 20,8     | 28,7    | 72,4    | 35,3      | 12,2     | 10,6    | 69,0    | 37,3      | 11,6     | 9,7  |
|                          |      | 200D                  | 162,9   | 82,0      | 27,5     | 24,9    | 158,1   | 85,4      | 26,6     | 23,5    | 150,6   | 90,9      | 25,3     | 21,4    | 108,6   | 60,5      | 18,3     | 11,5 |
|                          |      | 230D                  | 193,4   | 100,4     | 32,6     | 34,5    | 187,7   | 104,8     | 31,6     | 32,6    | 178,7   | 111,6     | 30,1     | 29,6    | 130,2   | 73,7      | 21,9     | 16,2 |
|                          |      | 270D                  | 234,8   | 122,2     | 39,6     | 28,3    | 227,9   | 127,1     | 38,4     | 26,6    | 216,8   | 134,9     | 36,5     | 24,1    | 136,5   | 72,4      | 23,0     | 9,6  |
|                          |      | 300D                  | 248,3   | 139,3     | 41,9     | 31,6    | 240,6   | 145,0     | 40,5     | 29,6    | 143,3   | 69,0      | 24,1     | 10,6    | 136,6   | 73,0      | 23,0     | 9,6  |
|                          |      | 370D                  | 306,0   | 165,5     | 51,6     | 29,8    | 296,5   | 172,3     | 49,9     | 27,9    | 218,6   | 111,8     | 36,38    | 15,2    | 207,5   | 118,8     | 34,9     | 13,8 |
|                          | 6°C  | 150D                  | 131,2   | 71,4      | 22,1     | 32,2    | 127,3   | 74,0      | 21,4     | 30,4    | 74,8    | 35,5      | 12,6     | 11,2    | 71,4    | 37,5      | 12,0     | 10,3 |
|                          |      | 200D                  | 168,0   | 82,7      | 28,3     | 26,4    | 163,1   | 86,2      | 27,5     | 24,9    | 155,3   | 91,6      | 26,1     | 22,7    | 112,2   | 60,9      | 18,9     | 12,2 |
|                          |      | 230D                  | 199,5   | 101,4     | 33,6     | 36,6    | 193,7   | 105,7     | 32,6     | 34,6    | 184,4   | 112,6     | 31,0     | 31,4    | 134,5   | 74,2      | 22,6     | 17,2 |
|                          |      | 270D                  | 242,1   | 123,4     | 40,8     | 30,1    | 235,1   | 128,3     | 39,6     | 28,3    | 223,8   | 136,1     | 37,6     | 25,6    | 141,2   | 72,8      | 23,8     | 10,3 |
|                          |      | 300D                  | 256,0   | 140,8     | 43,1     | 33,6    | 248,2   | 146,4     | 41,8     | 31,5    | 148,2   | 69,4      | 24,9     | 11,3    | 141,3   | 73,4      | 23,8     | 10,3 |
|                          |      | 370D                  | 315,3   | 167,2     | 53,1     | 31,6    | 305,5   | 174,0     | 51,4     | 29,6    | 225,7   | 112,7     | 38,0     | 16,2    | 214,4   | 119,6     | 36,1     | 14,7 |
|                          | 7°C  | 150D                  | 135,1   | 72,0      | 22,8     | 34,1    | 131,2   | 74,7      | 22,1     | 32,1    | 77,3    | 35,7      | 13,0     | 12,0    | 73,7    | 37,7      | 12,4     | 10,9 |
|                          |      | 200D                  | 173,2   | 83,5      | 29,2     | 28,0    | 168,2   | 87,0      | 28,3     | 26,4    | 160,2   | 92,4      | 26,9     | 24,0    | 115,9   | 61,3      | 19,5     | 13,0 |
|                          |      | 230D                  | 205,7   | 102,4     | 34,7     | 38,8    | 199,8   | 106,7     | 33,6     | 36,7    | 145,9   | 70,2      | 24,5     | 20,1    | 139,0   | 74,7      | 23,4     | 18,3 |
|                          |      | 270D                  | 249,6   | 124,7     | 42,1     | 31,9    | 242,4   | 129,5     | 40,8     | 30,1    | 153,0   | 69,3      | 25,7     | 12,1    | 146,0   | 73,2      | 24,6     | 11,0 |
|                          |      | 300D                  | 263,8   | 142,3     | 44,5     | 35,6    | 255,8   | 147,9     | 43,1     | 33,5    | 153,1   | 69,8      | 25,8     | 12,1    | 146,2   | 73,9      | 24,6     | 11,0 |
|                          |      | 370D                  | 324,7   | 168,9     | 54,7     | 33,5    | 314,7   | 175,6     | 53,0     | 31,4    | 233,0   | 113,5     | 39,2     | 17,3    | 221,4   | 120,4     | 37,2     | 15,6 |
|                          | 8°C  | 150D                  | 139,1   | 72,7      | 23,5     | 36,0    | 135,0   | 75,4      | 22,7     | 33,9    | 79,9    | 35,8      | 13,4     | 12,7    | 76,2    | 37,9      | 12,8     | 11,6 |
|                          |      | 200D                  | 178,5   | 84,4      | 30,1     | 29,6    | 173,3   | 87,8      | 29,2     | 28,0    | 125,7   | 58,2      | 21,1     | 15,1    | 119,7   | 61,8      | 20,1     | 13,8 |
|                          |      | 230D                  | 212,0   | 103,4     | 35,7     | 41,1    | 205,9   | 107,7     | 34,7     | 38,9    | 150,7   | 70,7      | 25,3     | 21,4    | 143,6   | 75,2      | 24,2     | 19,5 |
|                          |      | 270D                  | 257,1   | 125,9     | 43,3     | 33,9    | 249,8   | 130,7     | 42,1     | 31,9    | 158,1   | 69,7      | 26,6     | 12,9    | 151,0   | 73,6      | 25,4     | 11,7 |
|                          |      | 300D                  | 271,7   | 143,8     | 45,8     | 37,8    | 263,6   | 149,4     | 44,4     | 35,5    | 158,2   | 70,3      | 26,6     | 12,9    | 151,1   | 74,3      | 25,4     | 11,8 |
|                          |      | 370D                  | 334,2   | 170,7     | 56,3     | 35,5    | 324,0   | 177,4     | 54,6     | 33,3    | 240,4   | 114,4     | 40,4     | 18,4    | 228,6   | 121,3     | 38,4     | 16,7 |
| 9°C                      | 150D | 143,2                 | 73,4    | 24,1      | 37,9     | 139,0   | 76,1    | 23,4      | 35,8     | 82,5    | 36,0    | 13,9      | 13,5     | 78,7    | 38,1    | 13,2      | 12,4     |      |
|                          | 200D | 183,9                 | 85,2    | 31,0      | 31,4     | 178,6   | 88,7    | 30,1      | 29,6     | 129,7   | 58,6    | 21,8      | 16,1     | 123,7   | 62,2    | 20,8      | 14,7     |      |
|                          | 230D | 218,4                 | 104,4   | 36,8      | 43,5     | 212,2   | 108,7   | 35,7      | 41,1     | 155,5   | 71,2    | 26,2      | 22,7     | 148,3   | 75,7    | 24,9      | 20,8     |      |
|                          | 270D | 264,8                 | 127,2   | 44,6      | 35,9     | 257,3   | 132,0   | 43,3      | 33,9     | 163,3   | 70,2    | 27,5      | 13,7     | 156,0   | 74,1    | 26,2      | 12,5     |      |
|                          | 300D | 279,8                 | 145,4   | 47,2      | 40,0     | 271,5   | 150,9   | 45,7      | 37,7     | 163,5   | 70,8    | 27,5      | 13,8     | 156,2   | 74,8    | 26,3      | 12,6     |      |
|                          | 370D | 343,9                 | 172,5   | 58,0      | 37,5     | 333,5   | 179,2   | 56,2      | 35,3     | 248,1   | 115,3   | 41,7      | 19,6     | 236,0   | 122,1   | 39,7      | 17,7     |      |
| 10°C                     | 150D | 147,3                 | 74,1    | 24,8      | 40,0     | 143,0   | 76,8    | 24,1      | 37,8     | 85,2    | 36,2    | 14,3      | 14,3     | 81,3    | 38,3    | 13,7      | 13,1     |      |
|                          | 200D | 189,4                 | 86,1    | 31,9      | 33,2     | 184,0   | 89,6    | 31,0      | 31,4     | 133,9   | 59,1    | 22,5      | 17,1     | 127,7   | 62,6    | 21,5      | 15,6     |      |
|                          | 230D | 224,9                 | 105,4   | 37,9      | 46,1     | 218,6   | 109,8   | 36,8      | 43,5     | 160,5   | 71,7    | 27,0      | 24,1     | 153,1   | 76,2    | 25,8      | 22,0     |      |
|                          | 270D | 272,6                 | 128,5   | 45,9      | 38,0     | 265,0   | 133,2   | 44,6      | 35,9     | 168,6   | 70,6    | 28,4      | 14,6     | 161,2   | 74,5    | 27,1      | 13,4     |      |
|                          | 300D | 287,9                 | 146,9   | 48,5      | 42,4     | 175,7   | 67,6    | 29,6      | 15,9     | 168,8   | 71,2    | 28,4      | 14,7     | 161,4   | 75,2    | 27,1      | 13,4     |      |
|                          | 370D | 353,8                 | 174,4   | 59,6      | 39,7     | 267,2   | 109,9   | 45,0      | 22,7     | 255,9   | 116,2   | 43,0      | 20,8     | 243,5   | 123,0   | 41,0      | 18,9     |      |
| 11°C                     | 150D | 151,5                 | 74,8    | 25,5      | 42,1     | 91,8    | 34,4    | 15,5      | 16,5     | 87,9    | 36,4    | 14,8      | 15,2     | 83,9    | 38,5    | 14,1      | 13,9     |      |
|                          | 200D | 195,0                 | 87,0    | 32,9      | 35,1     | 189,5   | 90,5    | 31,9      | 33,2     | 138,2   | 59,5    | 23,2      | 18,1     | 131,8   | 63,1    | 22,2      | 16,6     |      |
|                          | 230D | 231,5                 | 106,5   | 39,0      | 48,7     | 225,1   | 110,8   | 37,9      | 46,0     | 165,5   | 72,3    | 27,8      | 25,6     | 158,0   | 76,7    | 26,6      | 23,4     |      |
|                          | 270D | 280,5                 | 129,8   | 47,3      | 40,2     | 272,8   | 134,5   | 45,9      | 38,0     | 174,1   | 71,1    | 29,3      | 15,6     | 166,5   | 75,0    | 28,0      | 14,3     |      |
|                          | 300D | 296,2                 | 148,5   | 49,9      | 44,8     | 181,3   | 68,1    | 30,5      | 16,9     | 174,3   | 71,7    | 29,3      | 15,6     | 166,7   | 75,7    | 28,0      | 14,3     |      |
|                          | 370D | 363,8                 | 176,3   | 61,3      | 42,0     | 275,5   | 110,9   | 46,4      | 24,1     | 263,8   | 117,2   | 44,4      | 22,1     | -       | -       | -         | -        |      |
| 12°C                     | 150D | 155,6                 | 75,5    | 26,2      | 44,3     | 94,7    | 34,6    | 15,9      | 17,5     | 90,7    | 36,6    | 15,3      | 16,1     | 86,5    | 38,7    | 14,6      | 14,8     |      |
|                          | 200D | 200,7                 | 87,9    | 33,8      | 37,1     | 195,1   | 91,4    | 32,9      | 35,1     | 142,5   | 60,0    | 24,0      | 19,2     | 136,1   | 63,6    | 22,9      | 17,6     |      |
|                          | 230D | 238,3                 | 107,5   | 40,2      | 51,4     | 231,7   | 111,9   | 39,0      | 48,6     | 170,7   | 72,8    | 28,7      | 27,1     | 163,0   | 77,2    | 27,4      | 24,9     |      |
|                          | 270D | 288,6                 | 131,2   | 48,6      | 42,6     | 280,7   | 135,9   | 47,3      | 40,2     | 179,6   | 71,6    | 30,2      | 16,6     | 171,9   | 75,4    | 28,9      | 15,2     |      |
|                          | 300D | 304,6                 | 150,1   | 51,3      | 47,4     | 187,1   | 68,5    | 31,5      | 18,0     | 179,9   | 72,2    | 30,3      | 16,6     | 172,1   | 76,1    | 29,0      | 15,2     |      |
|                          | 370D | 374,0                 | 178,3   | 63,0      | 44,3     | 283,8   | 111,9   | 47,8      | 25,6     | 272,0   | 118,1   | 45,8      | 23,5     | -       | -       | -         | -        |      |

|                                             |                                    |                                                        |                                   |                                    |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|
| XXX :<br>High pressure offloading operation | Pc :<br>Net cooling capacity in kW | Pe(c) :<br>Effective power input input in cooling mode | Wf :<br>Water flow in m³ per hour | Dp :<br>Water pressure drop in KPa |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|

