Databook

Code:	CSS-Rev.10.32
Printing Date:	August 2021

Air Cooled screw chiller
Fix speed

EWAD~T-C

Designed for process cooling application only

- **Best full load and part-load efficiency**
- **Capacity range: from 290kW up to 2100kW;**
- **2 efficiency versions**
- **3 sound versions**
- **Extensive range of options**



https://www.eurovent-certification.com

Best efficiency at full load and part load operation

Is a fact that, despite the chiller is selected to satisfy the cooling demand of the plant in worst conditions (meaning highest ambient temperature possible during the cooling season and maximum demand of cooling energy from the plant), in real operation the ambient temperature will be most of the time lower than the design temperature and the cooling demand will be less than the maximum possible.
The indication of "how good a chiller is" cannot be given by full load efficiency energy ratio (EER) but a seasonal energy efficiency ratio index is needed to proper represent actual operation.

The latest European regulations (entered into force on January 2021) are based on the same concept, setting for Europe minimum efficiency levels based on seasonal operation.
Within the scope of the regulation two different application are identified:

Comfort Cooling applications: seasonal efficiency index is **S**easonal **E**nergy **E**fficiency **R**atio (SEER)
Process Cooling application: seasonal efficiency index is **S**easonal **E**nergy **P**erformance **R**atio (**SEPR**):

The chiller is used in applications where the machine is required to provide cooling for industrial applications the purpose of which is not to provide cooling of a space for the thermal comfort of human beings.
Application examples: data centers, pharmaceuticals, food storage…

Current range will be upgraded and optimized by including **Brushless fans as standard**.
This will improve part load efficiency and allows to sell new range for process application only (SEPR).

All chillers for process applications introduced in EU Countries have to meet minimum SEPR requirements:

		TIER 1 (1st Jan 2018)	**TIER 2 (1st Jan 2021)**
Chiller type	Capacity (kW)	SEPR	**SEPR**
Air Cooled	<400	4,50	**5,00**
Air Cooled	≥400 and < 2000	5,00	**5,50**

For process application **SEPR** calculation considers a full year operation (8760 hours). Assuming 100% cooling demand at 35°C ambient temperature (design temperature) and 80% at 5°C (80% is minimum load required for the process). Between 35°C and 5°C ambient the cooling demand is calculated following a linear trend.

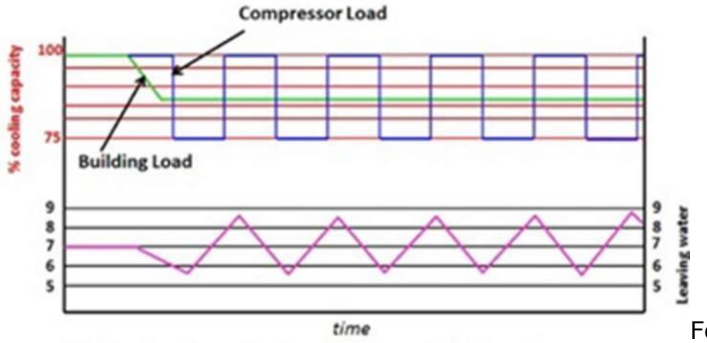
Low operating cost and extended operating life. EWAD~T C chiller range is the result of careful design, aimed to optimize the energy efficiency of the chillers, with the objective of bringing down operating costs and improving installation profitability, effectiveness and economical management.
The chillers feature a high efficiency single screw compressor design, large condenser coil surface area for maximum heat transfer and low discharge pressure, advanced technology condenser fans and a 'shell&tube' evaporator with low refrigerant pressure drops.

Low operating sound levels Very low sound levels both at full load and part load conditions are achieved by the latest compressor design and by a unique new fan that moves large volume of air at exceptionally low sound levels and by the virtually vibration -free operation.

Outstanding reliability The chillers have two truly independent refrigerant circuits, in order to assure maximum safety for any maintenance, whether planned or not. They are equipped with a rugged compressor design with advanced composite compressor gate rotors material, a proactive control logic and are full factory - run-tested to optimized trouble -free operation

Infinite capacity control Cooling capacity control is infinitely variable by means of a single screw asymmetric compressor controlled by microprocessor system. Each unit has infinitely variable capacity control from 100% down to 12,5%. This modulation allows the compressor capacity to exactly match the building cooling load without any leaving evaporator water temperature fluctuation:

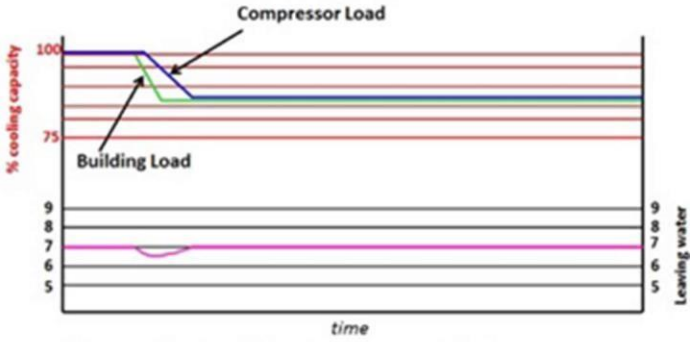
With a compressor load step control in fact, the compressor capacity, at partial loads, will be too high or too low compared to the building cooling load. The result is an increase in chiller energy costs, particularly at the part-load conditions at which the chiller operates most of the time.



EWLT fluctuaction with steps capacity control (4 steps)

For

Units with stepless regulation offer benefits that the units with step regulation are unable to match. The ability to follow the system energy demand at any time and the possibility to provide steady outlet water temperature without deviations from the set-point, are the two points that allow you to understand how the optimum operating conditions of a system can be met through the use of a unit with stepless regulation.



EWLT fluctuaction with stepless capacity control

Superior control logic The MicroTech 4 controller provides an easy to use control environmental. The control logic is designed to provide maximum efficiency, to continue operation in unusual operating conditions and to provide a history of unit operation. One of the greatest benefits is the easy interface with LonWorks, Bacnet, Ethernet TCP/IP or Modbus communications. Integrated sequencing control is provided allowing to connect units (up to 4) operating as a single bigger chiller

Code requirements – Safety and observant of laws/directives Units are designed and manufactured in accordance with applicable selections of the following:

- Construction of pressure vessel 2014/68/EU
- Machinery Directive 2006/42/EC
- Low Voltage 2014/35/EU
- Electromagnetic Compatibility 2014/30/EU
- Electrical & Safety codes EN 60204–1
- Manufacturing Quality Standards UNI – UNI EN ISO 14001

Certifications Units are CE marked, complying with European directives in force, concerning manufacturing and safety. On request units can be produced complying with laws in force in non-European countries (ASME, GOST, etc.), and with other applications, such as naval (RINA, etc.).

Additional information related to F-GAS Regulation (EU) No 517/2014 OF THE European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006

Serie	Model	Refrigerant Type	Refrigerant GWP	N° of circuits	Ref. charge circuit #1 [kg]	Ref. charge circuit #1 (TCO2Eq)	Ref. charge circuit #2 [kg]	Ref. charge circuit #2 (TCO2Eq)
EWAD~T S- S/L C	**290**	R134a	1430	2	33	47	17	24
	330	R134a	1430	2	33	47	17	24
	370	R134a	1430	2	28	40	28	40
	510	R134a	1430	2	29	41	29	41
	520	R134a	1430	2	29	41	26	37
	580	R134a	1430	2	40	57	27	39
	700	R134a	1430	2	47	67	47	67
	800	R134a	1430	2	47	67	47	67
	940	R134a	1430	2	78	112	31	44
	C10	R134a	1430	2	78	112	31	44
	H10	R134a	1430	2	62	89	47	67
	C11	R134a	1430	2	78	112	47	67
	H12	R134a	1430	2	62	89	62	89
	H13	R134a	1430	2	78	112	62	89
	H14	R134a	1430	2	78	112	78	112
	H15	R134a	1430	3	50	72	50	72
	H16	R134a	1430	3	66	94	55	79
	C17	R134a	1430	3	66	94	55	79
	H18	R134a	1430	3	66	94	66	94
	C19	R134a	1430	3	81	116	72	103
	C20	R134a	1430	3	87	124	77	110
	C21	R134a	1430	3	93	133	93	133

Serie	Model	Refrigerant Type	Refrigerant GWP	N° of circuits	Ref. charge circuit #1 [kg]	Ref. charge circuit #1 (TCO2Eq)	Ref. charge circuit #2 [kg]	Ref. charge circuit #2 (TCO2Eq)
EWAD~T X- S/L/R C	**350**	R134a	1430	2	26	37	26	37
	380	R134a	1430	2	27	39	27	39
	400	R134a	1430	2	39	56	26	37
	420	R134a	1430	2	40	57	26	37
	440	R134a	1430	2	40	57	26	37
	490	R134a	1430	2	40	57	26	37
	540	R134a	1430	2	36	51	36	51
	570	R134a	1430	2	36	51	36	51
	730	R134a	1430	2	47	67	47	67
	820	R134a	1430	2	47	67	47	67
	950	R134a	1430	2	78	112	47	67
	C10	R134a	1430	2	94	134	31	44
	H10	R134a	1430	2	78	112	62	89
	H11	R134a	1430	2	94	134	62	89
	C13	R134a	1430	2	78	112	78	112
	H13	R134a	1430	2	94	134	78	112
	C14	R134a	1430	2	94	134	78	112
	H15	R134a	1430	3	55	79	55	79
	H16	R134a	1430	3	72	103	60	86
	C17	R134a	1430	3	77	110	77	110
	H18	R134a	1430	3	83	119	83	119
	C19	R134a	1430	3	93	133	83	119
	C20	R134a	1430	3	93	133	93	133

Note: the refrigerant charge is subject to change. Refer to the unit nameplate for actual unit refrigerant charge

Versions

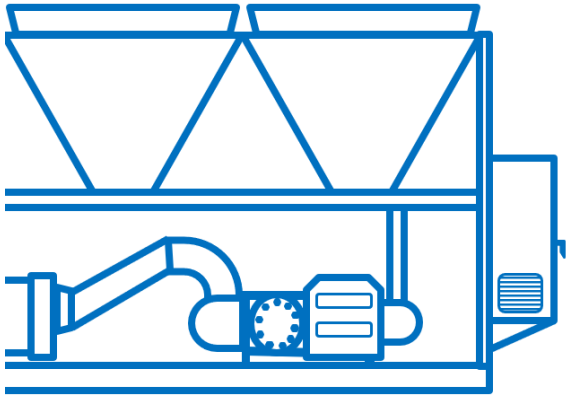
For process applications only and in countries where Ecodesign standard are applied, this series have

- 2 efficiency versions (Silver and Gold);
- 3 sound versions;
- Capacity range: from 290kW up to 2100kW;

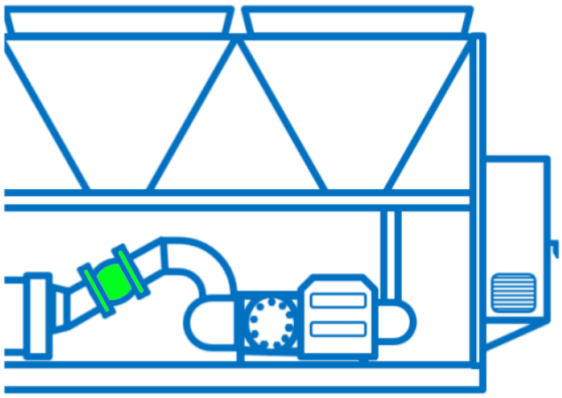
Standard efficiency: EWAD~T SS C / EWAD~T SL C
High efficiency: EWAD~T XS C / EWAD~T XL C / EWAD~T XR C

Sound configurations Standard, low and reduced sound configurations available as follows:

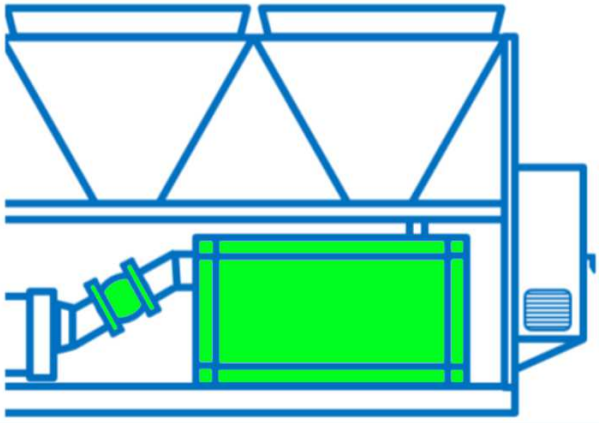
STANDARD SOUND
Condenser fan rotating at 900 rpm, rubber antivibration under compressor



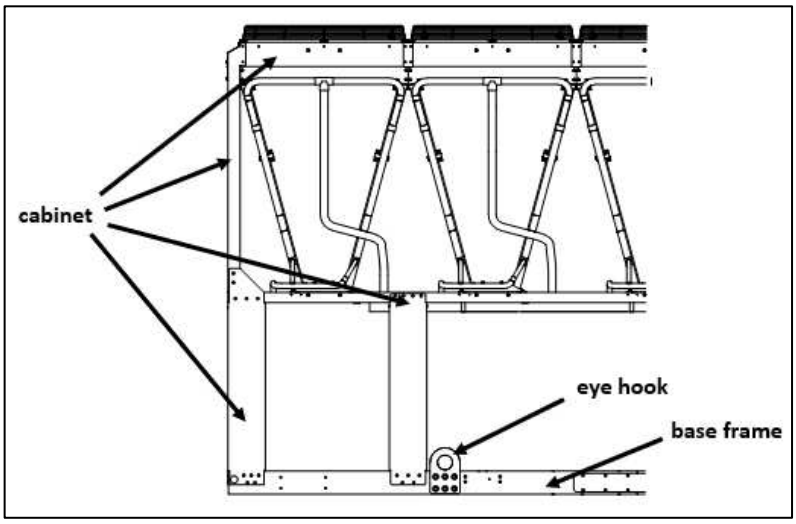
LOW SOUND
Condenser fan rotating at 900 rpm, rubber antivibration under compressor and the sound attenuation is achieved thanks to special connections at the suction of each compressor that allows to reduce drastically the vibration transmission.



REDUCED SOUND
Condenser fan rotating at 700 rpm, rubber antivibration under compressor and the compressors are closed into a soundproof cabinet especially designed to minimize the sound emissions. Also, special connections at the suction of each compressor allow to reduce drastically the vibration transmission.



Base frame and cabinet



The base frame is made of pickled low carbon steel protected by an anticorrosive epoxy primer, studied to increase the resistance to corrosion of the steel.

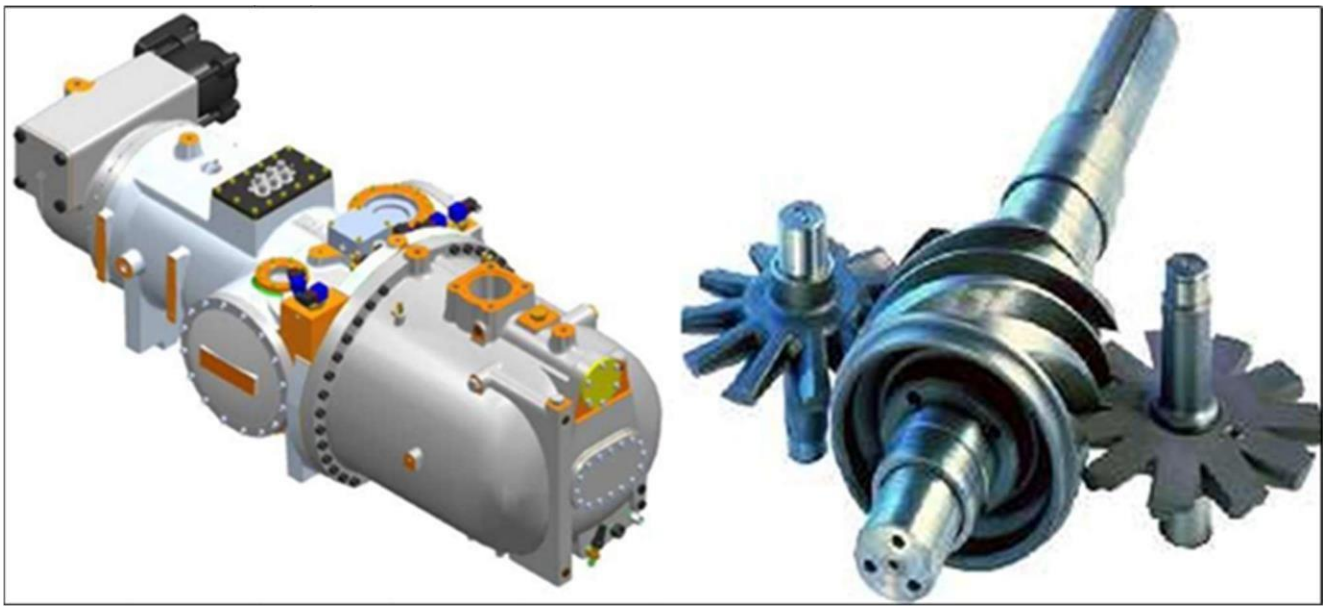
The cabinet is made of galvanized steel.

Both base frame and cabinet are protected with anticorrosive paint.

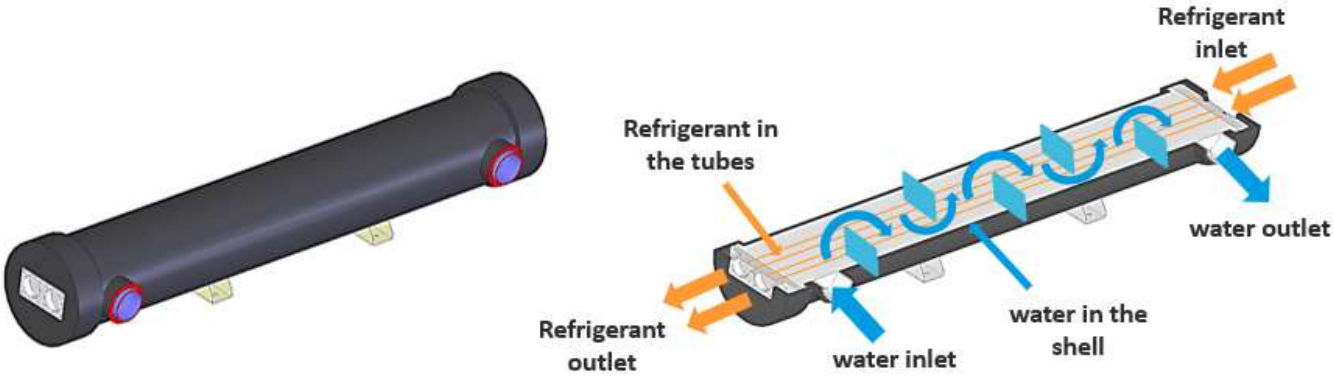
Color Ivory White (Munsell code 5Y7.5/1) (±RAL7044).

The base frame has an eye-hook to lift the unit with ropes for an easy installation. The weight is distributed along the profiles of the base and this facilitates the arrangement of the unit. (refer to dedicated unit's drawing for actual weight distribution).

Compressor (Asymmetric Single Screw) The compressor is semi -hermetic, single -screw type with gate -rotor made with the latest high-strength fiber reinforced star material. The compressor has an asymmetric slide regulation managed by the unit controller for infinitely modulating capacity from 100% to 25%. An integrated high efficiency oil separator maximizes the oil separation and standard start is Wye -Delta (Y-Δ) type.



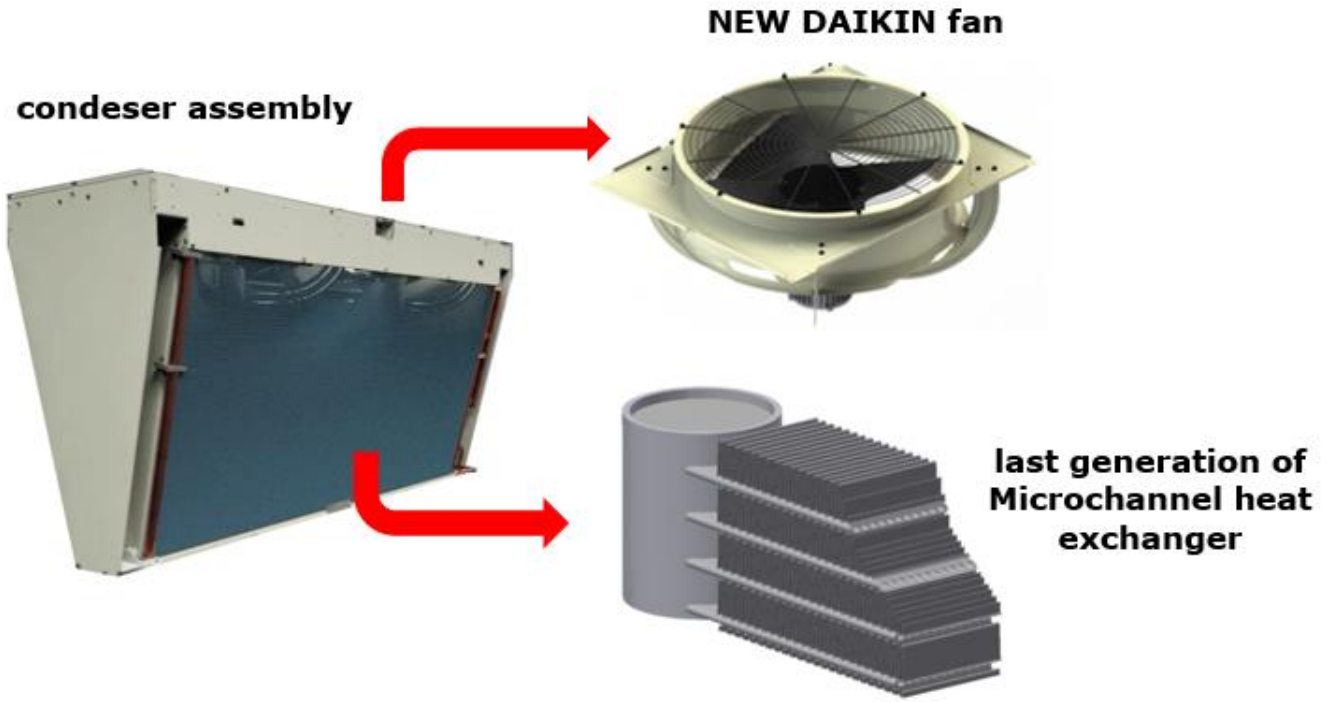
Evaporator (Shell & Tube) The units are equipped with a direct expansion shell & tube evaporator with refrigerant evaporating inside the tubes and water flowing in the shell. The tubes are enhanced for maximum heat transfer and rolled into steel tube sheet and sealed.
The evaporators are single-pass on both refrigerant and water sides for pure counter-flow heat exchange and low refrigerant pressure drops. Both attributes contribute to the heat exchanger effectiveness and total unit's outstanding efficiency.



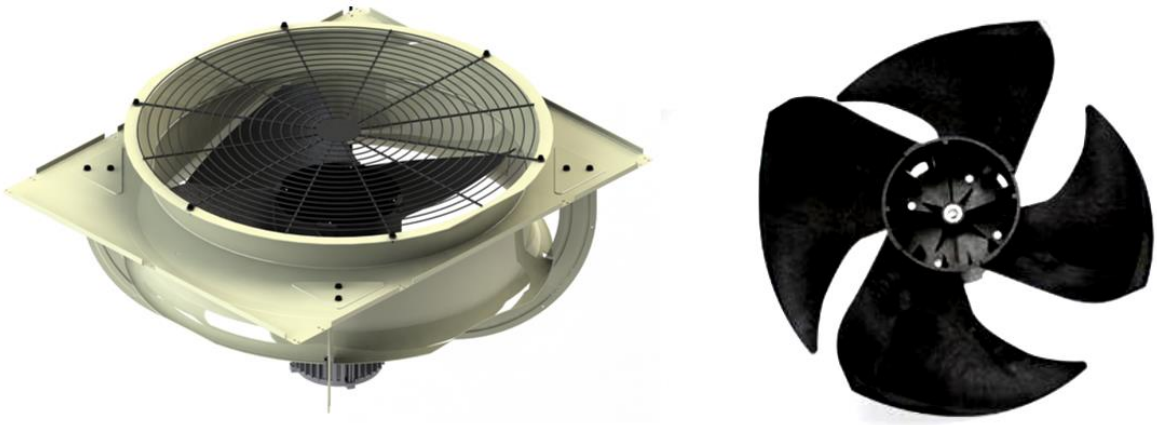
The water side is designed for 10 bar of maximum operating pressure and is provided with vents and drain. The external shell is covered with a 20mm closed cell insulation material and the evaporator water connections are provided with Victaulic kit (as standard). Each evaporator has 2 circuits, one for each compressor and is manufactured in accordance to European standards. Flow switch to detect water flow rate is available as option (shipped loose). Strainers are available as option from the factory. Note: the installation of the strainer is mandatory.
The reduced quantity of refrigerant allowed by using direct expansion type evaporator makes possible for the unit to perform the pump down when stopped storing the refrigerant inside the condensing section. The same is not possible for units equipped with flooded evaporator due to the much higher quantity of refrigerant inside the chiller.

Electronic expansion valves the unit is equipped with the most advanced electronic expansion valves to achieve precise control of refrigerant mass flow. As today's system requires improved energy efficiency, tighter temperature control, wider range of operating conditions and incorporate features like remote monitoring and diagnostics, the application of electronic expansion valves becomes mandatory.
Electronic expansion valves possess unique features: short opening and closing time, high resolution, positive shut-off function to eliminate use of additional solenoid valve, continuous modulation of mass flow without stress in the refrigerant circuit and corrosion resistance stainless steel body.
Electronic expansion valves are typically working with lower ΔP between high-pressure and low-pressure side, than a thermostatic expansion valve. The electronic expansion valve allows the system to work with low condenser pressure (winter time) without any refrigerant flow problems and with a perfect chilled water leaving temperature control. The economizer circuit is also controlled by an electronic expansion valve.

Condenser assembly the condenser assembly is composed of full aluminum heat exchangers and the new fan designed by DAIKIN.

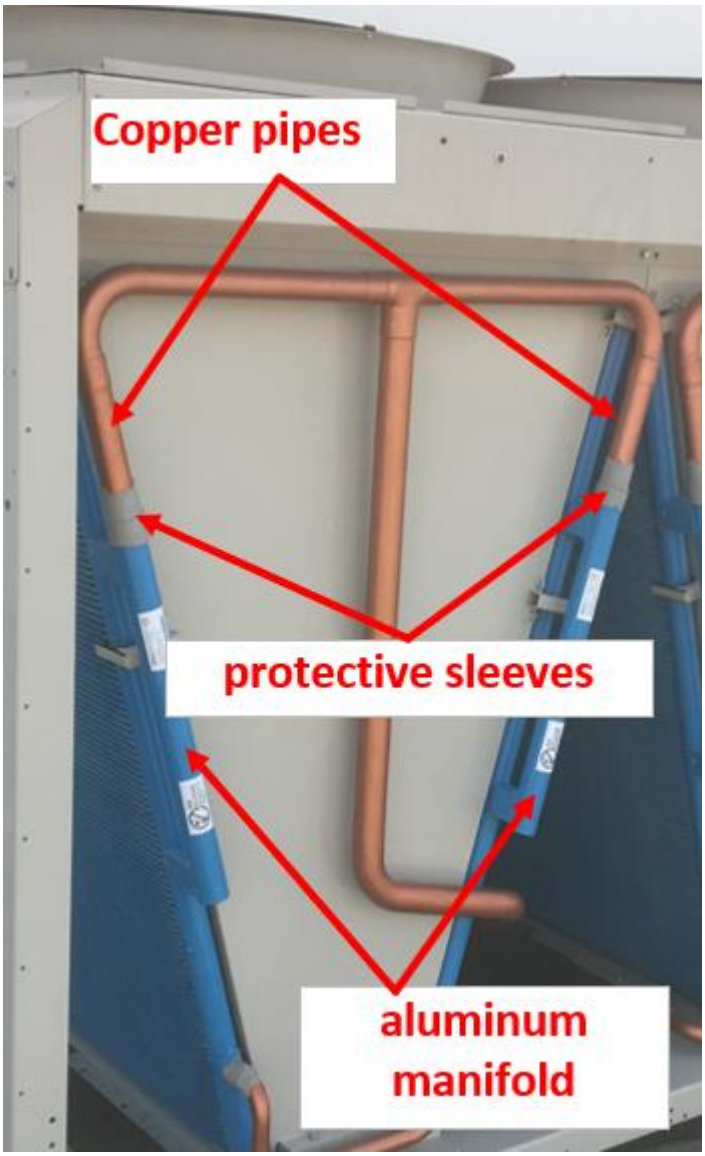


The condenser fans are propeller type with high efficiency design blades to maximize performances. The material of the blades is glass-reinforced resin and each fan is protected by a guard. The advanced composite material has been tested to withstand UV light, heat, and humidity corrosion in some of the most severe climates in the world. Fan motors are internally protected from over temperature and are IP55.



The units are provided as standard with Brushless fans and with synchronous motors excited by permanent magnets and with phase currents controlled by a PWM inverter integrated in the fan motor housing, that allows operation at different speeds. This EC fans are 800 mm diameter and run up to 700 or 900 RPM according to the model size and version selected. The resulting benefit is higher efficiency at part load thanks to continuous modulation of the fans speed according the ambient temperature and the chiller load.

Standard Chiller performances refers to the unit with free discharge (no additional pressure drops on the condenser outlet), without ducts and in observance of the chiller installation prescriptions.



The heat exchangers are made entirely of an aluminum alloy called "Long Life Alloy", Zinc coated fins and multi-port tubes are manufactured with alloys specially developed for this technology and flux brazed in an inert atmosphere to create a homogeneous chemically steady assembly with leak free joints which guarantee improved corrosion resistance. this reduces the risk of galvanic corrosion due to the absence of a bi-metallic couplings with flat tubes containing small channels. Full-depth louvered aluminum fins are inserted between the tubes maximizing the heat exchange. The Microchannel technology ensures the highest performance with the minimum surface for the exchanger. The quantity of refrigerant is also reduced compared to Cu/Al condenser. The full aluminum heat exchangers must be connected to the copper pipes of chiller's refringent circuit. Is fundamental to protect the Cu/Al joints against the galvanic corrosion. As result of this experience and after a deep and thorough analysis of all the connection protectors available in the market, we have introduced the latest improvement, the adhesive sleeve + polyurethane-based sealing protector.

Special treatment on the aluminum ensure resistance to the corrosion by atmospheric agents extending the life time.

Note: for application in industrial, costal high polluted urban environment or combinations of the above a proper evaluation is needed to understand if, according to the specific environment, additional protections measures are needed. Refer to Options chapter for more details.

Refrigerant circuit Each unit has 2 or 3 independent refrigerant circuits and each one includes:

- Compressor with integrated oil separator
- Refrigerant
- Evaporator
- Air Cooled Condenser
- Electronic expansion valve
- Discharge line shut off valve
- Sight glass with moisture indicator
- Filter drier
- Charging valves
- High pressure switch
- High pressure transducers
- Low pressure transducers
- Oil pressure transducer
- Suction temperature sensor

Electrical control panel Power and control are located in the main panel that is manufactured to ensure protection against all weather conditions. The electrical panel is IP54 and (when opening the doors) internally protected against possible accidental contact with live parts. The main panel is fitted with a main switch interlocked door that shuts off power supply when opening

Power Section The power section includes compressors and fans protection devices, fans starters and control circuit power supply.

MicroTech 4 controller

The new MicroTech 4 controller is installed as standard in all Daikin chillers.
It gives the possibility to check the most relevant control parameters and modify unit set-points. A built-in display shows unit operating status. Additionally, temperatures and pressures of water, refrigerant and air, programmable values, set-points can be accessed based on a preset list of user profiles.
A sophisticated software with adaptive logic, selects the most energy efficient combination of compressors, EEXV and fans to keep stable operating conditions to maximize unit energy efficiency and reliability. MicroTech 4 protects critical components based on external signals from onboard sub-system (such as motor temperatures, refrigerant and oil pressures and temperatures, correctness of phase sequence, pressure switches and freezing of heat exchanger).
The input coming from high-pressure switches cuts all digital output from the controller in less than 50ms, as an additional security for the equipment. Fast program cycle (less than 200ms) for a precise monitoring of the system and sub-systems. Floating point calculations supported for increased accuracy in Pressure / Temperature conversions.

Control main features

Control system has the following feature:
Management of compressors and fans modulation;
Control of cooling or heating leaving water temperatures;
Management of cooling and heating capacities according to the load;
Switch of operating modes in less than 1 minute;
Return reset (set point reset based on return water temperature);

- Set point reset (optional);
- Unit operation in partial failure condition;
- Managed operations during critical conditions:
  - High ambient temperature;
  - High thermal load;
  - Startup with high and low differential operating conditions;
  - Startup with high entering water temperature in cooling mode;
  - Startup with low entering water temperature in heating mode;
- Optimized management of compressor load;
- Optimized fan management according to condensing pressure;
- General faults alarm relay;
- Automatic re-start in case of power failure;
- Rapid Restart (optional) to recover full load in the shortest possible time for Data Centre application;
- iCM (optional) integrated on MT4 controller for multiple chillers management;
- Soft load (optimized management of the compressor load during the start-up);
- Start at high cold heat exchanger water temperature;
- Visualization of:
  - cooling and heating entering/leaving water temperature of heat exchangers;
  - outdoor ambient temperature;
  - condensing-evaporating temperature and pressure, suction and discharge superheat for each circuit;
  - hours and starts counter for compressors and pumps;
  - status safety devices;

Control additional features

- System upgrade with commercial SD cards;
- Save/Restore of configuration parameters with a commercial SD card;
- Ethernet port for remote or local servicing using standard web browsers;
- Daikin on Site connectivity for cloud-based services

Safety device / logic for each refrigerant circuit

The following devices / logics are available:

- high pressure (pressure switch);
- high pressure (transducer);
- low pressure (transducer);
- fans circuit breakers;
- high compressor discharge temperature;
- high motor winding temperature;
- phase monitor;
- low pressure ratio;
- high oil pressure drops;
- low oil pressure;
- no pressure changes at start.