| WA                       |      |       | Air inlet temperature |            |              |             |            |            |              |             |            |            |              |             |              |              |              |             |
|--------------------------|------|-------|-----------------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|--------------|--------------|--------------|-------------|
|                          |      |       | 28°C                  |            |              |             | 30°C       |            |              |             | 32°C       |            |              |             | 35°C         |              |              |             |
|                          |      |       | Pc<br>(kW)            | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW)   | Pe<br>(kW)   | Wf<br>(m³/h) | Dp<br>(kPa) |
| Water outlet temperature | 5°C  | 150D  | 154,5                 | 51,3       | 26,1         | 43,9        | 151,1      | 53,5       | 25,5         | 42,1        | 147,7      | 55,7       | 24,9         | 40,3        | 142,4        | 59,1         | 24,0         | 37,7        |
|                          |      | 200D  | 193,4                 | 61,3       | 32,7         | 34,7        | 189,4      | 63,7       | 32,0         | 33,3        | 185,2      | 66,2       | 31,3         | 31,9        | 178,8        | 70,2         | 30,2         | 29,9        |
|                          |      | 230D  | 230,2                 | 73,8       | 38,9         | 48,3        | 225,5      | 76,8       | 38,1         | 46,4        | 220,7      | 80,0       | 37,3         | 44,6        | 213,1        | 85,2         | 36,0         | 41,7        |
|                          |      | 270D  | 278,3                 | 91,5       | 47,0         | 39,8        | 272,5      | 95,1       | 46,0         | 38,1        | 266,4      | 98,8       | 45,0         | 36,5        | 257,0        | 104,8        | 43,4         | 34,0        |
|                          |      | 300D  | 304,3                 | 99,2       | 51,4         | 47,5        | 298,0      | 103,1      | 50,3         | 45,5        | 291,5      | 107,3      | 49,2         | 43,6        | 281,3        | 113,9        | 47,5         | 40,6        |
|                          |      | 370D  | 362,7                 | 124,9      | 61,2         | 41,9        | 354,7      | 129,9      | 59,9         | 40,1        | 346,5      | 135,2      | 58,5         | 38,3        | 333,7        | 143,8        | 56,3         | 35,5        |
|                          | 6°C  | 150D  | 159,5                 | 51,7       | 26,9         | 46,6        | 156,0      | 53,8       | 26,3         | 44,7        | 152,5      | 56,0       | 25,8         | 42,8        | 147,0        | 59,5         | 24,8         | 40,0        |
|                          |      | 200D  | 199,5                 | 61,9       | 33,7         | 36,8        | 195,3      | 64,3       | 33,0         | 35,3        | 191,1      | 66,8       | 32,3         | 33,9        | 184,5        | 70,9         | 31,2         | 31,7        |
|                          |      | 230D  | 237,5                 | 74,5       | 40,1         | 51,3        | 232,6      | 77,5       | 39,3         | 49,3        | 227,7      | 80,8       | 38,4         | 47,3        | 219,9        | 85,9         | 37,1         | 44,3        |
|                          |      | 270D  | 287,2                 | 92,6       | 48,5         | 42,3        | 281,2      | 96,1       | 47,5         | 40,6        | 274,9      | 99,9       | 46,4         | 38,8        | 265,2        | 105,9        | 44,8         | 36,1        |
|                          |      | 300D  | 314,0                 | 100,2      | 53,0         | 50,5        | 307,5      | 104,2      | 51,9         | 48,5        | 300,9      | 108,3      | 50,8         | 46,4        | 290,4        | 115,0        | 49,0         | 43,3        |
|                          |      | 370D  | 374,1                 | 126,4      | 63,2         | 44,5        | 365,9      | 131,4      | 61,8         | 42,6        | 357,5      | 136,7      | 60,4         | 40,7        | 344,2        | 145,2        | 58,1         | 37,8        |
|                          | 7°C  | 150D  | 164,6                 | 52,0       | 27,8         | 49,4        | 161,0      | 54,2       | 27,2         | 47,4        | 157,4      | 56,4       | 26,6         | 45,4        | <b>151,8</b> | <b>59,9</b>  | <b>25,6</b>  | <b>42,5</b> |
|                          |      | 200D  | 205,7                 | 62,5       | 34,7         | 39,0        | 201,4      | 64,9       | 34,0         | 37,5        | 197,1      | 67,5       | 33,3         | 35,9        | <b>190,3</b> | <b>71,5</b>  | <b>32,1</b>  | <b>33,6</b> |
|                          |      | 230D  | 244,9                 | 75,2       | 41,3         | 54,3        | 239,9      | 78,3       | 40,5         | 52,3        | 234,8      | 81,5       | 39,6         | 50,2        | <b>226,9</b> | <b>86,7</b>  | <b>38,3</b>  | <b>47,0</b> |
|                          |      | 270D  | 296,2                 | 93,6       | 50,0         | 45,0        | 290,0      | 97,2       | 49,0         | 43,1        | 283,6      | 100,9      | 47,9         | 41,3        | <b>273,6</b> | <b>106,9</b> | <b>46,2</b>  | <b>38,5</b> |
|                          |      | 300D  | 323,9                 | 101,2      | 54,7         | 53,7        | 317,3      | 105,2      | 53,6         | 51,6        | 310,4      | 109,4      | 52,4         | 49,4        | <b>299,7</b> | <b>116,0</b> | <b>50,6</b>  | <b>46,1</b> |
|                          |      | 370D  | 385,7                 | 127,9      | 65,1         | 47,3        | 377,3      | 132,9      | 63,7         | 45,3        | 368,6      | 138,2      | 62,2         | 43,2        | <b>354,9</b> | <b>146,7</b> | <b>59,9</b>  | <b>40,1</b> |
|                          | 8°C  | 150D  | 169,8                 | 52,4       | 28,7         | 52,4        | 166,1      | 54,6       | 28,1         | 50,3        | 162,4      | 56,8       | 27,4         | 48,2        | 156,6        | 60,4         | 26,4         | 45,0        |
|                          |      | 200D  | 212,0                 | 63,2       | 35,8         | 41,3        | 207,6      | 65,6       | 35,1         | 39,7        | 203,2      | 68,1       | 34,3         | 38,1        | 196,2        | 72,2         | 33,1         | 35,6        |
|                          |      | 230D  | 252,4                 | 76,0       | 42,6         | 57,6        | 247,3      | 79,1       | 41,8         | 55,4        | 242,0      | 82,3       | 40,9         | 53,2        | 233,9        | 87,5         | 39,5         | 49,8        |
|                          |      | 270D  | 305,4                 | 94,6       | 51,6         | 47,8        | 299,0      | 98,2       | 50,5         | 45,8        | 292,5      | 101,9      | 49,4         | 43,9        | 282,2        | 107,9        | 47,7         | 40,9        |
|                          |      | 300D  | 334,0                 | 102,3      | 56,4         | 57,1        | 327,2      | 106,3      | 55,3         | 54,8        | 320,1      | 110,4      | 54,1         | 52,5        | 309,2        | 117,1        | 52,2         | 49,0        |
|                          |      | 370D  | 397,4                 | 129,4      | 67,1         | 50,2        | 388,8      | 134,4      | 65,7         | 48,0        | 379,8      | 139,7      | 64,1         | 45,9        | 365,8        | 148,2        | 61,8         | 42,6        |
| 9°C                      | 150D | 175,1 | 52,8                  | 29,6       | 55,4         | 171,3       | 54,9       | 28,9       | 53,2         | 167,5       | 57,2       | 28,3       | 51,0         | 161,5       | 60,8         | 27,3         | 47,7         |             |
|                          | 200D | 218,4 | 63,8                  | 36,9       | 43,7         | 213,9       | 66,3       | 36,1       | 42,0         | 209,3       | 68,8       | 35,4       | 40,3         | 202,2       | 72,9         | 34,2         | 37,8         |             |
|                          | 230D | 260,0 | 76,8                  | 43,9       | 60,9         | 254,8       | 79,9       | 43,0       | 58,6         | 249,4       | 83,1       | 42,1       | 56,3         | 241,1       | 88,3         | 40,7         | 52,8         |             |
|                          | 270D | 314,8 | 95,7                  | 53,2       | 50,7         | 308,2       | 99,2       | 52,0       | 48,7         | 301,5       | 103,0      | 50,9       | 46,6         | 290,9       | 109,0        | 49,1         | 43,4         |             |
|                          | 300D | 344,3 | 103,3                 | 58,1       | 60,6         | 337,3       | 107,3      | 57,0       | 58,2         | 330,0       | 111,5      | 55,7       | 55,7         | 318,8       | 118,2        | 53,8         | 52,0         |             |
|                          | 370D | 409,4 | 130,9                 | 69,1       | 53,2         | 400,5       | 136,0      | 67,6       | 50,9         | 391,3       | 141,3      | 66,1       | 48,7         | 376,9       | 149,8        | 63,6         | 45,2         |             |
| 10°C                     | 150D | 180,5 | 53,1                  | 30,5       | 58,7         | 176,6       | 55,3       | 29,8       | 56,3         | 172,6       | 57,6       | 29,1       | 54,0         | 166,5       | 61,2         | 28,1         | 50,5         |             |
|                          | 200D | 225,0 | 64,5                  | 38,0       | 46,3         | 220,4       | 66,9       | 37,2       | 44,5         | 215,7       | 69,5       | 36,4       | 42,7         | 208,4       | 73,6         | 35,2         | 40,0         |             |
|                          | 230D | 267,8 | 77,6                  | 45,2       | 64,5         | 262,4       | 80,7       | 44,3       | 62,0         | 256,9       | 83,9       | 43,4       | 59,6         | 248,4       | 89,1         | 41,9         | 55,8         |             |
|                          | 270D | 324,3 | 96,7                  | 54,8       | 53,8         | 317,5       | 100,2      | 53,6       | 51,6         | 310,6       | 104,0      | 52,5       | 49,4         | 299,8       | 110,0        | 50,6         | 46,1         |             |
|                          | 300D | 354,7 | 104,4                 | 59,9       | 64,3         | 347,5       | 108,4      | 58,7       | 61,7         | 340,1       | 112,6      | 57,4       | 59,1         | 328,5       | 119,3        | 55,5         | 55,2         |             |
|                          | 370D | 421,5 | 132,4                 | 71,2       | 56,4         | 412,3       | 137,5      | 69,6       | 54,0         | 402,9       | 142,8      | 68,0       | 51,6         | 388,1       | 151,3        | 65,5         | 47,9         |             |
| 11°C                     | 150D | 185,9 | 53,5                  | 31,4       | 62,0         | 181,9       | 55,7       | 30,7       | 59,5         | 177,8       | 58,0       | 30,0       | 57,1         | 171,5       | 61,7         | 29,0         | 53,3         |             |
|                          | 200D | 231,6 | 65,2                  | 39,1       | 48,9         | 226,9       | 67,6       | 38,3       | 47,0         | 222,1       | 70,2       | 37,5       | 45,1         | 214,6       | 74,3         | 36,2         | 42,3         |             |
|                          | 230D | 275,7 | 78,4                  | 46,6       | 68,1         | 270,2       | 81,5       | 45,6       | 65,6         | 264,5       | 84,8       | 44,7       | 63,0         | 255,8       | 90,0         | 43,2         | 59,1         |             |
|                          | 270D | 334,0 | 97,7                  | 56,4       | 57,1         | 327,0       | 101,3      | 55,2       | 54,7         | 319,9       | 105,0      | 54,0       | 52,4         | 308,9       | 111,0        | 52,2         | 48,9         |             |
|                          | 300D | 365,3 | 105,4                 | 61,7       | 68,2         | 357,9       | 109,5      | 60,4       | 65,5         | 350,3       | 113,7      | 59,2       | 62,7         | 338,5       | 120,4        | 57,2         | 58,6         |             |
|                          | 370D | 433,7 | 133,9                 | 73,2       | 59,7         | 424,3       | 139,0      | 71,7       | 57,1         | 414,6       | 144,4      | 70,0       | 54,6         | 399,5       | 152,9        | 67,5         | 50,7         |             |
| 12°C                     | 150D | 191,4 | 53,9                  | 32,3       | 65,5         | 187,3       | 56,2       | 31,6       | 62,9         | 183,1       | 58,5       | 30,9       | 60,3         | 176,6       | 62,1         | 29,8         | 56,3         |             |
|                          | 200D | 238,4 | 65,9                  | 40,3       | 51,6         | 233,5       | 68,3       | 39,4       | 49,7         | 228,6       | 70,9       | 38,6       | 47,7         | 221,0       | 75,1         | 37,3         | 44,7         |             |
|                          | 230D | 283,7 | 79,2                  | 47,9       | 71,9         | 278,0       | 82,3       | 47,0       | 69,2         | 272,3       | 85,6       | 46,0       | 66,5         | 263,3       | 90,9         | 44,5         | 62,4         |             |
|                          | 270D | 343,8 | 98,6                  | 58,1       | 60,4         | 336,7       | 102,3      | 56,9       | 58,0         | 329,4       | 106,0      | 55,6       | 55,5         | 318,0       | 112,1        | 53,7         | 51,8         |             |
|                          | 300D | 376,1 | 106,5                 | 63,5       | 72,2         | 368,5       | 110,6      | 62,2       | 69,3         | 360,7       | 114,8      | 60,9       | 66,5         | 348,6       | 121,6        | 58,9         | 62,1         |             |
|                          | 370D | 446,1 | 135,5                 | 75,3       | 63,1         | 436,5       | 140,6      | 73,7       | 60,4         | 426,6       | 146,0      | 72,0       | 57,7         | 411,1       | 154,5        | 69,4         | 53,7         |             |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Pc :</b><br>Net cooling capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in KPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|

wa - ek - dk

HIGH EFFICIENCY

CLIMATIC™ 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |         |           |          |      |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|------|
|                          |      | 38°C                  |         |           |          | 40°C    |         |           |          | 43°C    |         |           |          | 46°C    |         |           |          |      |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) |      |
| Water outlet temperature | 5°C  | 150D                  | 136,9   | 62,8      | 23,1     | 35,0    | 133,2   | 65,3      | 22,5     | 33,3    | 127,3   | 69,3      | 21,5     | 30,6    | 71,9    | 34,3      | 12,1     | 10,5 |
|                          |      | 200D                  | 172,1   | 74,6      | 29,1     | 27,8    | 167,5   | 77,7      | 28,3     | 26,4    | 160,2   | 82,7      | 27,1     | 24,2    | 113,6   | 56,0      | 19,2     | 12,6 |
|                          |      | 230D                  | 205,2   | 90,7      | 34,7     | 38,8    | 199,7   | 94,7      | 33,7     | 36,9    | 191,1   | 101,0     | 32,3     | 33,9    | 136,7   | 68,0      | 23,1     | 17,9 |
|                          |      | 270D                  | 246,9   | 111,4     | 41,7     | 31,4    | 239,9   | 116,1     | 40,5     | 29,6    | 228,7   | 123,7     | 38,6     | 27,0    | 139,9   | 67,7      | 23,6     | 10,2 |
|                          |      | 300D                  | 270,6   | 121,1     | 45,7     | 37,6    | 263,0   | 126,3     | 44,4     | 35,6    | 251,0   | 134,7     | 42,4     | 32,4    | 142,6   | 66,7      | 24,1     | 10,6 |
|                          |      | 370D                  | 320,0   | 153,0     | 54,0     | 32,7    | 310,4   | 159,7     | 52,4     | 30,8    | 224,1   | 105,5     | 37,9     | 16,1    | 213,3   | 112,3     | 36,0     | 14,6 |
|                          | 6°C  | 150D                  | 141,4   | 63,2      | 23,9     | 37,2    | 137,5   | 65,8      | 23,2     | 35,3    | 131,5   | 69,8      | 22,2     | 32,5    | 74,4    | 34,4      | 12,6     | 11,2 |
|                          |      | 200D                  | 177,6   | 75,2      | 30,0     | 29,5    | 172,9   | 78,3      | 29,2     | 28,0    | 165,4   | 83,3      | 27,9     | 25,7    | 117,5   | 56,4      | 19,8     | 13,4 |
|                          |      | 230D                  | 211,8   | 91,5      | 35,8     | 41,2    | 206,2   | 95,4      | 34,8     | 39,2    | 197,3   | 101,8     | 33,3     | 36,0    | 141,3   | 68,4      | 23,9     | 19,1 |
|                          |      | 270D                  | 254,9   | 112,4     | 43,1     | 33,4    | 247,7   | 117,1     | 41,8     | 31,6    | 236,3   | 124,6     | 39,9     | 28,8    | 144,8   | 68,0      | 24,4     | 10,9 |
|                          |      | 300D                  | 279,4   | 122,2     | 47,2     | 40,1    | 271,7   | 127,4     | 45,9     | 37,9    | 259,4   | 135,7     | 43,8     | 34,6    | 147,6   | 67,1      | 24,9     | 11,3 |
|                          |      | 370D                  | 330,2   | 154,5     | 55,8     | 34,8    | 320,3   | 161,1     | 54,1     | 32,7    | 231,6   | 106,2     | 39,1     | 17,2    | 220,4   | 113,0     | 37,2     | 15,6 |
|                          | 7°C  | 150D                  | 146,0   | 63,7      | 24,6     | 39,5    | 141,9   | 66,3      | 24,0     | 37,5    | 135,7   | 70,3      | 22,9     | 34,4    | 76,9    | 34,5      | 13,0     | 11,9 |
|                          |      | 200D                  | 183,3   | 75,9      | 30,9     | 31,3    | 178,4   | 79,0      | 30,1     | 29,7    | 170,7   | 84,0      | 28,8     | 27,3    | 121,5   | 56,7      | 20,5     | 14,3 |
|                          |      | 230D                  | 218,6   | 92,3      | 36,9     | 43,8    | 212,8   | 96,2      | 35,9     | 41,6    | 203,7   | 102,6     | 34,4     | 38,3    | 146,1   | 68,8      | 24,7     | 20,3 |
|                          |      | 270D                  | 263,1   | 113,4     | 44,4     | 35,6    | 255,7   | 118,1     | 43,2     | 33,6    | 244,0   | 125,6     | 41,2     | 30,6    | 149,8   | 68,4      | 25,3     | 11,7 |
|                          |      | 300D                  | 288,4   | 123,3     | 48,7     | 42,7    | 280,5   | 128,4     | 47,4     | 40,4    | 268,0   | 136,8     | 45,3     | 36,9    | 152,7   | 67,4      | 25,8     | 12,1 |
|                          |      | 370D                  | 340,5   | 155,9     | 57,5     | 37,0    | 330,3   | 162,5     | 55,8     | 34,8    | 239,2   | 107,0     | 40,4     | 18,4    | 227,8   | 113,7     | 38,5     | 16,7 |
|                          | 8°C  | 150D                  | 150,6   | 64,1      | 25,4     | 41,8    | 146,5   | 66,7      | 24,7     | 39,7    | 140,0   | 70,8      | 23,6     | 36,5    | 79,6    | 34,7      | 13,4     | 12,7 |
|                          |      | 200D                  | 189,0   | 76,6      | 31,9     | 33,2    | 184,0   | 79,7      | 31,1     | 31,5    | 176,2   | 84,7      | 29,7     | 29,0    | 125,5   | 57,1      | 21,2     | 15,2 |
|                          |      | 230D                  | 225,4   | 93,1      | 38,1     | 46,4    | 219,5   | 97,1      | 37,1     | 44,1    | 210,2   | 103,4     | 35,5     | 40,7    | 151,0   | 69,2      | 25,5     | 21,6 |
|                          |      | 270D                  | 271,4   | 114,4     | 45,8     | 37,8    | 263,8   | 119,1     | 44,6     | 35,8    | 161,9   | 65,0      | 27,3     | 13,6    | 154,9   | 68,7      | 26,2     | 12,5 |
|                          |      | 300D                  | 297,6   | 124,3     | 50,3     | 45,4    | 289,5   | 129,5     | 48,9     | 43,0    | 276,7   | 137,8     | 46,7     | 39,3    | 157,9   | 67,8      | 26,7     | 12,9 |
|                          |      | 370D                  | 351,0   | 157,4     | 59,3     | 39,2    | 340,6   | 163,9     | 57,5     | 37,0    | 247,0   | 107,7     | 41,7     | 19,6    | 235,3   | 114,5     | 39,7     | 17,8 |
| 9°C                      | 150D | 155,3                 | 64,6    | 26,2      | 44,3     | 151,0   | 67,2    | 25,5      | 42,1     | 86,0    | 32,8    | 14,5      | 14,7     | 82,3    | 34,8    | 13,9      | 13,5     |      |
|                          | 200D | 194,8                 | 77,3    | 32,9      | 35,2     | 189,7   | 80,4    | 32,0      | 33,4     | 181,7   | 85,4    | 30,7      | 30,8     | 129,7   | 57,4    | 21,9      | 16,2     |      |
|                          | 230D | 232,4                 | 93,9    | 39,2      | 49,2     | 226,3   | 97,9    | 38,2      | 46,8     | 216,9   | 104,2   | 36,6      | 43,1     | 156,0   | 69,6    | 26,3      | 23,0     |      |
|                          | 270D | 279,8                 | 115,4   | 47,3      | 40,2     | 272,1   | 120,1   | 45,9      | 38,0     | 167,3   | 65,3    | 28,3      | 14,5     | 160,2   | 69,1    | 27,0      | 13,3     |      |
|                          | 300D | 306,9                 | 125,4   | 51,8      | 48,3     | 298,7   | 130,6   | 50,4      | 45,7     | 285,6   | 138,9   | 48,2      | 41,9     | 163,3   | 68,1    | 27,6      | 13,8     |      |
|                          | 370D | 361,7                 | 158,9   | 61,1      | 41,6     | 351,0   | 165,4   | 59,3      | 39,2     | 255,0   | 108,5   | 43,1      | 20,8     | 243,0   | 115,2   | 41,0      | 18,9     |      |
| 10°C                     | 150D | 160,1                 | 65,0    | 27,0      | 46,9     | 155,7   | 67,7    | 26,3      | 44,5     | 88,9    | 32,9    | 15,0      | 15,6     | 85,0    | 34,9    | 14,4      | 14,4     |      |
|                          | 200D | 200,8                 | 78,0    | 33,9      | 37,2     | 195,5   | 81,2    | 33,0      | 35,4     | 140,0   | 54,4    | 23,6      | 18,7     | 134,0   | 57,8    | 22,6      | 17,2     |      |
|                          | 230D | 239,5                 | 94,8    | 40,4      | 52,1     | 233,3   | 98,7    | 39,4      | 49,6     | 168,3   | 65,8    | 28,4      | 26,6     | 161,1   | 70,0    | 27,2      | 24,5     |      |
|                          | 270D | 288,4                 | 116,5   | 48,7      | 42,7     | 280,5   | 121,1   | 47,4      | 40,4     | 172,9   | 65,7    | 29,2      | 15,5     | 165,6   | 69,5    | 28,0      | 14,2     |      |
|                          | 300D | 316,4                 | 126,6   | 53,4      | 51,3     | 308,0   | 131,7   | 52,0      | 48,6     | 176,1   | 64,7    | 29,7      | 16,1     | 168,8   | 68,5    | 28,5      | 14,8     |      |
|                          | 370D | 372,5                 | 160,5   | 62,9      | 44,2     | 274,8   | 103,1   | 46,4      | 24,2     | 263,2   | 109,3   | 44,5      | 22,2     | 250,9   | 116,0   | 42,4      | 20,2     |      |
| 11°C                     | 150D | 164,9                 | 65,5    | 27,9      | 49,6     | 160,4   | 68,2    | 27,1      | 47,1     | 91,8    | 33,0    | 15,5      | 16,6     | 87,9    | 35,1    | 14,8      | 15,3     |      |
|                          | 200D | 206,8                 | 78,8    | 34,9      | 39,4     | 201,5   | 81,9    | 34,0      | 37,5     | 144,5   | 54,8    | 24,4      | 19,9     | 138,4   | 58,2    | 23,4      | 18,3     |      |
|                          | 230D | 246,7                 | 95,6    | 41,7      | 55,1     | 240,4   | 99,6    | 40,6      | 52,5     | 173,7   | 66,3    | 29,3      | 28,2     | 166,4   | 70,5    | 28,1      | 26,0     |      |
|                          | 270D | 297,2                 | 117,5   | 50,2      | 45,3     | 289,1   | 122,2   | 48,8      | 42,9     | 178,6   | 66,1    | 30,2      | 16,5     | 171,1   | 69,9    | 28,9      | 15,2     |      |
|                          | 300D | 326,1                 | 127,7   | 55,1      | 54,4     | 317,5   | 132,8   | 53,6      | 51,6     | 181,9   | 65,1    | 30,7      | 17,1     | 174,5   | 68,9    | 29,5      | 15,8     |      |
|                          | 370D | 383,6                 | 162,0   | 64,8      | 46,8     | 283,5   | 103,9   | 47,9      | 25,7     | 271,6   | 110,1   | 45,9      | 23,6     | 259,1   | 116,8   | 43,7      | 21,5     |      |
| 12°C                     | 150D | 169,8                 | 66,0    | 28,7      | 52,4     | 165,2   | 68,6    | 27,9      | 49,7     | 94,8    | 33,2    | 16,0      | 17,6     | 90,7    | 35,2    | 15,3      | 16,2     |      |
|                          | 200D | 213,0                 | 79,5    | 36,0      | 41,7     | 207,6   | 82,7    | 35,1      | 39,7     | 149,2   | 55,2    | 25,2      | 21,1     | 142,9   | 58,6    | 24,1      | 19,5     |      |
|                          | 230D | 254,0                 | 96,5    | 42,9      | 58,3     | 247,5   | 100,5   | 41,8      | 55,5     | 179,2   | 66,7    | 30,3      | 30,0     | 171,8   | 70,9    | 29,0      | 27,7     |      |
|                          | 270D | 306,1                 | 118,6   | 51,7      | 48,0     | 297,8   | 123,2   | 50,3      | 45,5     | 184,4   | 66,5    | 31,1      | 17,6     | 176,7   | 70,3    | 29,8      | 16,2     |      |
|                          | 300D | 335,9                 | 128,8   | 56,7      | 57,7     | 327,1   | 134,0   | 55,2      | 54,8     | 187,9   | 65,5    | 31,7      | 18,3     | 180,3   | 69,3    | 30,4      | 16,8     |      |
|                          | 370D | 394,8                 | 163,6   | 66,7      | 49,5     | 292,3   | 104,8   | 49,4      | 27,3     | 280,2   | 111,0   | 47,3      | 25,1     | 267,4   | 117,7   | 45,2      | 22,9     |      |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Pc :</b><br>Net cooling capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in kPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|

wa - ek - dk

super low noise

CLIMATIC™ 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |              |              |             |             |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|--------------|--------------|-------------|-------------|
|                          |      | 28°C                  |         |           |          | 30°C    |         |           |          | 32°C    |         |           |          | 35°C    |              |              |             |             |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW)      | Wf (m³/h)    | Dp (kPa)    |             |
| Water outlet temperature | 5°C  | 150D                  | 150,6   | 51,5      | 25,4     | 41,9    | 147,2   | 53,7      | 24,9     | 40,1    | 143,7   | 56,0      | 24,3     | 38,4    | 138,4        | 59,6         | 23,4        | 35,7        |
|                          |      | 200D                  | 189,3   | 60,3      | 32,0     | 33,3    | 185,2   | 62,8      | 31,3     | 31,9    | 181,0   | 65,4      | 30,6     | 30,6    | 174,5        | 69,6         | 29,5        | 28,5        |
|                          |      | 230D                  | 224,4   | 74,2      | 37,9     | 46,0    | 219,6   | 77,4      | 37,1     | 44,1    | 214,6   | 80,8      | 36,2     | 42,3    | 206,8        | 86,2         | 34,9        | 39,4        |
|                          |      | 270D                  | 274,2   | 89,5      | 46,3     | 38,6    | 268,3   | 93,2      | 45,3     | 37,0    | 262,1   | 97,1      | 44,3     | 35,3    | 252,3        | 103,4        | 42,6        | 32,7        |
|                          |      | 300D                  | 297,3   | 99,1      | 50,2     | 45,3    | 290,8   | 103,2     | 49,1     | 43,4    | 284,1   | 107,6     | 48,0     | 41,4    | 273,6        | 114,6        | 46,2        | 38,5        |
|                          |      | 370D                  | 351,9   | 127,3     | 59,4     | 39,4    | 343,7   | 132,6     | 58,0     | 37,6    | 335,2   | 138,2     | 56,6     | 35,8    | 321,9        | 147,3        | 54,4        | 33,1        |
|                          | 6°C  | 150D                  | 155,4   | 51,9      | 26,2     | 44,4    | 151,9   | 54,2      | 25,7     | 42,5    | 148,3   | 56,5      | 25,1     | 40,7    | 142,8        | 60,1         | 24,1        | 37,9        |
|                          |      | 200D                  | 195,2   | 61,0      | 33,0     | 35,3    | 191,0   | 63,5      | 32,3     | 33,9    | 186,7   | 66,2      | 31,5     | 32,4    | 180,0        | 70,4         | 30,4        | 30,2        |
|                          |      | 230D                  | 231,3   | 75,0      | 39,1     | 48,8    | 226,4   | 78,3      | 38,2     | 46,8    | 221,3   | 81,7      | 37,4     | 44,8    | 213,3        | 87,1         | 36,0        | 41,8        |
|                          |      | 270D                  | 282,9   | 90,6      | 47,8     | 41,1    | 276,7   | 94,3      | 46,7     | 39,3    | 270,4   | 98,2      | 45,7     | 37,5    | 260,3        | 104,5        | 44,0        | 34,8        |
|                          |      | 300D                  | 306,6   | 100,3     | 51,8     | 48,2    | 300,0   | 104,4     | 50,7     | 46,1    | 293,1   | 108,8     | 49,5     | 44,1    | 282,4        | 115,8        | 47,7        | 40,9        |
|                          |      | 370D                  | 362,7   | 129,0     | 61,2     | 41,9    | 354,2   | 134,3     | 59,8     | 40,0    | 345,5   | 139,9     | 58,3     | 38,0    | 331,8        | 148,9        | 56,0        | 35,1        |
|                          | 7°C  | 150D                  | 160,3   | 52,4      | 27,1     | 47,0    | 156,7   | 54,6      | 26,5     | 45,1    | 153,0   | 56,9      | 25,8     | 43,1    | <b>147,3</b> | <b>60,6</b>  | <b>24,9</b> | <b>40,2</b> |
|                          |      | 200D                  | 201,2   | 61,7      | 34,0     | 37,4    | 196,8   | 64,2      | 33,2     | 35,9    | 192,4   | 66,9      | 32,5     | 34,3    | <b>185,5</b> | <b>71,1</b>  | <b>31,3</b> | <b>32,0</b> |
|                          |      | 230D                  | 238,4   | 75,9      | 40,3     | 51,6    | 233,3   | 79,1      | 39,4     | 49,6    | 228,1   | 82,6      | 38,5     | 47,5    | <b>219,9</b> | <b>88,0</b>  | <b>37,1</b> | <b>44,3</b> |
|                          |      | 270D                  | 291,7   | 91,7      | 49,3     | 43,6    | 285,3   | 95,4      | 48,2     | 41,8    | 278,8   | 99,3      | 47,1     | 39,9    | <b>268,5</b> | <b>105,6</b> | <b>45,3</b> | <b>37,0</b> |
|                          |      | 300D                  | 316,1   | 101,4     | 53,4     | 51,2    | 309,3   | 105,6     | 52,2     | 49,0    | 302,3   | 109,9     | 51,0     | 46,8    | <b>291,2</b> | <b>117,0</b> | <b>49,2</b> | <b>43,5</b> |
|                          |      | 370D                  | 373,6   | 130,7     | 63,1     | 44,4    | 364,9   | 136,0     | 61,6     | 42,4    | 356,0   | 141,6     | 60,1     | 40,4    | <b>341,9</b> | <b>150,6</b> | <b>57,7</b> | <b>37,3</b> |
|                          | 8°C  | 150D                  | 165,3   | 52,8      | 27,9     | 49,8    | 161,6   | 55,1      | 27,3     | 47,7    | 157,8   | 57,4      | 26,6     | 45,6    | 151,9        | 61,1         | 25,6        | 42,5        |
|                          |      | 200D                  | 207,3   | 62,4      | 35,0     | 39,6    | 202,8   | 65,0      | 34,2     | 38,0    | 198,2   | 67,6      | 33,5     | 36,3    | 191,2        | 71,9         | 32,3        | 33,9        |
|                          |      | 230D                  | 245,6   | 76,8      | 41,5     | 54,6    | 240,3   | 80,0      | 40,6     | 52,4    | 235,0   | 83,5      | 39,7     | 50,2    | 226,6        | 88,9         | 38,3        | 46,9        |
|                          |      | 270D                  | 300,6   | 92,8      | 50,8     | 46,3    | 294,1   | 96,5      | 49,7     | 44,4    | 287,4   | 100,4     | 48,5     | 42,4    | 276,8        | 106,7        | 46,7        | 39,3        |
|                          |      | 300D                  | 325,8   | 102,6     | 55,0     | 54,3    | 318,8   | 106,8     | 53,8     | 52,0    | 311,5   | 111,2     | 52,6     | 49,7    | 300,2        | 118,2        | 50,7        | 46,2        |
|                          |      | 370D                  | 384,7   | 132,4     | 65,0     | 47,0    | 375,8   | 137,7     | 63,5     | 44,9    | 366,6   | 143,3     | 61,9     | 42,8    | 352,1        | 152,2        | 59,5        | 39,5        |
| 9°C                      | 150D | 170,3                 | 53,3    | 28,8      | 52,7     | 166,5   | 55,5    | 28,1      | 50,5     | 162,6   | 57,9    | 27,5      | 48,3     | 156,5   | 61,6         | 26,4         | 45,0        |             |
|                          | 200D | 213,4                 | 63,2    | 36,0      | 41,8     | 208,9   | 65,7    | 35,3      | 40,1     | 204,2   | 68,4    | 34,5      | 38,5     | 196,9   | 72,7         | 33,3         | 35,9        |             |
|                          | 230D | 252,8                 | 77,7    | 42,7      | 57,8     | 247,5   | 80,9    | 41,8      | 55,5     | 242,0   | 84,4    | 40,9      | 53,1     | 233,4   | 89,9         | 39,4         | 49,6        |             |
|                          | 270D | 309,7                 | 93,9    | 52,3      | 49,2     | 303,0   | 97,6    | 51,2      | 47,1     | 296,1   | 101,5   | 50,0      | 45,0     | 285,2   | 107,8        | 48,2         | 41,8        |             |
|                          | 300D | 335,6                 | 103,8   | 56,7      | 57,6     | 328,4   | 108,0   | 55,5      | 55,2     | 321,0   | 112,4   | 54,2      | 52,8     | 309,4   | 119,4        | 52,3         | 49,1        |             |
|                          | 370D | 395,9                 | 134,1   | 66,9      | 49,8     | 386,7   | 139,5   | 65,3      | 47,5     | 377,3   | 145,1   | 63,7      | 45,3     | 362,5   | 154,0        | 61,2         | 41,8        |             |
| 10°C                     | 150D | 175,4                 | 53,8    | 29,6      | 55,6     | 171,5   | 56,0    | 29,0      | 53,3     | 167,5   | 58,4    | 28,3      | 51,0     | 161,2   | 62,1         | 27,2         | 47,5        |             |
|                          | 200D | 219,7                 | 63,9    | 37,1      | 44,2     | 215,0   | 66,5    | 36,3      | 42,4     | 210,2   | 69,2    | 35,5      | 40,6     | 202,8   | 73,5         | 34,2         | 38,0        |             |
|                          | 230D | 260,2                 | 78,6    | 43,9      | 61,0     | 254,7   | 81,9    | 43,0      | 58,6     | 249,1   | 85,3    | 42,1      | 56,2     | 240,3   | 90,8         | 40,6         | 52,5        |             |
|                          | 270D | 319,0                 | 95,0    | 53,9      | 52,1     | 312,1   | 98,7    | 52,7      | 49,9     | 305,0   | 102,6   | 51,5      | 47,7     | 293,8   | 108,9        | 49,6         | 44,3        |             |
|                          | 300D | 345,5                 | 105,0   | 58,4      | 61,0     | 338,2   | 109,2   | 57,1      | 58,5     | 330,6   | 113,6   | 55,8      | 55,9     | 318,7   | 120,7        | 53,8         | 52,0        |             |
|                          | 370D | 407,2                 | 135,9   | 68,8      | 52,7     | 397,8   | 141,2   | 67,2      | 50,3     | 388,2   | 146,8   | 65,5      | 47,9     | 373,0   | 155,7        | 63,0         | 44,3        |             |
| 11°C                     | 150D | 180,6                 | 54,2    | 30,5      | 58,7     | 176,5   | 56,5    | 29,8      | 56,3     | 172,4   | 58,9    | 29,1      | 53,9     | 166,0   | 62,6         | 28,0         | 50,2        |             |
|                          | 200D | 226,1                 | 64,7    | 38,2      | 46,7     | 221,3   | 67,3    | 37,4      | 44,8     | 216,4   | 70,0    | 36,5      | 42,9     | 208,8   | 74,3         | 35,3         | 40,1        |             |
|                          | 230D | 267,7                 | 79,5    | 45,2      | 64,4     | 262,1   | 82,8    | 44,3      | 61,9     | 256,3   | 86,3    | 43,3      | 59,3     | 247,4   | 91,8         | 41,8         | 55,4        |             |
|                          | 270D | 328,4                 | 96,1    | 55,5      | 55,2     | 321,3   | 99,8    | 54,3      | 52,9     | 314,0   | 103,7   | 53,0      | 50,5     | 302,5   | 110,0        | 51,1         | 46,9        |             |
|                          | 300D | 355,6                 | 106,3   | 60,1      | 64,6     | 348,1   | 110,5   | 58,8      | 61,9     | 340,3   | 114,9   | 57,5      | 59,2     | 328,2   | 122,0        | 55,4         | 55,1        |             |
|                          | 370D | 418,7                 | 137,6   | 70,7      | 55,7     | 409,1   | 143,0   | 69,1      | 53,2     | 399,2   | 148,6   | 67,4      | 50,6     | 383,7   | 157,5        | 64,8         | 46,8        |             |
| 12°C                     | 150D | 185,8                 | 54,7    | 31,4      | 62,0     | 181,7   | 57,0    | 30,7      | 59,4     | 177,4   | 59,4    | 30,0      | 56,8     | 170,8   | 63,2         | 28,8         | 52,9        |             |
|                          | 200D | 232,6                 | 65,5    | 39,3      | 49,3     | 227,7   | 68,1    | 38,4      | 47,3     | 222,6   | 70,8    | 37,6      | 45,3     | 214,8   | 75,1         | 36,3         | 42,4        |             |
|                          | 230D | 275,3                 | 80,5    | 46,5      | 68,0     | 269,6   | 83,8    | 45,5      | 65,3     | 263,7   | 87,3    | 44,5      | 62,6     | 254,5   | 92,8         | 43,0         | 58,5        |             |
|                          | 270D | 338,0                 | 97,1    | 57,1      | 58,4     | 330,7   | 100,9   | 55,8      | 56,0     | 323,2   | 104,8   | 54,6      | 53,5     | 311,4   | 111,2        | 52,6         | 49,7        |             |
|                          | 300D | 365,9                 | 107,5   | 61,8      | 68,4     | 358,2   | 111,8   | 60,5      | 65,5     | 350,2   | 116,2   | 59,1      | 62,7     | 337,8   | 123,2        | 57,1         | 58,4        |             |
|                          | 370D | 430,4                 | 139,4   | 72,7      | 58,8     | 420,5   | 144,8   | 71,0      | 56,1     | 410,4   | 150,4   | 69,3      | 53,5     | 394,6   | 159,3        | 66,6         | 49,5        |             |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Pc :</b><br>Net cooling capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in kPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|