System security

The following securities are available:

- phase monitor;
- low ambient temperature lock-out;
- freeze protection.

Regulation type

Proportional integral derivative regulation on the cold heat exchanger leaving water output probe.

MicroTech 4

MicroTech 4 built-in terminal has the following features:

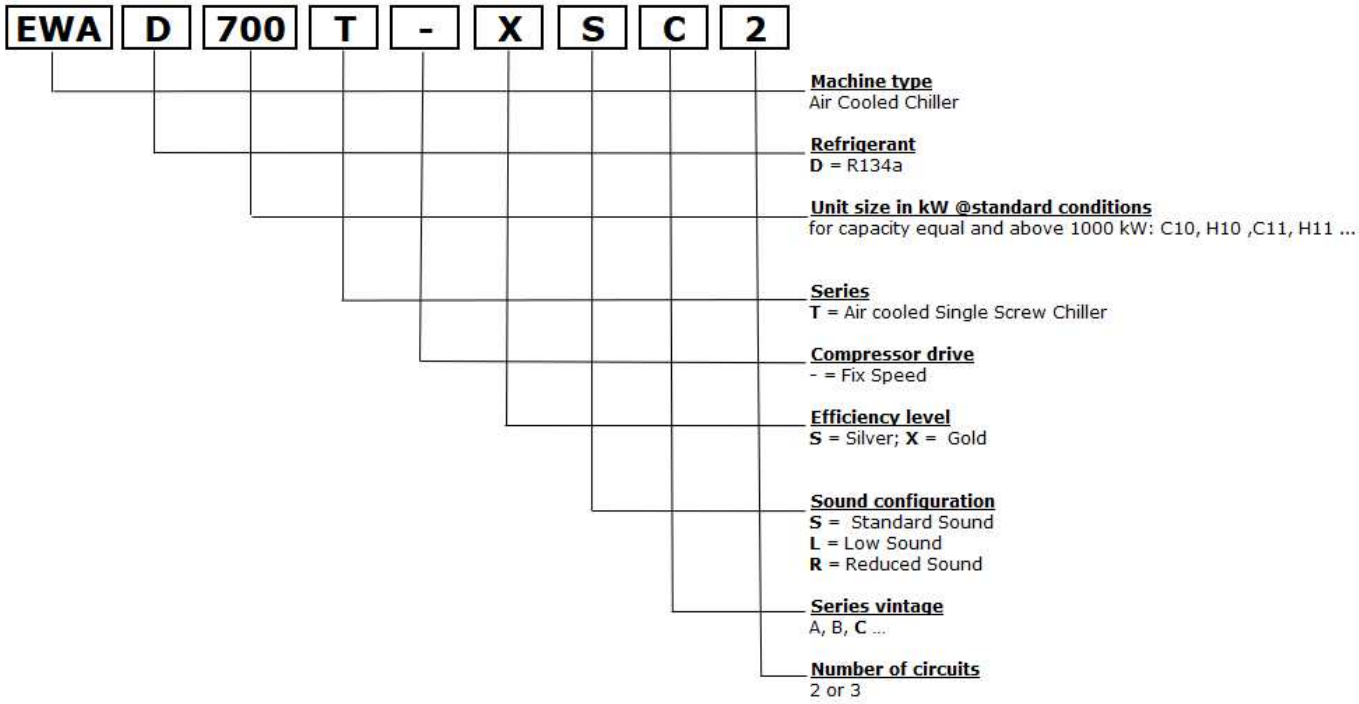
- Liquid crystal display with white back lighting, supports Unicode fonts for multi-lingual;
- Key-pad consisting of 3 keys;
- Push'n'roll control for an increased usability;
- Flash memory to protect the data;
- Password access to modify the setting;
- Application security to prevent application tampering or hardware usability with third party applications;
- Alarm history memory to allow an easy fault analysis.

Supervising systems (on request) MicroTech 4 remote communication

MicroTech 4 can communicate to BMS (Building Management System) based on the most common protocols as:

- Modbus RTU (Natively supported by the controller);
- BACnet IP and MS/TP (Natively supported by the controller);
- Ethernet TCP/IP (Natively supported by the controller);
- LonWorks (adding an external communication module).

Nomenclature



Standard features (options supplied as standard on basic unit)

Wye -Delta compressor starter [Y-D] (opt. code 05 – provided as standard) For low inrush current and reduced starting torque

Double set point (opt. code 10 – provided as standard) Dual leaving water temperature set points.

Phase monitor (opt. code 13 – provided as standard) Device that monitors input voltage and stops the chiller in case of phase loss or wrong phase sequence.

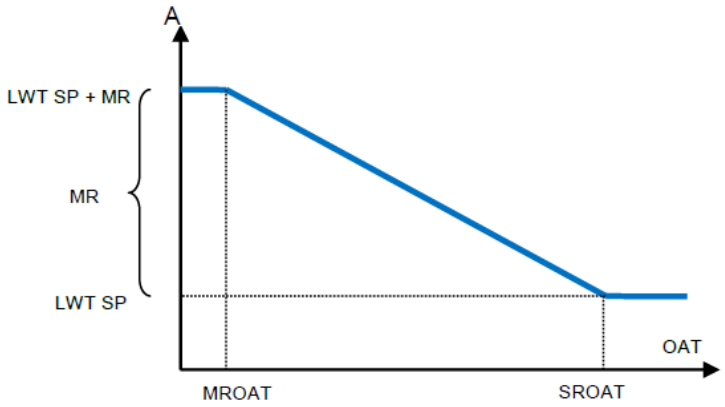
20mm evaporator insulation (opt. code 29 – provided as standard) The external shell is covered with a 20mm closed cell insulation material.

Electronic expansion valve (opt. code 60 – provided as standard)

Discharge line shut-off valve (opt. code 61 – provided as standard) Installed on the discharge port of the compressor to facilitate maintenance operation.

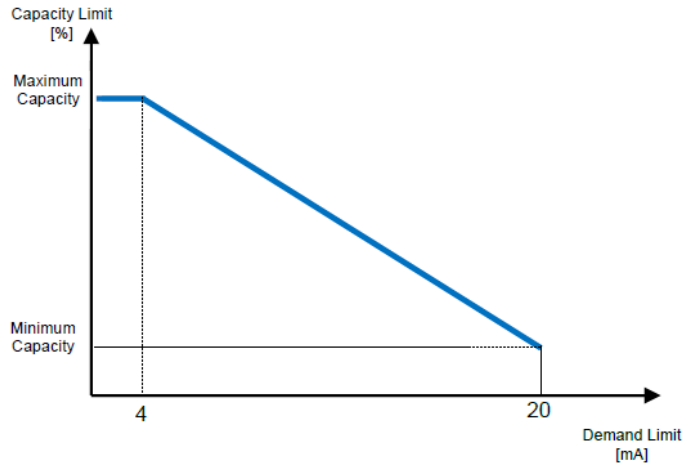
Set point reset, demand limit and alarm from external device (opt. code 90 – provided as standard)
The options can be enabled on the unit controller:

Setpoint Reset: The leaving water temperature set-point can be overwritten with an external 4- 20mA, through the ambient temperature, or through the evaporator water temperature ΔT.
The active setpoint is calculated applying a correction which is a function of ambient temperature (OAT). As temperature drops below the Start Reset OAT (SROAT), LWT setpoint is gradually increased until OAT reaches the Max Reset OAT value (MROAT). Beyond this value, the LWT setpoint is increased by the Max Reset (MR) value.



Parameter	Default	Range
Max Reset (MR)	5.0°C	0.0°C ÷ 10.0°C
Max Reset OAT (MROAT)	15.5°C	10.0°C ÷29.4°C
Start Reset OAT(SROAT)	23.8°C	10.0°C ÷29.4°C
Active Setpoint (AS)		
LWT Setpoint (LWT SP)		Cool/Ice LWT

Demand Limit: Chiller capacity can be limited through an external 4-20mA signal or via network.
Demand limit function allows the unit to be limited to a specified maximum load. Capacity limit level is defined with an external 4-20 mA signal and linear relationship. 4 mA indicate maximum capacity available whereas 20 mA indicates minimum capacity available. With demand limit function is not possible shutdown the unit but only unload it until minimum admissible capacity. Demand limit related setpoints available through this menu are listed in the table below.



Parameter	Description
Unit Capacity	Displays current unit capacity
Demand Limit En	Enables demand limit
Demand Limit	Displays active demand limit

Alarm from external device: The unit controller is able to receive an external alarm signal. The user can decide whether this alarm signal will stop the unit or not.

Evaporator electric heater (opt. code 57) 125W electric heater, controlled by a thermostat (heater is activated if water temperature is <4°C) and installed in the evaporator.

Hour run meter (opt. code 68 – provided as standard) General

Fault contactor (opt. code 69 – provided as standard)

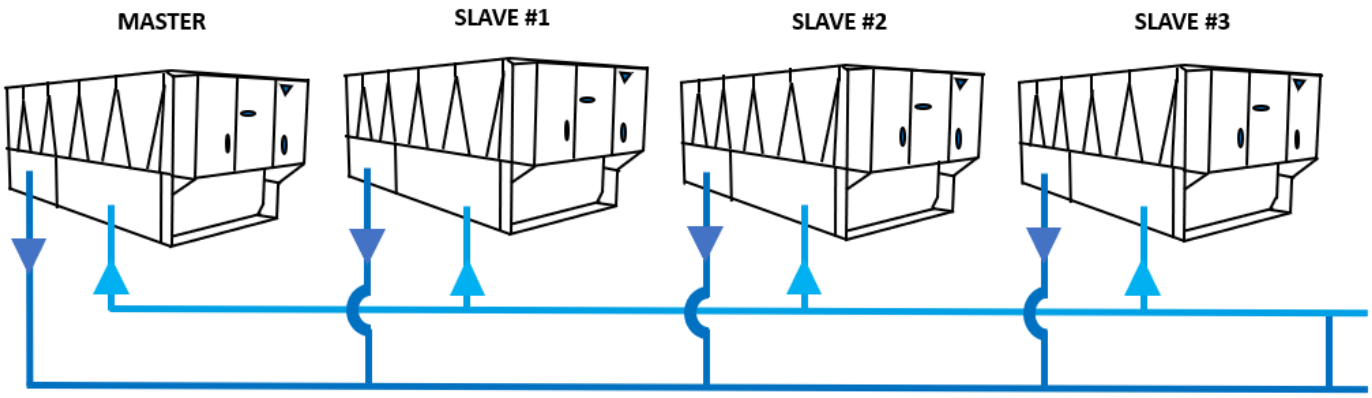
Fans circuit breakers (opt. code 96 – provided as standard) Safety devices that, added to the standard protection devices, protect fan motors against overload and overcurrent.

Main switch interlock door (opt. code 97 – provided as standard)

Master / Slave (opt. code 128 – provided as standard)

The EWAD~T-C features the DAIKIN Master/ Slave (M/S) control.

This functionality allows to manage up to 4 chillers installed in parallel on the same water loop.



M/S can:

- Rotate the chiller operation balancing the running hour.
- Avoid simultaneous starts of the chillers installed.
- Control systems combining EWAD~T (Daikin fix speed screw Air Cooled chiller) with EWA(D)(H)~TZ (Daikin Inverter Screw Air Cooled chiller).
- Sequence based on water set-point and time

With Master / Slave is not possible:

- to control mixed plant including Screw chillers and Scroll chillers, or screw and scroll heat pumps or multipurpose units.
- to control multiple units' plant with variable flow logic;
- to control units with Rapid Restart functionality;
- to manage units with heat recovery option
- to manage multiple chiller system based on optimal efficiency

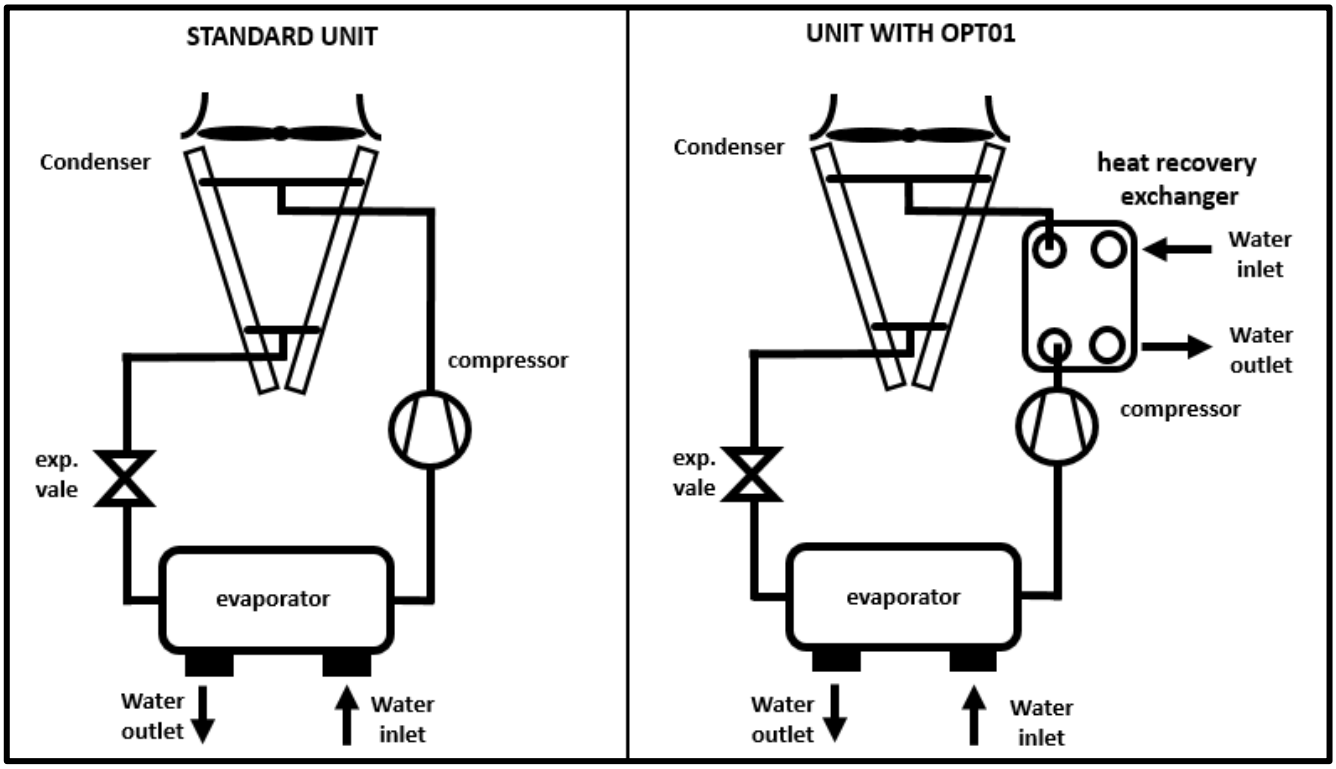
For all the above cases the option 184, Intelligent Chiller Manager (iCM), must be provided.

Standard chiller capacity control is based on the evaporating leaving water temperature. To keep the same control in case of units connected in M/S an additional temperature sensor must be installed on the common line of the hydraulic circuit and connected to the Master unit. The temperature sensor can be an NTC10K or PT1000; (the temperature sensor is not provided by the factory).
In case no additional probe is installed is possible to activate the control based on the entering water temperature.

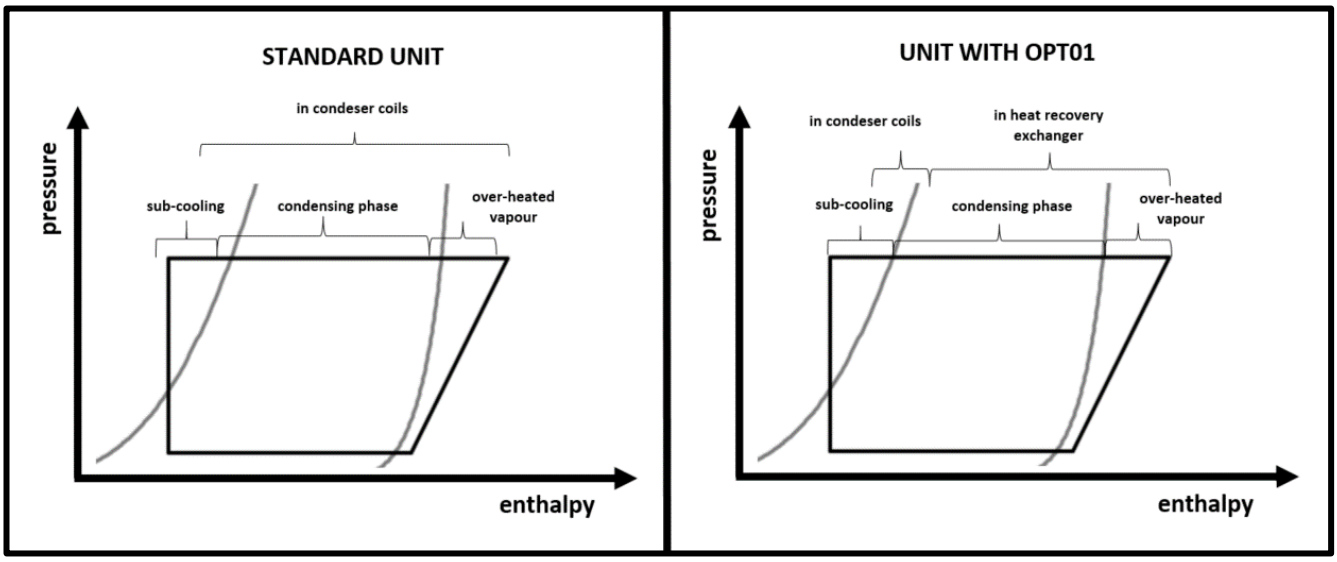
Once set which unit has the role of master, the other(s) will operate as slave(s) based on the inputs provided by the master.

Options on request

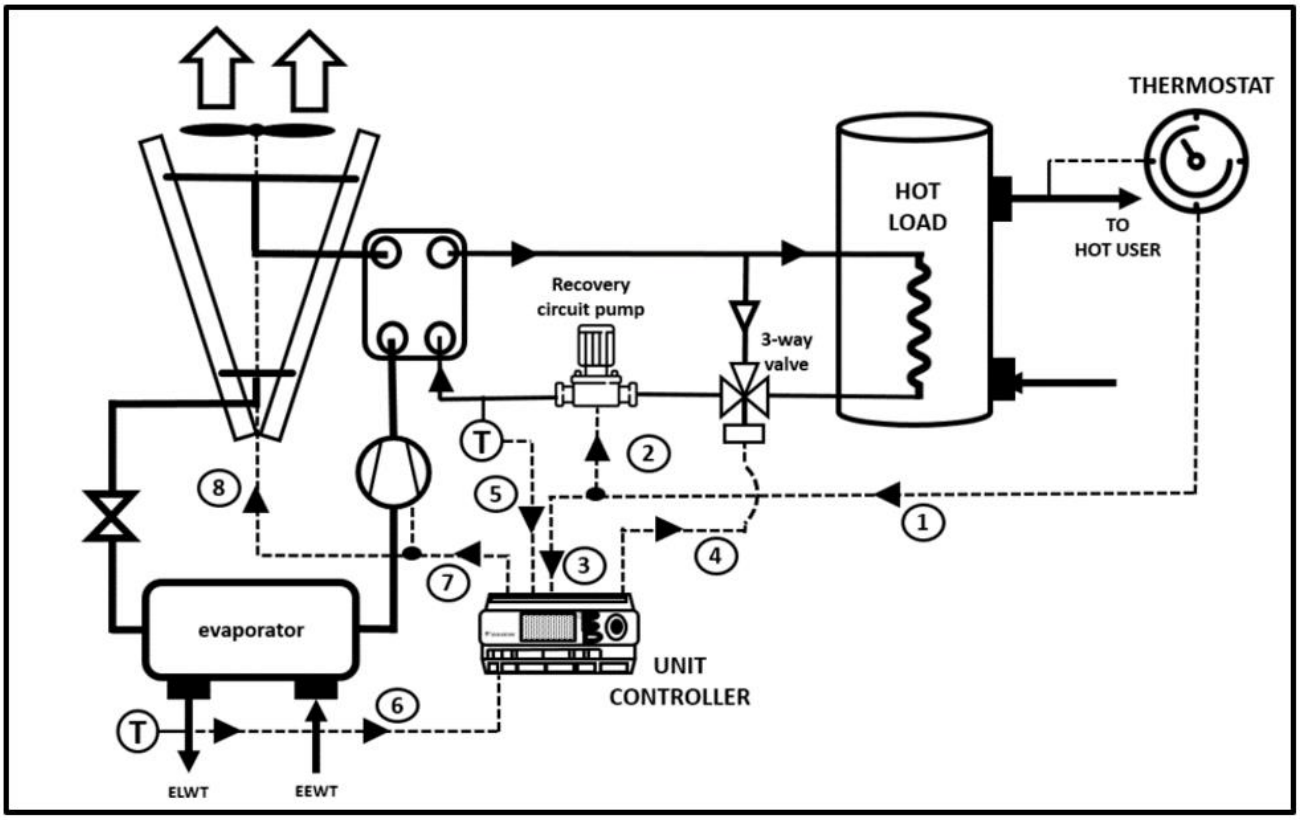
Total Heat Recovery (opt. code 01) A plate to plate heat exchanger for each refrigerant circuit is installed directly in series to the air condenser coil, thus, compressor discharged refrigerant is always flowing through the heat recovery exchanger and warm water production is always available while the chiller is providing cooling.



A plate to plate heat exchanger for each refrigerant circuit is installed in series to the air condenser coil. There is no switch nor solenoid valve in the circuit, thus compressor discharged refrigerant is always flowing through the heat recovery exchanger and warm water production is always available while the chiller is providing cooling. The amount of heat recovered is about the 80/85% of the total heat rejection of the chiller (the actual amount of the available heat rejection recovered depends on the operating conditions). When heating capacity is required the unit 's controller starts to manage the condensing pressure, according to the required set point for the hot water, acting on the airflow for the condensing section. The heating available for heat recovery is a result of the cooling operation. No heating is available when cooling is not requested.



The Total heat recovery function operate according the following scheme:



The thermostat (filed supply) detects when heating energy is required from the user. Once the water temperature to the HOT USER goes below the set-point, a signal (1) is sent to activate the heat recovery pump (2) and to the unit controller (3) enabling the HEAT RECOVERY MODE. The unit controller modulates the valve according the to the temperature entering the heat recovery exchanger. The valve must be positioned as mixing valve. Once the controller switch to HEAT RECOVERY MODE it starts to compare the inlet temperature to the plate heat exchanger with the set-point given to the unit controller; if the temperature goes below that setpoint unit starts to manage the entering water temperature (8). The capacity of the unit is anyway managed by the controller (7) based on the outlet temperature from the evaporator (6). The heating capacity is a percentage of the whole heat rejection resulting from the chiller operation and is available only when cooling capacity is requested at the same time.
The mixing valve must be installed to avoid cold water entering the heat recovery exchanger. The valve (not provided by the factory) must a be a continuously modulated type. The signal for the modulation is provided by the chiller (4) (0-10V signal). The modulation of the valve is based on the entering water temperature to the heat recovery exchanger.
When heat recovery is ON the unit efficiency to consider is not the EER (Energy Efficiency Ratio) which refers only to the cooling effect of the unit. With heat recovery the unit is also providing heating energy that otherwise should still be provided by another source.
The Total Efficiency Ratio is defined as:

$$\mathbf{TER} = \frac{\mathbf{Cooling\ capacity} + \mathbf{Heating\ capacity}}{\mathbf{power\ input}}$$

Total **H**eat **R**ecovery (**THR**) option affects the cooling performances of the unit according the ambient temperature and the hot water temperature requested. Check for the unit performances in the Chiller Selection Software.

Partial Heat Recovery (opt. code 03)
A plate to plate heat exchanger for each refrigerant circuit is installed in series to the air condenser coil. There is no switch nor solenoid valve in the circuit, thus compressor discharged refrigerant is always flowing through the heat recovery exchanger and warm water production is always available while the chiller is providing cooling. The unit layout is similar to the one with OPT01; the plate heat exchanger placed at the compressor discharge is smaller compare to the one used for total heat recovery and the heating capacity available is only the one related to the over-heated vapor.
The amount of heat recovered is about the 15/20% (according to the operating conditions) of the total heat rejection of the chiller. Heat recovery capability is subject to cooling load demand (if no cooling demand is present then no heat recovery is available) and strongly affected by the ambient temperature and requested hot water temperature. Differently from option Total Heat Recovery, the unit controller does not manage the condensing temperature in partial heat recover operation. The heat recovery operation must be managed from the plant manager that controls the pump on the recovery circuit. Also, when Partial Heat Recovery is ON the efficiency of the chiller is represented by TER and not simply by EER.

Brine Version (opt. code 08) For operation with temperature at the outlet of the evaporator below 4°C, the unit must operate with glycol mixture (with ethylene or propylene glycol) and the Brine Version option must be selected. The option provides dedicated control function, optimized evaporator and additional insulation on heat exchanger and piping.

Evaporator Victaulic KIT (opt. code 20 – provided as standard) Victaulic kit includes the Victaulic joint and the counter pipe fitted with Victaulic groove to be welded with the plant pipes.

Evaporator flange KIT (opt. code 21) The flange kit includes flange, counter-flange and gaskets, bolted together with fasteners and nuts.

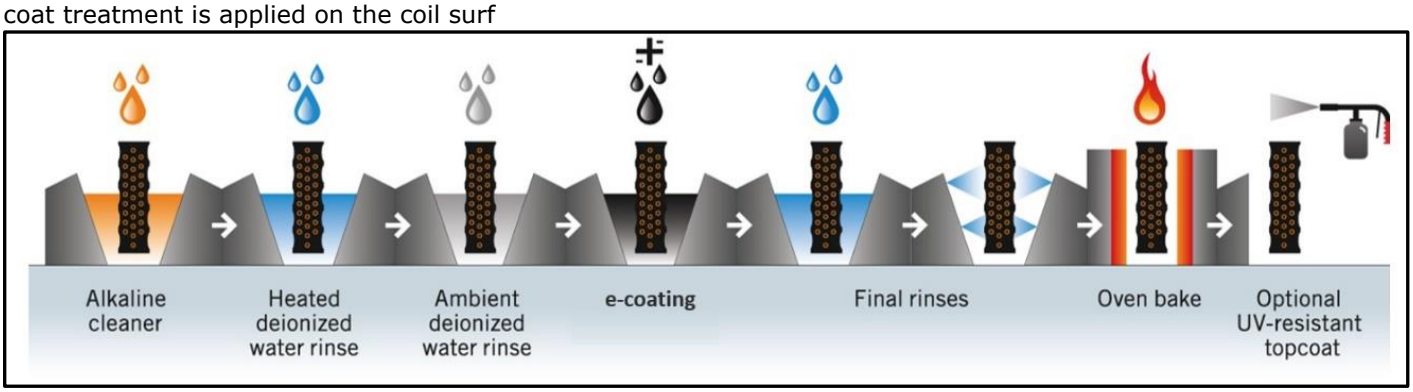
Suction line shut-off valve (opt. code 62) Installed on the suction port of the compressor to facilitate maintenance operation.

High pressure side manometers (opt. code 63)

Low pressure side manometers (opt. code 64)

Double pressure relief valve with diverter (opt. code 91)

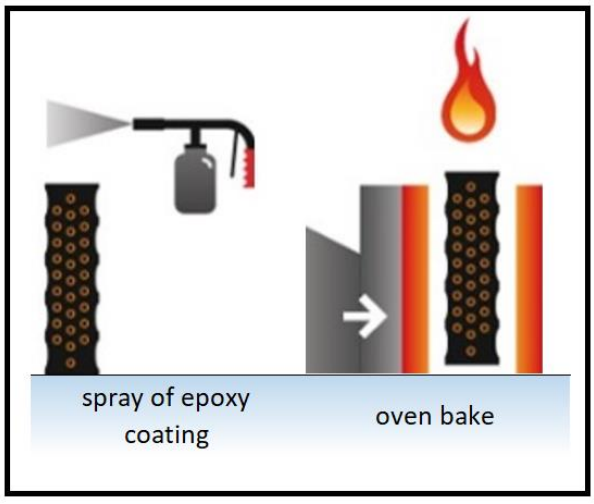
E-coating microchannel coils (opt. code 139) As protection, a layer of an epoxy polymer is added on the surface of the exchanger. The process consists in the complete immersion of the exchanger in the epoxy polymer solution. An electric voltage applied to the exchanger causes a difference with the electrical charge of the polymer molecules that, as result, are drawn to the metal. The thickness of the coating is controlled by the applied voltage. The result is a uniform layer of epoxy polymers applied all over the exchanger surface. A final UV top-coat treatment is applied on the coil surf



The treatment is recommended in all application where high risk of corrosion exist (e.g.: high polluted urban, costal, industrial environments and their combinations).
In the table below, technical properties of the treatment are described:

PROPERTY	TEST METHOD	PERFORMANCE
Salt Spray Corrosion	ASTM B117 / DIN 53167	6,000+ hours
SWAAT Corrosion	ASTM G85-A3	2,500 hours
Cross Hatch Adhesion	ASTM D3359	4B-5B
Pencil Hardness	ASTM D3363	2H minimum
Dry Film Thickness	ASTM D7091	0.6-1.2 mils / 15-30 µm
Direct Impact	ASTM D2794	160 in-lb
Water Immersion	ASTM D870	1,000 hours
Humidity	ASTM D2247-99	1,000 hours minimum
Heat Transfer Reduction	--	less than 1%
Bridging	--	No bridging including ehnanced & micro-channel fin designs
Coating of Enhanced fins	--	Up to 30 fins per inch
pH Range	--	3-12
Temperature Limits	--	-40°F to 325°F / -40°C to 163°C (dry load)
Gloss - 60 Degree	ASTM D523	55-75

Blue coat (opt. code 153)



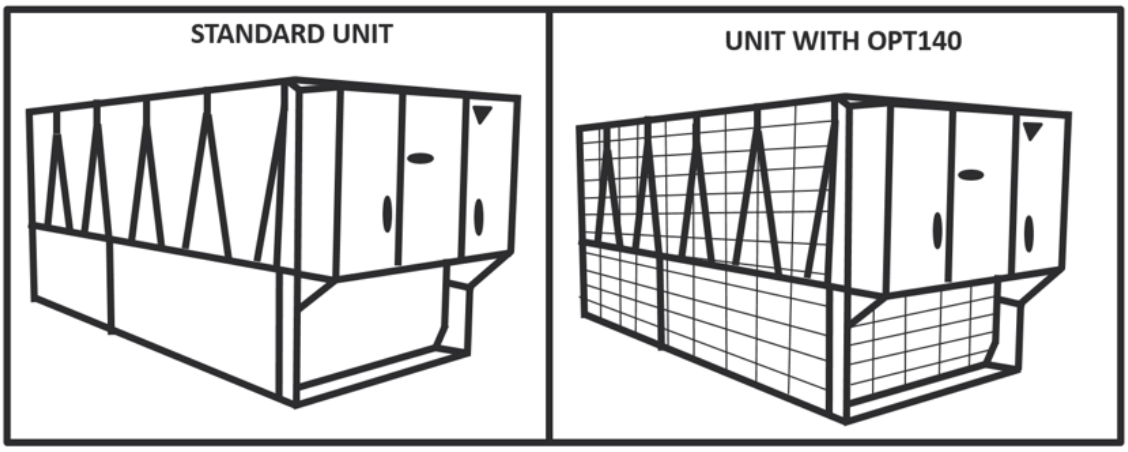
An epoxy powder is sprayed and electrostatically fixed to the coil. Once the external surface is completely covered by the epoxy material, the coil is sent in to a furnace for the drying and curing phase. The result is a uniform and durable coating on the external surface of the coil that enhance the resistance to the corrosion.

The treatment is recommended in all application where moderate risk of corrosion exist (e.g.: light polluted urban and industrial environments).