wa - ek - dk

super low noise

CLIMATIC™ 50

| WA                       |      | Air inlet temperature |         |           |          |         |         |           |          |         |         |           |          |         |         |           |          |      |
|--------------------------|------|-----------------------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|---------|---------|-----------|----------|------|
|                          |      | 38°C                  |         |           |          | 40°C    |         |           |          | 43°C    |         |           |          | 46°C    |         |           |          |      |
|                          |      | Pc (kW)               | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) | Pc (kW) | Pe (kW) | Wf (m³/h) | Dp (kPa) |      |
| Water outlet temperature | 5°C  | 150D                  | 132,8   | 63,3      | 22,4     | 33,1    | 129,0   | 65,9      | 21,8     | 31,3    | 73,9    | 30,8      | 12,5     | 11,1    | 70,6    | 32,8      | 11,9     | 10,2 |
|                          |      | 200D                  | 167,6   | 74,2      | 28,3     | 26,4    | 162,9   | 77,5      | 27,5     | 25,0    | 116,7   | 50,8      | 19,7     | 13,2    | 111,3   | 54,2      | 18,8     | 12,1 |
|                          |      | 230D                  | 198,6   | 92,1      | 33,5     | 36,5    | 192,9   | 96,2      | 32,6     | 34,5    | 139,6   | 62,7      | 23,6     | 18,6    | 133,1   | 67,1      | 22,5     | 17,0 |
|                          |      | 270D                  | 241,9   | 110,2     | 40,9     | 30,1    | 234,6   | 115,2     | 39,6     | 28,4    | 144,7   | 60,3      | 24,4     | 10,9    | 138,1   | 64,2      | 23,3     | 9,9  |
|                          |      | 300D                  | 262,5   | 122,2     | 44,3     | 35,4    | 254,6   | 127,7     | 43,0     | 33,3    | 146,6   | 59,8      | 24,8     | 11,2    | 140,1   | 63,7      | 23,7     | 10,2 |
|                          |      | 370D                  | 307,7   | 157,1     | 52,0     | 30,2    | 228,2   | 98,5      | 38,5     | 16,7    | 217,7   | 105,0     | 36,8     | 15,2    | 206,4   | 112,2     | 34,9     | 13,7 |
|                          | 6°C  | 150D                  | 137,1   | 63,9      | 23,1     | 35,1    | 133,1   | 66,5      | 22,5     | 33,2    | 76,4    | 31,0      | 12,9     | 11,8    | 73,0    | 32,9      | 12,3     | 10,8 |
|                          |      | 200D                  | 172,9   | 74,9      | 29,2     | 28,0    | 168,0   | 78,2      | 28,4     | 26,5    | 120,5   | 51,1      | 20,4     | 14,1    | 115,0   | 54,6      | 19,4     | 12,9 |
|                          |      | 230D                  | 204,9   | 93,0      | 34,6     | 38,7    | 199,1   | 97,1      | 33,6     | 36,6    | 144,2   | 63,2      | 24,3     | 19,8    | 137,6   | 67,5      | 23,2     | 18,1 |
|                          |      | 270D                  | 249,7   | 111,3     | 42,2     | 32,1    | 242,2   | 116,2     | 40,9     | 30,2    | 149,7   | 60,7      | 25,3     | 11,6    | 142,9   | 64,6      | 24,1     | 10,6 |
|                          |      | 300D                  | 270,9   | 123,4     | 45,8     | 37,7    | 262,9   | 128,9     | 44,4     | 35,5    | 151,6   | 60,2      | 25,6     | 11,9    | 145,0   | 64,1      | 24,5     | 10,9 |
|                          |      | 370D                  | 317,2   | 158,6     | 53,6     | 32,1    | 235,6   | 99,3      | 39,8     | 17,8    | 224,8   | 105,9     | 38,0     | 16,2    | 213,2   | 113,0     | 36,0     | 14,6 |
|                          | 7°C  | 150D                  | 141,4   | 64,4      | 23,9     | 37,2    | 137,3   | 67,0      | 23,2     | 35,2    | 79,0    | 31,1      | 13,3     | 12,5    | 75,5    | 33,1      | 12,8     | 11,5 |
|                          |      | 200D                  | 178,3   | 75,7      | 30,1     | 29,7    | 173,3   | 79,0      | 29,3     | 28,1    | 124,5   | 51,5      | 21,0     | 15,0    | 118,9   | 54,9      | 20,1     | 13,7 |
|                          |      | 230D                  | 211,3   | 93,9      | 35,7     | 41,1    | 205,4   | 98,1      | 34,7     | 38,9    | 148,9   | 63,6      | 25,2     | 21,1    | 142,1   | 68,0      | 24,0     | 19,3 |
|                          |      | 270D                  | 257,6   | 112,4     | 43,5     | 34,1    | 249,8   | 117,3     | 42,2     | 32,1    | 154,7   | 61,1      | 26,1     | 12,4    | 147,8   | 65,0      | 25,0     | 11,4 |
|                          |      | 300D                  | 279,5   | 124,6     | 47,2     | 40,1    | 271,3   | 130,0     | 45,8     | 37,8    | 156,8   | 60,6      | 26,5     | 12,8    | 149,9   | 64,5      | 25,3     | 11,7 |
|                          |      | 370D                  | 326,9   | 160,2     | 55,2     | 34,1    | 243,2   | 100,2     | 41,1     | 19,0    | 232,1   | 106,7     | 39,2     | 17,3    | 220,2   | 113,8     | 37,2     | 15,6 |
|                          | 8°C  | 150D                  | 145,8   | 64,9      | 24,6     | 39,4    | 141,6   | 67,6      | 23,9     | 37,3    | 81,7    | 31,3      | 13,8     | 13,3    | 78,0    | 33,3      | 13,2     | 12,3 |
|                          |      | 200D                  | 183,8   | 76,5      | 31,0     | 31,5    | 178,6   | 79,8      | 30,2     | 29,8    | 128,6   | 51,9      | 21,7     | 15,9    | 122,8   | 55,3      | 20,7     | 14,6 |
|                          |      | 230D                  | 217,8   | 94,8      | 36,8     | 43,5    | 211,7   | 99,0      | 35,8     | 41,2    | 153,8   | 64,1      | 26,0     | 22,4    | 146,8   | 68,4      | 24,8     | 20,5 |
|                          |      | 270D                  | 265,6   | 113,5     | 44,8     | 36,2    | 257,6   | 118,4     | 43,5     | 34,1    | 159,9   | 61,5      | 27,0     | 13,3    | 152,9   | 65,4      | 25,8     | 12,1 |
|                          |      | 300D                  | 288,3   | 125,8     | 48,7     | 42,6    | 279,9   | 131,2     | 47,3     | 40,2    | 162,0   | 61,0      | 27,4     | 13,6    | 155,0   | 64,9      | 26,2     | 12,5 |
|                          |      | 370D                  | 258,2   | 97,0      | 43,6     | 21,4    | 250,9   | 101,0     | 42,4     | 20,2    | 239,5   | 107,5     | 40,5     | 18,4    | 227,4   | 114,6     | 38,4     | 16,6 |
| 9°C                      | 150D | 150,2                 | 65,4    | 25,4      | 41,6     | 145,9   | 68,1    | 24,6      | 39,4     | 84,4    | 31,4    | 14,3      | 14,2     | 80,6    | 33,4    | 13,6      | 13,0     |      |
|                          | 200D | 189,4                 | 77,3    | 32,0      | 33,3     | 184,1   | 80,6    | 31,1      | 31,6     | 132,8   | 52,3    | 22,4      | 16,9     | 126,9   | 55,7    | 21,4      | 15,5     |      |
|                          | 230D | 224,5                 | 95,8    | 37,9      | 46,0     | 218,2   | 99,9    | 36,9      | 43,6     | 158,7   | 64,6    | 26,8      | 23,8     | 151,6   | 68,9    | 25,6      | 21,8     |      |
|                          | 270D | 273,7                 | 114,6   | 46,2      | 38,5     | 265,6   | 119,6   | 44,8      | 36,2     | 165,3   | 61,9    | 27,9      | 14,2     | 158,0   | 65,8    | 26,7      | 13,0     |      |
|                          | 300D | 297,2                 | 127,0   | 50,2      | 45,3     | 288,7   | 132,5   | 48,8      | 42,8     | 167,4   | 61,4    | 28,3      | 14,5     | 160,3   | 65,3    | 27,1      | 13,3     |      |
|                          | 370D | 266,3                 | 97,9    | 45,0      | 22,7     | 258,9   | 101,9   | 43,7      | 21,5     | 247,2   | 108,4   | 41,7      | 19,6     | 234,8   | 115,4   | 39,7      | 17,7     |      |
| 10°C                     | 150D | 154,7                 | 66,0    | 26,1      | 44,0     | 150,2   | 68,7    | 25,4      | 41,7     | 87,2    | 31,5    | 14,7      | 15,1     | 83,3    | 33,6    | 14,1      | 13,8     |      |
|                          | 200D | 195,0                 | 78,1    | 32,9      | 35,2     | 189,7   | 81,4    | 32,0      | 33,4     | 137,1   | 52,7    | 23,1      | 18,0     | 131,0   | 56,1    | 22,1      | 16,5     |      |
|                          | 230D | 231,2                 | 96,7    | 39,0      | 48,7     | 224,8   | 100,9   | 38,0      | 46,2     | 163,8   | 65,1    | 27,7      | 25,3     | 156,6   | 69,4    | 26,4      | 23,2     |      |
|                          | 270D | 282,0                 | 115,8   | 47,6      | 40,8     | 273,6   | 120,7   | 46,2      | 38,5     | 170,7   | 62,4    | 28,8      | 15,1     | 163,3   | 66,2    | 27,6      | 13,8     |      |
|                          | 300D | 306,3                 | 128,3   | 51,7      | 48,1     | 297,6   | 133,7   | 50,3      | 45,4     | 173,0   | 61,9    | 29,2      | 15,5     | 165,6   | 65,7    | 28,0      | 14,2     |      |
|                          | 370D | 274,6                 | 98,8    | 46,4      | 24,1     | 267,0   | 102,8   | 45,1      | 22,8     | 255,0   | 109,3   | 43,1      | 20,8     | 242,4   | 116,3   | 40,9      | 18,9     |      |
| 11°C                     | 150D | 159,3                 | 66,6    | 26,9      | 46,5     | 159,9   | 69,8    | 25,9      | 43,0     | 90,0    | 31,7    | 15,2      | 16,0     | 86,0    | 33,8    | 14,5      | 14,7     |      |
|                          | 200D | 200,8                 | 79,0    | 33,9      | 37,3     | 195,3   | 82,3    | 33,0      | 35,3     | 141,5   | 53,1    | 23,9      | 19,1     | 135,3   | 56,6    | 22,8      | 17,6     |      |
|                          | 230D | 238,0                 | 97,7    | 40,2      | 51,5     | 217,1   | 99,9    | 38,9      | 48,0     | 169,0   | 65,6    | 28,5      | 26,8     | 161,6   | 69,9    | 27,3      | 24,6     |      |
|                          | 270D | 290,4                 | 116,9   | 49,0      | 43,3     | 283,5   | 125,2   | 48,0      | 39,0     | 176,3   | 62,8    | 29,8      | 16,1     | 168,7   | 66,6    | 28,5      | 14,8     |      |
|                          | 300D | 315,5                 | 129,5   | 53,3      | 51,0     | 306,6   | 134,9   | 51,8      | 48,2     | 178,6   | 62,3    | 30,2      | 16,5     | 171,1   | 66,2    | 28,9      | 15,2     |      |
|                          | 370D | 283,0                 | 99,7    | 47,8      | 25,6     | 275,2   | 103,7   | 46,5      | 24,2     | 263,1   | 110,2   | 44,4      | 22,2     | -       | -       | -         | -        |      |
| 12°C                     | 150D | 163,9                 | 67,1    | 27,7      | 49,0     | 163,9   | 70,9    | 26,9      | 46,0     | 93,0    | 31,9    | 15,7      | 17,0     | 88,8    | 33,9    | 15,0      | 15,6     |      |
|                          | 200D | 206,7                 | 79,8    | 34,9      | 39,4     | 195,0   | 83,4    | 33,9      | 37,0     | 146,0   | 53,6    | 24,6      | 20,3     | 139,7   | 57,0    | 23,6      | 18,6     |      |
|                          | 230D | 244,9                 | 98,7    | 41,4      | 54,4     | 231,6   | 103,0   | 40,7      | 50,0     | 174,3   | 66,1    | 29,4      | 28,5     | 166,7   | 70,4    | 28,2      | 26,1     |      |
|                          | 270D | 298,9                 | 118,1   | 50,5      | 45,8     | 289,4   | 124,6   | 48,0      | 39,0     | 182,0   | 63,2    | 30,7      | 17,2     | 174,3   | 67,0    | 29,4      | 15,7     |      |
|                          | 300D | 324,9                 | 130,8   | 54,9      | 54,0     | 311,8   | 138,9   | 52,0      | 48,0     | 184,4   | 62,7    | 31,1      | 17,6     | 176,7   | 66,6    | 29,8      | 16,2     |      |
|                          | 370D | 291,6                 | 100,6   | 49,3      | 27,2     | 283,7   | 104,7   | 47,9      | 25,7     | 271,3   | 111,1   | 45,8      | 23,6     | -       | -       | -         | -        |      |

|                                             |                                    |                                                        |                                   |                                    |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|
| XXX :<br>High pressure offloading operation | Pc :<br>Net cooling capacity in kW | Pe(c) :<br>Effective power input input in cooling mode | Wf :<br>Water flow in m³ per hour | Dp :<br>Water pressure drop in kPa |
|---------------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------------|------------------------------------|

|            |                 |                     |
|------------|-----------------|---------------------|
| <b>waH</b> | <b>STANDARD</b> | <b>COOLING MODE</b> |
|------------|-----------------|---------------------|

| <b>WAH</b>            |      | Water outlet temperature |            |              |             |            |            |              |             |            |            |              |             |            |              |              |             |             |
|-----------------------|------|--------------------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|--------------|--------------|-------------|-------------|
|                       |      | 28°C                     |            |              |             | 30°C       |            |              |             | 32°C       |            |              |             | 35°C       |              |              |             |             |
|                       |      | Pc<br>(kW)               | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW)   | Wf<br>(m³/h) | Dp<br>(kPa) |             |
| Air inlet temperature | 5°C  | 150D                     | 138,1      | 59,7         | 23,8        | 37,0       | 135,0      | 61,9         | 23,2        | 35,4       | 131,7      | 64,1         | 22,7        | 33,8       | 126,7        | 67,6         | 21,8        | 31,5        |
|                       |      | 200D                     | 176,6      | 65,5         | 30,4        | 30,3       | 172,7      | 68,0         | 29,7        | 29,0       | 168,7      | 70,6         | 29,1        | 27,7       | 162,4        | 74,8         | 28,0        | 25,8        |
|                       |      | 230D                     | 208,0      | 80,0         | 35,8        | 41,4       | 203,5      | 83,2         | 35,0        | 39,7       | 198,8      | 86,6         | 34,2        | 37,9       | 191,4        | 92,0         | 33,0        | 35,3        |
|                       | 6°C  | 150D                     | 142,7      | 60,1         | 24,6        | 39,3       | 139,4      | 62,3         | 24,0        | 37,6       | 136,1      | 64,5         | 23,4        | 35,9       | 130,9        | 68,1         | 22,6        | 33,4        |
|                       |      | 200D                     | 182,3      | 66,1         | 31,4        | 32,2       | 178,3      | 68,6         | 30,7        | 30,8       | 174,2      | 71,2         | 30,0        | 29,5       | 167,8        | 75,4         | 28,9        | 27,5        |
|                       |      | 230D                     | 214,7      | 80,7         | 37,0        | 43,9       | 210,0      | 83,9         | 36,2        | 42,1       | 205,2      | 87,3         | 35,3        | 40,3       | 197,6        | 92,7         | 34,0        | 37,5        |
|                       | 7°C  | 150D                     | 147,4      | 60,5         | 25,4        | 41,7       | 144,0      | 62,7         | 24,8        | 39,9       | 140,5      | 65,0         | 24,2        | 38,2       | <b>135,2</b> | <b>68,5</b>  | <b>23,3</b> | <b>35,5</b> |
|                       |      | 200D                     | 188,1      | 66,7         | 32,4        | 34,2       | 184,0      | 69,2         | 31,7        | 32,7       | 179,7      | 71,9         | 31,0        | 31,3       | <b>173,2</b> | <b>76,1</b>  | <b>29,8</b> | <b>29,2</b> |
|                       |      | 230D                     | 221,5      | 81,5         | 38,1        | 46,6       | 216,7      | 84,7         | 37,3        | 44,7       | 211,7      | 88,1         | 36,5        | 42,8       | <b>203,9</b> | <b>93,5</b>  | <b>35,1</b> | <b>39,8</b> |
|                       | 8°C  | 150D                     | 152,1      | 60,9         | 26,2        | 44,2       | 148,6      | 63,1         | 25,6        | 42,4       | 145,1      | 65,4         | 25,0        | 40,5       | 139,6        | 69,0         | 24,0        | 37,7        |
|                       |      | 200D                     | 194,0      | 67,3         | 33,4        | 36,2       | 189,8      | 69,9         | 32,7        | 34,7       | 185,5      | 72,5         | 31,9        | 33,2       | 178,7        | 76,7         | 30,8        | 31,0        |
|                       |      | 230D                     | 228,4      | 82,2         | 39,3        | 49,4       | 223,4      | 85,5         | 38,5        | 47,4       | 218,3      | 88,9         | 37,6        | 45,4       | 210,4        | 94,4         | 36,2        | 42,3        |
|                       | 9°C  | 150D                     | 156,9      | 61,3         | 27,0        | 46,9       | 153,3      | 63,5         | 26,4        | 44,9       | 149,7      | 65,8         | 25,8        | 42,9       | 144,0        | 69,5         | 24,8        | 40,0        |
|                       |      | 200D                     | 200,1      | 68,0         | 34,5        | 38,4       | 195,7      | 70,5         | 33,7        | 36,8       | 191,3      | 73,1         | 32,9        | 35,3       | 184,4        | 77,4         | 31,8        | 32,9        |
|                       |      | 230D                     | 235,4      | 83,0         | 40,6        | 52,4       | 230,3      | 86,3         | 39,7        | 50,2       | 225,1      | 89,7         | 38,8        | 48,1       | 217,0        | 95,2         | 37,4        | 44,8        |
|                       | 10°C | 150D                     | 161,8      | 61,7         | 27,9        | 49,7       | 158,1      | 63,9         | 27,2        | 47,6       | 154,4      | 66,3         | 26,6        | 45,5       | 148,6        | 69,9         | 25,6        | 42,3        |
|                       |      | 200D                     | 206,3      | 68,6         | 35,5        | 40,7       | 201,8      | 71,1         | 34,8        | 39,0       | 197,2      | 73,8         | 34,0        | 37,4       | 190,1        | 78,1         | 32,7        | 34,8        |
|                       |      | 230D                     | 242,6      | 83,8         | 41,8        | 55,4       | 237,4      | 87,1         | 40,9        | 53,2       | 232,0      | 90,5         | 40,0        | 50,9       | 223,7        | 96,0         | 38,5        | 47,5        |
|                       | 11°C | 150D                     | 166,8      | 62,1         | 28,7        | 52,5       | 163,0      | 64,4         | 28,1        | 50,3       | 159,1      | 66,7         | 27,4        | 48,1       | 153,1        | 70,4         | 26,4        | 44,8        |
|                       |      | 200D                     | 212,5      | 69,2         | 36,6        | 43,1       | 207,9      | 71,8         | 35,8        | 41,3       | 203,2      | 74,5         | 35,0        | 39,6       | 196,0        | 78,8         | 33,8        | 36,9        |
|                       |      | 230D                     | 249,9      | 84,6         | 43,0        | 58,7       | 244,5      | 87,9         | 42,1        | 56,3       | 239,0      | 91,4         | 41,2        | 53,9       | 230,5        | 96,9         | 39,7        | 50,3        |
|                       | 12°C | 150D                     | 171,8      | 62,5         | 29,6        | 55,5       | 167,9      | 64,8         | 28,9        | 53,2       | 163,9      | 67,2         | 28,2        | 50,9       | 157,8        | 70,9         | 27,2        | 47,4        |
|                       |      | 200D                     | 218,9      | 69,9         | 37,7        | 45,6       | 214,2      | 72,5         | 36,9        | 43,7       | 209,4      | 75,2         | 36,1        | 41,9       | 201,9        | 79,5         | 34,8        | 39,1        |
|                       |      | 230D                     | 257,3      | 85,5         | 44,3        | 62,0       | 251,8      | 88,8         | 43,4        | 59,5       | 246,1      | 92,2         | 42,4        | 57,0       | 237,4        | 97,8         | 40,9        | 53,2        |