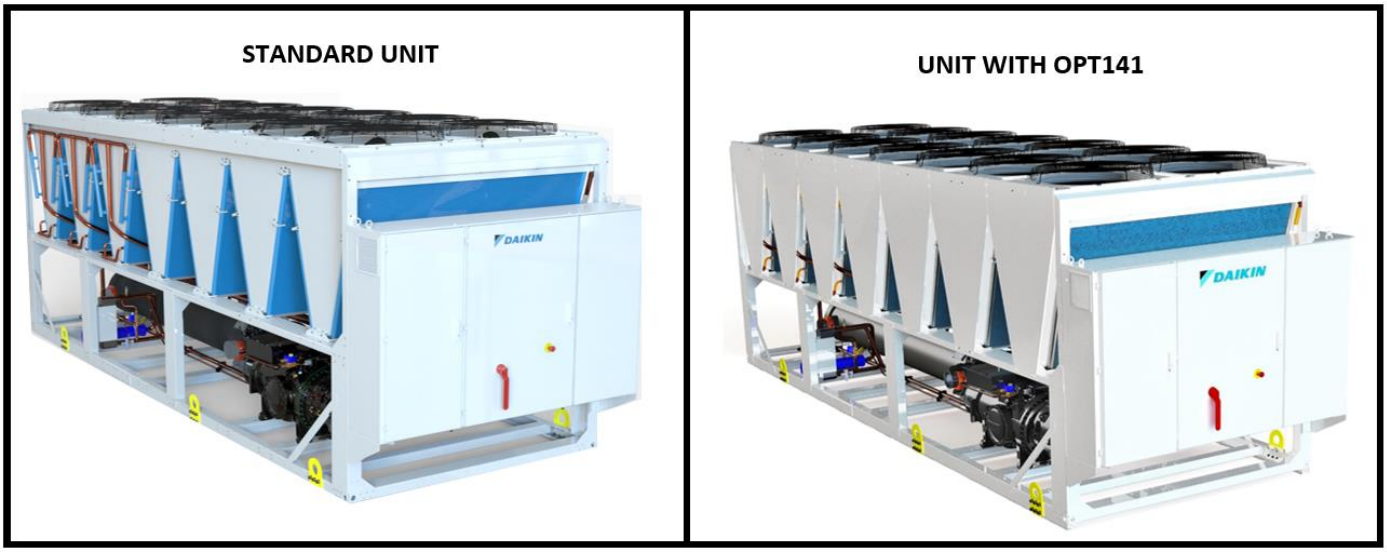
The color of the condenser with blue coat is light blue.

NOTE: for installations in industrial environment the resistance to specific pollutant of the specific type of coil should be verified.

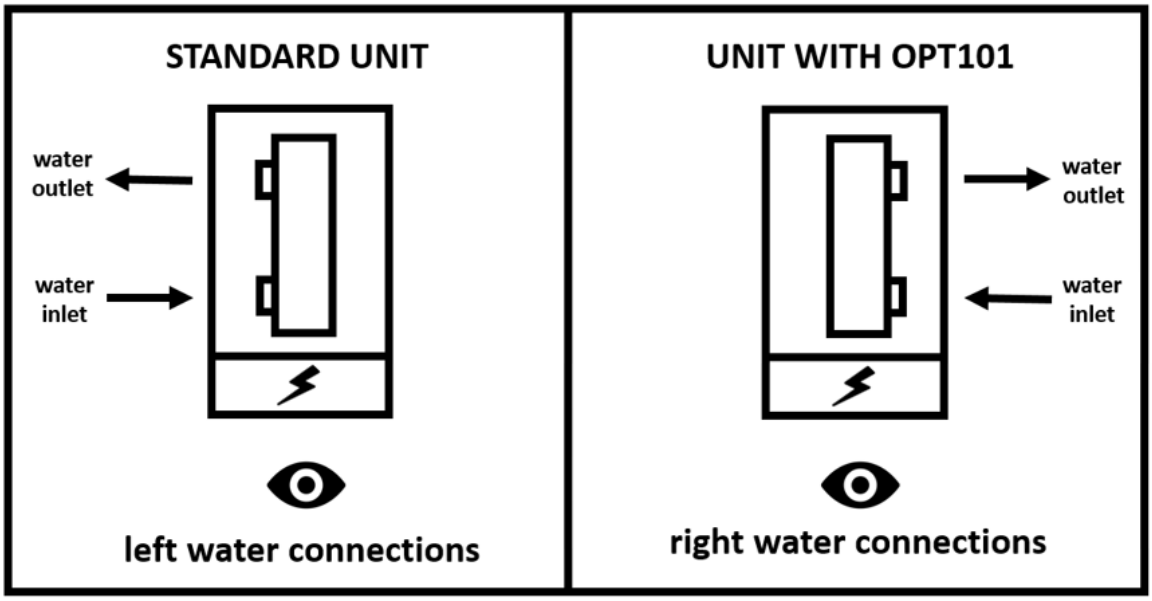
Unit guards (to cover unit access) (opt. code 140) Wire mesh that covers the access all around the unit



Side panels on coil ends (opt. code 141) Protection carter on both side of each condensing module.



Evaporator right water connection (opt. code 101) Provides water connection on the right side.



Evaporator flow switch (opt. code 58) Paddle type. Supplied separately to be wired and installed on the evaporator water piping (by the customer). The installation of the flow switch is mandatory.

Hydronic kits (opt. codes 78, 79,80, 81)

Is possible to equip the unit with a hydronic kit. There are 4 possible configurations:

- **One centrifugal pump (Low lift) (opt. code 78)**
- **One centrifugal pump (High lift) (opt. code 79)**
- **Two centrifugal pumps (Low lift) (opt. code 80)**
- **Two centrifugal pumps (High lift) (opt. code 81)**

The kit is completed with pressure gauge, safety valve, drain valve. The motor pump is protected by a circuit breaker installed in control panel. The kit is assembled and wired to the control panel. The pipe and pump are protected from freezing with an additional electrical heater.

Low lift version provides an average available head of about 100÷150 kPa or more at chiller standard conditions. High lift version provides an average available head of about 200÷250 kPa or more at unit standard conditions. Please refer to the relative graphs in the " Options (Technical data)" chapter.

Note: In case of unit equipped with hydronic kit on board selected to operate with over 30% of propylene glycol mixture contact factory.

Inverter kit for pumps

is possible to add an inverter kit to each hydronic kit.

- **Inverter kit for 1 centrifugal pump Low lift (opt. code 120e)**
- **Inverter kit for 1 centrifugal pump High lift (opt. code 120f)**
- **Inverter kit for 2 centrifugal pumps Low lift (opt. code 120g)**
- **Inverter kit for 2 centrifugal pumps High lift (opt. code 120h)**

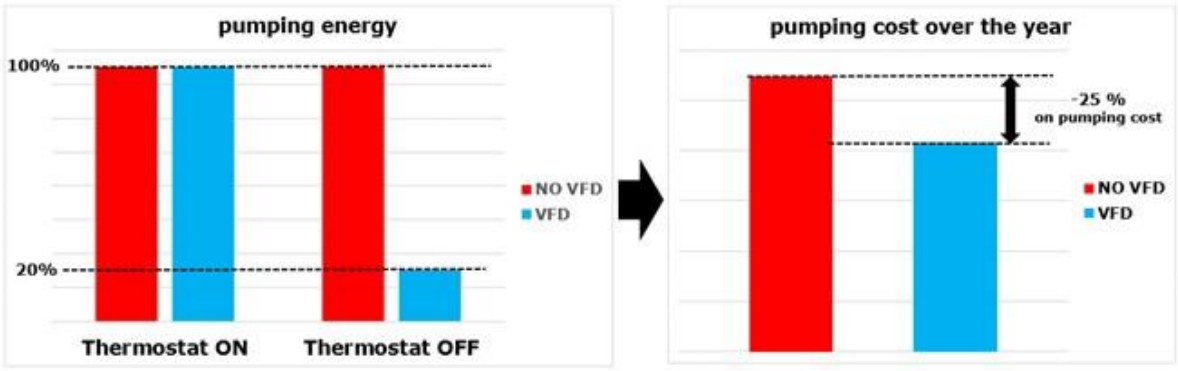
Note: The Inverter kit must be associated with the corresponding hydronic kit (opt. code 78/79/80/81).

The inverter kit can be used for the following purposes:

- **Tuning the water flow during unit commissioning**
The inverter for the pumps can be used to tune the water flow rate during the commissioning. Once the speed of the pump and so the water flow rate is defined the pumps will run constantly at that speed.

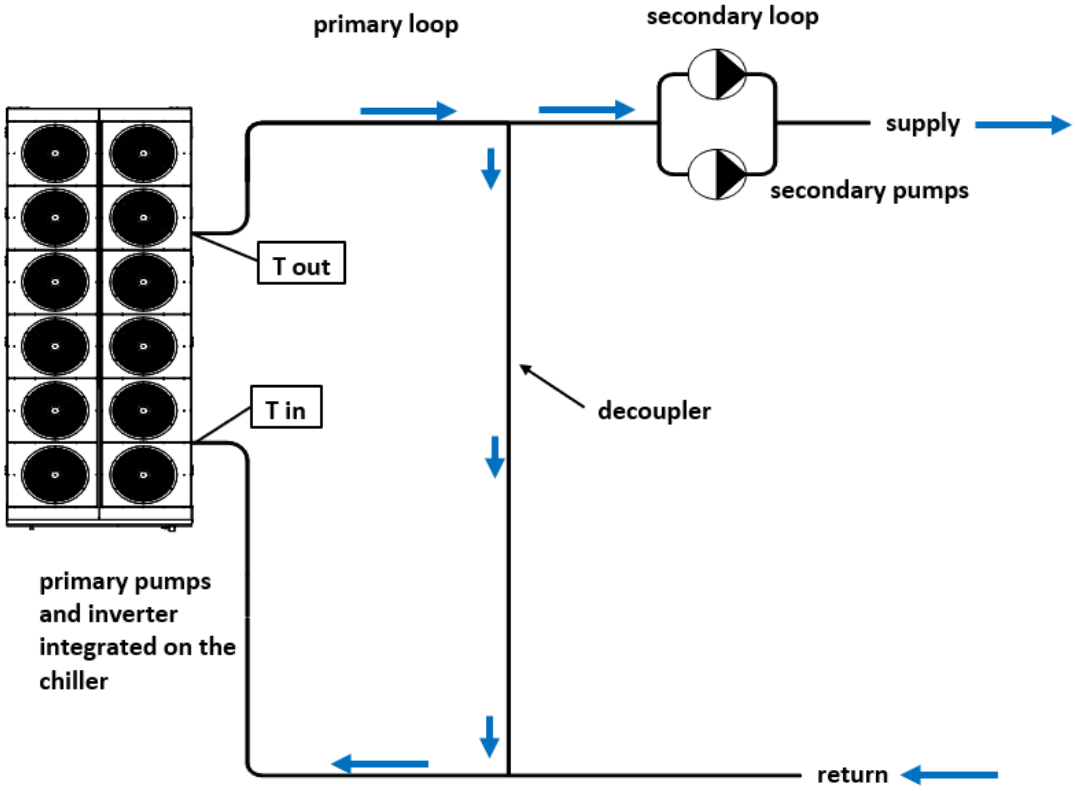
- **Control the pump speed via external input from Building Management System (BMS)**
For this application, a 0-10V signal to control the pump speed must be provided from the plant manager according to the specific control strategy of the plant. The water must be within the minimum and maximum value allowed for the unit (refer to the Technical specifications and to the "Operating limit" chapter). The change in water flow rate must not be exceed more than 10% of the design water flow rate per minute.

- **Set a "thermostat off" pump speed**
Providing the unit with the inverter kit for the on-board pump it is possible to manage two different water flow rate settings. A setting for water flow during the "Thermostat ON" mode (when the unit is now providing cooling to the plant) and a set for the "thermostat OFF" mode (when the plant load is satisfied, and the compressors are waiting to start). This feature allows to achieve energy saving on plant operating cost by reducing the speed of the pumps when the unit has reached the set point.



Thanks to the saving on pumping cost, the payback time for the Inverter Kit is approximately one year.

- **Control variable flow on primary loop based on chiller delta-T** **(available as standard for single chiller installation only)**
Providing the unit with the inverter kit for the on-board pump it is possible to manage a variable water flow rate for the primary loop. This function is available as standard when the hydronic kit plus inverter are selected.
The standard feature is applicable for single unit installation only. In case of multiple chillers installation an additional control is needed.
The variable flow control is suitable for primary/secondary plant, cannot be used in primary plant only.

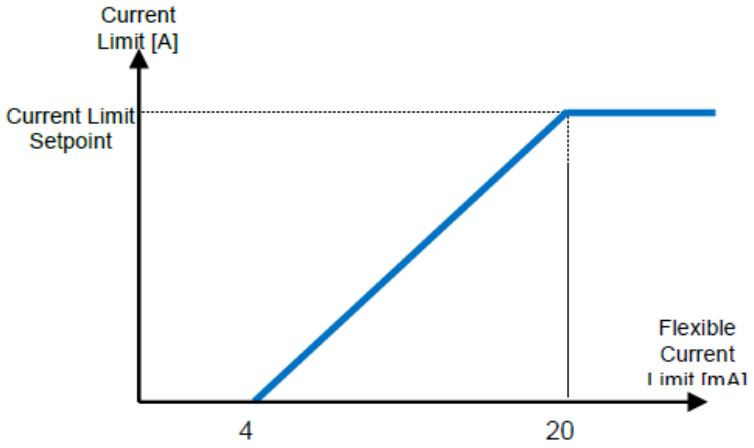


In a Primary-Secondary plant configuration a key component is the decoupler. The decoupler is always open (no valve must be installed). The aim of the decoupler is to allows the primary and secondary pumps to operate at different flow rates. This is necessary because the primary pumps and secondary pumps are managed differently and so the primary and secondary flow rate are practically never the same. Specifically, the primary flow rate is managed based on the chiller delta-T (T_{out} - T_{in}) the secondary flow rate is regulated to maintain the necessary pressure differential in the secondary loop. The direction of the water flow through the decoupler must be always from supply to return. To ensure this the primary flow rate must the secondary flow rate. If this condition is not respected the warmer return water will flow backwards through the decoupler and raise the supply water temperature. Due to the higher temperature of the supply water temperature the terminal unit control will open the valves asking for higher water flow rate. The secondary pumps will speed up increasing even more the water flow rate on secondary plant making the situation even worst (secondary flow rate >> primary flow rate). As result there will be no control on the supply water temperature losing effectiveness of the cooling plant.

On the other side any excess in the primary flow, vs. secondary flow, flows through the decoupler from the supply to the return mixing with the warmer return water. To reach this target is very important to have minimum pressure drop in the decoupler that needs to be sized to reach a pressure drop that should not exceed 4÷5 kPa at the minimum for the flow rate of the primary pump.
Activating the variable flow control the chiller will modulate the water flow rate based on the chiller delta.
When the secondary loop will reduce the water flow rate (because the plant load decrease), the water flow rate in the decoupler (always from supply to return) increases. The return water temperature mixes with the supply water from the decoupler reducing the water temperature the inlet temperature and so the delta-T on the chiller. As consequence the chiller control reduce the speed of the pump, reducing the primary flow rate.
On the opposite, when the flow rate on secondary flow increases also the water temperature at the chiller inlet increase (increasing the delta-T); therefore, the chiller control will increase the water flow rate.

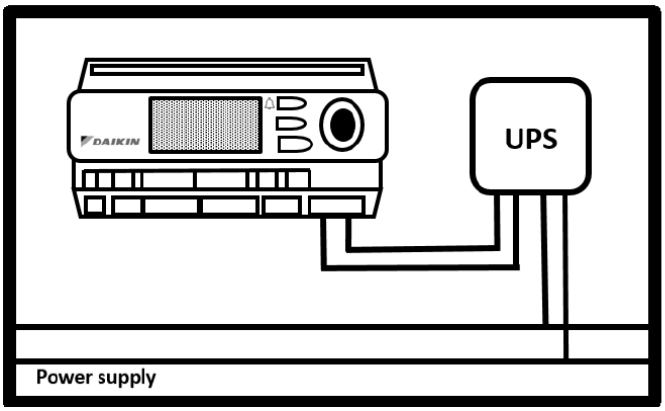
Compressors circuit breakers (opt. code 95) A safety device which ensures thermal and electrical protection against motor overcurrent (overtemperature) and overload protection. Overcurrent protection is protection against excessive currents or current beyond the acceptable current rating of equipment. It operates instantly when the current exceeds the overcurrent imposed the overcurrent threshold. Short circuit is a type of overcurrent. The breaker acts practically instantly when the current reaches the threshold value, while the thermal relay reacts with a timing related to the percentage of over-load.

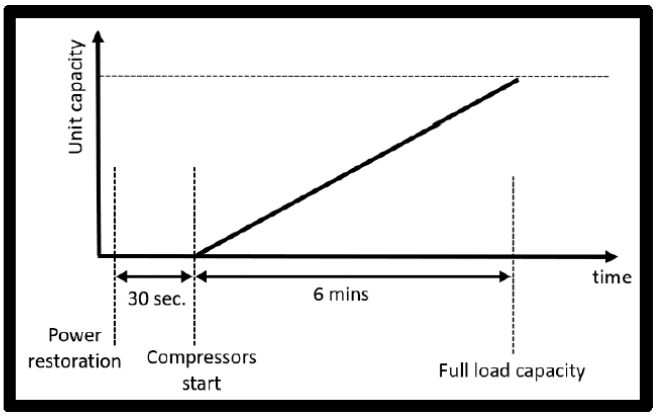
Energy meter (including current limit) (opt. code 16a) Device installed inside the control box that displays all chiller electrical power parameters at line input such as line voltage and phase current, input active and reactive power, active and reactive energy, including current limit option. An integrated RS485 module allows a Modbus communication to an external BMS.
Current limit function allows to control unit power consumption taking current drawn below a specific limit. Starting from the Current Limit Setpoint defined through the HMI or BAS communication, user can decrease the real limit using an external 4-20mA signal as indicate in the graph below. With 20 mA real current limit is set to Current Limit Setpoint, whereas with 4 mA signal the unit is unloaded until minimum capacity.



Ground fault relay (opt. code 102) To shut down the entire unit if a ground fault condition is detected.

Rapid restart (opt. code 110) Rapid Restart is the ideal solution for those application where we cannot afford the loose of cooling such as data centers, health care facilities, process cooling …etc. For this kind of applications, in case of a power failure, chiller equipment is required to restore the cooling supply to the system as fast as possible. Standard unit (without the Rapid Restart option) will be starting within 310 seconds after the power is restored and it will be reaching full load cooling capacity within 20 ÷ 25 minutes (obviously depending on the load demand). Rapid Restart is allowing the chiller to start as fast as 30 seconds after power is restored and to reach full load cooling capacity in less than 6 minutes from the unit restart.
For more details about this option please refer to the Control Manual.
With Rapid Restart option the unit controller is always powered by UPS unit and dedicated control logic allows to achieve the full load capacity in short time.





ModBus RTU MSTP (opt. code 180) The option enables the communication protocol Modbus RTU Master

BACNet MSTP (opt. code 181) The option enables the communication protocol BACnet MSTP

BACNet IP (opt. code 182) The option enables the communication protocol BACnet IP

High ambient kit (opt. code 142) The high ambient kit must be selected in case of installations where design condition is at 46°C ambient temperature and above.
Since mechanical switches are derated based on their load and the operational temperature, in case of operation at high ambient temperature, the unit is provided with oversized electrical equipment (e.g. main switch, fuses, cables) with the aim to increase reliability and components operating life. In addition to oversized electrical equipment other measures are taken to maximize the reliability and operating life of the components in the electrical box, such as: enhanced ventilation (depending on the model), and sunshields.

Intelligent Chiller Manager - iCM (opt. code 184)
By selecting this option is possible to achieve the control of the primary loop without need of additional control panel.

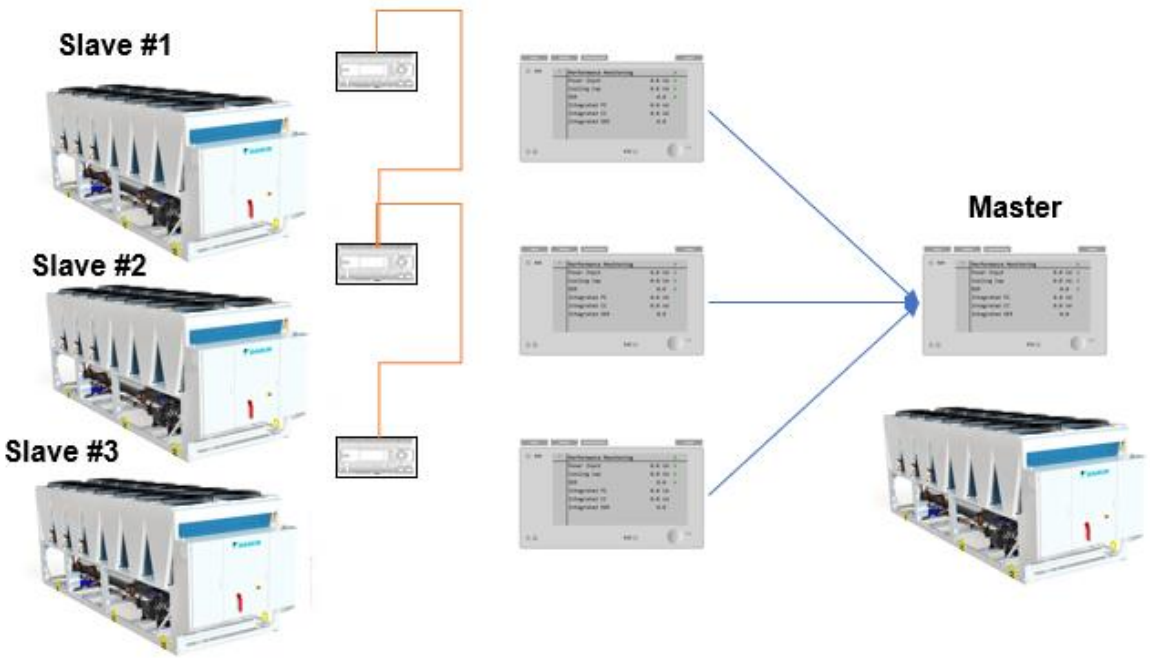
In addition to the functionalities provided by Master/Slave with iCM is possible to:

- Control mixed systems:
  - Chiller + Heat Pump
  - Chiller + multipurpose
- Manage from 5 to 10 evaporator and/or condenser pumps (through the external iPM controller - intelligent Pump Manager)
- Manage the unit operation enhancing the system efficiency.
  This functionality allows to further increase the system efficiency by setting different thresholds to share the load among the units installed in the most efficient configuration.

Manage at system level the following options:

- Rapid Restart
- Demand Limit
- Variable flow based on ΔT

All the information from the slave's controller are available on the master unit's controller.



Daikin on Site (DoS) modem with antenna (opt. code 155)

With Daikin On Site it is possible to have complete access to the unit controller through the cloud. The unit is equipped with a modem and a GSM card providing autonomous internet connection.
As alternative, a LAN connection can be used if available.
The main functionalities of DoS are:

- predefined set of data points (~300 to >500 per controller/plant);
- predefined Read/Write access to data points;
- predefined set of Dashboards;
- Functionality for Users to create their own Dashboards;
- Alarm application and Alarm history;
- Alarm notification via email;
- Scheduling of Alarm notification;
- WEB-Access to local HMI;
- Dynamic WEB-Graphic;
- Possibility to upgrade firmware and software from remote (For some user roles);
- History log for cloud-based user interactions (e.g. change of a set point);
- Scheduler application;
- Energy Monitoring;
- Documentation folder (E.g. release notes).



Installation options

Rubber anti vibration mounts (opt. code 75) Supplied separately, these are positioned under the base of the unit during installation. Ideal to reduce the vibrations when the unit is floor mounted.

Spring anti vibration mounts (opt. code 77) Supplied separately, these are positioned under the base of the unit during installation. Ideal for dampening vibrations for installation on roofs and metallic structures.

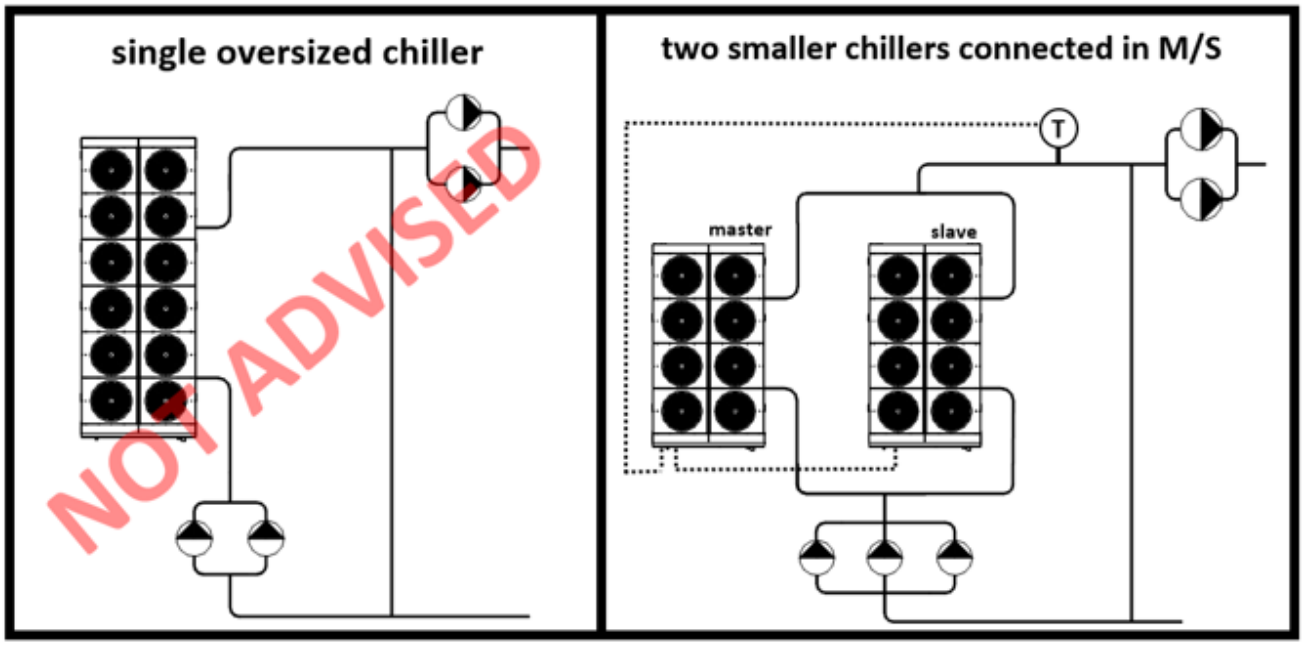
Other options

Transport kit (opt. code 71)

Container kit (opt. code 112)

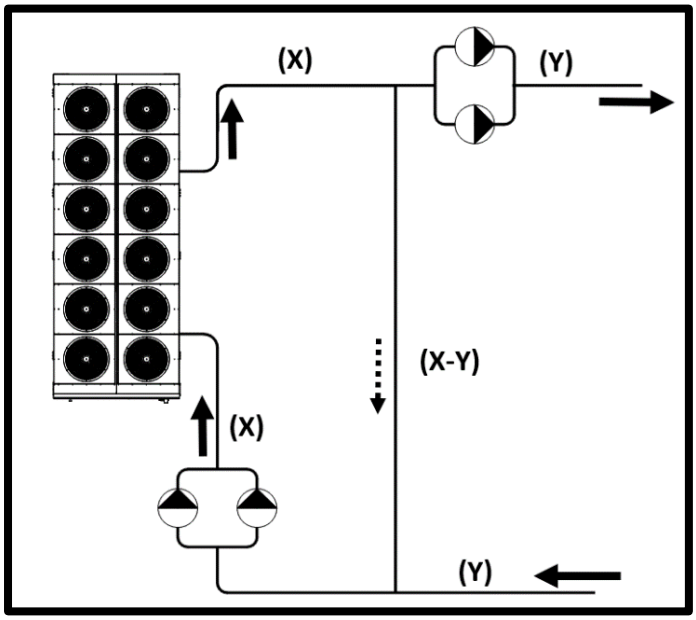
Applications

DAIKIN T C range (for process application only) can be applied to supply chilled water or brine mixture in a wide range of temperatures at different ambient conditions. A proper chiller selection is key to achieve effective and reliable system operation. The unit must be selected according to the specific requirements for the project. Do not intentionally oversize the unit at design condition to ensure cooling capacity. An oversized chiller will be subject to frequent compressors cycling leading to inefficient operation.
In case an oversized system is required for the project, propose two smaller chillers connected in ICM Standard control.



Some application could require water flow rate through the exchanger out of the allowed limits.

The limits for the water flow rate are defined as follow:



Maximum water flow rate → corresponding to water velocity equal to 1,5 m/s
Minimum water flow rate → corresponding to water velocity equal to 0,8 m/s

In case of selections with water flow rate below the minimum allowed a decupled system is required.

Where:

- X is the minimum water flow rate allowed for the chiller.

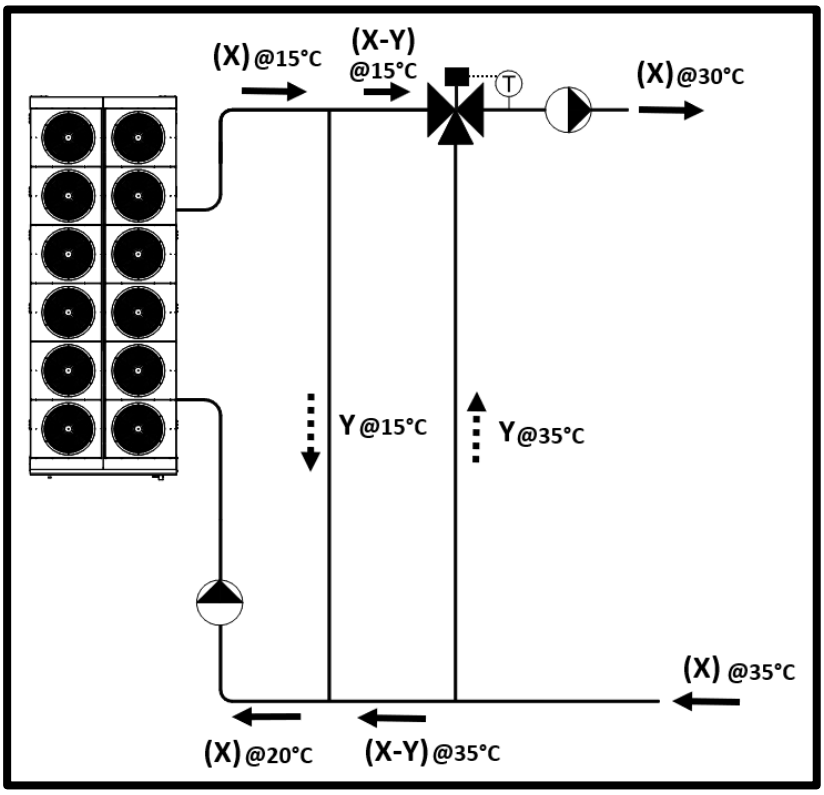
- Y is the water flow rate required for the application

In this case Y < X, the required flow rate is lower than the minimum allowed for the chiller.

The decoupled system allows to operate with different water flow rate in primary and secondary circuit.

The decoupler must be sized to allow a water flow rate equal to (X-Y) with negligible pressure drop (~5 kPa).

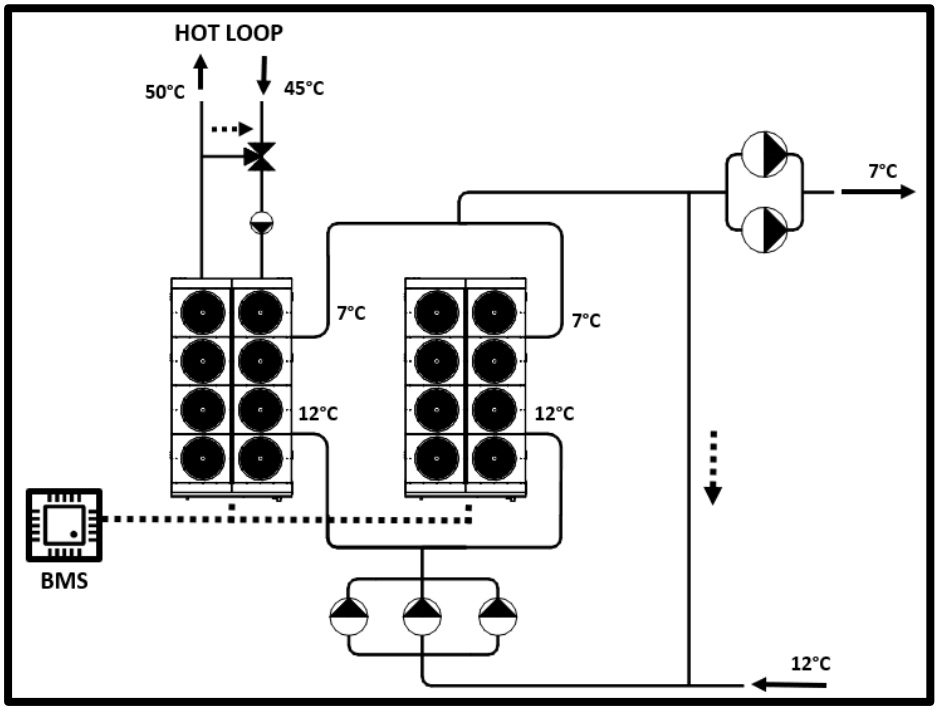
NOTE: the direction of the flow must be always from supply to return. With the flow in the opposite direction, the chilled water supply temperature in the secondary loop will rise to unacceptable levels.