waH
STANDARD
COOLING MODE

| WAH                   |      | Water outlet temperature |            |              |             |            |            |              |             |            |            |              |             |            |            |              |             |      |
|-----------------------|------|--------------------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|------|
|                       |      | 38°C                     |            |              |             | 40°C       |            |              |             | 43°C       |            |              |             | 46°C       |            |              |             |      |
|                       |      | Pc<br>(kW)               | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) |      |
| Air inlet temperature | 5°C  | 150D                     | 121,6      | 71,3         | 20,9        | 29,1       | 118,0      | 73,9         | 20,3        | 27,5       | 66,6       | 39,5         | 11,5        | 9,5        | 63,5       | 41,5         | 10,9        | 8,7  |
|                       |      | 200D                     | 155,9      | 79,4         | 26,9        | 23,9       | 151,4      | 82,6         | 26,1        | 22,6       | 144,4      | 87,9         | 24,9        | 20,6       | 102,0      | 61,0         | 17,6        | 10,7 |
|                       |      | 230D                     | 183,6      | 97,8         | 31,6        | 32,6       | 178,2      | 102,0        | 30,7        | 30,8       | 127,5      | 69,8         | 22,0        | 16,3       | 121,4      | 74,2         | 20,9        | 14,8 |
|                       | 6°C  | 150D                     | 125,6      | 71,8         | 21,6        | 30,9       | 122,0      | 74,4         | 21,0        | 29,3       | 69,0       | 39,7         | 11,9        | 10,1       | 65,8       | 41,7         | 11,3        | 9,2  |
|                       |      | 200D                     | 161,1      | 80,0         | 27,7        | 25,4       | 156,5      | 83,3         | 26,9        | 24,0       | 149,2      | 88,5         | 25,7        | 22,0       | 105,6      | 61,3         | 18,2        | 11,4 |
|                       |      | 230D                     | 189,6      | 98,6         | 32,7        | 34,7       | 184,1      | 102,8        | 31,7        | 32,8       | 131,9      | 70,2         | 22,7        | 17,4       | 125,6      | 74,6         | 21,6        | 15,8 |
|                       | 7°C  | 150D                     | 129,7      | 72,3         | 22,3        | 32,9       | 126,0      | 74,9         | 21,7        | 31,1       | 71,4       | 39,8         | 12,3        | 10,8       | 68,1       | 41,8         | 11,7        | 9,9  |
|                       |      | 200D                     | 166,3      | 80,7         | 28,7        | 27,0       | 161,6      | 83,9         | 27,8        | 25,6       | 154,1      | 89,1         | 26,6        | 23,4       | 109,2      | 61,6         | 18,8        | 12,1 |
|                       |      | 230D                     | 195,8      | 99,4         | 33,7        | 36,9       | 190,1      | 103,6        | 32,7        | 34,8       | 136,4      | 70,6         | 23,5        | 18,5       | 130,0      | 75,0         | 22,4        | 16,9 |
|                       | 8°C  | 150D                     | 133,9      | 72,8         | 23,1        | 34,9       | 130,0      | 75,4         | 22,4        | 33,0       | 73,9       | 39,9         | 12,7        | 11,5       | 70,5       | 41,9         | 12,1        | 10,5 |
|                       |      | 200D                     | 171,7      | 81,3         | 29,6        | 28,7       | 166,8      | 84,6         | 28,7        | 27,2       | 159,2      | 89,8         | 27,4        | 24,8       | 113,0      | 62,0         | 19,5        | 12,9 |
|                       |      | 230D                     | 202,1      | 100,2        | 34,8        | 39,1       | 196,2      | 104,4        | 33,8        | 37,0       | 141,0      | 71,1         | 24,3        | 19,7       | 134,4      | 75,4         | 23,2        | 18,0 |
|                       | 9°C  | 150D                     | 138,2      | 73,3         | 23,8        | 37,0       | 134,2      | 75,9         | 23,1        | 35,0       | 76,4       | 40,1         | 13,2        | 12,2       | 72,9       | 42,1         | 12,6        | 11,2 |
|                       |      | 200D                     | 177,1      | 82,0         | 30,5        | 30,5       | 172,1      | 85,3         | 29,7        | 28,8       | 122,4      | 58,9         | 21,1        | 15,1       | 116,8      | 62,3         | 20,1        | 13,8 |
|                       |      | 230D                     | 208,4      | 101,1        | 35,9        | 41,5       | 202,5      | 105,3        | 34,9        | 39,3       | 145,7      | 71,5         | 25,1        | 21,0       | 139,0      | 75,9         | 23,9        | 19,2 |
|                       | 10°C | 150D                     | 142,5      | 73,8         | 24,5        | 39,2       | 138,4      | 76,4         | 23,8        | 37,1       | 79,1       | 40,2         | 13,6        | 13,0       | 75,4       | 42,2         | 13,0        | 11,9 |
|                       |      | 200D                     | 182,7      | 82,7         | 31,5        | 32,3       | 177,6      | 86,0         | 30,6        | 30,6       | 126,5      | 59,2         | 21,8        | 16,0       | 120,8      | 62,7         | 20,8        | 14,7 |
|                       |      | 230D                     | 214,9      | 102,0        | 37,0        | 44,0       | 208,9      | 106,1        | 36,0        | 41,7       | 150,5      | 71,9         | 25,9        | 22,3       | 143,7      | 76,3         | 24,7        | 20,4 |
|                       | 11°C | 150D                     | 146,9      | 74,3         | 25,3        | 41,5       | 142,6      | 77,0         | 24,6        | 39,2       | 81,7       | 40,3         | 14,1        | 13,9       | 78,0       | 42,4         | 13,4        | 12,7 |
|                       |      | 200D                     | 188,4      | 83,4         | 32,5        | 34,3       | 183,2      | 86,7         | 31,5        | 32,5       | 130,7      | 59,6         | 22,5        | 17,1       | 124,8      | 63,0         | 21,5        | 15,6 |
|                       |      | 230D                     | 221,5      | 102,8        | 38,2        | 46,6       | 215,3      | 107,0        | 37,1        | 44,2       | 155,5      | 72,4         | 26,8        | 23,8       | 148,4      | 76,7         | 25,6        | 21,8 |
| 12°C                  | 150D | 151,4                    | 74,8       | 26,1         | 43,8        | 88,2       | 38,5       | 15,2         | 16,0        | 84,5       | 40,5       | 14,6         | 14,7        | 80,6       | 42,6       | 13,9         | 13,5        |      |
|                       | 200D | 194,2                    | 84,1       | 33,4         | 36,3        | 188,8      | 87,4       | 32,5         | 34,4        | 135,0      | 60,0       | 23,3         | 18,2        | 129,0      | 63,4       | 22,2         | 16,6        |      |
|                       | 230D | 228,2                    | 103,7      | 39,3         | 49,4        | 221,9      | 107,9      | 38,2         | 46,8        | 160,5      | 72,8       | 27,7         | 25,3        | 153,3      | 77,2       | 26,4         | 23,1        |      |

|                                                           |                                                  |                                                                      |                                                 |                                                  |
|-----------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|
| <b>XXX :</b><br><i>High pressure offloading operation</i> | <b>Pc :</b><br><i>Net cooling capacity in kW</i> | <b>Pe(c) :</b><br><i>Effective power input input in cooling mode</i> | <b>Wf :</b><br><i>Water flow in m³ per hour</i> | <b>Dp :</b><br><i>Water pressure drop in KPa</i> |
|-----------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|

waH

STANDARD

HEATING MODE

| WAH                   |      | Water outlet temperature |            |              |             |            |            |              |             |            |            |              |             |            |            |              |             |      |
|-----------------------|------|--------------------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|------------|------------|--------------|-------------|------|
|                       |      | 30°C                     |            |              |             | 35°C       |            |              |             | 38°C       |            |              |             | 40°C       |            |              |             |      |
|                       |      | Pc<br>(kW)               | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) |      |
| Air inlet temperature | 10°C | 150D                     | 184,2      | 53,1         | 31,7        | 63,3       | 182,3      | 58,0         | 31,4        | 62,0       | 181,2      | 61,1         | 31,2        | 61,3       | 180,5      | 63,3         | 31,1        | 60,9 |
|                       |      | 200D                     | 225,0      | 59,2         | 38,7        | 48,0       | 222,6      | 64,7         | 38,3        | 47,0       | 221,2      | 68,3         | 38,1        | 46,5       | 220,4      | 70,9         | 38,0        | 46,2 |
|                       |      | 230D                     | 272,4      | 71,7         | 46,9        | 69,1       | 270,0      | 78,7         | 46,5        | 68,0       | 268,7      | 83,4         | 46,3        | 67,3       | 267,8      | 86,8         | 46,1        | 66,9 |
|                       | 7°C  | 150D                     | 169,6      | 52,9         | 29,2        | 54,2       | 168,1      | 57,7         | 29,0        | 53,3       | 167,4      | 60,8         | 28,8        | 52,9       | 166,9      | 62,9         | 28,7        | 52,6 |
|                       |      | 200D                     | 206,4      | 58,5         | 35,5        | 40,7       | 204,5      | 63,9         | 35,2        | 40,0       | 203,5      | 67,5         | 35,1        | 39,7       | 202,9      | 70,1         | 35,0        | 39,5 |
|                       |      | 230D                     | 250,2      | 70,8         | 43,1        | 58,8       | 248,7      | 77,8         | 42,8        | 58,1       | 247,8      | 82,5         | 42,7        | 57,7       | 247,3      | 85,8         | 42,6        | 57,5 |
|                       | 5°C  | 150D                     | 160,6      | 52,8         | 27,7        | 48,9       | 159,3      | 57,5         | 27,4        | 48,2       | 158,7      | 60,5         | 27,3        | 47,9       | 158,4      | 62,7         | 27,3        | 47,7 |
|                       |      | 200D                     | 194,9      | 58,1         | 33,6        | 36,6       | 193,3      | 63,4         | 33,3        | 36,0       | 192,5      | 66,9         | 33,2        | 35,7       | 192,0      | 69,5         | 33,1        | 35,5 |
|                       |      | 230D                     | 236,5      | 70,2         | 40,7        | 52,8       | 235,4      | 77,2         | 40,6        | 52,4       | 234,9      | 81,9         | 40,5        | 52,1       | 234,6      | 85,3         | 40,4        | 52,0 |
|                       | 0°C  | 150D                     | 140,0      | 52,3         | 24,1        | 37,9       | 139,3      | 56,8         | 24,0        | 37,5       | 139,0      | 59,7         | 23,9        | 37,4       | 138,9      | 61,8         | 23,9        | 37,3 |
|                       |      | 200D                     | 169,4      | 57,0         | 29,2        | 28,0       | 168,1      | 62,1         | 29,0        | 27,6       | 167,4      | 65,6         | 28,8        | 27,3       | 167,1      | 68,1         | 28,8        | 27,3 |
|                       |      | 230D                     | 205,3      | 68,7         | 35,4        | 40,3       | 205,5      | 75,8         | 35,4        | 40,4       | 205,7      | 80,5         | 35,4        | 40,5       | 205,8      | 83,9         | 35,5        | 40,5 |
|                       | -2°C | 150D                     | 132,5      | 52,0         | 22,8        | 34,2       | 131,9      | 56,5         | 22,7        | 33,9       | 131,7      | 59,3         | 22,7        | 33,8       | 131,7      | 61,3         | 22,7        | 33,8 |
|                       |      | 200D                     | 160,4      | 56,6         | 27,6        | 25,2       | 159,0      | 61,6         | 27,4        | 24,8       | 158,3      | 65,0         | 27,3        | 24,6       | 158,0      | 67,5         | 27,2        | 24,5 |
|                       |      | 230D                     | 193,9      | 68,1         | 33,4        | 36,2       | 194,7      | 75,2         | 33,5        | 36,5       | 195,1      | 80,0         | 33,6        | 36,6       | 195,4      | 83,3         | 33,7        | 36,7 |
|                       | -4°C | 150D                     | 125,4      | 51,7         | 21,6        | 30,9       | 124,9      | 56,1         | 21,5        | 30,6       | 124,8      | 58,9         | 21,5        | 30,6       | 124,8      | 60,8         | 21,5        | 30,6 |
|                       |      | 200D                     | 152,1      | 56,3         | 26,2        | 22,8       | 150,5      | 61,2         | 25,9        | 22,3       | 149,6      | 64,5         | 25,8        | 22,1       | 149,3      | 67,0         | 25,7        | 22,0 |
|                       |      | 230D                     | 183,2      | 67,4         | 31,6        | 32,5       | 184,4      | 74,6         | 31,8        | 32,9       | 185,2      | 79,4         | 31,9        | 33,1       | 185,6      | 82,8         | 32,0        | 33,3 |
|                       | -6°C | 150D                     | 118,7      | 51,3         | 20,4        | 27,8       | 118,3      | 55,6         | 20,4        | 27,7       | 118,2      | 58,3         | 20,4        | 27,6       | 118,3      | 60,2         | 20,4        | 27,7 |
|                       |      | 200D                     | 144,4      | 56,0         | 24,9        | 20,6       | 142,6      | 60,7         | 24,6        | 20,1       | 141,5      | 64,0         | 24,4        | 19,8       | 141,0      | 66,4         | 24,3        | 19,7 |
|                       |      | 230D                     | 173,0      | 66,8         | 29,8        | 29,1       | 174,6      | 74,0         | 30,1        | 29,6       | 175,7      | 78,9         | 30,3        | 30,0       | 176,3      | 82,3         | 30,4        | 30,2 |
|                       | -8°C | 150D                     | 112,3      | 50,9         | 19,3        | 25,1       | 111,9      | 55,1         | 19,3        | 24,9       | 111,9      | 57,7         | 19,3        | 24,9       | -          | -            | -           | -    |
|                       |      | 200D                     | 137,3      | 55,7         | 23,7        | 18,8       | 135,1      | 60,3         | 23,3        | 18,2       | 133,7      | 63,5         | 23,0        | 17,8       | -          | -            | -           | -    |
|                       |      | 230D                     | 163,3      | 66,1         | 28,1        | 26,1       | 165,3      | 73,4         | 28,5        | 26,7       | -          | -            | -           | -          | -          | -            | -           | -    |
| -10°C                 | 150D | 106,2                    | 50,4       | 18,3         | 22,6        | 105,8      | 54,5       | 18,2         | 22,5        | -          | -          | -            | -           | -          | -          | -            | -           |      |
|                       | 200D | 130,8                    | 55,5       | 22,5         | 17,1        | 128,2      | 59,9       | 22,1         | 16,4        | -          | -          | -            | -           | -          | -          | -            | -           |      |
|                       | 230D | 154,0                    | 65,4       | 26,5         | 23,3        | 156,5      | 72,8       | 27,0         | 24,0        | -          | -          | -            | -           | -          | -          | -            | -           |      |