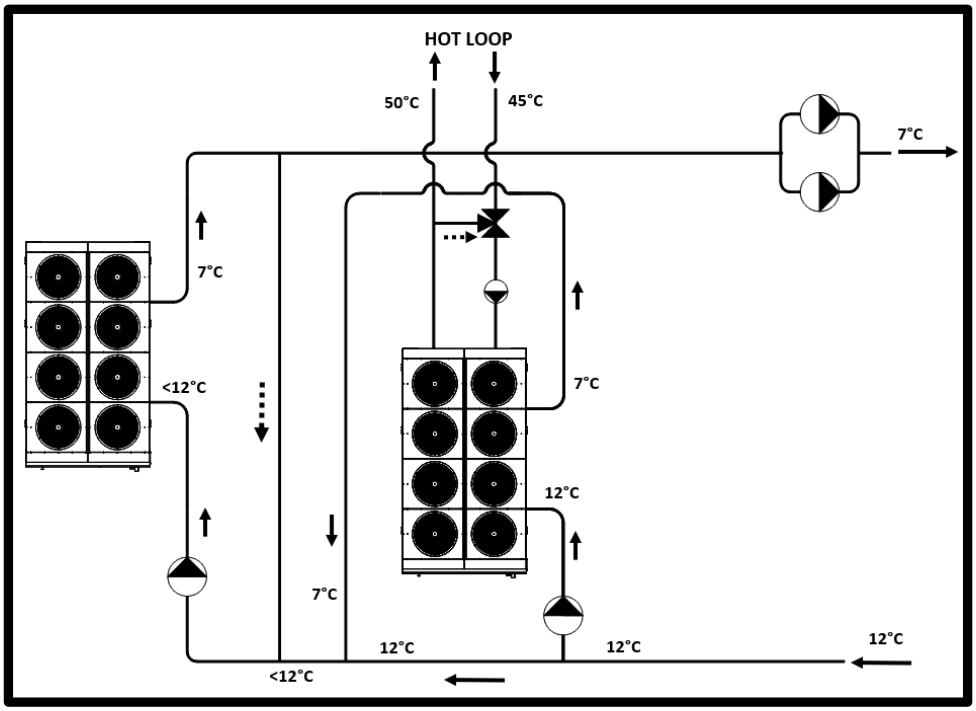
There are also limits on the water temperature (inlet and outlet) that must be respected. Refer to Operating limits chapter of this data book and to IOM specific values. When operation outside the allowed temperature is needed a proper arrangement of the hydronic circuit is needed.
As example we can consider a process requiring water supply (X) at 30°C and returning water at 35°C. Those temperatures are outside the operating envelope for the chiller. Since both entering and leaving water temperatures are outside the operating limit, in addition to the standard decoupled system, another branch is needed. This additional branch must be provided with a 3-ways valve acting as mixing valve in the direction of the supply water to the plant. We can select the chiller running at the 15°C outlet temperature with an entering of 20°C with same water flow rate required for the process (X). The return water from the secondary circuit at 30°C is divided is cooled by the cold water at 15°C from the open decoupler while the supply water is heated up by the return water coming from the additional branch controlled by the mixing valve. The set point for the mixing valve is fixed on the delivery water temperature (30°C). This system is required when both entering and leaving water temperature are outside the operating envelope of the chiller.

If only the entering water temperature is outside the limit the previous scheme can be applied (single decoupler) paying attention to fix the proper water flow rate on primary circuit and dimensioning the decoupler accordingly.

Most of the chiller installation requires, in addition to chilled water, also heated water. The hot water can be used to post eat air in AHU's, for preparation of Sanitary Hot Water, and many other applications.
As explained in the option description, the heating is available only when the chiller is providing chilled water; for this reason, the evaluation of the actual heating capacity available requires also the information on the cooling load.
In case of multiple chillers plant involving heat recovery chillers and standard chillers a proper plant configuration can be used to better exploit the heat recovery capability to enhance the system efficiency.



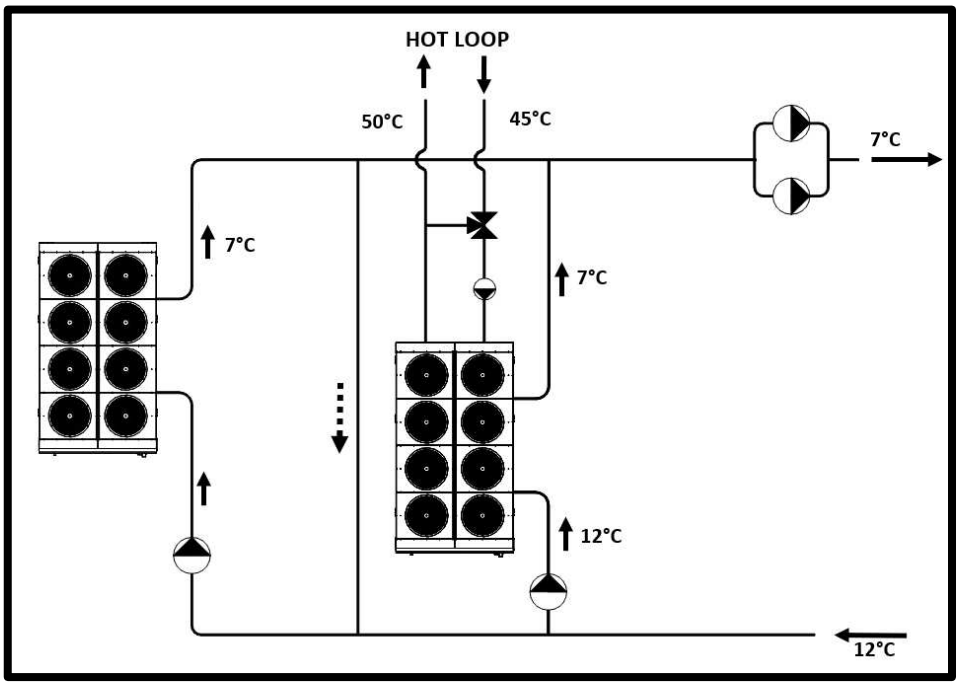
In typical decoupled systems with chillers installed in parallel is possible to manage the chiller operation through a BMS which gives priority to the chiller with heat recover capability.
All the chillers in operation (as enabled by the BMS system to match the load) see the same entering water temperature.
If BMS is not available to give priority on Heat recovery chiller is possible to use the set-point reset command to the chiller. When heating is required the set point on the heat recovery chiller is set to a lower value through a 0-10V signal; as result the chiller with heat recovery will charge more while the other will unload.



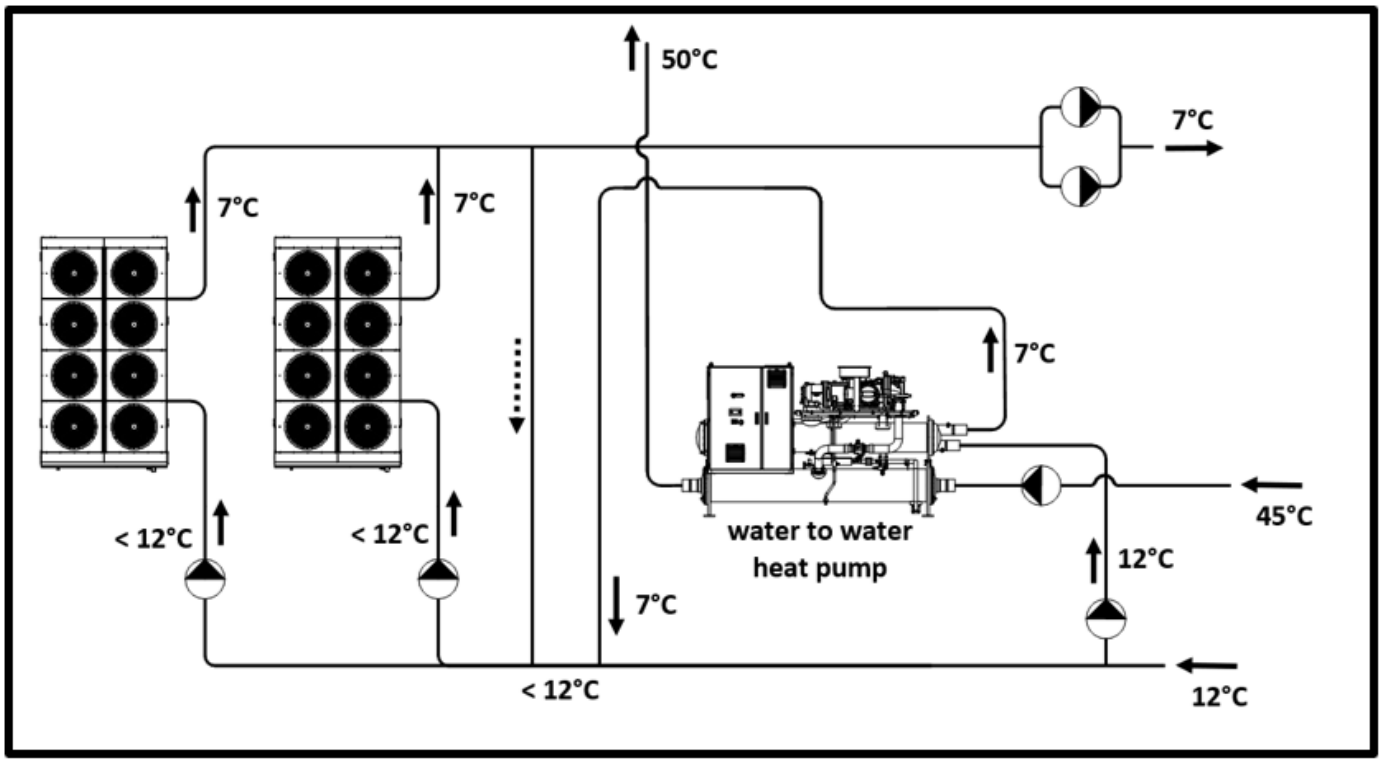
A way to assign a preferential load to the heat recovery chiller is by moving it to the secondary plant (on the other side of the decoupler). In with this layout the heat recovery chiller is loaded preferentially because it always receives the warmest return-water temperature (12°C). The chiller is fully loaded as it has to deliver the desired chilled water temperature (7°C set point). As consequence, the heat recovery is the maximum possible and may eventually exceed the heating load.
In case of an air-cooled heat recovery chiller, without external control, the unit will cycle between heat recovery ON and OFF operation, rejecting the exceeding heat rejection through the air-cooled condenser.

With external BMS or using the set-point reset function is possible to modulate the cooling capacity to the one corresponding to the actual heating need. The extra cooling capacity which cannot be delivered by the heat recovery chiller, will be transferred to the standard chillers in the production loop. This will optimize the energy usage of the entire chiller plant and the heat recovery operation will be limited to exactly the heating need.

In addition to the previous layout, another solution is to install the heat recovery chiller in side stream position.
In this configuration the chiller located in a side-stream position, takes the supply water from the main return pipe, cools this water as much as desired to make the heat recovery matching the heating requirement (controlling the chiller capacity with BMS or through the set point reset command). This is usually obtained through a Building Management System that will reset accordingly the chilled water leaving water temperature set point. The cooled water will return to the main return water pipe and mix with the main return water flow, cooling the return water entering the remaining chillers.



Compare to previous layout (heat recovery chiller in parallel positioned on distribution side) the Side stream configuration allows to control the heat recovery chiller on the hot energy needed, without effect on the supply water temperature. To optimized system operation the heat recovery chiller should be selected based on the heating capacity at full load. For the heat recovery chiller in this application the cooling capacity represents the side effect of the heating operation. The cooling only chiller in the production line must be able to provide the extra cooling capacity needed when minimum heating capacity is required. In case cooling load required is much higher than the heating load a cheaper and affective solution could be to use of a water to water heat pump installed Side stream on the cooling loop.
The heat pump selected based on the heating capacity will modulate the capacity according the heating load.



EWAD~T- SS C – standard unit								
MODEL	notes		**290**	**330**	**370**	**510**	**520**	**580**
Cooling Capacity	(1)	kW	292.7	334.5	374.5	501.1	524.9	567.3
Power Input	(1)	kW	93	114	121	166	171	187
EER	(1)	kW/kW	3.15	2.94	3.10	3.02	3.07	3.03
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.14	5.10	5.16	5.50	5.50	5.50
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	14.0	16.0	17.9	23.9	25.0	27.1
Evaporator pressure drop	(1) (4)	kPa	24.5	31.2	45.3	34.0	51.8	67.2
Evaporator water volume		lt	89	89	181	164	170	164
Minimum water rate	(5)	l/s	6	6	5	9	7	7
Sound Power	(1) (6)	dB(A)	98	98	98	98	98	98
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	78	78	78	78	78
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	6	6	8	8	10	10
Power input fans		kW	8.5	8.5	11.4	11.4	14.2	14.2
Air flow	(8)	l/s	30245	30245	40327	40327	50408	50408
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	50	50	55	58	66	67
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	26	26	26	32	32	32
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	3239	3239	4139	4139	5039	5039
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	3062	3062	4104	4724	4860	4860
Unit weight - operation		kg	3162	3162	4274	4894	5030	5030
Water connection size		mm	114.3	114.3	139.7	139.7	139.7	139.7
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

Data certified by Eurovent certification scheme
The above data are referred to the unit without additional optional.
The above data are referred the unit installed in compliancy with installation prescription.
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EWAD~T- SS C – standard unit								
MODEL	notes		**700**	**800**	**940**	**C10**	**H10**	**C11**
Cooling Capacity	(1)	kW	703.9	810.4	933.4	993.1	1047	1135
Power Input	(1)	kW	234	269	308	349	373	396
EER	(1)	kW/kW	3.01	3.01	3.03	2.85	2.80	2.87
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.51	5.56	5.51	5.51	5.51	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	33.6	38.7	44.5	47.4	49.9	54.2
Evaporator pressure drop	(1) (4)	kPa	47.0	34.4	43.0	48.0	44.6	57.1
Evaporator water volume		lt	315	240	289	289	518	502
Minimum water rate	(5)	l/s	11	14	17	17	15	15
Sound Power	(1) (6)	dB(A)	99	99	99	100	100	100
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	78	78	79	79	78
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	12	12	14	14	14	16
Power input fans		kW	17.0	17.0	19.9	19.9	19.9	22.7
Air flow	(8)	l/s	60490	60490	70572	70572	70572	80653
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	94	94	109	109	109	125
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	34	34	42	42	42	42
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	6009	6009	6909	6909	6909	7809
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	5316	5663	5950	5950	6490	6468
Unit weight - operation		kg	5402	5903	6240	6240	7002	6768
Water connection size		mm	168.3	168.3	168.3	168.3	219.1	219.1
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- SS C – standard unit								
MODEL	notes		**H12**	**H13**	**H14**	**H15**	**H16**	**C17**
Cooling Capacity	(1)	kW	1243	1346	1442	1555	1684	1760
Power Input	(1)	kW	444	472	501	533	565	612
EER	(1)	kW/kW	2.80	2.85	2.88	2.92	2.98	2.88
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.52	5.50	5.54	5.56	5.51
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	59.3	64.2	68.8	74.1	80.3	84.0
Evaporator pressure drop	(1) (4)	kPa	35.4	46.2	56.1	65.9	37.2	40.3
Evaporator water volume		lt	492	470	461	522	871	871
Minimum water rate	(5)	l/s	20.6	20.5	20.4	20.8	25.3	25.3
Sound Power	(1) (6)	dB(A)	100	101	101	103	103	103
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	79	79	80	80	80
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fans					
Number of fans		n	16	18	20	22	24	24
Power input fans		kW	22.7	25.6	28.4	31.2	34.1	34.1
Air flow	(8)	l/s	80653	90735	100817	110898	120980	120980
Refrigerant circuits		n	2	2	2	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	125	140	156	172	187	187
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	50	50	50	75	75	75
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	7809	8709	9609	10510	11409	11409
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	7062	7362	7654	10157	11277	11277
Unit weight - operation		kg	7554	7842	8134	10657	12148	12148
Water connection size		mm	219.1	219.1	219.1	219.1	273.0	273.0
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- SS C – standard unit						
MODEL	notes		**H18**	**C19**	**C20**	**C21**
Cooling Capacity	(1)	kW	1856	1930	2026	2103
Power Input	(1)	kW	662	681	707	732
EER	(1)	kW/kW	2.80	2.84	2.87	2.87
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.51	5.42	5.38
Evaporator type		-	Direct Expansion – Shell & Tubes			
Water flow rate	(1)	l/s	88.5	92.0	96.6	100.0
Evaporator pressure drop	(1) (4)	kPa	40.5	43.4	43.9	47.0
Evaporator water volume		lt	953	953	1035	1035
Minimum water rate	(5)	l/s	27.6	27.6	30.0	30.0
Sound Power	(1) (6)	(1) (6)	103	103	103	103
Sound Pressure @ 1 m	(1) (7)	(1) (7)	80	80	80	80
Fan type		-	Direct Propeller			
Fan diameter		mm	800			
Fan rotational speed		RPM	900			
Fan motor / control		-	EC Brushless Fan			
Number of fans		n	24	26	28	30
Power input fans		kW	34.1	36.9	39.8	42.6
Air flow	(8)	l/s	120980	131062	141143	151225
Refrigerant circuits		n	3	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430			
Refrigerant Charge	(9)	kg	187	203	218	234
Compressor type		-	Single Screw			
Capacity control		-	Mechanical			
Oil charge		lt	75	75	75	75
Casing material		-	Galvanized Steel Sheet			
Color		-	Ivory White			
Unit length		mm	11409	12309	13209	14109
Unit width		mm	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540
Unit weight - shipping		kg	11385	11808	11999	11999
Unit weight - operation		kg	12338	12761	13034	13034
Water connection size		mm	273.0	273.0	273.0	273.0
Water connection type		-	Victaulic			

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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EWAD~T- SL C – standard unit								
MODEL	notes		**290**	**330**	**370**	**510**	**520**	**580**
Cooling Capacity	(1)	kW	292.7	334.5	374.5	501.1	524.9	567.3
Power Input	(1)	kW	93	114	121	166	171	187
EER	(1)	kW/kW	3.15	2.94	3.10	3.02	3.07	3.03
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.14	5.10	5.16	5.50	5.50	5.50
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	14.0	16.0	17.9	23.9	25.0	27.1
Evaporator pressure drop	(1) (4)	kPa	24.5	31.2	45.3	34.0	51.8	67.2
Evaporator water volume		lt	89	89	181	164	170	164
Minimum water rate	(5)	l/s	6	6	5	9	7	7
Sound Power	(1) (6)	dB(A)	94	94	95	95	95	95
Sound Pressure @ 1 m	(1) (7)	dB(A)	74	74	75	75	75	75
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	6	6	8	8	10	10
Power input fans		kW	8.5	8.5	11.4	11.4	14.2	14.2
Air flow	(8)	l/s	30245	30245	40327	40327	50408	50408
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	50	50	55	58	66	67
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	26	26	26	32	32	32
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	3239	3239	4139	4139	5039	5039
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	3062	3062	4104	4724	4860	4860
Unit weight - operation		kg	3162	3162	4274	4894	5030	5030
Water connection size		mm	114.3	114.3	139.7	139.7	139.7	139.7
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C

(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2

(4) Not including filter pressure drop. The installation of the filter is mandatory.

(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.

(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C

(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C

(8) Referred to unit with free discharge on condenser fans

(9) Data subject to change. Refer to unit's name plate for actual value

Data certified by Eurovent certification scheme

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EWAD~T- SL C – standard unit								
MODEL	notes		**700**	**800**	**940**	**C10**	**H10**	**C11**
Cooling Capacity	(1)	kW	703.9	810.4	933.4	993.1	1047	1135
Power Input	(1)	kW	234	269	308	349	373	396
EER	(1)	kW/kW	3.01	3.01	3.03	2.85	2.80	2.87
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.51	5.56	5.51	5.51	5.51	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	33.6	38.7	44.5	47.4	49.9	54.2
Evaporator pressure drop	(1) (4)	kPa	47.0	34.4	43.0	48.0	44.6	57.1
Evaporator water volume		lt	315	240	289	289	518	502
Minimum water rate	(5)	l/s	11	14	17	17	15	15
Sound Power	(1) (6)	dB(A)	96	96	97	97	97	98
Sound Pressure @ 1 m	(1) (7)	dB(A)	75	75	76	76	76	76
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	12	12	14	14	14	16
Power input fans		kW	17.0	17.0	19.9	19.9	19.9	22.7
Air flow	(8)	l/s	60490	60490	70572	70572	70572	80653
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	94	94	109	109	109	125
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	34	34	42	42	42	42
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	6009	6009	6909	6909	6909	7809
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	5316	5663	5950	5950	6490	6468
Unit weight - operation		kg	5402	5903	6240	6240	7002	6768
Water connection size		mm	168.3	168.3	168.3	168.3	219.1	219.1
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- SL C – standard unit								
MODEL	notes		**H12**	**H13**	**H14**	**H15**	**H16**	**C17**
Cooling Capacity	(1)	kW	1243	1346	1442	1555	1684	1760
Power Input	(1)	kW	444	472	501	533	565	612
EER	(1)	kW/kW	2.80	2.85	2.88	2.92	2.98	2.88
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.52	5.50	5.54	5.56	5.51
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	59.3	64.2	68.8	74.1	80.3	84.0
Evaporator pressure drop	(1) (4)	kPa	35.4	46.2	56.1	65.9	37.2	40.3
Evaporator water volume		lt	492	470	461	522	871	871
Minimum water rate	(5)	l/s	20.6	20.5	20.4	20.8	25.3	25.3
Sound Power	(1) (6)	dB(A)	98	98	98	99	100	100
Sound Pressure @ 1 m	(1) (7)	dB(A)	76	76	76	77	77	77
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fans					
Number of fans		n	16	18	20	22	24	24
Power input fans		kW	22.7	25.6	28.4	31.2	34.1	34.1
Air flow	(8)	l/s	80653	90735	100817	110898	120980	120980
Refrigerant circuits		n	2	2	2	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	125	140	156	172	187	187
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	50	50	50	75	75	75
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	7809	8709	9609	10510	11409	11409
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	7062	7362	7654	10157	11277	11277
Unit weight - operation		kg	7554	7842	8134	10657	12148	12148
Water connection size		mm	219.1	219.1	219.1	219.1	273.0	273.0
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
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(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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EWAD~T- SL C – standard unit						
MODEL	notes		**H18**	**C19**	**C20**	**C21**
Cooling Capacity	(1)	kW	1856	1930	2026	2103
Power Input	(1)	kW	662	681	707	732
EER	(1)	kW/kW	2.80	2.84	2.87	2.87
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.51	5.42	5.38
Evaporator type		-	Direct Expansion – Shell & Tubes			
Water flow rate	(1)	l/s	88.5	92.0	96.6	100.0
Evaporator pressure drop	(1) (4)	kPa	40.5	43.4	43.9	47.0
Evaporator water volume		lt	953	953	1035	1035
Minimum water rate	(5)	l/s	27.6	27.6	30.0	30.0
Sound Power	(1) (6)	(1) (6)	100	100	100	100
Sound Pressure @ 1 m	(1) (7)	(1) (7)	77	77	77	77
Fan type		-	Direct Propeller			
Fan diameter		mm	800			
Fan rotational speed		RPM	900			
Fan motor / control		-	EC Brushless Fan			
Number of fans		n	24	26	28	30
Power input fans		kW	34.1	36.9	39.8	42.6
Air flow	(8)	l/s	120980	131062	141143	151225
Refrigerant circuits		n	3	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430			
Refrigerant Charge	(9)	kg	187	203	218	234
Compressor type		-	Single Screw			
Capacity control		-	Mechanical			
Oil charge		lt	75	75	75	75
Casing material		-	Galvanized Steel Sheet			
Color		-	Ivory White			
Unit length		mm	11409	12309	13209	14109
Unit width		mm	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540
Unit weight - shipping		kg	11385	11808	11999	11999
Unit weight - operation		kg	12338	12761	13034	13034
Water connection size		mm	273.0	273.0	273.0	273.0
Water connection type		-	Victaulic			

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
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(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
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(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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EWAD~T- XS C – standard unit								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Cooling Capacity	(1)	kW	350.9	378.7	399.6	417.5	438.3	491.8
Power Input	(1)	kW	106	115	121	129	139	159
EER	(1)	kW/kW	3.32	3.29	3.29	3.24	3.16	3.09
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.18	5.18	5.52	5.54	5.51	5.51
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	16.7	18.1	19.1	19.9	20.9	23.5
Evaporator pressure drop	(1) (4)	kPa	22.4	28.8	20.0	21.6	23.6	46.1
Evaporator water volume		lt	134	129	129	170	170	170
Minimum water rate	(5)	l/s	7.0	7.0	8.8	8.8	8.8	7.0
Sound Power	(1) (6)	dB(A)	98	98	98	98	98	98
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	78	78	78	78	78
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	8	8	10	10	10	10
Power input fans		kW	11.4	11.4	14.2	14.2	14.2	14.2
Air flow	(8)	l/s	40327	40327	50408	50408	50408	50408
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	52	54	65	66	66	66
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	26	26	26	26	26	32
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	4139	4139	5039	5039	5039	5039
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	4064	4064	4360	4360	4360	4860
Unit weight - operation		kg	4234	4234	4530	4530	4530	5030
Water connection size		mm	139.7	139.7	139.7	139.7	139.7	139.7
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
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(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
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(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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EWAD~T- XS C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Cooling Capacity	(1)	kW	540.6	559.9	727.6	821.7	943.3	1008
Power Input	(1)	kW	166	176	241	272	300	334
EER	(1)	kW/kW	3.26	3.19	3.01	3.02	3.15	3.02
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.50	5.55	5.52	5.61	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	25.8	26.7	34.7	39.2	45.0	48.1
Evaporator pressure drop	(1) (4)	kPa	39.0	36.6	32.0	38.5	43.8	49.3
Evaporator water volume		lt	164	170	315	232	289	289
Minimum water rate	(5)	l/s	8.7	8.8	14.4	14.3	17.4	17.4
Sound Power	(1) (6)	dB(A)	98	98	99	99	99	100
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	78	78	78	78	78
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	12	12	12	12	16	16
Power input fans		kW	17.0	17.0	17.0	17.0	22.7	22.7
Air flow	(8)	l/s	60490	60490	60490	60490	80653	80653
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	72	72	94	94	125	125
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	32	32	34	34	42	42
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	6009	6009	6009	6009	7809	7809
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	5398	5398	5316	5663	6376	6376
Unit weight - operation		kg	5568	5568	5402	5903	6676	6676
Water connection size		mm	139.7	139.7	168.3	168.3	168.3	168.3
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
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EWAD~T- XS C – standard unit								
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**	**H15**
Cooling Capacity	(1)	kW	1081	1169	1278	1371	1447	1606
Power Input	(1)	kW	348	376	412	440	482	519
EER	(1)	kW/kW	3.10	3.11	3.10	3.12	3.00	3.09
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.56	5.58	5.56	5.57	5.55	5.57
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	51.6	55.8	60.9	65.4	69.0	76.6
Evaporator pressure drop	(1) (4)	kPa	52.3	60.2	37.2	45.1	52.6	34.1
Evaporator water volume		lt	502	502	492	481	470	871
Minimum water rate	(5)	l/s	15.2	15.2	20.6	20.5	20.5	25.3
Sound Power	(1) (6)	dB(A)	100	101	101	101	101	103
Sound Pressure @ 1 m	(1) (7)	dB(A)	78	79	79	79	79	80
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fans					
Number of fans		n	18	20	20	22	22	24
Power input fans		kW	25.6	28.4	28.4	31.2	31.2	34.1
Air flow	(8)	l/s	90735	100817	100817	110898	110898	120980
Refrigerant circuits		n	2	2	2	2	2	3
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	140.4	156.0	156.0	171.6	171.6	187.0
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	42	42	50	50	50	75
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	8709	9609	9609	10510	10510	11409
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	7362	7392	7654	8020	8020	11277
Unit weight - operation		kg	7842	7872	8134	8470	8470	12148
Water connection size		mm	219.1	219.1	219.1	219.1	219.1	273.0
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
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EWAD~T- XS C – standard unit							
MODEL	notes		**H16**	**C17**	**H18**	**C19**	**C20**
Cooling Capacity	(1)	kW	1705	1836	1947	2019	2076
Power Input	(1)	kW	551	587	621	661	701
EER	(1)	kW/kW	3.09	3.13	3.14	3.05	2.96
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.58	5.59	5.58	5.57	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes				
Water flow rate	(1)	l/s	81.3	87.6	92.9	96.3	99.0
Evaporator pressure drop	(1) (4)	kPa	38.0	43.0	47.8	46.0	48.4
Evaporator water volume		lt	871	522	522	1010	1010
Minimum water rate	(5)	l/s	25.3	27.6	27.6	29.9	29.9
Sound Power	(1) (6)	(1) (6)	103	103	103	103	103
Sound Pressure @ 1 m	(1) (7)	(1) (7)	80	80	80	80	80
Fan type		-	Direct Propeller				
Fan diameter		mm	800				
Fan rotational speed		RPM	900				
Fan motor / control		-	EC Brushless Fan				
Number of fans		n	26	28	30	30	30
Power input fans		kW	36.9	39.8	42.6	42.6	42.6
Air flow	(8)	l/s	131062	141143	151225	151225	151225
Refrigerant circuits		n	3	3	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430				
Refrigerant Charge	(9)	kg	203	218	234	234	234
Compressor type		-	Single Screw				
Capacity control		-	Mechanical				
Oil charge		lt	75	75	75	75	75
Casing material		-	Galvanized Steel Sheet				
Color		-	Ivory White				
Unit length		mm	12309	13209	14109	14109	14109
Unit width		mm	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540
Unit weight - shipping		kg	11684	11581	11672	11999	11999
Unit weight - operation		kg	12555	12511	12602	13034	13034
Water connection size		mm	273.0	273.0	273.0	273.0	273.0
Water connection type		-	Victaulic				

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
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EWAD~T- XL C – standard unit								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Cooling Capacity	(1)	kW	350.9	378.7	399.6	417.5	438.3	491.8
Power Input	(1)	kW	106	115	121	129	139	159
EER	(1)	kW/kW	3.32	3.29	3.29	3.24	3.16	3.09
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.18	5.18	5.52	5.54	5.51	5.51
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	16.7	18.1	19.1	19.9	20.9	23.5
Evaporator pressure drop	(1) (4)	kPa	22.4	28.8	20.0	21.6	23.6	46.1
Evaporator water volume		lt	134	129	129	170	170	170
Minimum water rate	(5)	l/s	7.0	7.0	8.8	8.8	8.8	7.0
Sound Power	(1) (6)	dB(A)	95	95	95	95	95	95
Sound Pressure @ 1 m	(1) (7)	dB(A)	75	75	75	75	75	75
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	8	8	10	10	10	10
Power input fans		kW	11.4	11.4	14.2	14.2	14.2	14.2
Air flow	(8)	l/s	40327	40327	50408	50408	50408	50408
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	52	54	65	66	66	66
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	26	26	26	26	26	32
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	4139	4139	5039	5039	5039	5039
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	4064	4064	4360	4360	4360	4860
Unit weight - operation		kg	4234	4234	4530	4530	4530	5030
Water connection size		mm	139.7	139.7	139.7	139.7	139.7	139.7
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- XL C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Cooling Capacity	(1)	kW	540.6	559.9	727.6	821.7	943.3	1008
Power Input	(1)	kW	166	176	241	272	300	334
EER	(1)	kW/kW	3.26	3.19	3.01	3.02	3.15	3.02
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.50	5.55	5.52	5.61	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	25.8	26.7	34.7	39.2	45.0	48.1
Evaporator pressure drop	(1) (4)	kPa	39.0	36.6	32.0	38.5	43.8	49.3
Evaporator water volume		lt	164	170	315	232	289	289
Minimum water rate	(5)	l/s	8.7	8.8	14.4	14.3	17.4	17.4
Sound Power	(1) (6)	dB(A)	96	96	97	97	98	98
Sound Pressure @ 1 m	(1) (7)	dB(A)	76	76	76	76	76	76
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	12	12	12	12	16	16
Power input fans		kW	17.0	17.0	17.0	17.0	22.7	22.7
Air flow	(8)	l/s	60490	60490	60490	60490	80653	80653
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	72	72	94	94	125	125
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	32	32	34	34	42	42
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	6009	6009	6009	6009	7809	7809
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	5398	5398	5316	5663	6376	6376
Unit weight - operation		kg	5568	5568	5402	5903	6676	6676
Water connection size		mm	139.7	139.7	168.3	168.3	168.3	168.3
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- XL C – standard unit								
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**	**H15**
Cooling Capacity	(1)	kW	1081	1169	1278	1371	1447	1606
Power Input	(1)	kW	348	376	412	440	482	519
EER	(1)	kW/kW	3.10	3.11	3.10	3.12	3.00	3.09
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.56	5.58	5.56	5.57	5.55	5.57
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	51.6	55.8	60.9	65.4	69.0	76.6
Evaporator pressure drop	(1) (4)	kPa	52.3	60.2	37.2	45.1	52.6	34.1
Evaporator water volume		lt	502	502	492	481	470	871
Minimum water rate	(5)	l/s	15.2	15.2	20.6	20.5	20.5	25.3
Sound Power	(1) (6)	dB(A)	98	98	99	99	99	100
Sound Pressure @ 1 m	(1) (7)	dB(A)	76	76	77	77	77	77
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	900					
Fan motor / control		-	EC Brushless Fans					
Number of fans		n	18	20	20	22	22	24
Power input fans		kW	25.6	28.4	28.4	31.2	31.2	34.1
Air flow	(8)	l/s	90735	100817	100817	110898	110898	120980
Refrigerant circuits		n	2	2	2	2	2	3
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	140.4	156.0	156.0	171.6	171.6	187.0
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	42	42	50	50	50	75
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	8709	9609	9609	10510	10510	11409
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	7362	7392	7654	8020	8020	11277
Unit weight - operation		kg	7842	7872	8134	8470	8470	12148
Water connection size		mm	219.1	219.1	219.1	219.1	219.1	273.0
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

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EWAD~T- XL C – standard unit							
MODEL	notes		**H16**	**C17**	**H18**	**C19**	**C20**
Cooling Capacity	(1)	kW	1705	1836	1947	2019	2076
Power Input	(1)	kW	551	587	621	661	701
EER	(1)	kW/kW	3.09	3.13	3.14	3.05	2.96
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.58	5.59	5.58	5.57	5.52
Evaporator type		-	Direct Expansion – Shell & Tubes				
Water flow rate	(1)	l/s	81.3	87.6	92.9	96.3	99.0
Evaporator pressure drop	(1) (4)	kPa	38.0	43.0	47.8	46.0	48.4
Evaporator water volume		lt	871	522	522	1010	1010
Minimum water rate	(5)	l/s	25.3	27.6	27.6	29.9	29.9
Sound Power	(1) (6)	(1) (6)	100	100	100	100	100
Sound Pressure @ 1 m	(1) (7)	(1) (7)	77	77	77	77	77
Fan type		-	Direct Propeller				
Fan diameter		mm	800				
Fan rotational speed		RPM	900				
Fan motor / control		-	EC Brushless Fan				
Number of fans		n	26	28	30	30	30
Power input fans		kW	36.9	39.8	42.6	42.6	42.6
Air flow	(8)	l/s	131062	141143	151225	151225	151225
Refrigerant circuits		n	3	3	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430				
Refrigerant Charge	(9)	kg	203	218	234	234	234
Compressor type		-	Single Screw				
Capacity control		-	Mechanical				
Oil charge		lt	75	75	75	75	75
Casing material		-	Galvanized Steel Sheet				
Color		-	Ivory White				
Unit length		mm	12309	13209	14109	14109	14109
Unit width		mm	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540
Unit weight - shipping		kg	11684	11581	11672	11999	11999
Unit weight - operation		kg	12555	12511	12602	13034	13034
Water connection size		mm	273.0	273.0	273.0	273.0	273.0
Water connection type		-	Victaulic				

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
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EWAD~T- XR C – standard unit								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Cooling Capacity	(1)	kW	341.8	369.1	390.1	407.4	426.6	479.9
Power Input	(1)	kW	107	116	123	131	140	162
EER	(1)	kW/kW	3.19	3.17	3.17	3.12	3.04	2.96
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.16	5.14	5.51	5.52	5.50	5.50
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	16.3	17.6	18.6	19.4	20.4	22.9
Evaporator pressure drop	(1) (4)	kPa	21.3	27.5	19.1	20.7	22.5	44.1
Evaporator water volume		lt	134	129	129	170	170	170
Minimum water rate	(5)	l/s	7.0	7.0	8.8	8.8	8.8	7.0
Sound Power	(1) (6)	dB(A)	89	89	90	90	90	90
Sound Pressure @ 1 m	(1) (7)	dB(A)	69	69	69	69	69	70
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	700					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	8	8	10	10	10	10
Power input fans		kW	5.5	5.5	6.9	6.9	6.9	6.9
Air flow	(8)	l/s	40327	40327	50408	50408	50408	50408
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	52	54	65	66	66	66
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	26	26	26	26	26	32
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	4139	4139	5039	5039	5039	5039
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	4344	4344	4640	4640	4640	5140
Unit weight - operation		kg	4514	4514	4810	4810	4810	5310
Water connection size		mm	139.7	139.7	139.7	139.7	139.7	139.7
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
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EWAD~T- XR C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Cooling Capacity	(1)	kW	526.9	546.2	707.8	784.1	911.7	970.7
Power Input	(1)	kW	168	178	252	281	309	351
EER	(1)	kW/kW	3.14	3.07	2.81	2.79	2.95	2.77
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.50	5.50	5.50	5.50	5.52	5.50
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	25.1	26.1	33.8	37.4	43.5	46.3
Evaporator pressure drop	(1) (4)	kPa	37.2	35.0	30.5	35.4	41.2	46.1
Evaporator water volume		lt	164	170	315	232	289	289
Minimum water rate	(5)	l/s	8.7	8.8	14.4	14.3	17.4	17.4
Sound Power	(1) (6)	dB(A)	91	91	91	91	92	92
Sound Pressure @ 1 m	(1) (7)	dB(A)	70	70	70	70	70	70
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	700					
Fan motor / control		-	EC Brushless Fan					
Number of fans		n	12	12	12	12	16	16
Power input fans		kW	8.3	8.3	8.3	8.3	11.0	11.0
Air flow	(8)	l/s	60490	60490	60490	60490	80653	80653
Refrigerant circuits		n	2	2	2	2	2	2
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	72	72	94	94	125	125
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	32	32	34	34	42	42
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	6009	6009	6009	6009	7809	7809
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	5678	5678	5596	5943	6616	6616
Unit weight - operation		kg	5848	5848	5682	6183	6916	6916
Water connection size		mm	139.7	139.7	168.3	168.3	168.3	168.3
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
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EWAD~T- XR C – standard unit								
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**	**H15**
Cooling Capacity	(1)	kW	1064	1144	1233	1319	1387	1555
Power Input	(1)	kW	365	391	427	456	509	541
EER	(1)	kW/kW	2.92	2.93	2.89	2.89	2.72	2.87
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.55	5.56	5.52	5.53	5.50	5.53
Evaporator type		-	Direct Expansion – Shell & Tubes					
Water flow rate	(1)	l/s	50.7	54.5	58.8	62.9	66.2	74.1
Evaporator pressure drop	(1) (4)	kPa	50.8	57.9	34.9	42.0	48.8	32.2
Evaporator water volume		lt	502	502	492	481	470	871
Minimum water rate	(5)	l/s	15.2	15.2	20.6	20.5	20.5	25.3
Sound Power	(1) (6)	dB(A)	92	93	93	93	93	94
Sound Pressure @ 1 m	(1) (7)	dB(A)	70	71	71	71	71	72
Fan type		-	Direct Propeller					
Fan diameter		mm	800					
Fan rotational speed		RPM	700					
Fan motor / control		-	EC Brushless Fans					
Number of fans		n	18	20	20	22	22	24
Power input fans		kW	12.4	13.8	13.8	15.2	15.2	16.6
Air flow	(8)	l/s	90735	100817	100817	110898	110898	120980
Refrigerant circuits		n	2	2	2	2	2	3
Refrigerant type / GWP		-	R134a / GWP = 1430					
Refrigerant Charge	(9)	kg	140.4	156.0	156.0	171.6	171.6	187.0
Compressor type		-	Single Screw					
Capacity control		-	Mechanical					
Oil charge		lt	42	42	50	50	50	75
Casing material		-	Galvanized Steel Sheet					
Color		-	Ivory White					
Unit length		mm	8709	9609	9609	10510	10510	11409
Unit width		mm	2282	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540	2540
Unit weight - shipping		kg	7602	7632	7894	8260	8260	11652
Unit weight - operation		kg	8082	8112	8374	8710	8710	12523
Water connection size		mm	219.1	219.1	219.1	219.1	219.1	273.0
Water connection type		-	Victaulic					

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

Data certified by Eurovent certification scheme
The above data are referred to the unit without additional optional.
The above data are referred the unit installed in compliancy with installation prescription.
All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit's certified drawing

EWAD~T- XR C – standard unit							
MODEL	notes		**H16**	**C17**	**H18**	**C19**	**C20**
Cooling Capacity	(1)	kW	1648	1781	1881	1941	1987
Power Input	(1)	kW	569	607	638	688	740
EER	(1)	kW/kW	2.90	2.93	2.95	2.82	2.69
Minimum capacity	(2)	%	12.5	12.5	12.5	12.5	12.5
SEPR	(3)	kW/kW	5.54	5.55	5.55	5.56	5.50
Evaporator type		-	Direct Expansion – Shell & Tubes				
Water flow rate	(1)	l/s	78.6	84.9	89.7	92.6	94.7
Evaporator pressure drop	(1) (4)	kPa	35.7	40.7	44.9	42.9	44.7
Evaporator water volume		lt	871	522	522	1010	1010
Minimum water rate	(5)	l/s	25.3	27.6	27.6	29.9	29.9
Sound Power	(1) (6)	(1) (6)	94	95	95	95	95
Sound Pressure @ 1 m	(1) (7)	(1) (7)	72	71	71	72	72
Fan type		-	Direct Propeller				
Fan diameter		mm	800				
Fan rotational speed		RPM	700				
Fan motor / control		-	EC Brushless Fan				
Number of fans		n	26	28	30	30	30
Power input fans		kW	17.9	19.3	20.7	20.7	20.7
Air flow	(8)	l/s	131062	141143	151225	151225	151225
Refrigerant circuits		n	3	3	3	3	3
Refrigerant type / GWP		-	R134a / GWP = 1430				
Refrigerant Charge	(9)	kg	203	218	234	234	234
Compressor type		-	Single Screw				
Capacity control		-	Mechanical				
Oil charge		lt	75	75	75	75	75
Casing material		-	Galvanized Steel Sheet				
Color		-	Ivory White				
Unit length		mm	12309	13209	14109	14109	14109
Unit width		mm	2282	2282	2282	2282	2282
Unit height		mm	2540	2540	2540	2540	2540
Unit weight - shipping		kg	12059	12238	12047	12432	12432
Unit weight - operation		kg	12930	13168	12977	13467	13467
Water connection size		mm	273.0	273.0	273.0	273.0	273.0
Water connection type		-	Victaulic				

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0
(2) Minimum capacity for the unit operating at Standard Rating Conditions: Operating Ambient Temperature 35°C, Evaporator, water outlet 7°C
(3) Seasonal energy performance Ratio as defined in Regulation (EU) 2016/2281 for a high temperature process chiller at standard rating conditions defined in EN14511:2
(4) Not including filter pressure drop. The installation of the filter is mandatory.
(5) Minimum flow rate to be reached in variable water flow system (not managed by the unit controller BMS) with unit operating at minimum load.
(6) Sound power level measured in accordance to ISO9614, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(7) Sound pressure level measured in accordance to ISO3744, referred to unit operating at Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C
(8) Referred to unit with free discharge on condenser fans
(9) Data subject to change. Refer to unit's name plate for actual value

Data certified by Eurovent certification scheme
The above data are referred to the unit without additional optional.
The above data are referred the unit installed in compliancy with installation prescription.
All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit's certified drawing

EWAD~T- SS C – standard unit								
MODEL	notes		**290**	**330**	**370**	**510**	**520**	**580**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	161.1	188.9	204.2	271.6	278.0	303.1
Max. running current	(3)	A	226	256	290	364	394	417
Max. current for wire sizing	(4)	A	249	282	319	400	433	459
Maximum starting current	(5)	A	260	320	354	576	583	606
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	13	13	17	17	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	85	101	130	169	169	193
Max. running current Compressor #2	(6)	A	115	130	130	169	193	193
Main switch size	(6)	A	400	400	400	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	15	20	20	20

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SS C – standard unit								
MODEL	notes		**700**	**800**	**940**	**C10**	**H10**	**C11**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	377.4	417.9	476.5	525.7	558.4	601.5
Max. running current	(3)	A	519	571	654	712	750	815
Max. current for wire sizing	(4)	A	571	628	719	783	825	897
Maximum starting current	(5)	A	642	694	909	922	1005	1025
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	29	29	29	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	193	242	193	193	293	293
Max. running current Compressor #2	(6)	A	293	293	405	452	405	452
Main switch size	(6)	A	800	800	1000	1000	1000	1250
Terminal connection	(6)	-	Cables	Cables	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x240 + PE 1x240 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SS C – standard unit								
MODEL	notes		**H12**	**H13**	**H14**	**H15**	**H16**	**C17**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	660.5	703.8	741.9	812.2	859.8	920.4
Max. running current	(3)	A	886	950	1015	1116	1191	1260
Max. current for wire sizing	(4)	A	975	1045	1117	1228	1310	1386
Maximum starting current	(5)	A	1141	1160	1225	1440	1446	1515
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	34	38	42	46	50	50
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	405	405	452	333	333	405
Max. running current Compressor #2	(6)	A	405	452	452	333	333	405
Max. running current Compressor #3	(6)	A				333	405	333
Main switch size	(6)	A	1250	1250	1600	1600	1600	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SS C – standard unit						
MODEL	notes		**H18**	**C19**	**C20**	**C21**
Phases		n	3			
Frequency		Hz	50			
Voltage	(2)	V	400			
Voltage Tolerances min/max		%	-10/ +10			
Nominal Running Current	(1)	A	983.5	1019	1059	1093
Max. running current	(3)	A	1329	1394	1458	1522
Max. current for wire sizing	(4)	A	1462	1533	1604	1674
Maximum starting current	(5)	A	1584	1604	1668	1732
Fan starting method	(6)	-	EC Brushless Motor			
Max running current per fan	(6)	A	2.1			
Total fans running current	(6)	A	50	55	59	63
Compressor starting method			Y-Δ			
Max. running current Compressor #1	(6)	A	405	405	452	452
Max. running current Compressor #2	(6)	A	405	405	452	452
Max. running current Compressor #3	(6)	A	405	452	405	452
Main switch size	(6)	A	2000	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.

(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.

All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SL C – standard unit								
MODEL	notes		**290**	**330**	**370**	**510**	**520**	**580**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	161.1	188.9	204.2	271.6	278.0	303.1
Max. running current	(3)	A	226	256	290	364	394	417
Max. current for wire sizing	(4)	A	249	282	319	400	433	459
Maximum starting current	(5)	A	260	320	354	576	583	606
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	13	13	17	17	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	85	101	130	169	169	193
Max. running current Compressor #2	(6)	A	115	130	130	169	193	193
Main switch size	(6)	A	400	400	400	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	15	20	20	20

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SL C – standard unit								
MODEL	notes		**700**	**800**	**940**	**C10**	**H10**	**C11**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	377.4	417.9	476.5	525.7	558.4	601.5
Max. running current	(3)	A	519	571	654	712	750	815
Max. current for wire sizing	(4)	A	571	628	719	783	825	897
Maximum starting current	(5)	A	642	694	909	922	1005	1025
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	29	29	29	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	193	242	193	193	293	293
Max. running current Compressor #2	(6)	A	293	293	405	452	405	452
Main switch size	(6)	A	800	800	1000	1000	1000	1250
Terminal connection	(6)	-	Cables	Cables	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x240 + PE 1x240 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SL C – standard unit								
MODEL	notes		**H12**	**H13**	**H14**	**H15**	**H16**	**C17**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	660.5	703.8	741.9	812.2	859.8	920.4
Max. running current	(3)	A	886	950	1015	1116	1191	1260
Max. current for wire sizing	(4)	A	975	1045	1117	1228	1310	1386
Maximum starting current	(5)	A	1141	1160	1225	1440	1446	1515
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	34	38	42	46	50	50
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	405	405	452	333	333	405
Max. running current Compressor #2	(6)	A	405	452	452	333	333	405
Max. running current Compressor #3	(6)	A				333	405	333
Main switch size	(6)	A	1250	1250	1600	1600	1600	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SL C – standard unit						
MODEL	notes		**H18**	**C19**	**C20**	**C21**
Phases		n	3			
Frequency		Hz	50			
Voltage	(2)	V	400			
Voltage Tolerances min/max		%	-10/ +10			
Nominal Running Current	(1)	A	983.5	1019	1059	1093
Max. running current	(3)	A	1329	1394	1458	1522
Max. current for wire sizing	(4)	A	1462	1533	1604	1674
Maximum starting current	(5)	A	1584	1604	1668	1732
Fan starting method	(6)	-	EC Brushless Motor			
Max running current per fan	(6)	A	2.1			
Total fans running current	(6)	A	50	55	59	63
Compressor starting method			Y-Δ			
Max. running current Compressor #1	(6)	A	405	405	452	452
Max. running current Compressor #2	(6)	A	405	405	452	452
Max. running current Compressor #3	(6)	A	405	452	405	452
Main switch size	(6)	A	2000	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XS C – standard unit								
MODEL	notes		350	380	400	420	440	490
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	180.7	195.0	203.8	215.6	229.8	260.8
Max. running current	(3)	A	262	276	297	321	345	371
Max. current for wire sizing	(4)	A	288	304	327	353	380	408
Maximum starting current	(5)	A	296	340	361	454	478	583
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	17	17	21	21	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	115	115	130	130	151	169
Max. running current Compressor #2	(6)	A	115	130	130	151	151	169
Main switch size	(6)	A	400	400	400	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	15	20	20	20

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XS C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	271.3	286.2	378.1	419.1	463.2	514.1
Max. running current	(3)	A	400	423	519	571	661	719
Max. current for wire sizing	(4)	A	440	465	571	628	727	791
Maximum starting current	(5)	A	589	612	642	694	916	929
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	25	25	34	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	169	193	193	242	193	193
Max. running current Compressor #2	(6)	A	193	193	293	293	405	452
Main switch size	(6)	A	630	630	800	800	1000	1000
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Bars	Bars
Cable per phase	(6)	-	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x240 + PE 1x240 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	20	20	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XS C – standard unit							
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**
Phases		n	3				
Frequency		Hz	50				
Voltage	(2)	V	400				
Voltage Tolerances min/max		%	-10/ +10				
Nominal Running Current	(1)	A	537.0	575.0	634.3	673.9	726.9
Max. running current	(3)	A	763	828	899	963	1021
Max. current for wire sizing	(4)	A	839	911	989	1059	1123
Maximum starting current	(5)	A	1018	1038	1154	1173	1231
Fan starting method	(6)	-	EC Brushless Motor				
Max running current per fan	(6)	A	2.1				
Total fans running current	(6)	A	38	42	42	46	46
Compressor starting method			Y-Δ				
Max. running current Compressor #1	(6)	A	293	293	405	405	452
Max. running current Compressor #2	(6)	A	405	452	405	452	452
Main switch size	(6)	A	1000	1250	1250	1250	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XS C – standard unit								
MODEL	notes		**H15**	**H16**	**C17**	**H18**	**C19**	**C20**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	799.3	843.9	897.8	942.9	997.3	1050
Max. running current	(3)	A	1122	1198	1273	1348	1406	1464
Max. current for wire sizing	(4)	A	1234	1318	1400	1483	1547	1610
Maximum starting current	(5)	A	1446	1453	1528	1603	1616	1674
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	50	55	59	63	63	63
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	333	333	405	405	405	452
Max. running current Compressor #2	(6)	A	333	333	405	405	405	452
Max. running current Compressor #3	(6)	A	333	405	333	405	452	405
Main switch size	(6)	A	1600	1600	1600	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XL C – standard unit								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	180.7	195.0	203.8	215.6	229.8	260.8
Max. running current	(3)	A	262	276	297	321	345	371
Max. current for wire sizing	(4)	A	288	304	327	353	380	408
Maximum starting current	(5)	A	296	340	361	454	478	583
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	17	17	21	21	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	115	115	130	130	151	169
Max. running current Compressor #2	(6)	A	115	130	130	151	151	169
Main switch size	(6)	A	400	400	400	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	15	20	20	20

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XL C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	271.3	286.2	378.1	419.1	463.2	514.1
Max. running current	(3)	A	400	423	519	571	661	719
Max. current for wire sizing	(4)	A	440	465	571	628	727	791
Maximum starting current	(5)	A	589	612	642	694	916	929
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	25	25	34	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	169	193	193	242	193	193
Max. running current Compressor #2	(6)	A	193	193	293	293	405	452
Main switch size	(6)	A	630	630	800	800	1000	1000
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Bars	Bars
Cable per phase	(6)	-	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x240 + PE 1x240 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	20	20	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XL C – standard unit							
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**
Phases		n	3				
Frequency		Hz	50				
Voltage	(2)	V	400				
Voltage Tolerances min/max		%	-10/ +10				
Nominal Running Current	(1)	A	537.0	575.0	634.3	673.9	726.9
Max. running current	(3)	A	763	828	899	963	1021
Max. current for wire sizing	(4)	A	839	911	989	1059	1123
Maximum starting current	(5)	A	1018	1038	1154	1173	1231
Fan starting method	(6)	-	EC Brushless Motor				
Max running current per fan	(6)	A	2.1				
Total fans running current	(6)	A	38	42	42	46	46
Compressor starting method			Y-Δ				
Max. running current Compressor #1	(6)	A	293	293	405	405	452
Max. running current Compressor #2	(6)	A	405	452	405	452	452
Main switch size	(6)	A	1000	1250	1250	1250	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XL C – standard unit								
MODEL	notes		**H15**	**H16**	**C17**	**H18**	**C19**	**C20**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	799.3	843.9	897.8	942.9	997.3	1050
Max. running current	(3)	A	1122	1198	1273	1348	1406	1464
Max. current for wire sizing	(4)	A	1234	1318	1400	1483	1547	1610
Maximum starting current	(5)	A	1446	1453	1528	1603	1616	1674
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	50	55	59	63	63	63
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	333	333	405	405	405	452
Max. running current Compressor #2	(6)	A	333	333	405	405	405	452
Max. running current Compressor #3	(6)	A	333	405	333	405	452	405
Main switch size	(6)	A	1600	1600	1600	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XR C – standard unit								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	181.5	197.2	202.6	215.6	231.0	267.3
Max. running current	(3)	A	262	276	297	321	345	371
Max. current for wire sizing	(4)	A	288	304	327	353	380	408
Maximum starting current	(5)	A	296	340	361	454	478	583
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	1					
Total fans running current	(6)	A	8	8	10	10	10	10
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	115	115	130	130	151	169
Max. running current Compressor #2	(6)	A	115	130	130	151	151	169
Main switch size	(6)	A	400	400	400	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	15	20	20	20

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XR C – standard unit								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	274.2	290.8	395.2	439.0	479.9	537.2
Max. running current	(3)	A	400	423	519	571	661	719
Max. current for wire sizing	(4)	A	440	465	571	628	727	791
Maximum starting current	(5)	A	589	612	642	694	916	929
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	1					
Total fans running current	(6)	A	12	12	12	12	16	16
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	169	193	193	242	193	193
Max. running current Compressor #2	(6)	A	193	193	293	293	405	452
Main switch size	(6)	A	630	630	800	800	1000	1000
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Bars	Bars
Cable per phase	(6)	-	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x240 + PE 1x240 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	20	20	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XR C – standard unit							
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**
Phases		n	3				
Frequency		Hz	50				
Voltage	(2)	V	400				
Voltage Tolerances min/max		%	-10/ +10				
Nominal Running Current	(1)	A	555.1	593.4	657.0	700.1	758.8
Max. running current	(3)	A	763	828	899	963	1021
Max. current for wire sizing	(4)	A	839	911	989	1059	1123
Maximum starting current	(5)	A	1018	1038	1154	1173	1231
Fan starting method	(6)	-	EC Brushless Motor				
Max running current per fan	(6)	A	1				
Total fans running current	(6)	A	18	20	20	22	22
Compressor starting method			Y-Δ				
Max. running current Compressor #1	(6)	A	293	293	405	405	452
Max. running current Compressor #2	(6)	A	405	452	405	452	452
Main switch size	(6)	A	1000	1250	1250	1250	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero

(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- XR C – standard unit								
MODEL	notes		**H15**	**H16**	**C17**	**H18**	**C19**	**C20**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	828.4	873.4	927.6	973.7	1037	1100
Max. running current	(3)	A	1122	1198	1273	1348	1406	1464
Max. current for wire sizing	(4)	A	1234	1318	1400	1483	1547	1610
Maximum starting current	(5)	A	1446	1453	1528	1603	1616	1674
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	1					
Total fans running current	(6)	A	24	26	28	30	30	30
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	333	333	405	405	405	452
Max. running current Compressor #2	(6)	A	333	333	405	405	405	452
Max. running current Compressor #3	(6)	A	333	405	333	405	452	405
Main switch size	(6)	A	1600	1600	1600	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C. Fouling factor = 0

(2) Voltage unbalance between phases must be within ± 3%.
(3) Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current.

(4) Based on minimum allowed voltage à Max. current for wire sizing = Max. Running current x 1,1

(5) In case of inverter driven compressor, the starting current is zero
(6) It may change in case of unit with options or customized unit. Refer to dedicated unit's wiring diagram.

The data are referred to the unit without additional options.
All data are subject to change without notice. For updated information on project base refer to unit specific wiring diagram and unit's nameplate data.

EWAD~T- SS/SL C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**290**	**330**	**370**	**510**	**520**	**580**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	161.1	188.9	204.2	271.6	278	303.1
Max. running current	(3)	A	226	256	290	364	394	417
Max. current for wire sizing	(4)	A	249	282	319	400	433	459
Maximum starting current	(5)	A	260	320	354	576	583	606
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	13	13	17	17	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	85	101	130	169	169	193
Max. running current Compressor #2	(6)	A	115	130	130	169	193	193
Main switch size	(6)	A	400	400	630	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	15	20	20	20	20

EWAD~T- SS/SL C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**700**	**800**	**940**	**C10**	**H10**	**C11**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	377.4	417.9	476.5	525.7	558.4	601.5
Max. running current	(3)	A	519	571	654	712	750	815
Max. current for wire sizing	(4)	A	571	628	719	783	825	897
Maximum starting current	(5)	A	642	694	909	922	1005	1025
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	29	29	29	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	193	242	193	193	293	293
Max. running current Compressor #2	(6)	A	293	293	405	452	405	452
Main switch size	(6)	A	800	1000	1000	1250	1250	1250
Terminal connection	(6)	-	Cables	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	25	25	25	25	25

EWAD~T- SS/SL C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**H12**	**H13**	**H14**	**H15**	**H16**	**C17**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	660.5	703.8	741.9	812.2	859.8	920.4
Max. running current	(3)	A	886	950	1015	1116	1191	1260
Max. current for wire sizing	(4)	A	975	1045	1117	1228	1310	1386
Maximum starting current	(5)	A	1141	1160	1225	1440	1446	1515
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	34	38	42	46	50	50
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	405	405	452	333	333	405
Max. running current Compressor #2	(6)	A	405	452	452	333	333	405
Max. running current Compressor #3	(6)	A				333	405	333
Main switch size	(6)	A	1600	1600	1600	1600	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

EWAD~T- SS/SL C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)						
MODEL	notes		**H18**	**C19**	**C20**	**C21**
Phases		n	3			
Frequency		Hz	50			
Voltage	(2)	V	400			
Voltage Tolerances min/max		%	-10/ +10			
Nominal Running Current	(1)	A	983.5	1019	1059	1093
Max. running current	(3)	A	1329	1394	1458	1522
Max. current for wire sizing	(4)	A	1462	1533	1604	1674
Maximum starting current	(5)	A	1584	1604	1668	1732
Fan starting method	(6)	-	EC Brushless Motor			
Max running current per fan	(6)	A	2.1			
Total fans running current	(6)	A	50	55	59	63
Compressor starting method			Y-Δ			
Max. running current Compressor #1	(6)	A	405	405	452	452
Max. running current Compressor #2	(6)	A	405	405	452	452
Max. running current Compressor #3	(6)	A	405	452	405	452
Main switch size	(6)	A	2000	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25

EWAD~T- XS/XL/XR C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**350**	**380**	**400**	**420**	**440**	**490**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	180.7	195	203.8	215.6	229.8	260.8
Max. running current	(3)	A	262	276	297	321	345	371
Max. current for wire sizing	(4)	A	288	304	327	353	380	408
Maximum starting current	(5)	A	296	340	361	454	478	583
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	17	17	21	21	21	21
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	115	115	130	130	151	169
Max. running current Compressor #2	(6)	A	115	130	130	151	151	169
Main switch size	(6)	A	400	630	630	630	630	630
Terminal connection	(6)	-	Cables	Cables	Cables	Cables	Cables	Cables
Cable per phase	(6)	-	1x240 + PE 1x120 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²
Short circuit current Icw 1 sec.	(6)	kA	15	20	20	20	20	20

EWAD~T- XS/XL/XR C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**540**	**570**	**730**	**820**	**950**	**C10**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	271.3	286.2	378.1	419.1	463.2	514.1
Max. running current	(3)	A	400	423	519	571	661	719
Max. current for wire sizing	(4)	A	440	465	571	628	727	791
Maximum starting current	(5)	A	589	612	642	694	916	929
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	25	25	25	25	34	34
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	169	193	193	242	193	193
Max. running current Compressor #2	(6)	A	193	193	293	293	405	452
Main switch size	(6)	A	630	630	800	1000	1000	1250
Terminal connection	(6)	-	Cables	Cables	Cables	Bars	Bars	Bars
Cable per phase	(6)	-	2x185 + PE 1x185 mm²	2x185 + PE 1x185 mm²	2x240 + PE 1x240 mm²	2x300 + PE 1x300 mm²	2x300 + PE 1x300 mm²	2x400 + PE 1x400 mm²
Short circuit current Icw 1 sec.	(6)	kA	20	20	20	25	25	25

EWAD~T- XS/XL/XR C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)							
MODEL	notes		**H10**	**H11**	**C13**	**H13**	**C14**
Phases		n	3				
Frequency		Hz	50				
Voltage	(2)	V	400				
Voltage Tolerances min/max		%	-10/ +10				
Nominal Running Current	(1)	A	537	575	634.3	673.9	726.9
Max. running current	(3)	A	763	828	899	963	1021
Max. current for wire sizing	(4)	A	839	911	989	1059	1123
Maximum starting current	(5)	A	1018	1038	1154	1173	1231
Fan starting method	(6)	-	EC Brushless Motor				
Max running current per fan	(6)	A	2.1				
Total fans running current	(6)	A	38	42	42	46	46
Compressor starting method			Y-Δ				
Max. running current Compressor #1	(6)	A	293	293	405	405	452
Max. running current Compressor #2	(6)	A	405	452	405	452	452
Main switch size	(6)	A	1250	1250	1600	1600	1600
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x400 + PE 1x400 mm²	2x400 + PE 1x400 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²	2x500 + PE 1x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25

EWAD~T- XS/XL/XR C + OP142 (HIGH AMBIENT KIT_OPERATION ABOVE 46°C)								
MODEL	notes		**H15**	**H16**	**C17**	**H18**	**C19**	**C20**
Phases		n	3					
Frequency		Hz	50					
Voltage	(2)	V	400					
Voltage Tolerances min/max		%	-10/ +10					
Nominal Running Current	(1)	A	799.3	843.9	897.8	942.9	997.3	1050
Max. running current	(3)	A	1122	1198	1273	1348	1406	1464
Max. current for wire sizing	(4)	A	1234	1318	1400	1483	1547	1610
Maximum starting current	(5)	A	1446	1453	1528	1603	1616	1674
Fan starting method	(6)	-	EC Brushless Motor					
Max running current per fan	(6)	A	2.1					
Total fans running current	(6)	A	50	55	59	63	63	63
Compressor starting method			Y-Δ					
Max. running current Compressor #1	(6)	A	333	333	405	405	405	452
Max. running current Compressor #2	(6)	A	333	333	405	405	405	452
Max. running current Compressor #3	(6)	A	333	405	333	405	452	405
Main switch size	(6)	A	1600	2000	2000	2000	2000	2000
Terminal connection	(6)	-	Bars	Bars	Bars	Bars	Bars	Bars
Cable per phase	(6)	-	2x500 + PE 1x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²	3x600 + PE 2x500 mm²
Short circuit current Icw 1 sec.	(6)	kA	25	25	25	25	25	25

EWAD~T- SS C – standard unit										
Model	Sound pressure level @ 1 m from the unit (rif. 2 x10^{-5} Pa)								Sound pressure Lp @ 1 m	Sound power Lw
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
	dB								dB(A)	dB(A)
290	81	75	76	77	72	72	58	57	**78**	**98**
330	81	75	76	77	72	72	58	57	**78**	**98**
370	81	76	76	77	72	71	58	57	**78**	**98**
510	81	76	83	75	71	67	59	58	**78**	**98**
520	82	76	82	75	71	67	59	59	**78**	**98**
580	82	76	82	75	71	67	59	59	**78**	**98**
700	82	77	80	76	73	67	60	59	**78**	**99**
800	82	77	76	77	74	67	62	59	**78**	**99**
940	83	77	80	76	72	70	60	59	**78**	**99**
C10	83	77	80	76	73	71	60	59	**79**	**100**
H10	83	77	77	77	74	70	61	59	**79**	**100**
C11	83	77	77	76	73	70	61	59	**78**	**100**
H12	83	77	77	76	73	71	61	58	**78**	**100**
H13	83	77	77	77	74	72	61	59	**79**	**101**
H14	83	78	77	77	74	72	61	59	**79**	**101**
H15	83	78	78	78	75	73	62	59	**80**	**103**
H16	84	78	78	78	75	73	62	59	**80**	**103**
C17	84	78	78	78	75	73	62	59	**80**	**103**
H18	84	78	78	78	75	73	62	59	**80**	**103**
C19	84	78	78	78	75	73	62	59	**80**	**103**
C20	84	78	78	78	75	73	62	59	**80**	**103**
C21	84	78	78	78	75	73	62	59	**80**	**103**

Sound power level (referred to evaporator 12/7°C, ambient 35°C full load operation) are measured in accordance with ISO 9614 and Eurovent 8/1 for Eurovent certified units. The certification refers only to the overall sound power level.
The sound data in the Octave band spectrum is for intended for reference only and not considering binding.
The sound pressure is calculated from the sound power level and are for information only and not considered binding.