|                                    |                                                     |                                |                                 |
|------------------------------------|-----------------------------------------------------|--------------------------------|---------------------------------|
| Ph :<br>Net heating capacity in kW | Pe(c) : Effective power input input in cooling mode | Wf : Water flow in m³ per Hour | Dp : Water pressure drop in KPa |
|------------------------------------|-----------------------------------------------------|--------------------------------|---------------------------------|

|     |          |              |
|-----|----------|--------------|
| waH | STANDARD | HEATING MODE |
|-----|----------|--------------|

| WAH                   |      | Water outlet temperature |            |              |             |            |              |              |             |             |            |              |             |            |            |              |             |      |
|-----------------------|------|--------------------------|------------|--------------|-------------|------------|--------------|--------------|-------------|-------------|------------|--------------|-------------|------------|------------|--------------|-------------|------|
|                       |      | 42°C                     |            |              |             | 45°C       |              |              |             | 48°C        |            |              |             | 50°C       |            |              |             |      |
|                       |      | Pc<br>(kW)               | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW)   | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW)  | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) | Pc<br>(kW) | Pe<br>(kW) | Wf<br>(m³/h) | Dp<br>(kPa) |      |
| Air inlet temperature | 10°C | 150D                     | 179,8      | 65,6         | 31,0        | 60,4       | 178,7        | 69,2         | 30,8        | 59,8        | 177,7      | 73,0         | 30,6        | 59,1       | 176,9      | 75,7         | 30,5        | 58,7 |
|                       |      | 200D                     | 219,6      | 73,6         | 37,8        | 45,8       | 218,4        | 78,0         | 37,6        | 45,4        | 217,3      | 82,7         | 37,4        | 45,0       | 216,6      | 86,0         | 37,3        | 44,7 |
|                       |      | 230D                     | 267,0      | 90,3         | 46,0        | 66,5       | 265,8        | 95,9         | 45,8        | 66,0        | 264,6      | 101,9        | 45,6        | 65,4       | 263,8      | 106,2        | 45,4        | 65,0 |
|                       | 7°C  | 150D                     | 166,4      | 65,2         | 28,7        | 52,3       | <b>165,7</b> | <b>68,7</b>  | <b>28,5</b> | <b>51,9</b> | 165,0      | 72,4         | 28,4        | 51,5       | 164,5      | 74,9         | 28,3        | 51,2 |
|                       |      | 200D                     | 202,4      | 72,8         | 34,9        | 39,3       | <b>201,7</b> | <b>77,1</b>  | <b>34,7</b> | <b>39,0</b> | 201,1      | 81,9         | 34,6        | 38,8       | 200,8      | 85,3         | 34,6        | 38,7 |
|                       |      | 230D                     | 246,8      | 89,3         | 42,5        | 57,3       | <b>246,0</b> | <b>94,9</b>  | <b>42,4</b> | <b>56,9</b> | 245,3      | 101,0        | 42,2        | 56,6       | 244,8      | 105,2        | 42,2        | 56,4 |
|                       | 5°C  | 150D                     | 158,0      | 64,9         | 27,2        | 47,5       | 157,5        | 68,3         | 27,1        | 47,2        | 157,0      | 71,9         | 27,1        | 47,0       | 156,7      | 74,4         | 27,0        | 46,8 |
|                       |      | 200D                     | 191,6      | 72,2         | 33,0        | 35,4       | 191,2        | 76,6         | 32,9        | 35,2        | 191,0      | 81,4         | 32,9        | 35,2       | 191,0      | 84,9         | 32,9        | 35,2 |
|                       |      | 230D                     | 234,2      | 88,7         | 40,3        | 51,9       | 233,7        | 94,3         | 40,3        | 51,7        | 233,2      | 100,3        | 40,2        | 51,4       | 232,8      | 104,6        | 40,1        | 51,3 |
|                       | 0°C  | 150D                     | 138,8      | 63,8         | 23,9        | 37,3       | 138,7        | 67,1         | 23,9        | 37,2        | 138,7      | 70,5         | 23,9        | 37,2       | 138,6      | 72,8         | 23,9        | 37,2 |
|                       |      | 200D                     | 166,9      | 70,8         | 28,8        | 27,2       | 167,1        | 75,3         | 28,8        | 27,3        | 167,9      | 80,3         | 28,9        | 27,5       | 168,7      | 84,0         | 29,1        | 27,8 |
|                       |      | 230D                     | 205,9      | 87,4         | 35,5        | 40,6       | 205,8        | 92,9         | 35,5        | 40,5        | 205,6      | 98,8         | 35,4        | 40,5       | 205,4      | 102,9        | 35,4        | 40,4 |
|                       | -2°C | 150D                     | 131,7      | 63,3         | 22,7        | 33,8       | 131,7        | 66,5         | 22,7        | 33,8        | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 200D                     | 157,9      | 70,2         | 27,2        | 24,5       | 158,2        | 74,8         | 27,3        | 24,6        | 159,3      | 79,9         | 27,4        | 24,9       | -          | -            | -           | -    |
|                       |      | 230D                     | 195,6      | 86,8         | 33,7        | 36,8       | 195,7        | 92,4         | 33,7        | 36,8        | -          | -            | -           | -          | -          | -            | -           | -    |
|                       | -4°C | 150D                     | 124,9      | 62,8         | 21,5        | 30,6       | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 200D                     | 149,1      | 69,7         | 25,7        | 21,9       | 149,6        | 74,2         | 25,8        | 22,1        | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 230D                     | 185,9      | 86,3         | 32,0        | 33,4       | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       | -6°C | 150D                     | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 200D                     | 140,8      | 69,1         | 24,3        | 19,7       | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 230D                     | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       | -8°C | 150D                     | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 200D                     | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
|                       |      | 230D                     | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           | -    |
| -10°C                 | 150D | -                        | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           |      |
|                       | 200D | -                        | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           |      |
|                       | 230D | -                        | -          | -            | -           | -          | -            | -            | -           | -           | -          | -            | -           | -          | -          | -            | -           |      |

|                                                                |                                           |                                                         |                                          |                                           |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>XXX :</b><br>Data according to Eurovent standard conditions | <b>Ph :</b><br>Net heating capacity in kW | <b>Pe(c) :</b><br>Effective power input in cooling mode | <b>Wf :</b><br>Water flow in m³ per hour | <b>Dp :</b><br>Water pressure drop in KPa |
|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|------------------------------------------|-------------------------------------------|







All units

standard

free cooling

| Air Inlet temperature |      | -15°C |       |         |         |        | -10°C |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 156,6 | 7,66  | 9,5     | 24,4    | 26,4   | 130,7 | 7,66  | 10,4    | 24,4    | 26,4   |
|                       | 200D | 238,0 | 10,16 | 8,4     | 31,1    | 45,2   | 198,0 | 10,16 | 9,5     | 31,1    | 45,2   |
|                       | 230D | 222,0 | 10,4  | 9,8     | 37,2    | 61,7   | 185,6 | 10,4  | 10,7    | 37,2    | 61,7   |
|                       | 270D | 362,0 | 15,25 | 8,1     | 44,9    | 104,5  | 302,0 | 15,25 | 9,2     | 44,9    | 104,5  |
|                       | 300D | 366,0 | 15,25 | 8,4     | 47,7    | 116,7  | 306,0 | 15,25 | 9,5     | 47,7    | 116,7  |
|                       | 370D | 344,0 | 15,63 | 10,0    | 59,1    | 171,8  | 286,0 | 15,63 | 10,8    | 59,1    | 171,8  |
| 13°C                  | 150D | 145,8 | 7,66  | 7,9     | 24,4    | 26,9   | 119,8 | 7,66  | 8,8     | 24,4    | 26,9   |
|                       | 200D | 222,0 | 10,16 | 6,9     | 31,1    | 45,9   | 181,8 | 10,16 | 8,0     | 31,1    | 45,9   |
|                       | 230D | 208,0 | 10,4  | 8,2     | 37,2    | 62,7   | 170,4 | 10,4  | 9,1     | 37,2    | 62,7   |
|                       | 270D | 338,0 | 15,25 | 6,5     | 44,9    | 105,5  | 278,0 | 15,25 | 7,7     | 44,9    | 105,5  |
|                       | 300D | 342,0 | 15,25 | 6,9     | 47,7    | 117,9  | 280,0 | 15,25 | 7,9     | 47,7    | 117,9  |
|                       | 370D | 320,0 | 15,63 | 8,3     | 59,1    | 173,4  | 264,0 | 15,63 | 9,2     | 59,1    | 173,4  |

| Air Inlet temperature |      | -5°C  |       |         |         |        | 0°C   |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 104,6 | 7,66  | 11,3    | 24,4    | 26,4   | 78,4  | 7,66  | 12,2    | 24,4    | 26,4   |
|                       | 200D | 158,6 | 10,16 | 10,6    | 31,1    | 45,2   | 119,0 | 10,16 | 11,7    | 31,1    | 45,2   |
|                       | 230D | 148,6 | 10,4  | 11,6    | 37,2    | 61,7   | 111,4 | 10,4  | 12,4    | 37,2    | 61,7   |
|                       | 270D | 242,0 | 15,25 | 10,4    | 44,9    | 104,5  | 181,8 | 15,25 | 11,5    | 44,9    | 104,5  |
|                       | 300D | 244,0 | 15,25 | 10,6    | 47,7    | 116,7  | 183,4 | 15,25 | 11,7    | 47,7    | 116,7  |
|                       | 370D | 230,0 | 15,63 | 11,7    | 59,1    | 171,8  | 172,0 | 15,63 | 12,5    | 59,1    | 171,8  |
| 13°C                  | 150D | 93,8  | 7,66  | 9,7     | 24,4    | 26,9   | 67,8  | 7,66  | 10,6    | 24,4    | 26,9   |
|                       | 200D | 142,4 | 10,16 | 9,0     | 31,1    | 45,9   | 102,8 | 10,16 | 10,1    | 31,1    | 45,9   |
|                       | 230D | 133,4 | 10,4  | 9,9     | 37,2    | 62,7   | 96,4  | 10,4  | 10,8    | 37,2    | 62,7   |
|                       | 270D | 218,0 | 15,25 | 8,9     | 44,9    | 105,5  | 157,2 | 15,25 | 10,0    | 44,9    | 105,5  |
|                       | 300D | 220,0 | 15,25 | 9,0     | 47,7    | 117,9  | 158,6 | 15,25 | 10,1    | 47,7    | 117,9  |
|                       | 370D | 206,0 | 15,63 | 10,0    | 59,1    | 173,4  | 149,0 | 15,63 | 10,8    | 59,1    | 173,4  |

|           |           |              |
|-----------|-----------|--------------|
| All units | low noise | free cooling |
|-----------|-----------|--------------|

| Air Inlet temperature |      | -15°C   |          |            |            |           | -10°C   |          |            |            |           |
|-----------------------|------|---------|----------|------------|------------|-----------|---------|----------|------------|------------|-----------|
| Water temperature     | size | Q<br>kW | Pe<br>kW | Tout<br>°C | Wf<br>m3/h | Dp<br>kPa | Q<br>kW | Pe<br>kW | Tout<br>°C | Wf<br>m3/h | Dp<br>kPa |
| <b>15°C</b>           | 150D | 142,0   | 5,26     | 9,9        | 23,8       | 25,3      | 118,4   | 5,26     | 10,7       | 23,8       | 25,3      |
|                       | 200D | 216,0   | 6,96     | 8,9        | 30,4       | 43,7      | 180,0   | 6,96     | 9,9        | 30,4       | 43,7      |
|                       | 230D | 202,0   | 7,2      | 10,2       | 36,2       | 58,9      | 167,8   | 7,2      | 11,0       | 36,2       | 58,9      |
|                       | 270D | 328,0   | 10,45    | 8,6        | 43,8       | 99,5      | 274,0   | 10,45    | 9,6        | 43,8       | 99,5      |
|                       | 300D | 332,0   | 10,45    | 8,9        | 46,4       | 110,6     | 276,0   | 10,45    | 9,9        | 46,4       | 110,6     |
|                       | 370D | 310,0   | 10,83    | 10,3       | 57,2       | 162,3     | 258,0   | 10,83    | 11,1       | 57,2       | 162,3     |
| <b>13°C</b>           | 150D | 132,2   | 5,26     | 8,2        | 23,8       | 25,7      | 108,6   | 5,26     | 9,1        | 23,8       | 25,7      |
|                       | 200D | 202,0   | 6,96     | 7,3        | 30,4       | 44,4      | 165,2   | 6,96     | 8,3        | 30,4       | 44,4      |
|                       | 230D | 187,6   | 7,2      | 8,4        | 36,2       | 59,9      | 154,0   | 7,2      | 9,3        | 36,2       | 59,9      |
|                       | 270D | 306,0   | 10,45    | 7,0        | 43,8       | 100,4     | 252,0   | 10,45    | 8,1        | 43,8       | 100,4     |
|                       | 300D | 308,0   | 10,45    | 7,3        | 46,4       | 111,8     | 254,0   | 10,45    | 8,3        | 46,4       | 111,8     |
|                       | 370D | 288,0   | 10,83    | 8,7        | 57,2       | 163,9     | 238,0   | 10,83    | 9,4        | 57,2       | 163,9     |

| Air Inlet temperature |      | -5°C    |          |            |            |           | 0°C     |          |            |            |           |
|-----------------------|------|---------|----------|------------|------------|-----------|---------|----------|------------|------------|-----------|
| Water temperature     | size | Q<br>kW | Pe<br>kW | Tout<br>°C | Wf<br>m3/h | Dp<br>kPa | Q<br>kW | Pe<br>kW | Tout<br>°C | Wf<br>m3/h | Dp<br>kPa |
| <b>15°C</b>           | 150D | 94,8    | 5,26     | 11,6       | 23,8       | 25,3      | 71,2    | 5,26     | 12,4       | 23,8       | 25,3      |
|                       | 200D | 144,2   | 6,96     | 10,9       | 30,4       | 43,7      | 108,2   | 6,96     | 11,9       | 30,4       | 43,7      |
|                       | 230D | 134,4   | 7,2      | 11,8       | 36,2       | 58,9      | 100,8   | 7,2      | 12,6       | 36,2       | 58,9      |
|                       | 270D | 220,0   | 10,45    | 10,7       | 43,8       | 99,5      | 164,4   | 10,45    | 11,8       | 43,8       | 99,5      |
|                       | 300D | 220,0   | 10,45    | 10,9       | 46,4       | 110,6     | 165,8   | 10,45    | 11,9       | 46,4       | 110,6     |
|                       | 370D | 206,0   | 10,83    | 11,9       | 57,2       | 162,3     | 155,0   | 10,83    | 12,7       | 57,2       | 162,3     |
| <b>13°C</b>           | 150D | 85,2    | 5,26     | 9,9        | 23,8       | 25,7      | 61,6    | 5,26     | 10,8       | 23,8       | 25,7      |
|                       | 200D | 129,4   | 6,96     | 9,3        | 30,4       | 44,4      | 93,6    | 6,96     | 10,4       | 30,4       | 44,4      |
|                       | 230D | 120,6   | 7,2      | 10,1       | 36,2       | 59,9      | 87,2    | 7,2      | 10,9       | 36,2       | 59,9      |
|                       | 270D | 197,0   | 10,45    | 9,1        | 43,8       | 100,4     | 142,4   | 10,45    | 10,2       | 43,8       | 100,4     |
|                       | 300D | 198,6   | 10,45    | 9,3        | 46,4       | 111,8     | 143,4   | 10,45    | 10,3       | 46,4       | 111,8     |
|                       | 370D | 185,6   | 10,83    | 10,2       | 57,2       | 163,9     | 134,0   | 10,83    | 11,0       | 57,2       | 163,9     |