EWAD~T- SL C – standard unit										
Model	Sound pressure level @ 1 m from the unit (rif. 2 x10^{-5} Pa)								Sound pressure Lp @ 1 m	Sound power Lw
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
	dB								dB(A)	dB(A)
290	81	75	74	73	68	66	57	56	**74**	**94**
330	81	75	74	73	68	66	57	56	**74**	**94**
370	81	76	75	74	69	66	57	57	**75**	**95**
510	81	76	78	73	69	64	57	57	**75**	**95**
520	82	76	78	73	69	64	58	58	**75**	**95**
580	82	76	78	73	69	64	58	58	**75**	**95**
700	82	77	77	74	70	64	58	58	**75**	**96**
800	82	77	75	74	70	64	59	58	**75**	**96**
940	83	77	77	75	70	66	59	58	**76**	**97**
C10	83	77	77	75	70	67	59	58	**76**	**97**
H10	83	77	76	75	71	66	59	58	**76**	**97**
C11	83	77	76	75	71	67	59	58	**76**	**98**
H12	83	77	76	75	71	67	59	58	**76**	**98**
H13	83	77	76	75	71	67	59	58	**76**	**98**
H14	83	77	76	75	71	67	59	58	**76**	**98**
H15	83	78	77	76	72	68	60	59	**77**	**99**
H16	84	78	77	76	72	68	60	59	**77**	**100**
C17	84	78	77	76	72	68	60	59	**77**	**100**
H18	84	78	77	76	72	68	60	59	**77**	**100**
C19	84	78	77	76	72	68	60	59	**77**	**100**
C20	84	78	77	76	72	68	60	59	**77**	**100**
C21	84	78	77	76	72	68	60	59	**77**	**100**

Sound power level (referred to evaporator 12/7°C, ambient 35°C full load operation) are measured in accordance with ISO 9614 and Eurovent 8/1 for Eurovent certified units. The certification refers only to the overall sound power level.
The sound data in the Octave band spectrum is for intended for reference only and not considering binding.
The sound pressure is calculated from the sound power level and are for information only and not considered binding.

EWAD~T- XS C – standard unit										
Model	Sound pressure level @ 1 m from the unit (rif. 2 x10^{-5} Pa)								Sound pressure Lp @ 1 m	Sound power Lw
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
	dB								dB(A)	dB(A)
350	81	76	76	77	72	71	58	57	**78**	**98**
380	81	76	76	77	72	71	58	57	**78**	**98**
400	82	76	76	77	72	71	59	58	**78**	**98**
420	82	76	76	77	72	71	59	58	**78**	**98**
440	82	76	76	77	72	71	59	58	**78**	**98**
490	82	76	82	75	71	67	59	59	**78**	**98**
540	82	77	82	75	71	66	59	59	**78**	**98**
570	82	77	82	75	71	66	59	59	**78**	**98**
730	82	77	80	76	73	67	60	59	**78**	**99**
820	82	77	76	77	74	67	62	59	**78**	**99**
950	83	77	79	76	72	70	60	59	**78**	**99**
C10	83	77	80	76	73	70	60	59	**78**	**100**
H10	83	77	77	76	74	70	61	59	**78**	**100**
H11	83	78	77	77	74	70	61	59	**79**	**101**
C13	83	78	77	77	74	72	61	59	**79**	**101**
H13	83	78	77	77	74	72	61	59	**79**	**101**
C14	83	78	77	77	74	72	61	59	**79**	**101**
H15	84	78	78	78	75	73	62	59	**80**	**103**
H16	84	78	78	78	74	73	62	59	**80**	**103**
C17	84	78	78	77	74	72	61	59	**79**	**103**
H18	84	78	78	77	74	72	61	59	**79**	**103**
C19	84	78	78	78	74	72	62	59	**80**	**103**
C20	84	78	78	78	75	73	62	59	**80**	**103**

Sound power level (referred to evaporator 12/7°C, ambient 35°C full load operation) are measured in accordance with ISO 9614 and Eurovent 8/1 for Eurovent certified units. The certification refers only to the overall sound power level.
The sound data in the Octave band spectrum is for intended for reference only and not considering binding.
The sound pressure is calculated from the sound power level and are for information only and not considered binding.

EWAD~T- XL C – standard unit										
Model	Sound pressure level @ 1 m from the unit (rif. 2 x10^{-5} Pa)								Sound pressure Lp @ 1 m	Sound power Lw
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
	dB								dB(A)	dB(A)
350	81	76	75	74	69	66	57	57	**75**	**95**
380	81	76	75	74	69	66	57	57	**75**	**95**
400	82	76	75	74	69	66	58	57	**75**	**95**
420	82	76	75	74	69	66	58	57	**75**	**95**
440	82	76	75	74	69	66	58	57	**75**	**95**
490	82	76	78	73	69	64	58	58	**75**	**95**
540	82	77	78	74	69	64	58	58	**76**	**96**
570	82	77	78	74	69	64	58	58	**76**	**96**
730	82	77	77	74	70	64	58	58	**76**	**97**
820	82	77	76	75	71	64	59	58	**76**	**97**
950	83	77	78	75	70	66	59	58	**76**	**98**
C10	83	77	78	75	71	66	59	58	**76**	**98**
H10	83	77	77	75	71	66	59	58	**76**	**98**
H11	83	78	77	75	71	66	59	59	**76**	**98**
C13	83	78	77	75	71	67	59	59	**77**	**99**
H13	83	78	77	75	71	67	59	59	**77**	**99**
C14	83	78	77	76	71	68	59	59	**77**	**99**
H15	84	78	77	76	72	68	60	59	**77**	**100**
H16	84	78	77	76	72	68	60	59	**77**	**100**
C17	84	78	77	76	72	68	60	59	**77**	**100**
H18	84	78	77	76	72	68	60	59	**77**	**100**
C19	84	78	77	76	72	68	60	59	**77**	**100**
C20	84	78	77	76	72	68	60	59	**77**	**100**

Sound power level (referred to evaporator 12/7°C, ambient 35°C full load operation) are measured in accordance with ISO 9614 and Eurovent 8/1 for Eurovent certified units. The certification refers only to the overall sound power level.
The sound data in the Octave band spectrum is for intended for reference only and not considering binding.
The sound pressure is calculated from the sound power level and are for information only and not considered binding.

EWAD~T- XR C – standard unit										
Model	Sound pressure level @ 1 m from the unit (rif. 2 x10^{-5} Pa)								Sound pressure Lp @ 1 m	Sound power Lw
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
	dB								dB(A)	dB(A)
350	74	68	68	67	63	61	54	55	**69**	**89**
380	74	68	68	67	63	61	54	55	**69**	**89**
400	75	69	68	67	63	61	55	56	**69**	**90**
420	75	69	68	67	63	61	55	56	**69**	**90**
440	75	69	68	67	63	61	55	56	**69**	**90**
490	75	69	74	66	63	59	55	56	**70**	**90**
540	75	69	74	66	63	59	55	56	**70**	**91**
570	75	69	74	66	63	59	55	56	**70**	**91**
730	75	69	72	67	65	59	56	56	**70**	**91**
820	75	69	68	68	66	60	56	56	**70**	**91**
950	76	70	72	67	65	62	56	57	**70**	**92**
C10	76	70	71	67	65	62	56	57	**70**	**92**
H10	76	70	69	68	66	62	56	57	**70**	**92**
H11	76	70	69	68	66	62	57	57	**71**	**93**
C13	76	70	70	68	66	63	56	57	**71**	**93**
H13	76	71	70	68	66	63	57	57	**71**	**93**
C14	76	71	70	68	66	64	57	57	**71**	**93**
H15	76	71	70	69	67	64	57	57	**72**	**94**
H16	77	71	70	69	66	64	57	57	**72**	**94**
C17	77	71	70	69	66	64	57	57	**71**	**95**
H18	77	71	70	69	66	64	57	57	**71**	**95**
C19	77	71	70	69	66	64	57	57	**72**	**95**
C20	77	71	70	69	67	64	57	57	**72**	**95**

Sound power level (referred to evaporator 12/7°C, ambient 35°C full load operation) are measured in accordance with ISO 9614 and Eurovent 8/1 for Eurovent certified units. The certification refers only to the overall sound power level.
The sound data in the Octave band spectrum is for intended for reference only and not considering binding.
The sound pressure is calculated from the sound power level and are for information only and not considered binding.

Despite "Sound power" and "Sound pressure" both share the same unit of measure, the decibel (dB), and the term "sound level" is commonly substituted for each they represent two distinct characteristics of sound.

Sound power is the acoustical energy emitted by the sound source. it is an absolute value and is not affected by the environment.

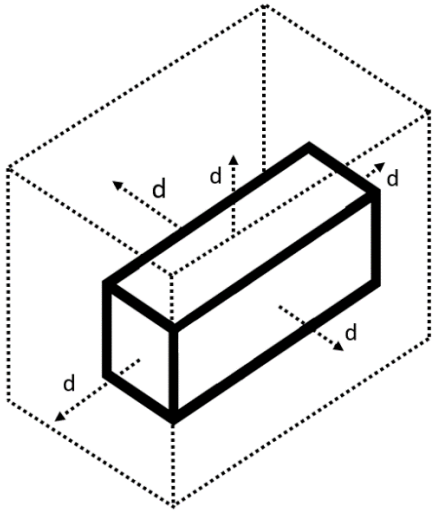
Sound pressure is a pressure disturbance in the atmosphere whose intensity is influenced not only by the strength of the source, but also by the surroundings and the distance from the source to the receiver.

Although dB is commonly used when referring to measuring sound, humans do not hear all frequencies equally. In order to account for this, corrections have been created to give a loudness measurement that takes into account how the human ear actually perceives sound. The most common of these corrections is the "A" weighting (different weights are applied at different frequencies). Values that have been corrected using the "A" weighting system are shown using units of dB(A). Values not corrected to account for human hearing are written using units of dB. The sound spectrum in octave band is reported in dB while the overall value of Sound power and pressure are in dB(A).

To calculate the sound pressure at different distances from the chiller the generic calculation of sound power from sound pressure is as follows:

$$L_p = L_w - 10 * \log_{10} A_d$$

Where A_d is the surface around the chiller calculated at the specific distance



EWAD~T- SS C – standard unit										
Model	Sound pressure at different distances [dB(A)]									
	@ 1 m	@ 2 m	@ 3 m	@ 4 m	@ 5 m	@ 6 m	@ 7 m	@ 8 m	@ 9 m	@ 10 m
290	78	76	74	72	71	69	68	67	67	66
330	78	76	74	72	71	69	68	67	67	66
370	78	75	73	72	70	69	68	67	66	66
510	78	75	73	72	70	69	68	67	66	66
520	78	75	73	72	70	69	68	67	66	66
580	78	75	73	72	70	69	68	67	66	66
700	78	76	74	72	71	70	69	68	67	66
800	78	76	74	72	71	70	69	68	67	66
940	78	75	74	72	71	70	69	68	67	66
C10	79	76	75	73	72	71	70	69	68	67
H10	79	76	75	73	72	71	70	69	68	67
C11	78	76	74	73	72	71	70	69	68	67
H12	78	76	74	73	72	71	70	69	68	67
H13	79	77	75	74	73	71	71	70	69	68
H14	79	77	75	74	72	71	70	70	69	68
H15	81	79	77	75	74	73	72	71	71	70
H16	80	78	77	75	74	73	72	71	71	70
C17	80	78	77	75	74	73	72	71	71	70
H18	80	78	77	75	74	73	72	71	71	70
C19	80	78	77	75	74	73	72	71	70	70
C20	80	78	76	75	74	73	72	71	70	70
C21	80	78	76	75	74	73	72	71	70	70

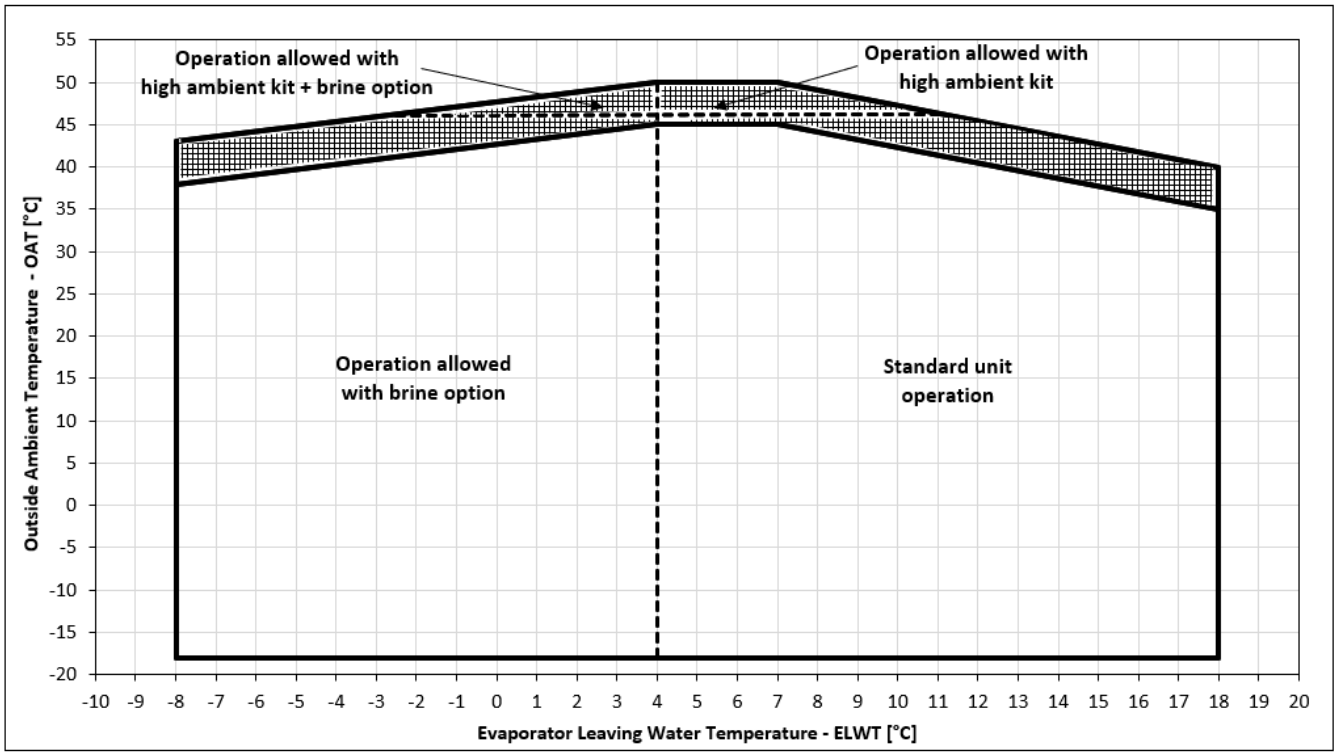
EWAD~T- SL C – standard unit										
Model	Sound pressure at different distances [dB(A)]									
	@ 1 m	@ 2 m	@ 3 m	@ 4 m	@ 5 m	@ 6 m	@ 7 m	@ 8 m	@ 9 m	@ 10 m
290	74	72	70	68	67	65	64	63	63	62
330	74	72	70	68	67	65	64	63	63	62
370	75	72	70	69	67	66	65	64	63	63
510	75	72	70	69	67	66	65	64	63	63
520	75	72	70	69	67	66	65	64	63	63
580	75	72	70	69	67	66	65	64	63	63
700	75	73	71	69	68	67	66	65	64	63
800	75	73	71	69	68	67	66	65	64	63
940	76	73	72	70	69	68	67	66	65	64
C10	76	73	72	70	69	68	67	66	65	64
H10	76	73	72	70	69	68	67	66	65	64
C11	76	74	72	71	70	69	68	67	66	65
H12	76	74	72	71	70	69	68	67	66	65
H13	76	74	72	71	70	68	68	67	66	65
H14	76	74	72	71	69	68	67	67	66	65
H15	77	75	73	71	70	69	68	67	67	66
H16	77	75	74	72	71	70	69	68	68	67
C17	77	75	74	72	71	70	69	68	68	67
H18	77	75	74	72	71	70	69	68	68	67
C19	77	75	74	72	71	70	69	68	67	67
C20	77	75	73	72	71	70	69	68	67	67
C21	77	75	73	72	71	70	69	68	67	67

EWAD~T- XS C – standard unit										
Model	Sound pressure at different distances [dB(A)]									
	@ 1 m	@ 2 m	@ 3 m	@ 4 m	@ 5 m	@ 6 m	@ 7 m	@ 8 m	@ 9 m	@ 10 m
350	78	75	73	72	70	69	68	67	66	66
380	78	75	73	72	70	69	68	67	66	66
400	78	75	73	72	70	69	68	67	66	66
420	78	75	73	72	70	69	68	67	66	66
440	78	75	73	72	70	69	68	67	66	66
490	78	75	73	72	70	69	68	67	66	66
540	77	75	73	71	70	69	68	67	66	65
570	77	75	73	71	70	69	68	67	66	65
730	78	76	74	72	71	70	69	68	67	66
820	78	76	74	72	71	70	69	68	67	66
950	77	75	73	72	71	70	69	68	67	66
C10	78	76	74	73	72	71	70	69	68	67
H10	78	76	74	73	72	70	70	69	68	67
H11	79	77	75	74	72	71	70	70	69	68
C13	79	77	75	74	72	71	70	70	69	68
H13	79	77	75	73	72	71	70	69	69	68
C14	79	77	75	73	72	71	70	69	69	68
H15	80	78	77	75	74	73	72	71	71	70
H16	80	78	77	75	74	73	72	71	70	70
C17	80	78	76	75	74	73	72	71	70	70
H18	80	78	76	75	74	73	72	71	70	70
C19	80	78	76	75	74	73	72	71	70	70
C20	80	78	76	75	74	73	72	71	70	70

EWAD~T- XL C – standard unit										
Model	Sound pressure at different distances [dB(A)]									
	@ 1 m	@ 2 m	@ 3 m	@ 4 m	@ 5 m	@ 6 m	@ 7 m	@ 8 m	@ 9 m	@ 10 m
350	75	72	70	69	67	66	65	64	63	63
380	75	72	70	69	67	66	65	64	63	63
400	75	72	70	69	67	66	65	64	63	63
420	75	72	70	69	67	66	65	64	63	63
440	75	72	70	69	67	66	65	64	63	63
490	75	72	70	69	67	66	65	64	63	63
540	75	73	71	69	68	67	66	65	64	63
570	75	73	71	69	68	67	66	65	64	63
730	76	74	72	70	69	68	67	66	65	64
820	76	74	72	70	69	68	67	66	65	64
950	76	74	72	71	70	69	68	67	66	65
C10	76	74	72	71	70	69	68	67	66	65
H10	76	74	72	71	70	68	68	67	66	65
H11	76	74	72	71	69	68	67	67	66	65
C13	77	75	73	72	70	69	68	68	67	66
H13	77	75	73	71	70	69	68	67	67	66
C14	77	75	73	71	70	69	68	67	67	66
H15	77	75	74	72	71	70	69	68	68	67
H16	77	75	74	72	71	70	69	68	67	67
C17	77	75	73	72	71	70	69	68	67	67
H18	77	75	73	72	71	70	69	68	67	67
C19	77	75	73	72	71	70	69	68	67	67
C20	77	75	73	72	71	70	69	68	67	67

EWAD~T- XR C – standard unit										
Model	Sound pressure at different distances [dB(A)]									
	@ 1 m	@ 2 m	@ 3 m	@ 4 m	@ 5 m	@ 6 m	@ 7 m	@ 8 m	@ 9 m	@ 10 m
350	69	66	64	63	61	60	59	58	57	57
380	69	66	64	63	61	60	59	58	57	57
400	70	67	65	64	62	61	60	59	58	58
420	70	67	65	64	62	61	60	59	58	58
440	70	67	65	64	62	61	60	59	58	58
490	70	67	65	64	62	61	60	59	58	58
540	70	68	66	64	63	62	61	60	59	58
570	70	68	66	64	63	62	61	60	59	58
730	70	68	66	64	63	62	61	60	59	58
820	70	68	66	64	63	62	61	60	59	58
950	70	68	66	65	64	63	62	61	60	59
C10	70	68	66	65	64	63	62	61	60	59
H10	70	68	66	65	64	62	62	61	60	59
H11	71	69	67	66	64	63	62	62	61	60
C13	71	69	67	66	64	63	62	62	61	60
H13	71	69	67	65	64	63	62	61	61	60
C14	71	69	67	65	64	63	62	61	61	60
H15	71	69	68	66	65	64	63	62	62	61
H16	71	69	68	66	65	64	63	62	61	61
C17	72	70	68	67	66	65	64	63	62	62
H18	72	70	68	67	66	65	64	63	62	62
C19	72	70	68	67	66	65	64	63	62	62
C20	72	70	68	67	66	65	64	63	62	62

EWAD~T-C – Operating Envelope Silver Version



IN THIS AREA CHILLER WILL RUN AT PART LOAD

The above graphic represents a guideline about the operating limits of the range. Please refer to the latest Chiller Selection Software (CSS) for real operating limits working conditions for specific model and configuration.
For operation with EWLT below 4°C, the unit must operate with glycol mixture.
The glycol percentage must be provided according to the minimum ELWT needed.

Below the temperature limits for proper chiller operation:

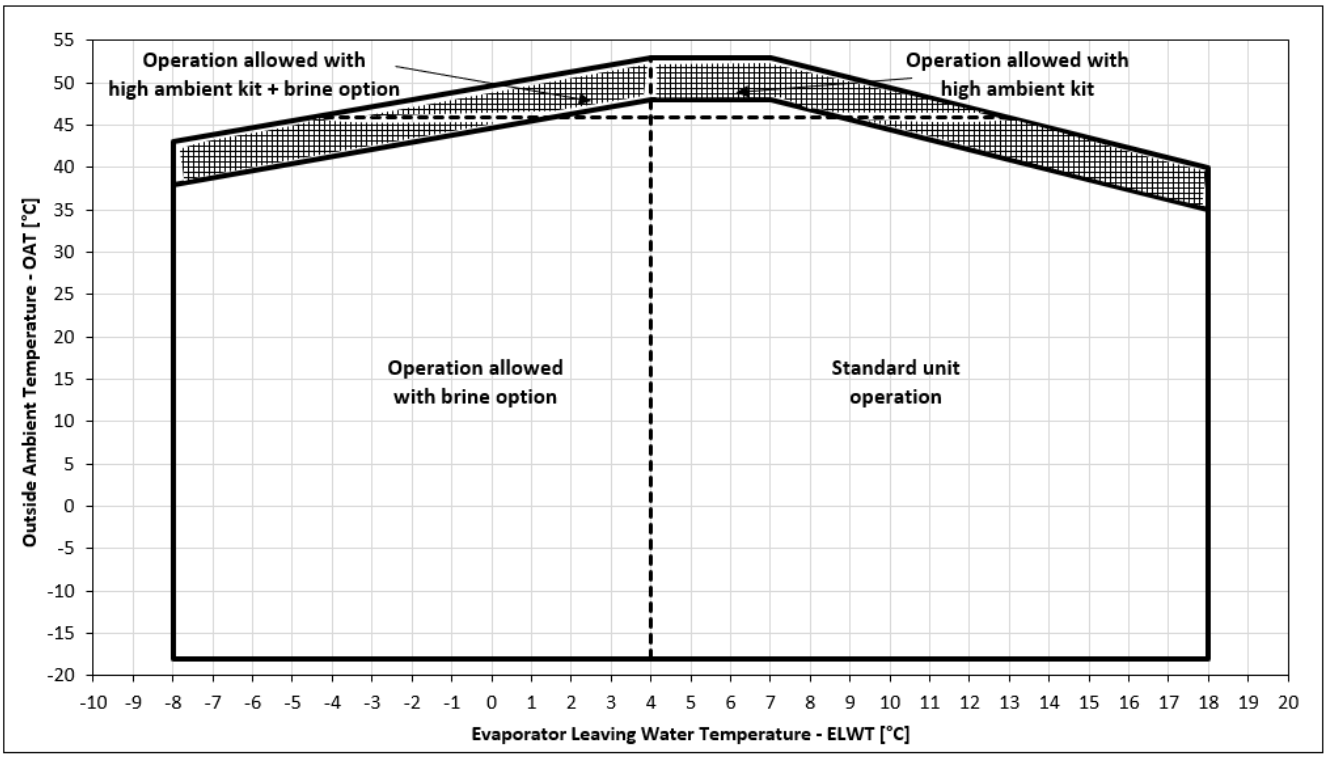
- Min. Evaporator deltaT during full load operation: 4K
- Max. Evaporator deltaT during full load operation 9K

- Min. Partial Heat Recovery exchanger temperature during operation: +25°C
- Max. Partial Heat Recovery exchanger temperature during operation: +60°C
- Min. Partial Heat recovery deltaT during full load operation: 4K
- Max. Partial Heat recovery deltaT during full load operation: 10K

- Min. Total Heat Recovery exchanger temperature during operation: +25°C *
- Max. Total Heat Recovery exchanger temperature during operation: +55°C
- Min. Total Heat recovery deltaT during full load operation: 4K
- Max. Total Heat recovery deltaT during full load operation: 8K

* the installation of the 3 ways valve is recommended (see dedicated "Heat recovery" paragraph)

EWAD~T-C – Operating Envelope Gold Version



IN THIS AREA CHILLER WILL RUN AT PART LOAD

The above graphic represents a guideline about the operating limits of the range. Please refer to the latest Chiller Selection Software (CSS) for real operating limits working conditions for specific model and configuration.
For operation with EWLT below 4°C, the unit must operate with glycol mixture.
The glycol percentage must be provided according to the minimum ELWT needed.

Below the temperature limits for proper chiller operation:

- Min. Evaporator deltaT during full load operation: 4K
- Max. Evaporator deltaT during full load operation 9K

- Min. Partial Heat Recovery exchanger temperature during operation: +25°C
- Max. Partial Heat Recovery exchanger temperature during operation: +60°C
- Min. Partial Heat recovery deltaT during full load operation: 4K
- Max. Partial Heat recovery deltaT during full load operation: 10K

- Min. Total Heat Recovery exchanger temperature during operation: +25°C *
- Max. Total Heat Recovery exchanger temperature during operation: +55°C
- Min. Total Heat recovery deltaT during full load operation: 4K
- Max. Total Heat recovery deltaT during full load operation: 8K

* the installation of the 3 ways valve is recommended (see dedicated "Heat recovery" paragraph)

Minimum glycol percentage for low air ambient temperature to prevent freezing of the hydraulic circuit

Ambient temperature [°C]	-3	-8	-15	-20
Ethylene glycol [%]	10	20	30	40
Propylene Glycol [%]	10	20	30	40

In presence of glycol in the water system the performance will be affected. Refer to the selection software. All machine protection systems, such as antifreeze, and low-pressure protection will need to be adjusted in accordance to the type and percentage of the glycol.

Air heat exchanger - Altitude correction factors

Elevation above sea level	[m]	0	300	600	900	1200	1500	1800
barometric pressure	[mbar]	1013	977	942	908	875	843	812
Cooling capacity correction factors		1	0,993	0,986	0,979	0,973	0,967	0,96
Power input correction factors		1	1,005	1,009	1,015	1,021	1,026	1,031

Maximum operating altitude is 1800 m above sea level.
Contact factory if the unit has to be installed 1000 m above the sea level.

System water volume

All chilled water systems need adequate time to recognize a load change to avoid short cycling of the compressors or loss of control. The potential for short cycling usually exists when the building load falls below the minimum chiller plant capacity or on close-coupled systems with very small water volumes.
Design considerations for water volume are the minimum cooling load, the minimum chiller plant capacity during the low load period and the desired cycle time for the compressors.
Assuming that there are no sudden load changes and that the chiller plant has reasonable turndown, a rule of thumb of "3,5 liters per kW" is often used. This consideration refers to the water volume always flowing through the unit. A properly designed storage tank should be added if the system components do not provide sufficient water volume.

Operating limits for Storage Environmental conditions must be within the following limits:

- Minimum ambient temperature: -20°C
- Maximum ambient temperature: 57°C
- Maximum R.H.: 95% not condensing

Storage below the minimum temperature may cause damage to components. Storage above the maximum temperature causes opening of safety valves.
Storage in condensing atmosphere may damage electronic components.

Water treatment Before putting the unit into operation, clean the water circuit. Dirt, scales, corrosion debits and other material can accumulate inside the heat exchanger and reduce its heat exchanging capacity. Pressure drop can increase as well, thus reducing water flow. Proper water treatment therefore reduces the risk of corrosion, erosion, scaling, etc. The most appropriate water treatment must be determined locally, according to the type of system and water characteristics. The manufacturer is not responsible for damage to or malfunctioning of equipment caused by failure to treat water or by improperly treated water.

ACCEPTABLE WATER QUALITY LIMITS

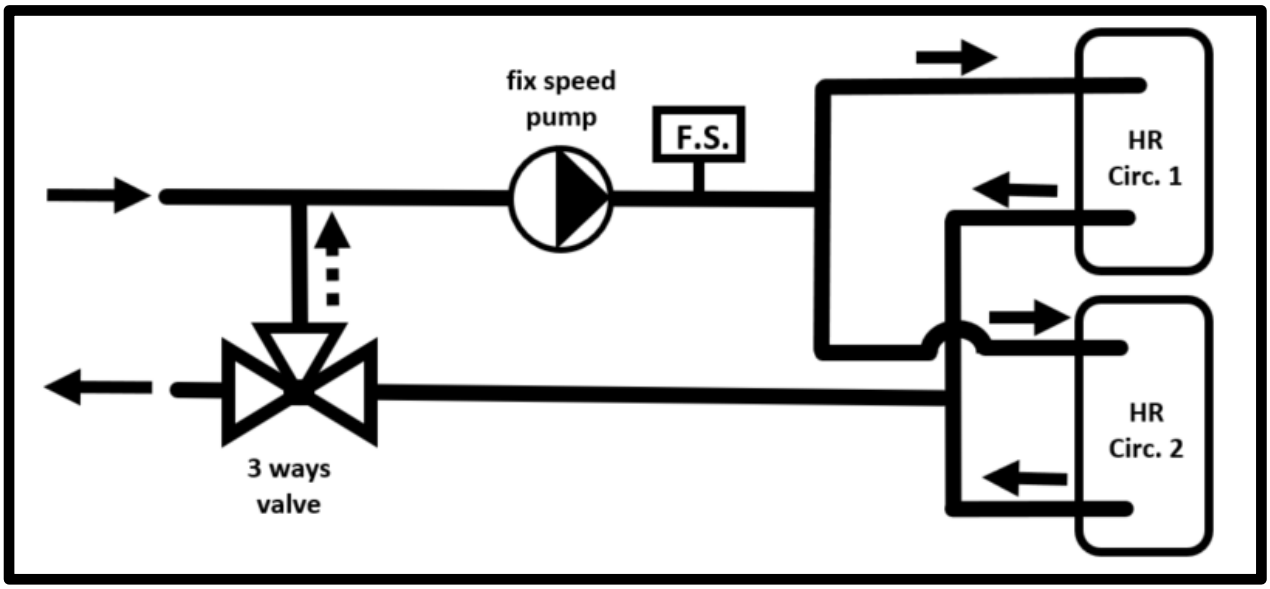
Water quality requirements	Shell&tube
Ph (25 °C)	6.8 ÷ 8.4
Electrical conductivity [µS/cm] (25°C)	< 800
Chloride ion [mg Cl^- / l]	< 150
Sulphate ion [mg SO_4^{2-} / l]	< 100
Alkalinity [mg $CaCO_3$ / l]	< 100
Total Hardness [mg $CaCO_3$ / l]	< 200
Iron [mg Fe / l]	< 1
Ammonium ion [mg NH^{4+} / l]	< 1
Silica [mg SiO_2 / l]	< 50
Chlorine molecular (mg Cl_2/l)	< 5

Water-glycol mixture with the passing of time decays and it gives rise to acid products that can start corrosion processes. Also, the degradation of products in the water-glycol mixture may allow biological proliferation and thus bacteria formation can give rise to corrosion. For these reasons' glycol has to be used with suitable corrosion inhibitors.
The corrosion inhibitors have a lifespan (1 or 2 years) so it is important to periodically verify the percentage of the water-glycol mixture

Inhibitors may become insufficient due to "top ups" of water in the circuit (if water is added to the mixture due to low level, the percentage of glycol must remain as per requirements therefore the correct % of glycol should also be integrated.

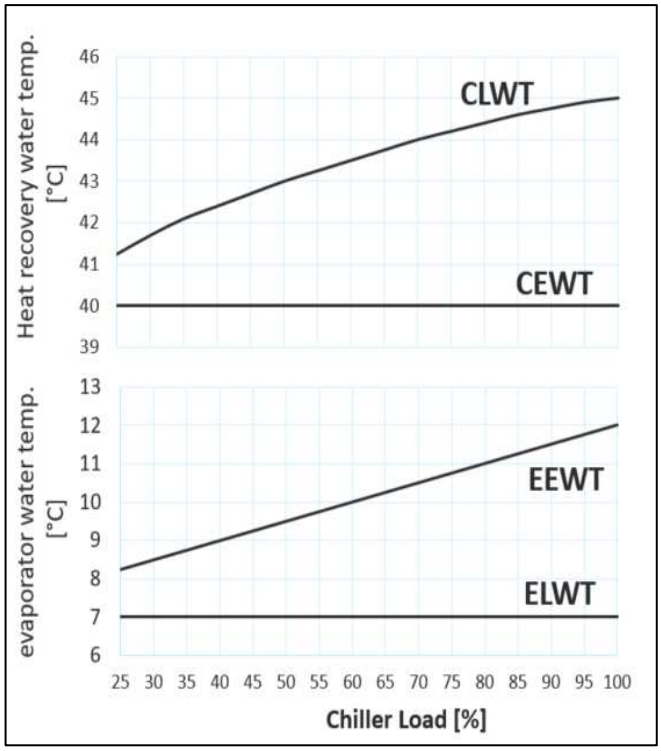
The parameters to be checked regularly are the antifreeze concentration and the pH of water-glycol mixture

Heat recovery Units may be optionally equipped with heat recovery system. This system is made by a water-cooled heat exchanger located on the compressors discharge pipe and a dedicated management of condensing pressure. There is a plate to plate heat exchanger for each circuit. Check on unit drawing the position of Heat recovery heat exchangers.
The heat recovery exchangers are not manifolded on water side. All hydraulic connection must be done on job site. The water connections of recovery exchangers are threated. Check on unit drawing for the size of the connection.
Is strongly recommended to install a 3-ways valve on the heat recovery loop. The valve, not provided by factory, acts as a mixing valve, managed by the unit controller based on the temperature of the water entering the heat exchangers avoiding excessively cold water to enters.
This to ensure that the compressor operate within allowed temperatures range. Minimum water temperature to ensure proper chiller operation is 25°C.
NOTE: It is a responsibility of plant designer and chiller installer to guarantee the respect of this value by using the recirculating bypass valve or other systems.

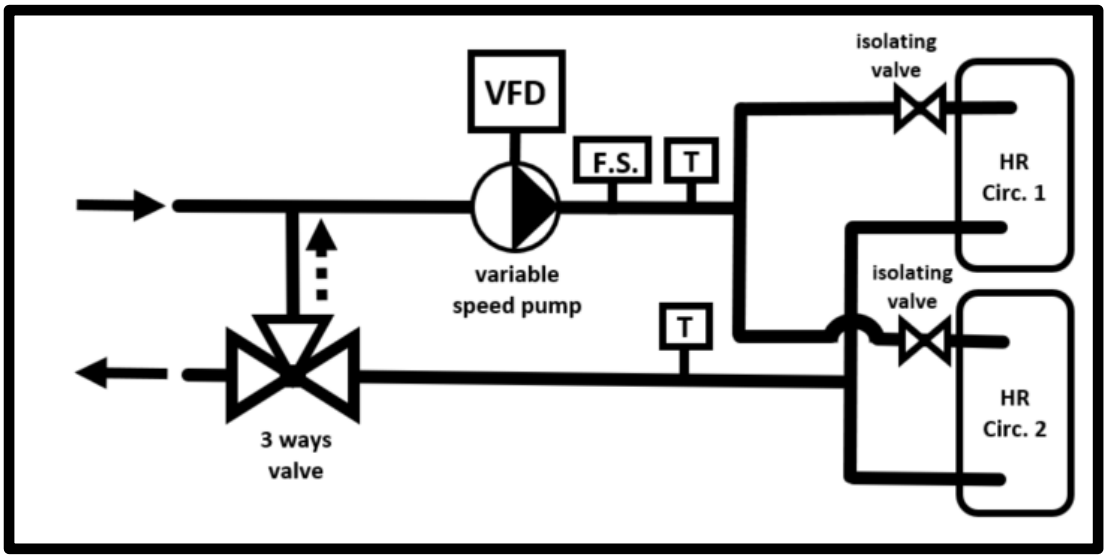


The flow switch must be installed on the heat recovery water loop. Pump, valve, flow switch and manifold are not provided by the factory.

In case of fix water flow rate on heat recovery loop the outlet temperature from the heat recovery exchanger decrease with unit load.
The chiller follows the load on the cold loop and the heating capacity is always the result of the cooling operation. The capacity of the compressors is regulated on the Evaporating Leaving Water Temperature (ELWT). In part load operation the Evaporator Entering Water Temperature (EEWT) decreases.
With the unit is set on "Heat Recovery ON" the unit controller activates the circulating pump on the heating loop and start to check on the water entering the heat recovery exchangers (CEWT). If the CEWT is below the set point the unit starts to produce hot water.
The relation between the load of the compressors and the delta-T on the heat recovery exchanger (CLWT-CEWT) is can be approximated as linear.



Is possible to operate with variable flow rate on heat recovery. The control for the pump speed (not provided by the factory) can be done to keep constant the delta-T on heat recovery loop.
In this case isolating valve must be installed on each heat recovery exchanger to avoid that water passes through a heat recovery exchanger while the related compressor is OFF. The state of the isolating valve must be linked to the state of the compressor.



NOTE: flow switch must be set to detect the minim flow for the circuit.

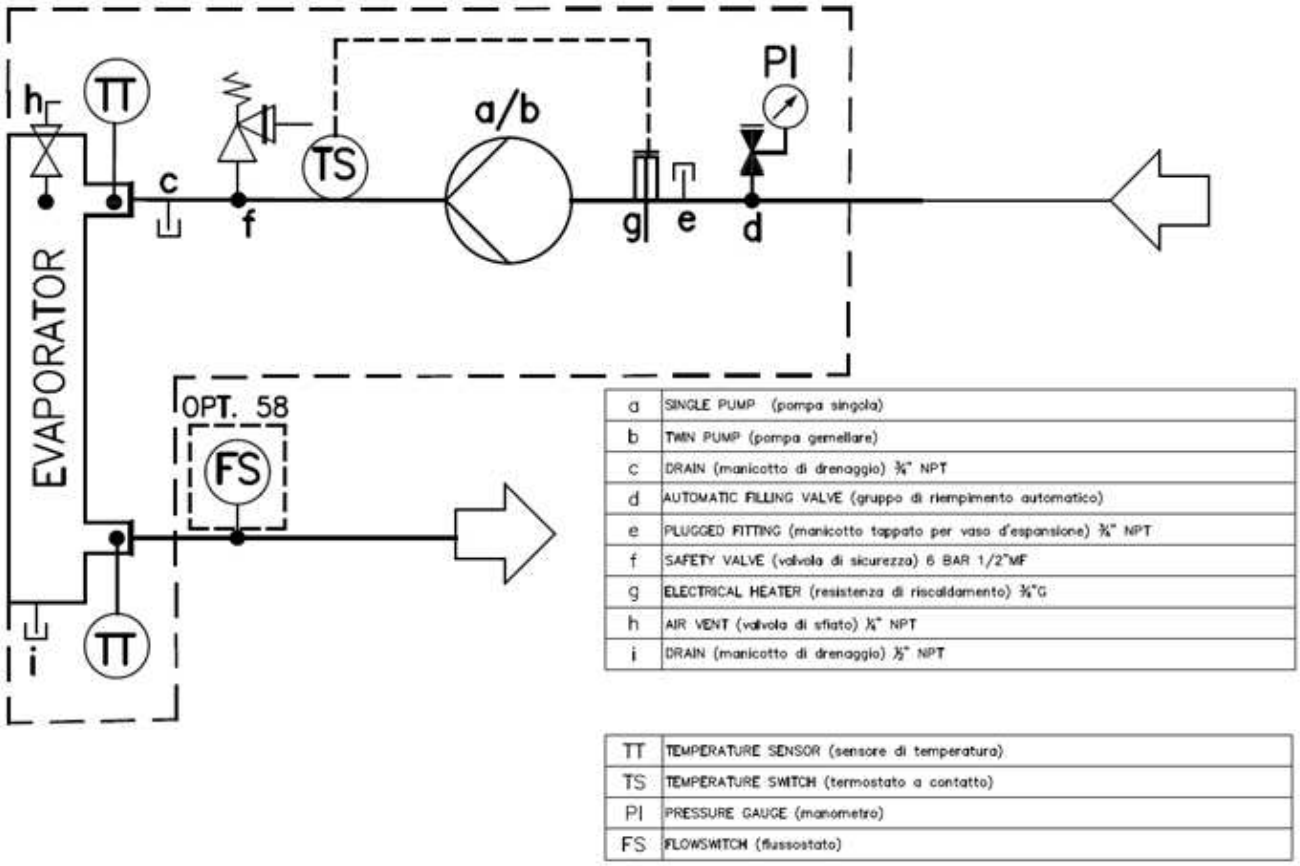
Heat recovery exchanger - water content

Series	Model	THR - Water Volume [lt]
EWAD-T C (Silver version)	290	16
	330	20
	370	24
	510	16
	520	19
	580	22
	700	40
	800	49
	940	54
	C10	54
	H10	67
	C11	67
	H12	81
	H13	81
	H14	81
	H15	105
	H16	119
	C17	133
	H18	147
	C19	161
	C20	175
	C21	189

Series	Model	THR - Water Volume [lt]
EWAD-T C (Goldversion)	350	16
	380	20
	400	24
	420	24
	440	24
	490	16
	540	19
	570	22
	730	40
	820	49
	950	54
	C10	54
	H10	67
	H11	67
	C13	81
	H13	81
	C14	81
	H15	105
	H16	119
	C17	133
	H18	147
	C19	161
	C20	175

NOTE: the above values can change without notice.
In case of customized unit, the data may differ from the standard. Contact factory for data related customized units

Hydronic kit – optional



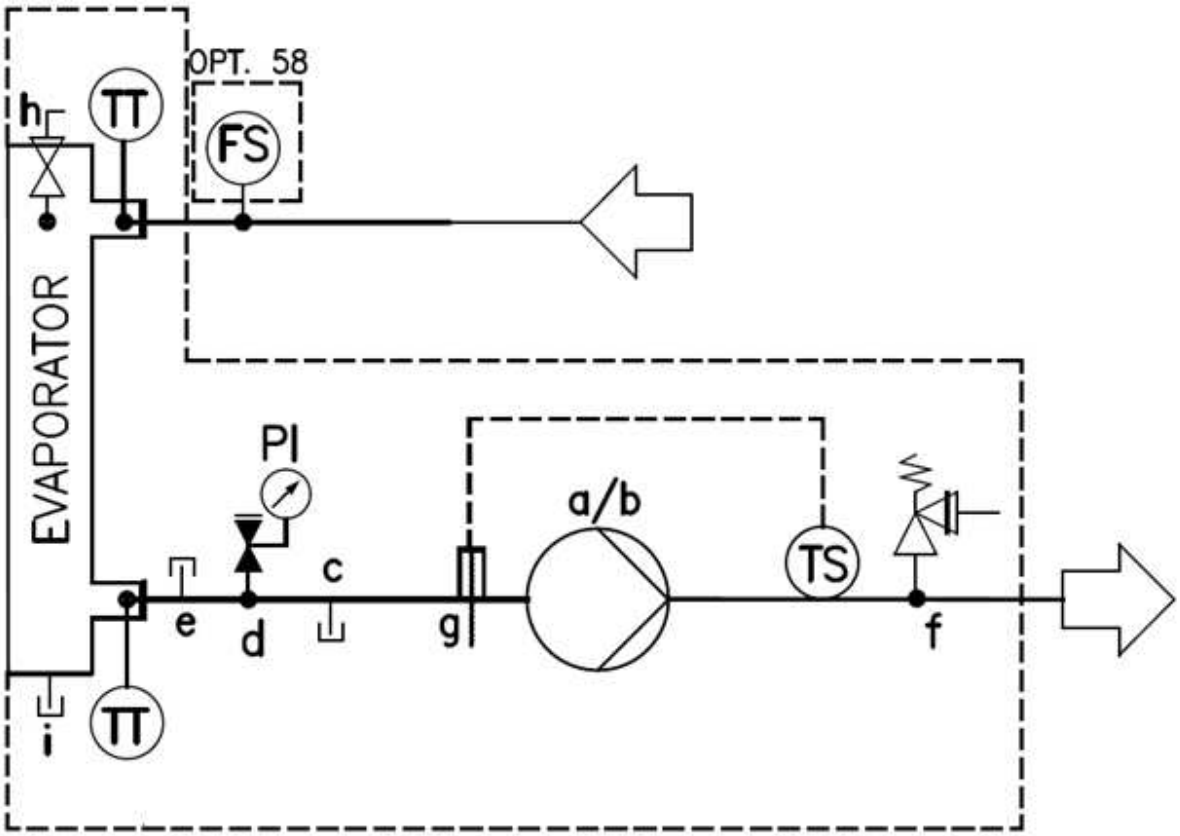
a	SINGLE PUMP (pompa singola)
b	TWIN PUMP (pompa gemellare)
c	DRAIN (manicotto di drenaggio) ¾" NPT
d	AUTOMATIC FILLING VALVE (gruppo di riempimento automatico)
e	PLUGGED FITTING (manicotto tappato per vaso d'espansione) ¾" NPT
f	SAFETY VALVE (valvola di sicurezza) 6 BAR 1/2"MF
g	ELECTRICAL HEATER (resistenza di riscaldamento) ¾"G
h	AIR VENT (valvola di sfiato) ½" NPT
i	DRAIN (manicotto di drenaggio) ½" NPT

TT	TEMPERATURE SENSOR (sensore di temperatura)
TS	TEMPERATURE SWITCH (termostato a contatto)
PI	PRESSURE GAUGE (manometro)
FS	FLOWSWITCH (flussostato)

Configuration of the hydronic kit with pump pushing fluid in the evaporator:

	Model single pump		Model double pump	
	Low lift	High lift	Low lift	High lift
Silver version	EWAD290T-SS/SL C2		EWAD290T-SS/SL C2	
	EWAD330T-SS/SL C2		EWAD330T-SS/SL C2	
	EWAD370T-SS/SL C2		EWAD370T-SS/SL C2	
	EWAD510T-SS/SL C2		EWAD510T-SS/SL C2	
	EWAD520T-SS/SL C2		EWAD520T-SS/SL C2	
	EWAD580T-SS/SL C2		EWAD580T-SS/SL C2	
	EWAD700T-SS/SL B2		EWAD700T-SS/SL B2	
	EWAD800T-SS/SL B2		EWAD800T-SS/SL B2	
	EWAD940T-SS/SL B2		EWAD940T-SS/SL B2	
	EWADC10T-SS/SL B2		EWADC10T-SS/SL B2	
	EWADH10T-SS/SL B2		EWADH10T-SS/SL B2	
	EWADC11T-SS/SL B2		EWADC11T-SS/SL B2	
	EWADH12T-SS/SL B2		EWADH12T-SS/SL B2	

Gold version	EWAD350T-XS/XL/XR C2	EWAD350T-XS/XL/XR C2
	EWAD380T-XS/XL/XR C2	EWAD380T-XS/XL/XR C2
	EWAD400T-XS/XL/XR C2	EWAD400T-XS/XL/XR C2
	EWAD420T-XS/XL/XR C2	EWAD420T-XS/XL/XR C2
	EWAD440T-XS/XL/XR C2	EWAD440T-XS/XL/XR C2
	EWAD490T-XS/XL/XR C2	EWAD490T-XS/XL/XR C2
	EWAD540T-XS/XL/XR C2	EWAD540T-XS/XL/XR C2
	EWAD570T-XS/XL/XR C2	EWAD570T-XS/XL/XR C2
	EWAD730T-XS/XL/XR C2	EWAD730T-XS/XL/XR C2
	EWAD820T-XS/XL/XR C2	EWAD820T-XS/XL/XR C2
	EWAD950T-XS/XL/XR C2	EWAD950T-XS/XL/XR C2
	EWADC10T-XS/XL/XR C2	EWADC10T-XS/XL/XR C2
	EWADH10T-XS/XL/XR C2	EWADH10T-XS/XL/XR C2
	EWADH11T-XS/XL/XR C2	EWADH11T-XS/XL/XR C2
	EWADC13T-XS/XL/XR C2	



a	SINGLE PUMP (pompa singola)
b	TWIN PUMP (pompa gemellare)
c	DRAIN (manicotto di drenaggio) ¾" NPT
d	AUTOMATIC FILLING VALVE (gruppo di riempimento automatico)
e	PLUGGED FITTING (manicotto tappato per vaso d'espansione) ¾" NPT
f	SAFETY VALVE (valvola di sicurezza) 6 BAR 1/2"MF
g	ELECTRICAL HEATER (resistenza di riscaldamento) ¾"G
h	AIR VENT (valvola di sfiato) ¼" NPT
i	DRAIN (manicotto di drenaggio) ½" NPT

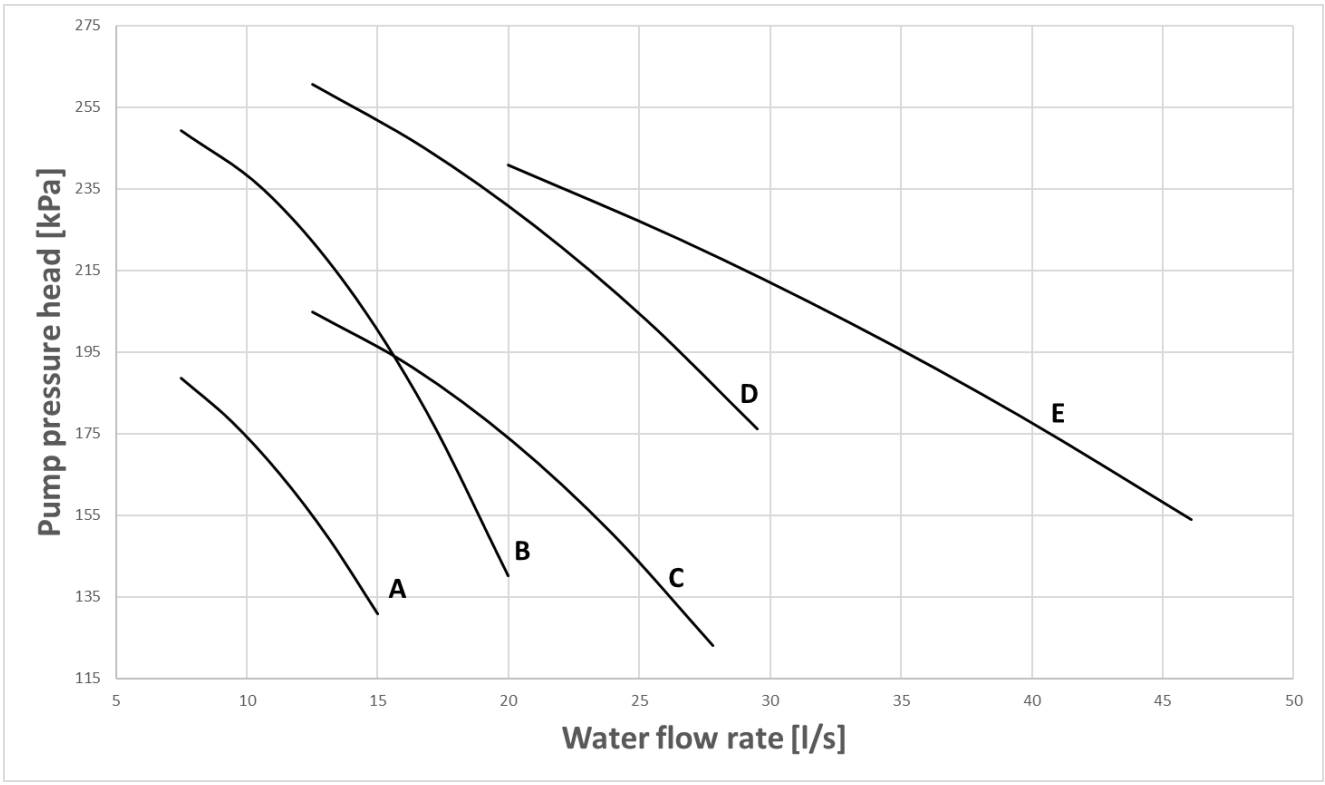
TT	TEMPERATURE SENSOR (sensore di temperatura)
TS	TEMPERATURE SWITCH (termostato a contatto)
PI	PRESSURE GAUGE (manometro)
FS	FLOWSWITCH (flussostato)

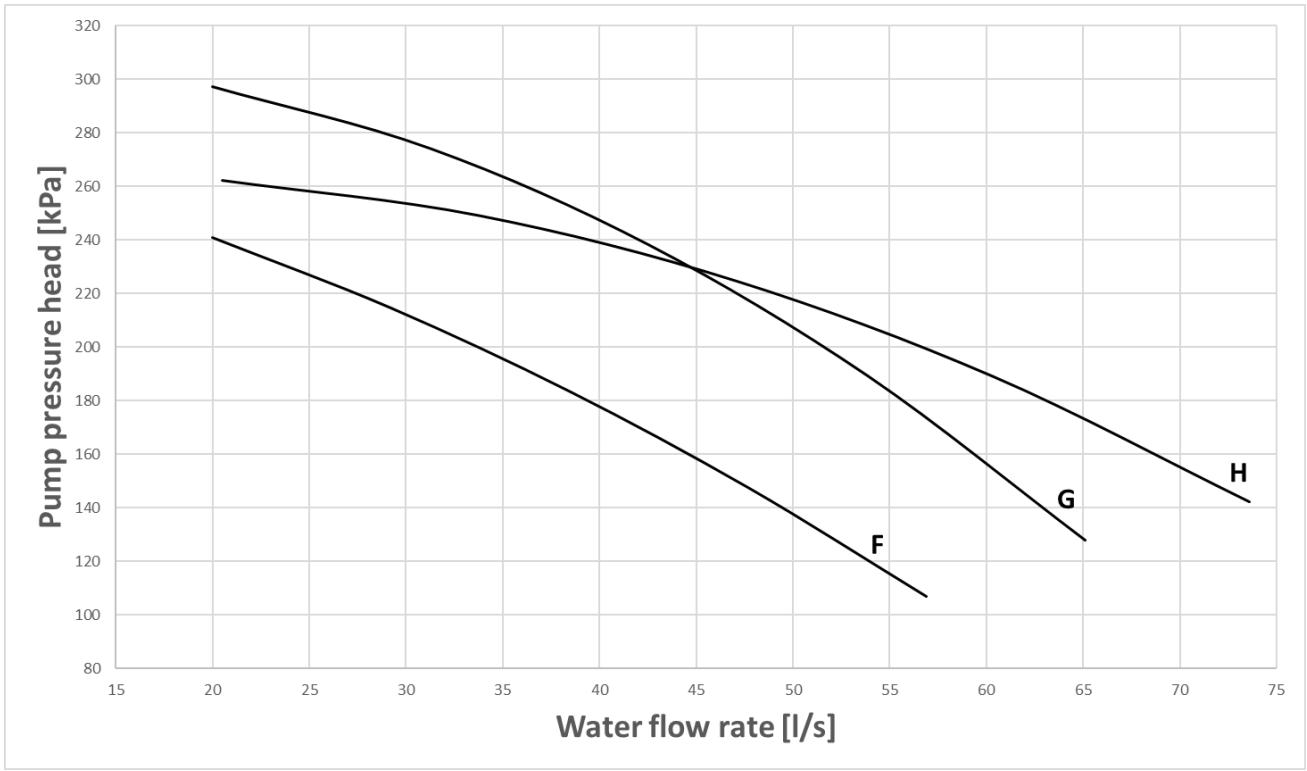
Configuration of the hydronic kit with ***suction pump*** from the evaporator:

	Model single pump		Model double pump	
	Low lift	**High lift**	**Low lift**	**High lift**
Silver version	EWADH13T-SS/SL C2		EWADH13T-SS/SL C2	
	EWADH14T-SS/SL C2		EWADH14T-SS/SL C2	
Gold version	EWADH13T-XS/XL/XR C2		EWADC13T-XS/XL/XR C2	
	EWADC14T-XS/XL/XR C2		EWADH13T-XS/XL/XR C2	
			EWADC14T-XS/XL/XR C2	

EWAD~T SS/SL C

Single pump – Low lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T S- C - Single Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
290	A	4	400 - 3 - 50	10	IP55	F	14.0	24.5	141	117
330	B	5.5	400 - 3 - 50	10	IP55	F	16.0	31.2	190	159
370	B	5.5	400 - 3 - 50	10	IP55	F	17.9	45.3	168	123
510	C	5,5	400 - 3 - 50	10	IP55	F	23.9	34.0	151	117
520	C	5,5	400 - 3 - 50	10	IP55	F	25.0	51.8	143	92
580	D	7,5	400 - 3 - 50	10	IP55	F	27.1	67.2	191	124
700	E	11	400 - 3 - 50	10	IP55	F	33.6	47.0	200	153
800	F	11	400 - 3 - 50	10	IP55	F	38.7	34.4	182	148
940	F	11	400 - 3 - 50	10	IP55	F	44.5	43.0	160	117
C10	F	11	400 - 3 - 50	10	IP55	F	47.4	48.0	148	100
H10	F	11	400 - 3 - 50	10	IP55	F	49.9	44.6	138	93
C11	G	15	400 - 3 - 50	10	IP55	F	54.2	57.1	187	130
H12	G	15	400 - 3 - 50	10	IP55	F	59.3	35.4	161	126
H13	H	15	400 - 3 - 50	10	IP55	F	64.2	46.2	176	130
H14	H	15	400 - 3 - 50	10	IP55	F	68.8	56.1	160	104

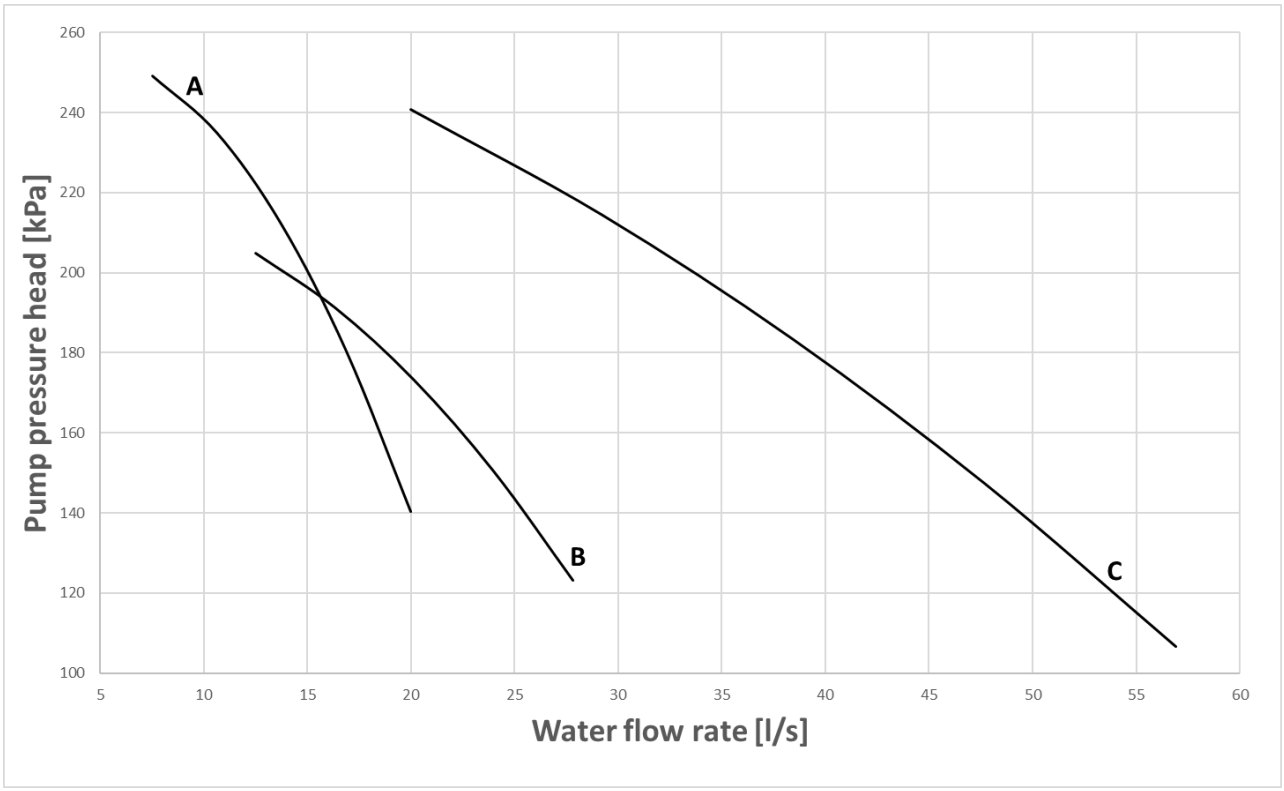
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

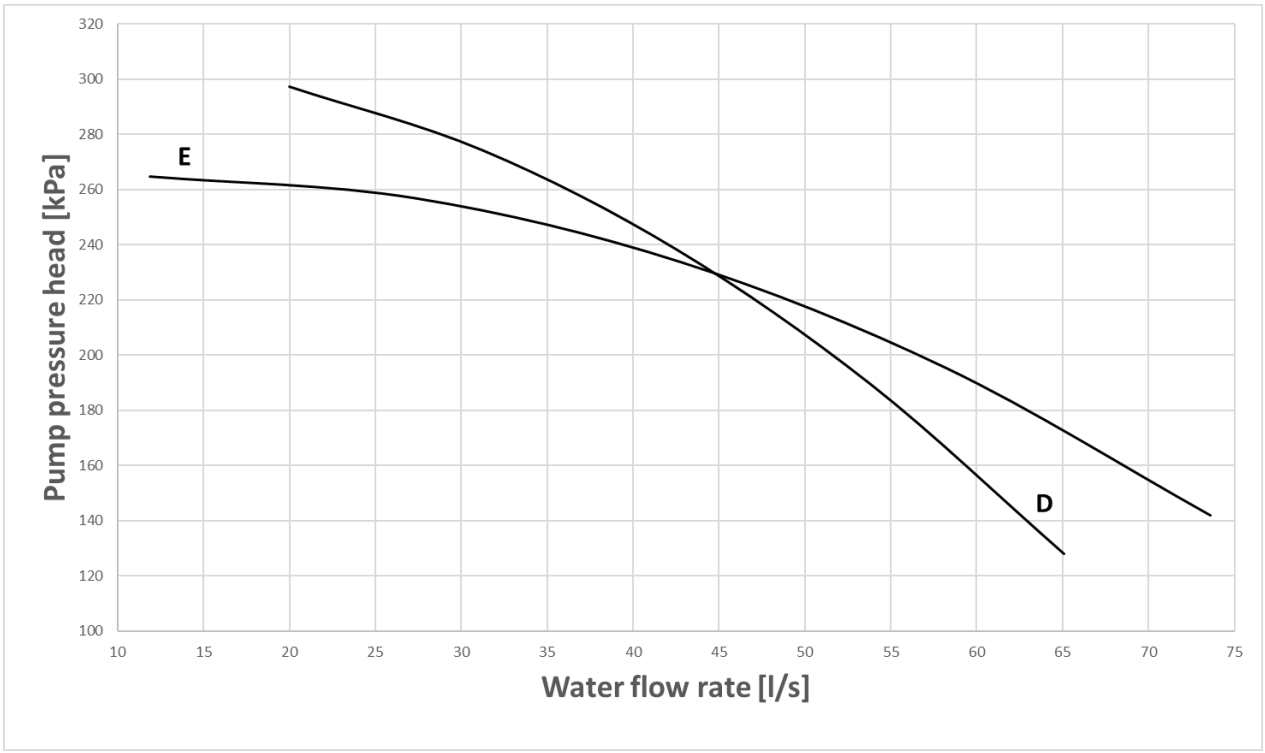
The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
The above data are referred the unit installed in compliancy with installation prescription.

All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit nameplate.

EWAD~T XS/XL/XR C

Single pump – Low lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T X(S)(L) C - Single Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	5.5	400 - 3 - 50	10	IP55	F	16.7	22.4	182	160
380	A	5.5	400 - 3 - 50	10	IP55	F	18.1	28.8	166	137
400	A	5.5	400 - 3 - 50	10	IP55	F	19.1	20	153	133
420	A	5.5	400 - 3 - 50	10	IP55	F	19.9	21.6	142	120
440	B	5.5	400 - 3 - 50	10	IP55	F	20.9	23.6	169	145
490	B	5.5	400 - 3 - 50	10	IP55	F	23.5	46.1	153	107
540	B	5.5	400 - 3 - 50	10	IP55	F	25.8	39.0	138	99
570	B	5.5	400 - 3 - 50	10	IP55	F	26.7	36.6	131	95
730	C	11	400 - 3 - 50	10	IP55	F	34.7	32.0	196	164
820	C	11	400 - 3 - 50	10	IP55	F	39.2	38.5	181	142
950	C	11	400 - 3 - 50	10	IP55	F	45	43.8	158	114
C10	C	11	400 - 3 - 50	10	IP55	F	48.1	49.3	146	96
H10	D	15	400 - 3 - 50	10	IP55	F	51.6	52.3	200	148
H11	D	15	400 - 3 - 50	10	IP55	F	55.8	60.2	179	119
C13	D	15	400 - 3 - 50	10	IP55	F	60.9	37.2	152	115
H13	E	15	400 - 3 - 50	10	IP55	F	65.4	45.1	172	127
C14	E	15	400 - 3 - 50	10	IP55	F	69	52.6	159	107

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
The above data are referred the unit installed in compliancy with installation prescription.

All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit nameplate.