All units

high efficiency

free cooling

| Air Inlet temperature |      | -15°C |       |         |         |        | -10°C |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 175,8 | 4,08  | 9,1     | 25,6    | 32,6   | 146,6 | 4,08  | 10,1    | 25,6    | 32,6   |
|                       | 200D | 286,0 | 6,04  | 7,4     | 32,1    | 57,7   | 238,0 | 6,04  | 8,6     | 32,1    | 57,7   |
|                       | 230D | 270,0 | 6,28  | 10,4    | 38,3    | 78,1   | 224,0 | 6,28  | 10,0    | 38,3    | 78,1   |
|                       | 270D | 378,4 | 8,09  | 8,0     | 46,2    | 27,5   | 315,6 | 8,09  | 9,2     | 46,2    | 27,5   |
|                       | 300D | 351,2 | 8,09  | 9,1     | 50,6    | 32,1   | 292,8 | 8,09  | 10,0    | 50,6    | 32,1   |
|                       | 370D | 359,6 | 8,47  | 9,8     | 59,9    | 42,7   | 299,6 | 8,47  | 10,7    | 59,9    | 42,7   |
| 13°C                  | 150D | 163,6 | 4,08  | 7,5     | 25,6    | 33,1   | 134,6 | 4,08  | 8,5     | 25,6    | 33,1   |
|                       | 200D | 266,0 | 6,04  | 5,9     | 32,1    | 58,7   | 220,0 | 6,04  | 7,1     | 32,1    | 58,7   |
|                       | 230D | 252,0 | 6,28  | 7,4     | 38,3    | 79,3   | 206,0 | 6,28  | 8,4     | 38,3    | 79,3   |
|                       | 270D | 352,4 | 8,09  | 6,5     | 46,2    | 28,0   | 289,6 | 8,09  | 7,6     | 46,2    | 28,0   |
|                       | 300D | 326,8 | 8,09  | 7,5     | 50,6    | 32,6   | 268,8 | 8,09  | 8,4     | 50,6    | 32,6   |
|                       | 370D | 334,8 | 8,47  | 8,2     | 59,9    | 43,4   | 275,2 | 8,47  | 9,0     | 59,9    | 43,4   |

| Air Inlet temperature |      | -5°C  |       |         |         |        | 0°C   |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 117,4 | 4,08  | 11,1    | 25,6    | 32,6   | 88,0  | 4,08  | 12,0    | 25,6    | 32,6   |
|                       | 200D | 191,2 | 6,04  | 9,9     | 32,1    | 57,7   | 143,4 | 6,04  | 11,2    | 32,1    | 57,7   |
|                       | 230D | 179,8 | 6,28  | 11,0    | 38,3    | 78,1   | 134,8 | 6,28  | 12,0    | 38,3    | 78,1   |
|                       | 270D | 252,8 | 8,09  | 10,3    | 46,2    | 27,5   | 189,6 | 8,09  | 11,5    | 46,2    | 27,5   |
|                       | 300D | 234,4 | 8,09  | 11,0    | 50,6    | 32,1   | 176,0 | 8,09  | 12,0    | 50,6    | 32,1   |
|                       | 370D | 240,0 | 8,47  | 11,6    | 59,9    | 42,7   | 180,0 | 8,47  | 12,4    | 59,9    | 42,7   |
| 13°C                  | 150D | 105,4 | 4,08  | 9,5     | 25,6    | 33,1   | 76,2  | 4,08  | 10,4    | 25,6    | 33,1   |
|                       | 200D | 171,8 | 6,04  | 8,4     | 32,1    | 58,7   | 124,0 | 6,04  | 9,7     | 32,1    | 58,7   |
|                       | 230D | 161,6 | 6,28  | 8,4     | 38,3    | 79,3   | 116,8 | 6,28  | 9,4     | 38,3    | 79,3   |
|                       | 270D | 226,8 | 8,09  | 8,8     | 46,2    | 28,0   | 164,0 | 8,09  | 10,0    | 46,2    | 28,0   |
|                       | 300D | 210,4 | 8,09  | 9,4     | 50,6    | 32,6   | 152,0 | 8,09  | 10,4    | 50,6    | 32,6   |
|                       | 370D | 215,6 | 8,47  | 9,9     | 59,9    | 43,4   | 155,6 | 8,47  | 10,8    | 59,9    | 43,4   |

All units

super low noise

free cooling

| Air Inlet temperature |      | -15°C |       |         |         |        | -10°C |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 156,4 | 1,84  | 9,6     | 24,9    | 30,9   | 130,4 | 1,84  | 10,5    | 24,9    | 30,9   |
|                       | 200D | 256,0 | 2,68  | 8,0     | 31,3    | 55,3   | 214,0 | 2,68  | 9,2     | 31,3    | 55,3   |
|                       | 230D | 240,0 | 2,92  | 9,5     | 37,1    | 73,9   | 199,4 | 2,92  | 10,4    | 37,1    | 73,9   |
|                       | 270D | 337,6 | 3,61  | 8,6     | 45,3    | 26,3   | 281,6 | 3,61  | 9,7     | 45,3    | 26,3   |
|                       | 300D | 312,4 | 3,61  | 9,5     | 49,2    | 30,4   | 260,4 | 3,61  | 10,4    | 49,2    | 30,4   |
|                       | 370D | 318,8 | 3,99  | 10,2    | 57,7    | 39,8   | 265,6 | 3,99  | 11,0    | 57,7    | 39,8   |
| 13°C                  | 150D | 145,6 | 1,84  | 7,9     | 24,9    | 31,4   | 119,6 | 1,84  | 8,8     | 24,9    | 31,4   |
|                       | 200D | 238,0 | 2,68  | 6,5     | 31,3    | 56,2   | 196,0 | 2,68  | 7,6     | 31,3    | 56,2   |
|                       | 230D | 222,0 | 2,92  | 7,8     | 37,1    | 75,1   | 183,2 | 2,92  | 8,8     | 37,1    | 75,1   |
|                       | 270D | 314,4 | 3,61  | 7,0     | 45,3    | 26,8   | 258,4 | 3,61  | 8,1     | 45,3    | 26,8   |
|                       | 300D | 291,2 | 3,61  | 7,9     | 49,2    | 30,9   | 239,2 | 3,61  | 8,8     | 49,2    | 30,9   |
|                       | 370D | 297,2 | 3,99  | 8,6     | 57,7    | 40,5   | 244,0 | 3,99  | 9,4     | 57,7    | 40,5   |

| Air Inlet temperature |      | -5°C  |       |         |         |        | 0°C   |       |         |         |        |
|-----------------------|------|-------|-------|---------|---------|--------|-------|-------|---------|---------|--------|
| Water temperature     | size | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa | Q kW  | Pe kW | Tout °C | Wf m3/h | Dp kPa |
| 15°C                  | 150D | 104,4 | 1,84  | 11,4    | 24,9    | 30,9   | 78,2  | 1,84  | 12,3    | 24,9    | 30,9   |
|                       | 200D | 170,8 | 2,68  | 10,3    | 31,3    | 55,3   | 128,2 | 2,68  | 11,5    | 31,3    | 55,3   |
|                       | 230D | 159,6 | 2,92  | 11,3    | 37,1    | 73,9   | 119,6 | 2,92  | 12,2    | 37,1    | 73,9   |
|                       | 270D | 225,2 | 3,61  | 10,7    | 45,3    | 26,3   | 169,2 | 3,61  | 11,8    | 45,3    | 26,3   |
|                       | 300D | 208,4 | 3,61  | 11,3    | 49,2    | 30,4   | 156,4 | 3,61  | 12,3    | 49,2    | 30,4   |
|                       | 370D | 212,8 | 3,99  | 11,8    | 57,7    | 39,8   | 159,6 | 3,99  | 12,6    | 57,7    | 39,8   |
| 13°C                  | 150D | 93,8  | 1,84  | 9,7     | 24,9    | 31,4   | 67,8  | 1,84  | 10,7    | 24,9    | 31,4   |
|                       | 200D | 153,6 | 2,68  | 8,8     | 31,3    | 56,2   | 111,0 | 2,68  | 10,0    | 31,3    | 56,2   |
|                       | 230D | 143,4 | 2,92  | 9,7     | 37,1    | 75,1   | 103,6 | 2,92  | 10,6    | 37,1    | 75,1   |
|                       | 270D | 202,4 | 3,61  | 9,2     | 45,3    | 26,8   | 146,4 | 3,61  | 10,2    | 45,3    | 26,8   |
|                       | 300D | 187,2 | 3,61  | 9,7     | 49,2    | 30,9   | 135,2 | 3,61  | 10,6    | 49,2    | 30,9   |
|                       | 370D | 191,2 | 3,99  | 10,2    | 57,7    | 40,5   | 138,0 | 3,99  | 10,9    | 57,7    | 40,5   |

**DIMENSIONAL DATA - CONTENTS OF THE DRAWINGS**

| WA  | PAGE       |           |                 |                 |            |
|-----|------------|-----------|-----------------|-----------------|------------|
|     | STANDARD   | LOW NOISE | HIGH EFFICIENCY | SUPER LOW NOISE | REVERSIBLE |
|     | <i>STD</i> | <i>LN</i> | <i>HE</i>       | <i>SLN</i>      | <i>H</i>   |
| 150 | 66         | 66        | 67              | 67              | 70         |
| 200 | 67         | 67        | 68              | 68              | 67         |
| 230 | 67         | 67        | 68              | 68              | 67         |
| 270 | 68         | 68        | 69              | 69              | -          |
| 300 | 68         | 68        | 69              | 69              | -          |
| 370 | 68         | 68        | 69              | 69              | -          |

**LOAD DISTRIBUTION  
(KG - OPERATING WEIGHTS)**

**wa - RA 150      STD - LN**

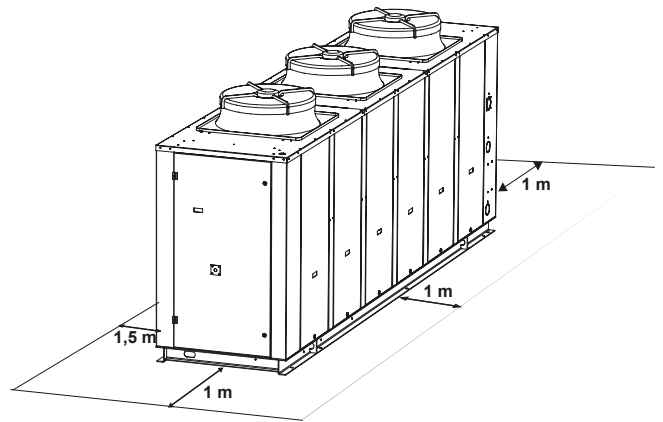
|                   | <b>G1</b> | <b>G2</b> | <b>G3</b> |                   |
|-------------------|-----------|-----------|-----------|-------------------|
| <b>WA 150 STD</b> | 252       | 264       | 168       |                   |
| <b>WA 150 LN</b>  | 252       | 264       | 168       |                   |
|                   | 238       | 249       | 195       | <b>RA 150 STD</b> |
|                   | 238       | 249       | 195       | <b>RA 150 LN</b>  |

|                   | <b>D1</b> | <b>D2</b> | <b>D3</b> |                   |
|-------------------|-----------|-----------|-----------|-------------------|
| <b>WA 150 STD</b> | 259       | 312       | 225       |                   |
| <b>WA 150 LN</b>  | 259       | 312       | 225       |                   |
|                   | 245       | 295       | 195       | <b>RA 150 STD</b> |
|                   | 245       | 295       | 195       | <b>RA 150 LN</b>  |

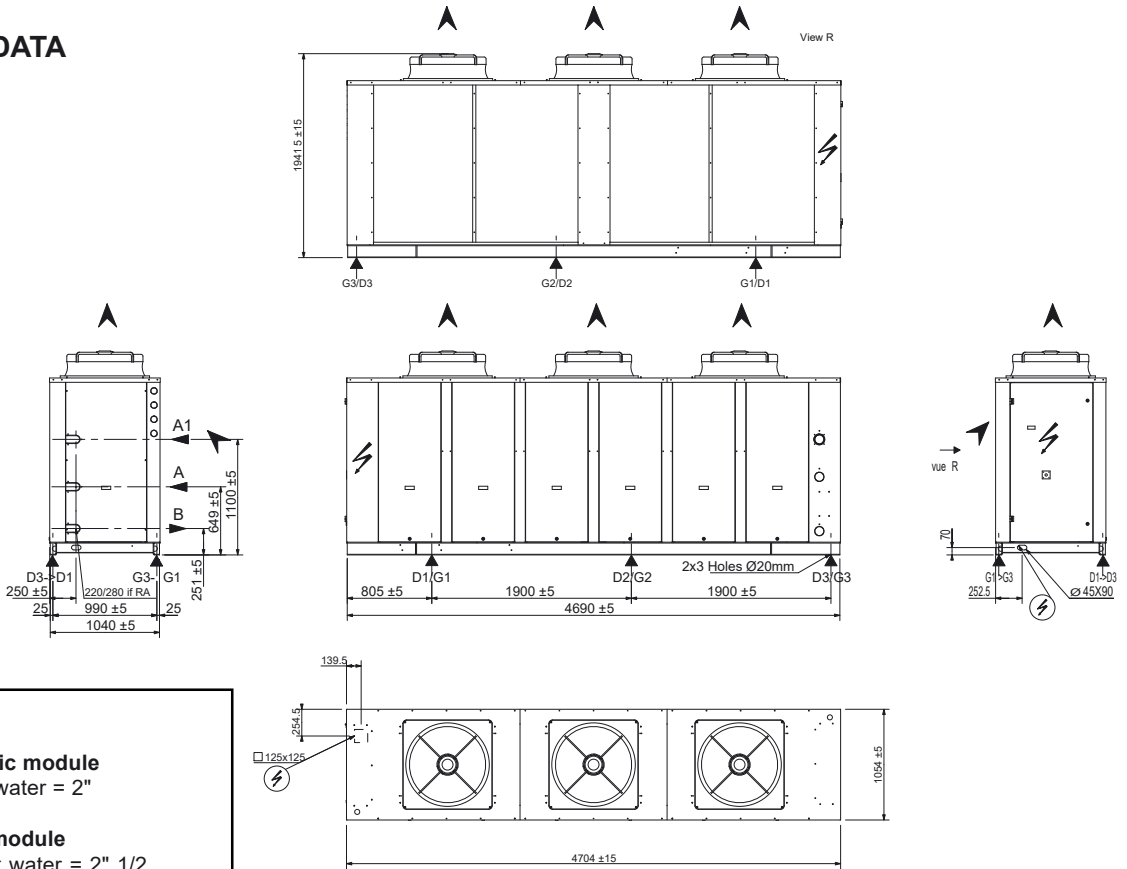
**CLEARANCES**

OVERHEAD OBSTRUCTIONS ARE NOT PERMITTED



Lennox recommend load distribution as detailed above,

**DIMENSIONAL DATA**



- WA 150 STD & LN**
- **Without hydraulic module**  
A/B : Inlet/outlet water = 2"
  - **With hydraulic module**  
A1/B : Inlet/outlet water = 2" 1/2
- RA 150 STD & LN**
- **Suction Line** : 2" 1/8
  - **Liquid Line** : 7/8"

**LOAD DISTRIBUTION  
(KG - OPERATING WEIGHTS)**

|                 |          |
|-----------------|----------|
| wa RA 150       | SLN      |
| wa 150          | HE       |
| wa RA 200 / 230 | STD - LN |
| wah 200 / 230   | STD      |

|             | G1  | G2  | G3  |
|-------------|-----|-----|-----|
| WA150HE/SLN | 261 | 348 | 257 |
| WA200STD/LN | 304 | 394 | 255 |
| WA230STD/LN | 305 | 449 | 344 |
| WAH 200     | 315 | 408 | 264 |
| WAH 230     | 313 | 461 | 354 |
|             | 249 | 333 | 223 |
|             | 291 | 377 | 244 |
|             | 295 | 434 | 283 |

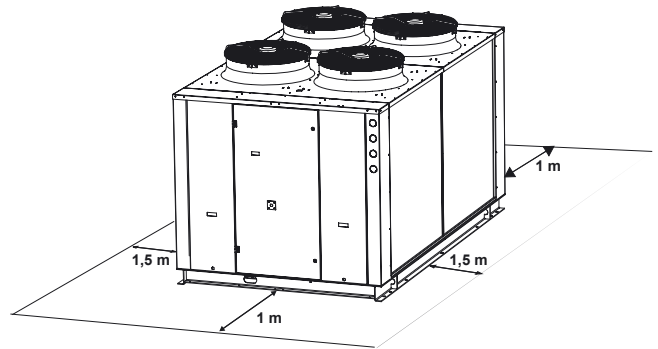
|              | G1  | G2  | G3  |
|--------------|-----|-----|-----|
| WA150HE/SLN  | 250 | 318 | 202 |
| WA 200STD/LN | 286 | 353 | 268 |
| WA 230STD/LN | 277 | 373 | 271 |
| WAH 200      | 296 | 365 | 277 |
| WAH 230      | 285 | 384 | 279 |
|              | 273 | 304 | 223 |
|              | 273 | 337 | 244 |
|              | 269 | 362 | 283 |

RA 150 SLN  
RA 200 STD/LN  
RA 230 STD/LN

RA 150 SLN  
RA 200 STD/LN  
RA 230 STD/LN

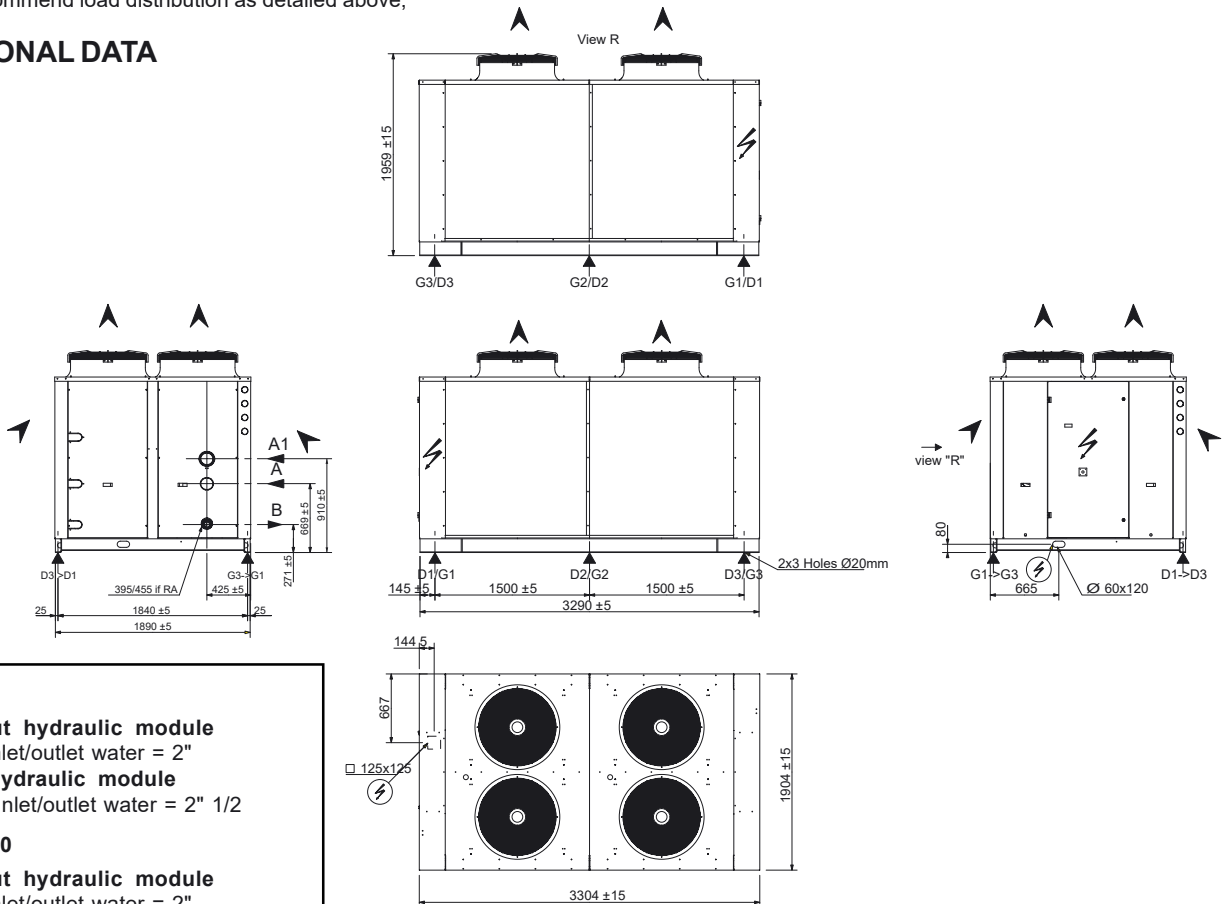
**CLEARANCES**

OVERHEAD OBSTRUCTIONS ARE NOT PERMITTED



Lennox recommend load distribution as detailed above,

**DIMENSIONAL DATA**



- WA 150**
- Without hydraulic module  
A/B : Inlet/outlet water = 2"
  - With hydraulic module  
A1/B : Inlet/outlet water = 2" 1/2
- WA 200/230**
- Without hydraulic module  
A/B : Inlet/outlet water = 2"
  - With hydraulic module  
A1/B : Inlet/outlet water = 2" 1/2
- RA 150/200/230 STD&LN&LN**
- Suction Line : 2" 1/8
  - Liquid Line : 7/8"

|                    |          |
|--------------------|----------|
| wa 200 / 230       | HE - SLN |
| wa 270 / 300 / 370 | STD - LN |

**LOAD DISTRIBUTION  
(KG - OPERATING WEIGHTS)**

|            | G1  | G2  | G3  |
|------------|-----|-----|-----|
| 200 HE/SLN | 286 | 477 | 286 |
| 230 HE/SLN | 301 | 540 | 309 |
| 270 STD/LN | 352 | 590 | 384 |
| 300 STD/LN | 362 | 605 | 394 |
| 370 STD/LN | 372 | 734 | 512 |

|            | D1  | D2  | D3  |
|------------|-----|-----|-----|
| 200 HE/SLN | 280 | 452 | 252 |
| 230 HE/SLN | 296 | 509 | 269 |
| 270 STD/LN | 346 | 554 | 332 |
| 300 STD/LN | 356 | 569 | 341 |
| 370 STD/LN | 359 | 635 | 374 |

|     | G1  | G2  | G3 |                 |
|-----|-----|-----|----|-----------------|
| 274 | 457 | 254 |    | RA 200 SLN      |
| 290 | 521 | 272 |    | RA 230 SLN      |
| 337 | 565 | 332 |    | RA 270 STD / LN |
| 347 | 581 | 341 |    | RA 300 STD / LN |
| 365 | 719 | 380 |    | RA 370 STD / LN |

|     | D1  | D2  | D3 |                 |
|-----|-----|-----|----|-----------------|
| 268 | 433 | 254 |    | RA 200 SLN      |
| 156 | 491 | 272 |    | RA 230 SLN      |
| 332 | 531 | 332 |    | RA 270 STD / LN |
| 341 | 546 | 341 |    | RA 300 STD / LN |
| 352 | 622 | 380 |    | RA 370 STD / LN |

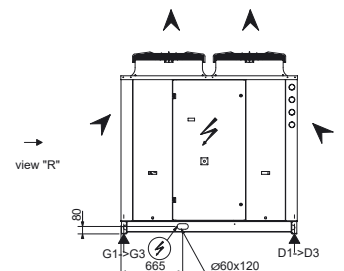
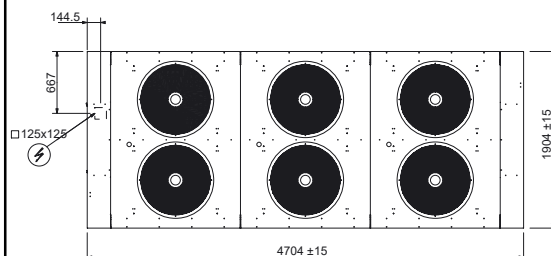
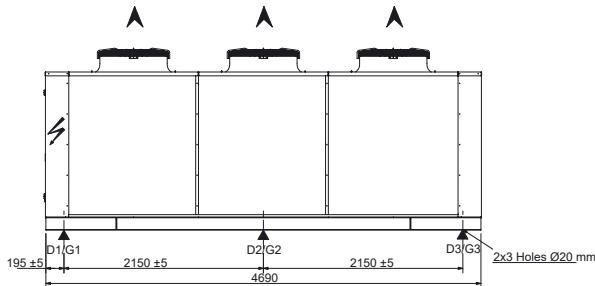
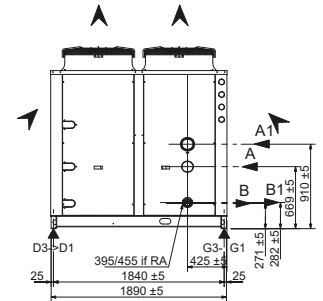
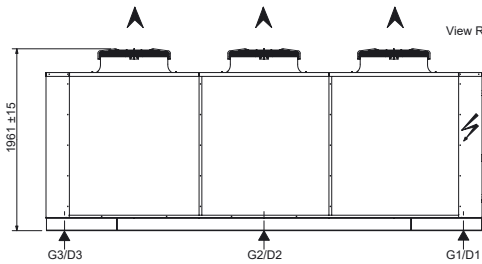
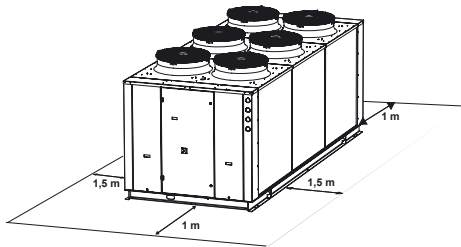
Lennox recommend load distribution as detailed above.

Lennox recommend load distribution as detailed above.

**DIMENSIONAL DATA**

**CLEARANCES**

OVERHEAD OBSTRUCTIONS  
ARE NOT PERMITTED



**WA 200/230**

- Without hydraulic module  
A/B : Inlet/outlet water = 2"
- With hydraulic module  
A1/B1 : Inlet/outlet water = 2" 1/2

**RA 200/230**

Suction Line : 2" 1/8  
Liquid Line : 7/8"

**WA 270/300/370**

- Without hydraulic module  
A1/B1 : Inlet/outlet water = 2" 1/2
- With hydraulic module  
A1/B1 : Inlet/outlet water = 4"

**RA 270/300/370**

Suction Line : 2" 5/8  
Liquid Line : 1" 1/8

**LOAD DISTRIBUTION  
(KG - OPERATING WEIGHTS)**

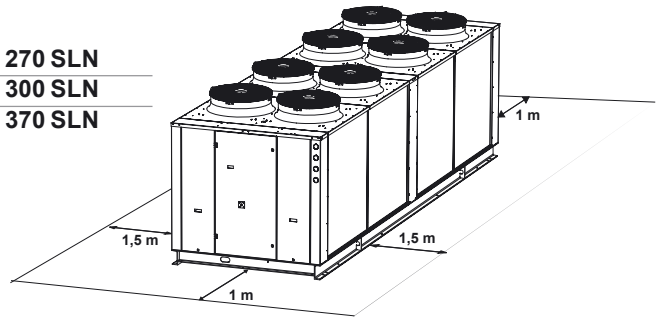
|                       |     |
|-----------------------|-----|
| wa 270 / 300 / 370    | HE  |
| wa RA 270 / 300 / 370 | SLN |

|                      | G1  | G2  | G3  | G4  |
|----------------------|-----|-----|-----|-----|
| <b>WA 270 HE/SLN</b> | 302 | 420 | 440 | 286 |
| <b>WA 300 HE/SLN</b> | 322 | 448 | 470 | 305 |
| <b>WA 370 HE/SLN</b> | 351 | 486 | 513 | 341 |
|                      | 294 | 408 | 394 | 242 |
|                      | 312 | 434 | 438 | 247 |
|                      | 337 | 466 | 464 | 283 |
|                      | D1  | D2  | D3  | D4  |
| <b>270 HE/SLN</b>    | 306 | 411 | 402 | 234 |
| <b>300 HE/SLN</b>    | 326 | 438 | 428 | 250 |
| <b>370 HE/SLN</b>    | 351 | 471 | 463 | 278 |
|                      | 297 | 399 | 394 | 242 |
|                      | 316 | 424 | 438 | 247 |
|                      | 337 | 452 | 464 | 283 |

**CLEARANCES**

OVERHEAD OBSTRUCTIONS ARE NOT PERMITTED

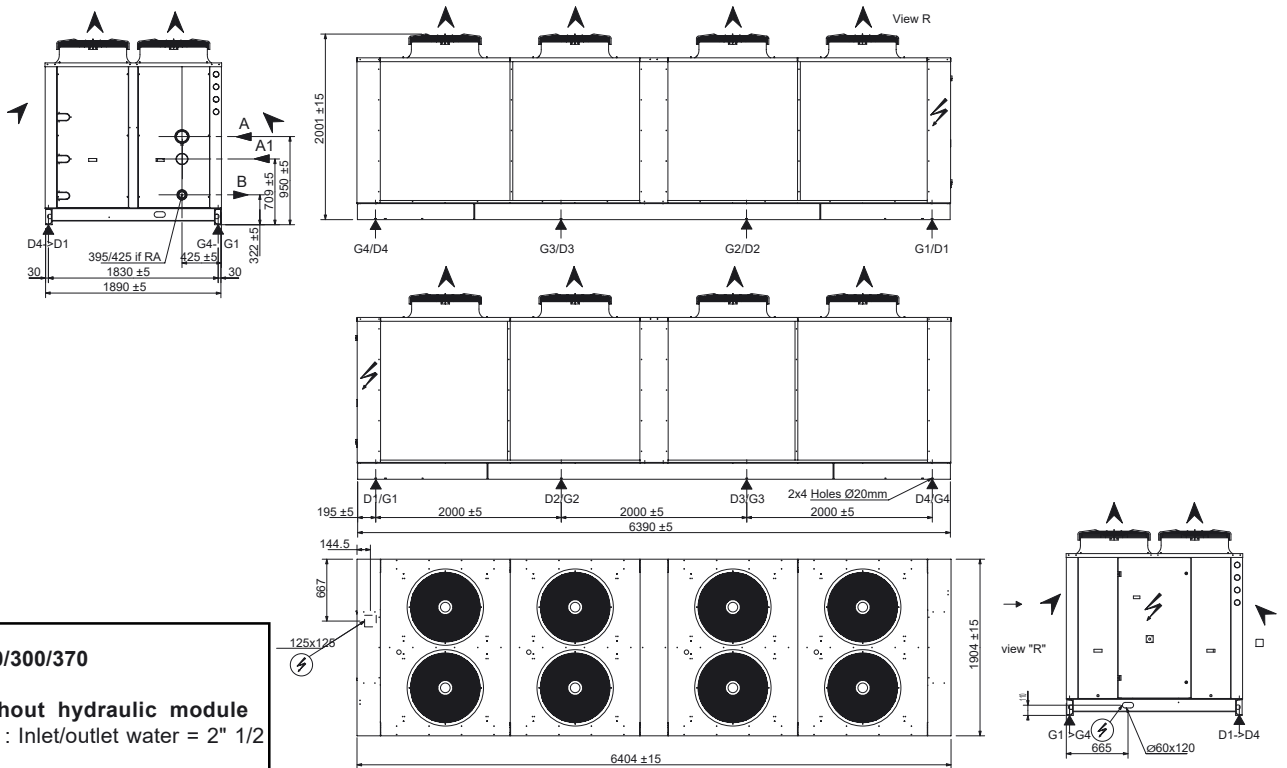
**RA 270 SLN  
RA 300 SLN  
RA 370 SLN**



**RA 270 SLN  
RA 300 SLN  
RA 370 SLN**

Lennox recommend load distribution as detailed above.

**DIMENSIONAL DATA**



**WA 270/300/370**

- **Without hydraulic module**  
A/B : Inlet/outlet water = 2" 1/2
- **With hydraulic module**  
A/B : Inlet/outlet water = 4"

**RA 270/300/370**

- Suction Line : 2" 5/8
- Liquid Line : 1" 1/8

**LOAD DISTRIBUTION  
(KG - OPERATING WEIGHTS)**

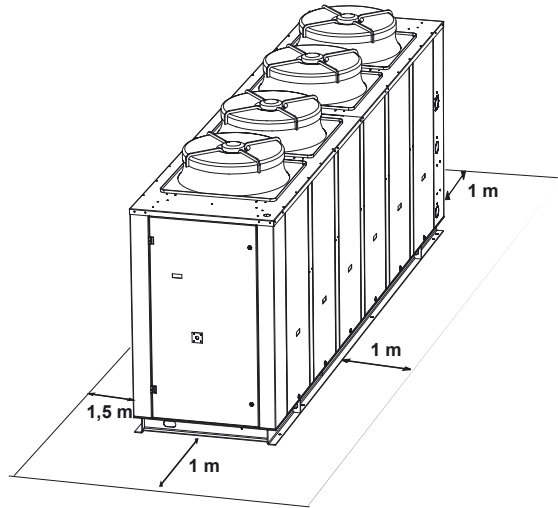
|         |     |
|---------|-----|
| waH 150 | std |
|---------|-----|

|              |                  |                  |                  |
|--------------|------------------|------------------|------------------|
| <b>150 D</b> | <b>G1</b><br>252 | <b>G2</b><br>264 | <b>G3</b><br>167 |
| <b>150D</b>  | <b>D1</b><br>259 | <b>D2</b><br>312 | <b>D3</b><br>225 |

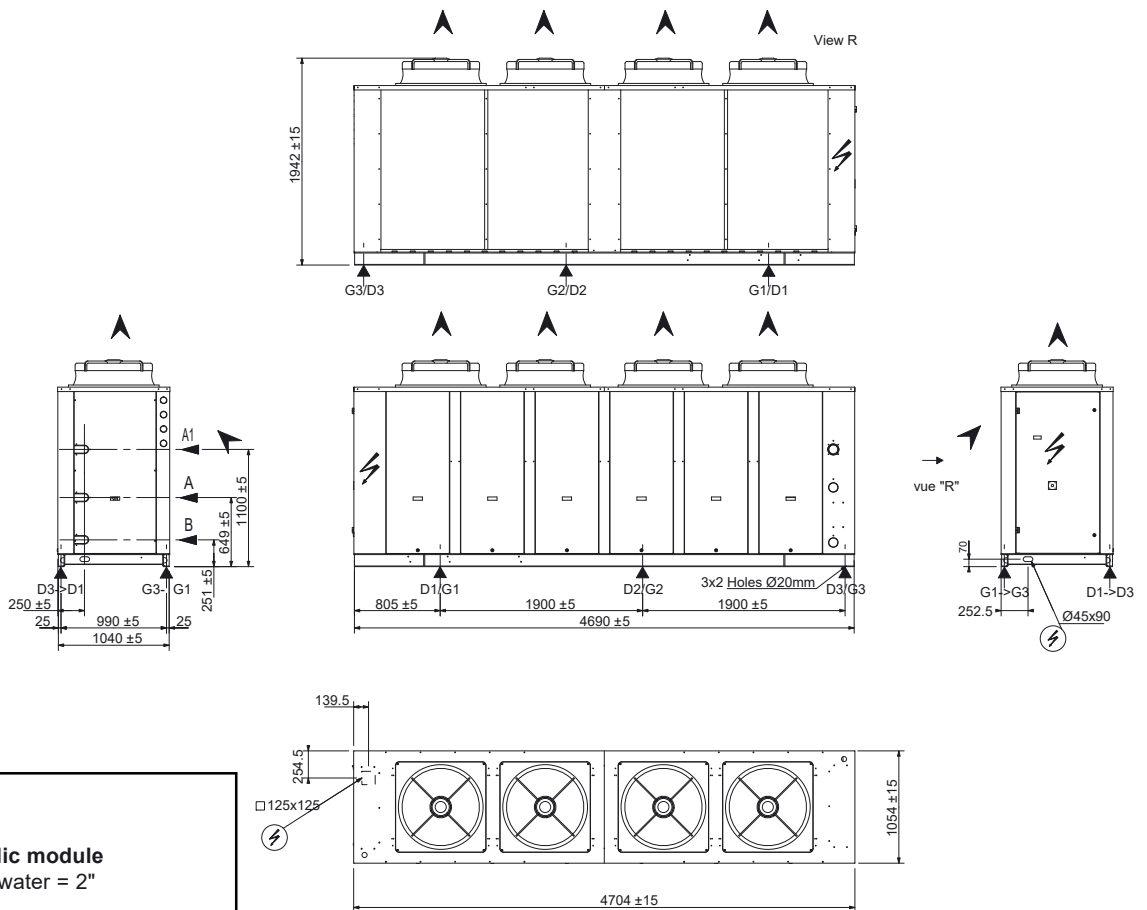
Lennox recommend load distribution as detailed above,

**CLEARANCES**

OVERHEAD OBSTRUCTIONS ARE NOT PERMITTED



**DIMENSIONAL DATA**



**WAH 150D**

- **Without hydraulic module**  
A/B : Inlet/outlet water = 2"
- **With hydraulic module**  
A1/B : Inlet/outlet water = 2" 1/2





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