EWAD~T XR C - Single Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	5.5	400 - 3 - 50	10	IP55	F	16.3	21.3	187	165
380	A	5.5	400 - 3 - 50	10	IP55	F	17.6	27.5	172	144
400	A	5.5	400 - 3 - 50	10	IP55	F	18.6	19.1	159	140
420	A	5.5	400 - 3 - 50	10	IP55	F	19.4	20.7	149	128
440	B	5.5	400 - 3 - 50	10	IP55	F	20.4	22.5	172	149
490	B	5.5	400 - 3 - 50	10	IP55	F	22.9	44.1	157	113
540	B	5.5	400 - 3 - 50	10	IP55	F	25.1	37.2	143	106
570	B	5.5	400 - 3 - 50	10	IP55	F	26.1	35	136	101
730	C	11	400 - 3 - 50	10	IP55	F	33.8	30.5	200	169
820	C	11	400 - 3 - 50	10	IP55	F	37.4	35.4	187	152
950	C	11	400 - 3 - 50	10	IP55	F	43.5	41.2	164	123
C10	C	11	400 - 3 - 50	10	IP55	F	46.3	46.1	153	107
H10	D	15	400 - 3 - 50	10	IP55	F	50.7	50.8	204	153
H11	D	15	400 - 3 - 50	10	IP55	F	54.5	57.9	186	128
C13	D	15	400 - 3 - 50	10	IP55	F	58.8	34.9	164	129
H13	E	15	400 - 3 - 50	10	IP55	F	62.9	42	181	139
C14	E	15	400 - 3 - 50	10	IP55	F	66.2	48.8	169	121

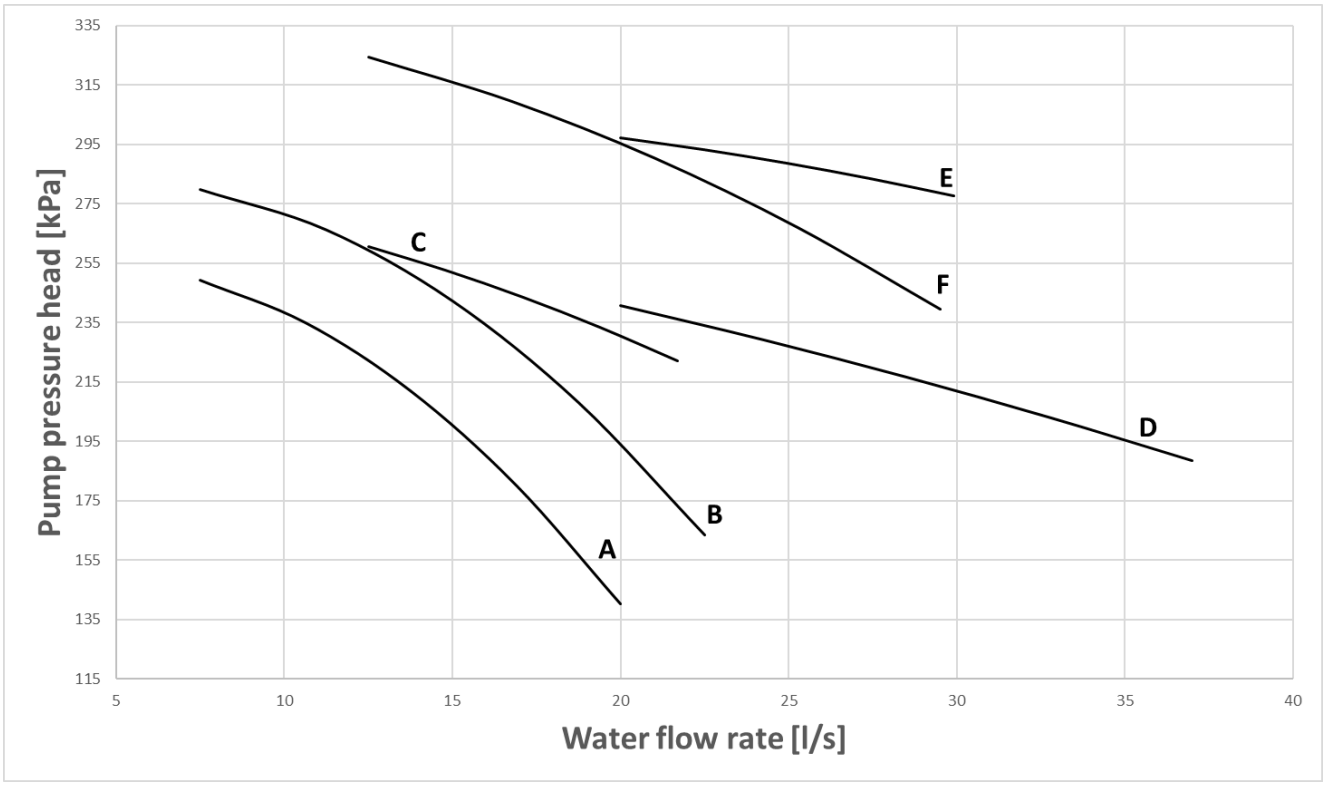
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

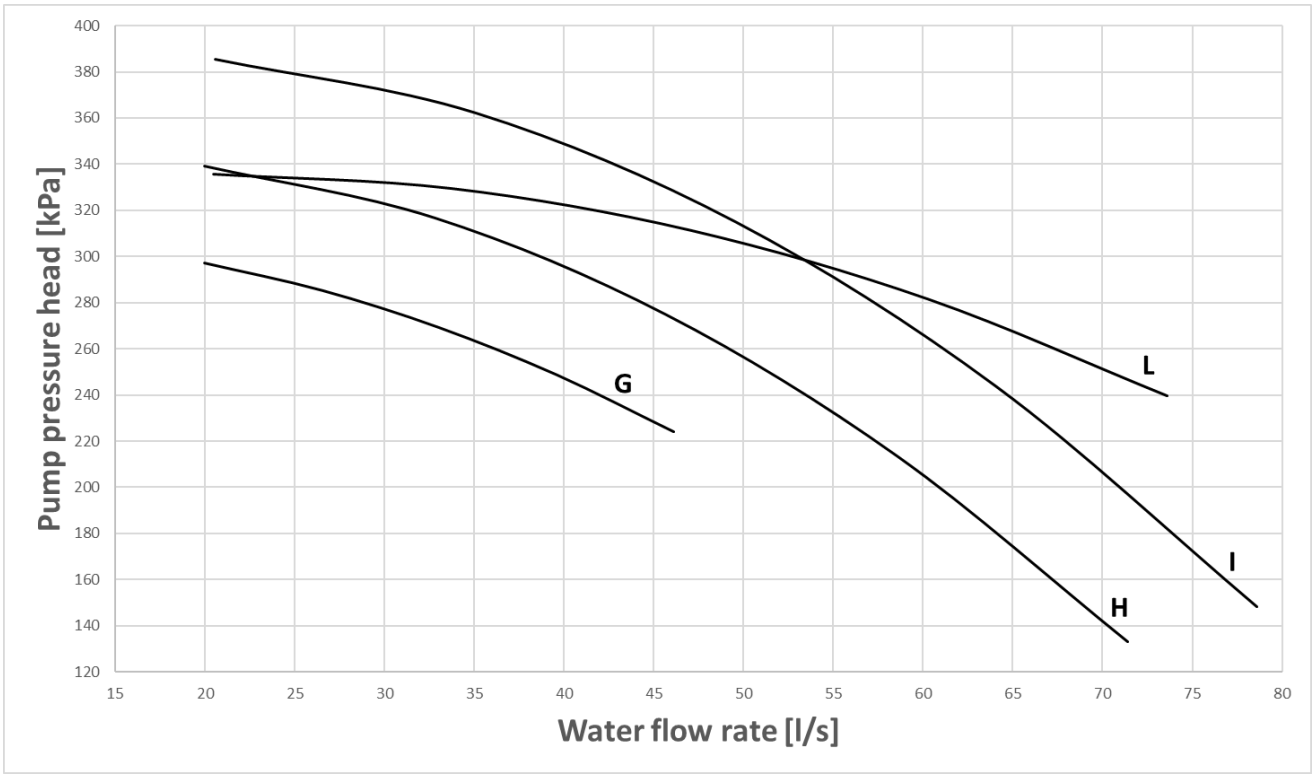
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EWAD~T SS/SL C

Single pump – High lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T S- C - Single Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
290	A	5.5	400 - 3 - 50	10	IP55	F	14.0	24.5	210	185
330	B	7.5	400 - 3 - 50	10	IP55	F	16.0	31.2	234	203
370	C	7.5	400 - 3 - 50	10	IP55	F	17.9	45.3	240	195
510	D	11	400 - 3 - 50	10	IP55	F	23.9	34.0	230	196
520	E	15	400 - 3 - 50	10	IP55	F	25.0	51.8	288	237
580	F	11	400 - 3 - 50	10	IP55	F	27.1	67.2	255	188
700	G	15	400 - 3 - 50	10	IP55	F	33.6	47.0	268	221
800	G	15	400 - 3 - 50	10	IP55	F	38.7	34.4	252	217
940	H	18.5	400 - 3 - 50	10	IP55	F	44.5	43.0	279	236
C10	H	18.5	400 - 3 - 50	10	IP55	F	47.4	48.0	268	220
H10	H	18.5	400 - 3 - 50	10	IP55	F	49.9	44.6	257	212
C11	H	18.5	400 - 3 - 50	10	IP55	F	54.2	57.1	236	179
H12	I	22	400 - 3 - 50	10	IP55	F	59.3	35.4	270	234
H13	L	22	400 - 3 - 50	10	IP55	F	64.2	46.2	270	224
H14	L	22	400 - 3 - 50	10	IP55	F	68.8	56.1	256	200

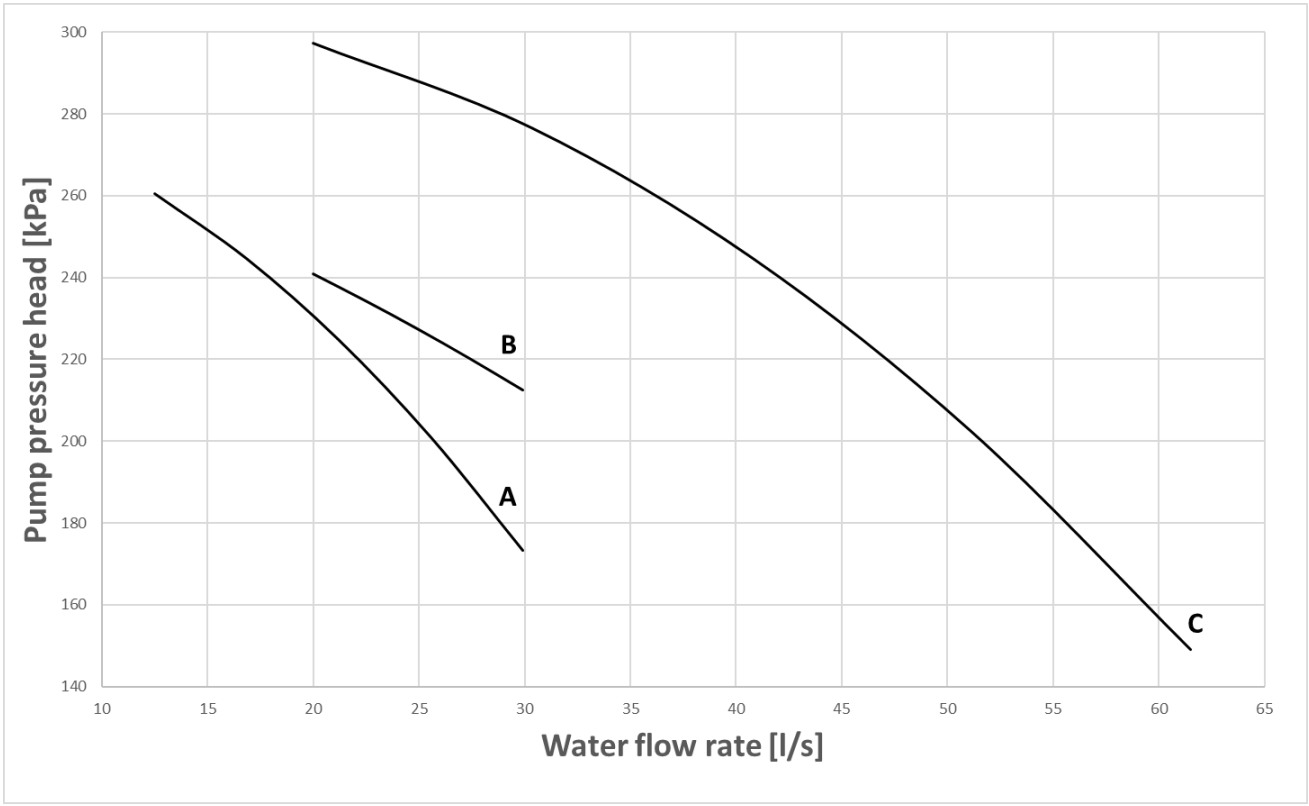
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

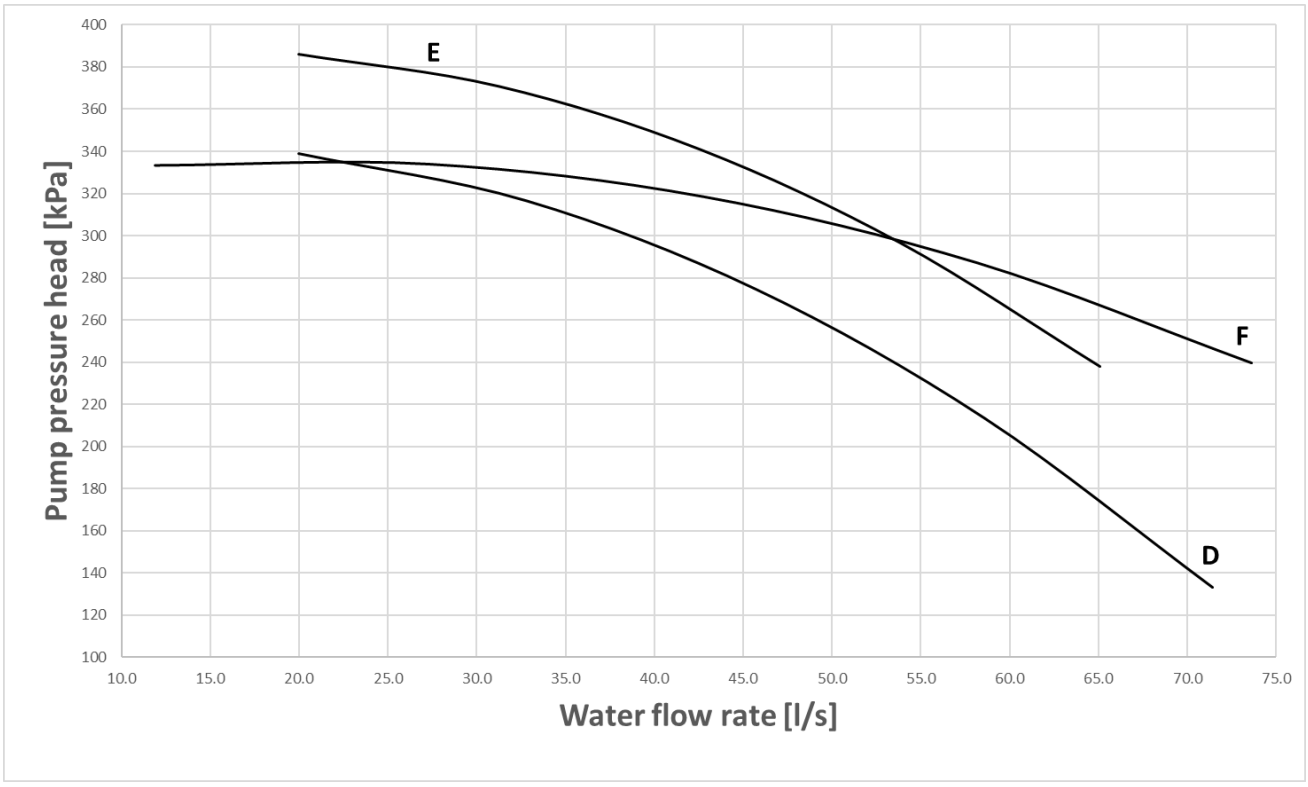
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EWAD~T XS/XL/XR C

Single pump – High lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T X(S)(L) C - Single Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	7.5	400 - 3 - 50	10	IP55	F	16.7	22.4	245	223
380	A	7.5	400 - 3 - 50	10	IP55	F	18.1	28.8	239	210
400	A	7.5	400 - 3 - 50	10	IP55	F	19.1	20	235	215
420	A	7.5	400 - 3 - 50	10	IP55	F	19.9	21.6	231	209
440	A	7.5	400 - 3 - 50	10	IP55	F	20.9	23.6	226	202
490	B	11	400 - 3 - 50	10	IP55	F	23.5	46.1	231	185
540	B	11	400 - 3 - 50	10	IP55	F	25.8	39.0	225	186
570	B	11	400 - 3 - 50	10	IP55	F	26.7	36.6	222	185
730	C	15	400 - 3 - 50	10	IP55	F	34.7	32.0	264	232
820	C	15	400 - 3 - 50	10	IP55	F	39.2	38.5	250	211
950	D	18.5	400 - 3 - 50	10	IP55	F	45	43.8	277	233
C10	D	18.5	400 - 3 - 50	10	IP55	F	48.1	49.3	265	215
H10	D	18.5	400 - 3 - 50	10	IP55	F	51.6	52.3	249	197
H11	E	22	400 - 3 - 50	10	IP55	F	55.8	60.2	287	227
C13	E	22	400 - 3 - 50	10	IP55	F	60.9	37.2	261	224
H13	F	22	400 - 3 - 50	10	IP55	F	65.4	45.1	267	222
C14	F	22	400 - 3 - 50	10	IP55	F	69	52.6	255	203

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
The above data are referred the unit installed in compliancy with installation prescription.

All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit nameplate.

EWAD~T XR C - Single Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	7.5	400 - 3 - 50	10	IP55	F	16.3	21.3	247	225
380	A	7.5	400 - 3 - 50	10	IP55	F	17.6	27.5	241	214
400	A	7.5	400 - 3 - 50	10	IP55	F	18.6	19.1	237	218
420	A	7.5	400 - 3 - 50	10	IP55	F	19.4	20.7	233	213
440	A	7.5	400 - 3 - 50	10	IP55	F	20.4	22.5	228	206
490	B	11	400 - 3 - 50	10	IP55	F	22.9	44.1	233	189
540	B	11	400 - 3 - 50	10	IP55	F	25.1	37.2	227	189
570	B	11	400 - 3 - 50	10	IP55	F	26.1	35	224	189
730	C	15	400 - 3 - 50	10	IP55	F	33.8	30.5	267	236
820	C	15	400 - 3 - 50	10	IP55	F	37.4	35.4	256	221
950	D	18.5	400 - 3 - 50	10	IP55	F	43.5	41.2	283	242
C10	D	18.5	400 - 3 - 50	10	IP55	F	46.3	46.1	272	226
H10	D	18.5	400 - 3 - 50	10	IP55	F	50.7	50.8	253	202
H11	E	22	400 - 3 - 50	10	IP55	F	54.5	57.9	293	235
C13	E	22	400 - 3 - 50	10	IP55	F	58.8	34.9	272	237
H13	F	22	400 - 3 - 50	10	IP55	F	62.9	42	274	232
C14	F	22	400 - 3 - 50	10	IP55	F	66.2	48.8	264	215

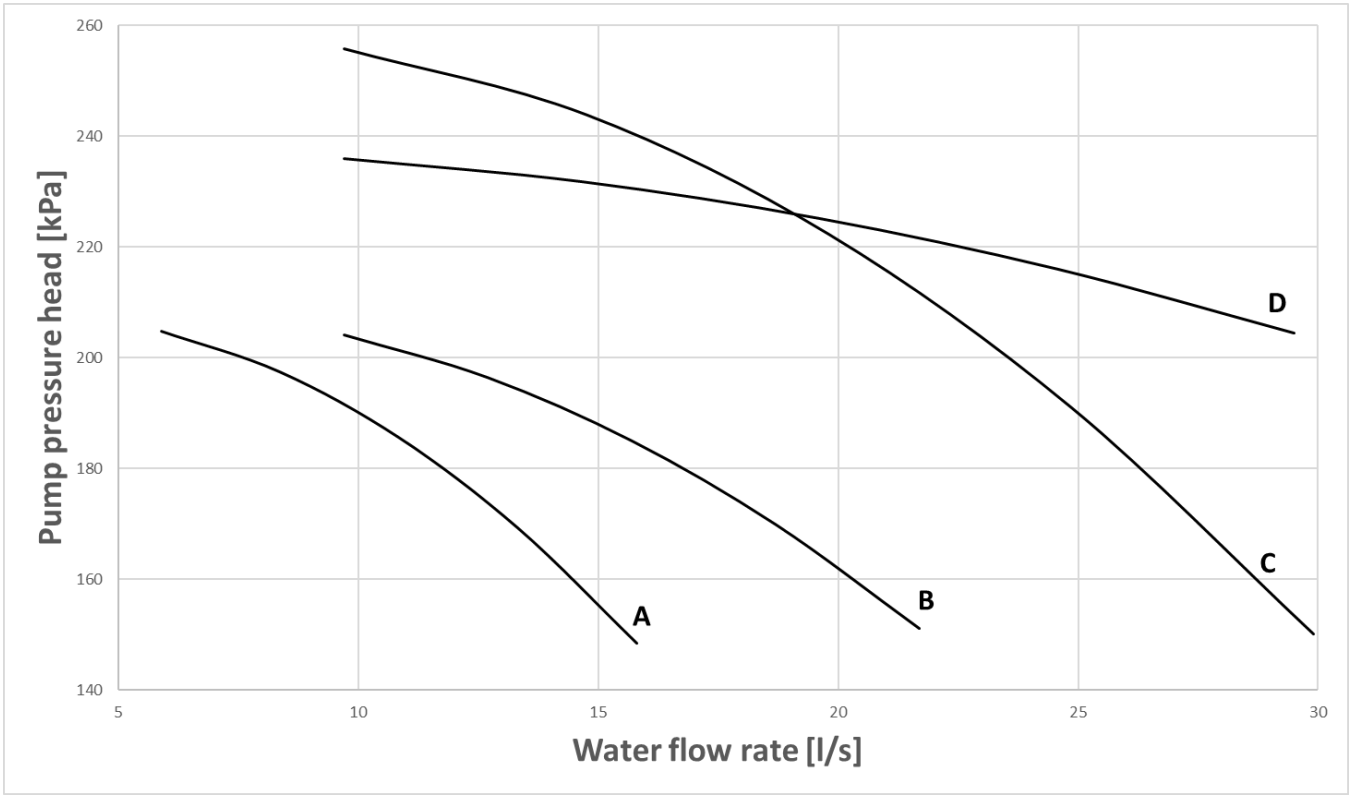
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

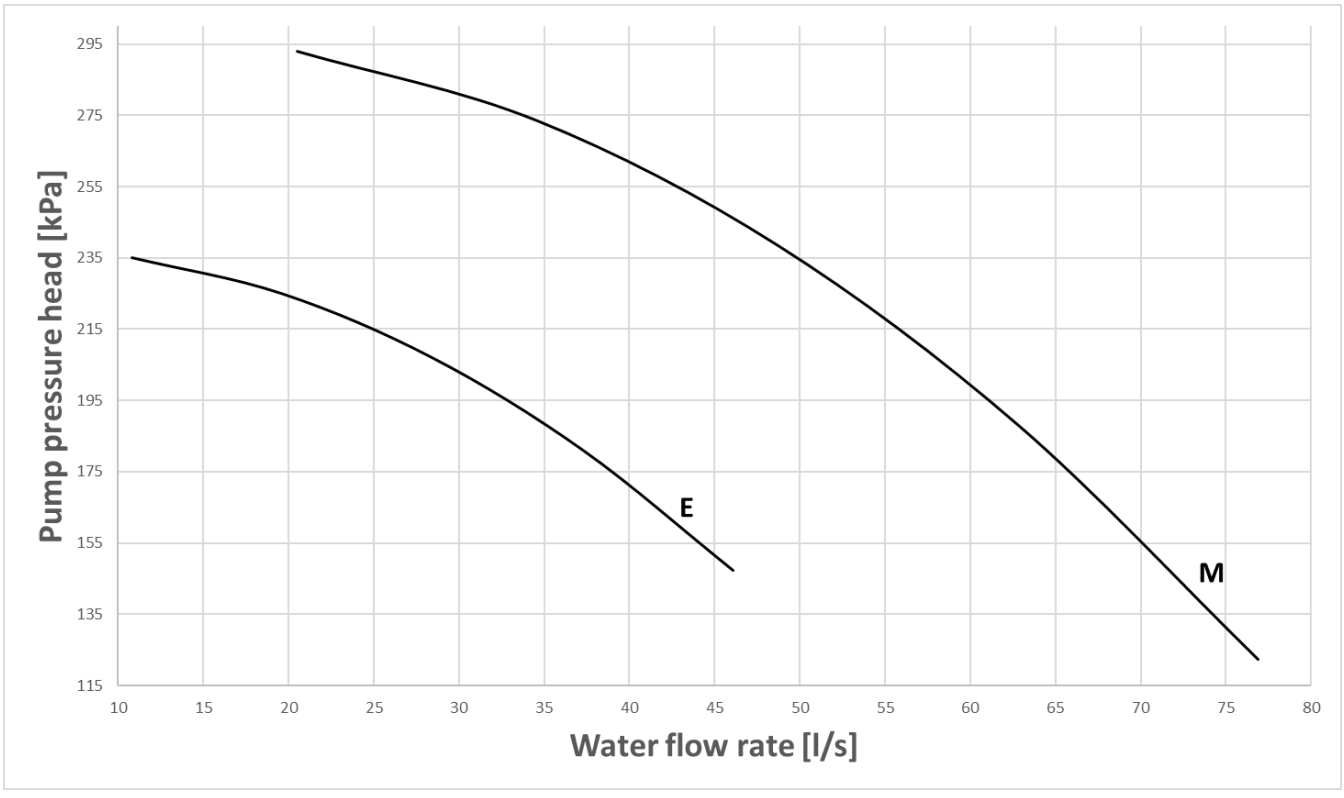
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EWAD~T SS/SL C

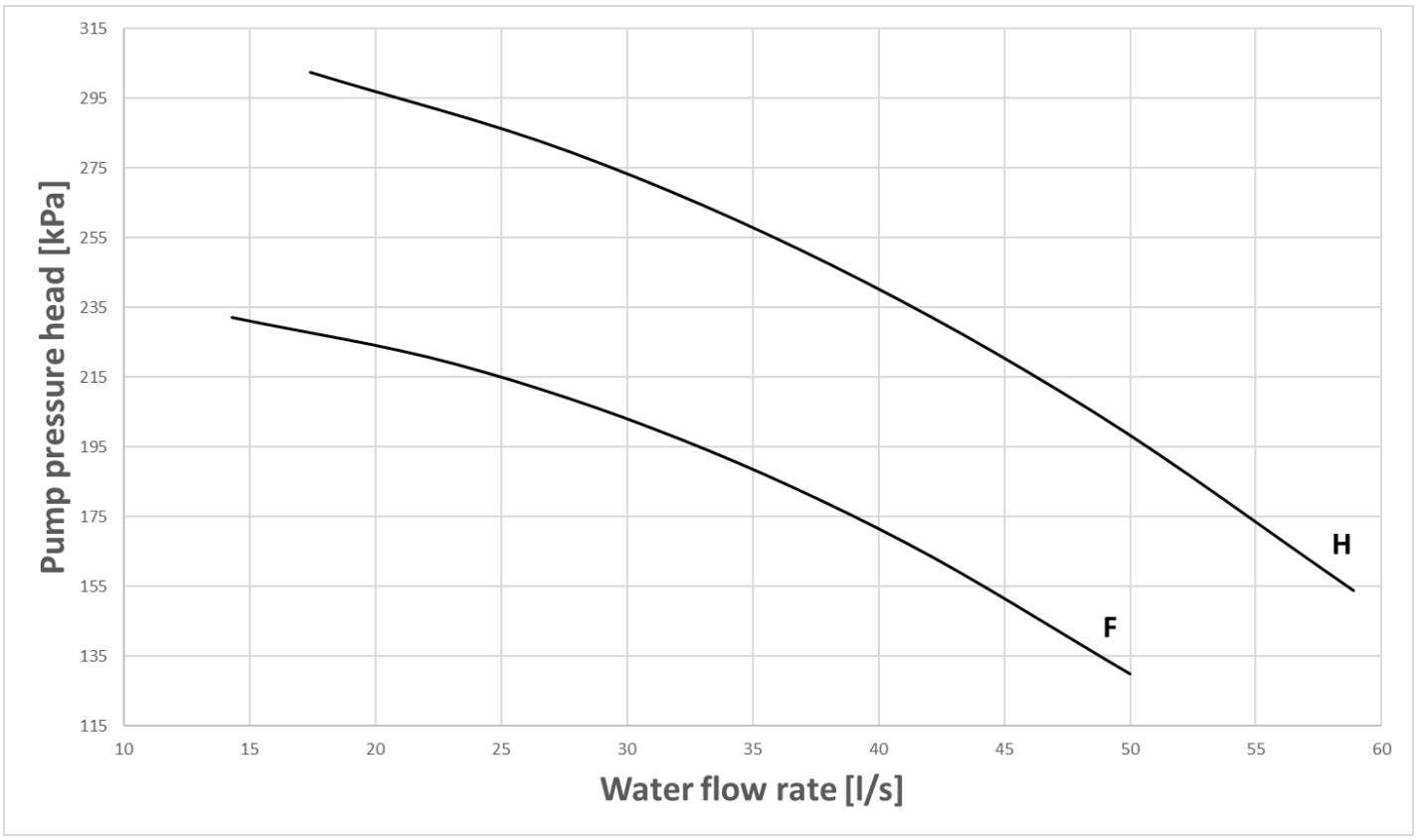
Dual pump – Low lift

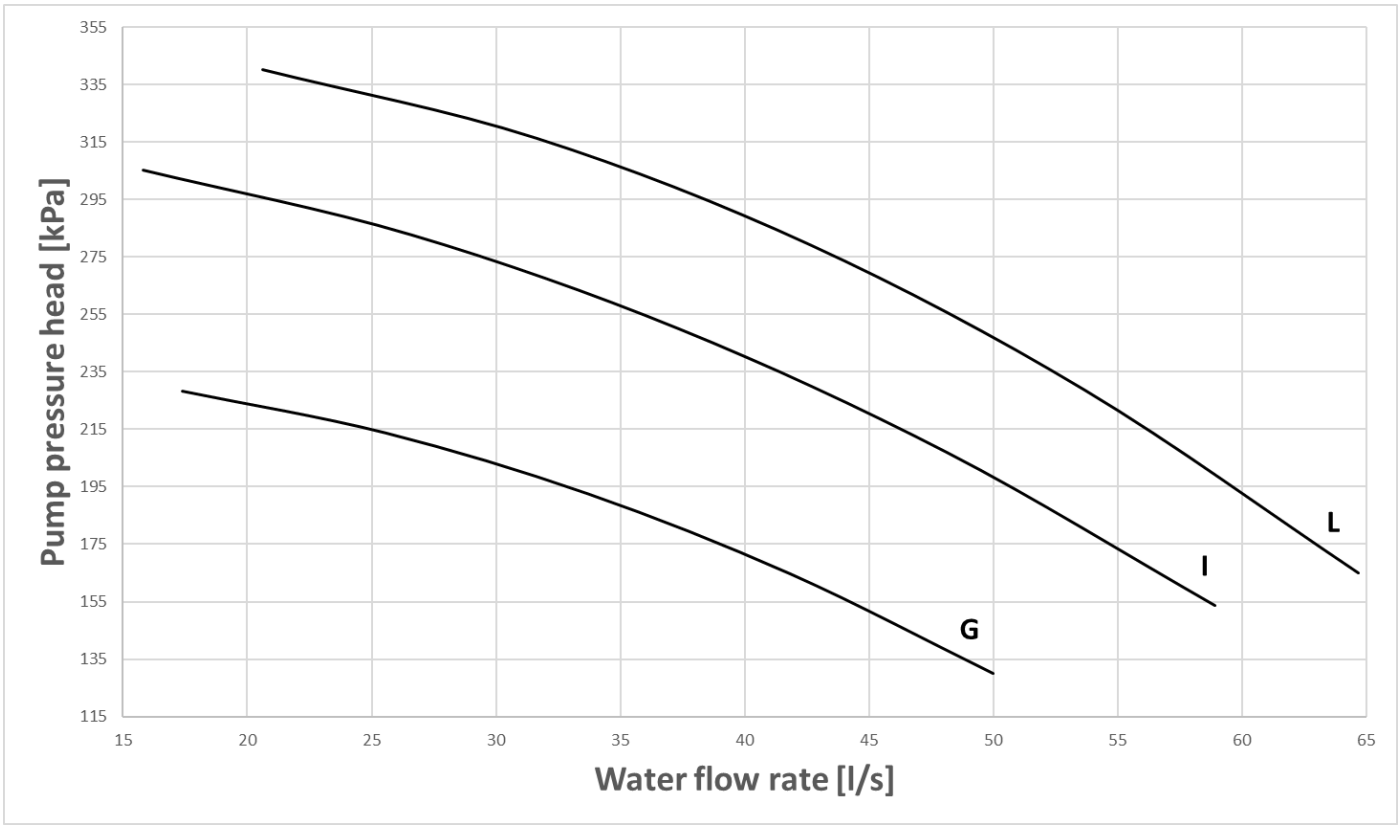




Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T S- C - Double Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
290	A	4	400 - 3 - 50	10	IP55	F	14.0	24.5	164	139
330	A	4	400 - 3 - 50	10	IP55	F	16.0	31.2	146	115
370	B	5.5	400 - 3 - 50	10	IP55	F	17.9	45.3	174	129
510	B	5.5	400 - 3 - 50	10	IP55	F	23.9	34.0	135	101
520	C	7.5	400 - 3 - 50	10	IP55	F	25.0	51.8	190	138
580	D	11	400 - 3 - 50	10	IP55	F	27.1	67.2	210	143
700	E	11	400 - 3 - 50	10	IP55	F	33.6	47.0	193	146
800	F	11	400 - 3 - 50	10	IP55	F	38.7	34.4	176	142
940	G	11	400 - 3 - 50	10	IP55	F	44.5	43.0	154	111
C10	H	15	400 - 3 - 50	10	IP55	F	47.4	48.0	210	162
H10	I	15	400 - 3 - 50	10	IP55	F	49.9	44.6	199	154
C11	I	15	400 - 3 - 50	10	IP55	F	54.2	57.1	178	121
H12	L	18.5	400 - 3 - 50	10	IP55	F	59.3	35.4	198	162
H13	M	18.5	400 - 3 - 50	10	IP55	F	64.2	46.2	182	136
H14	M	18.5	400 - 3 - 50	10	IP55	F	68.8	56.1	162	106

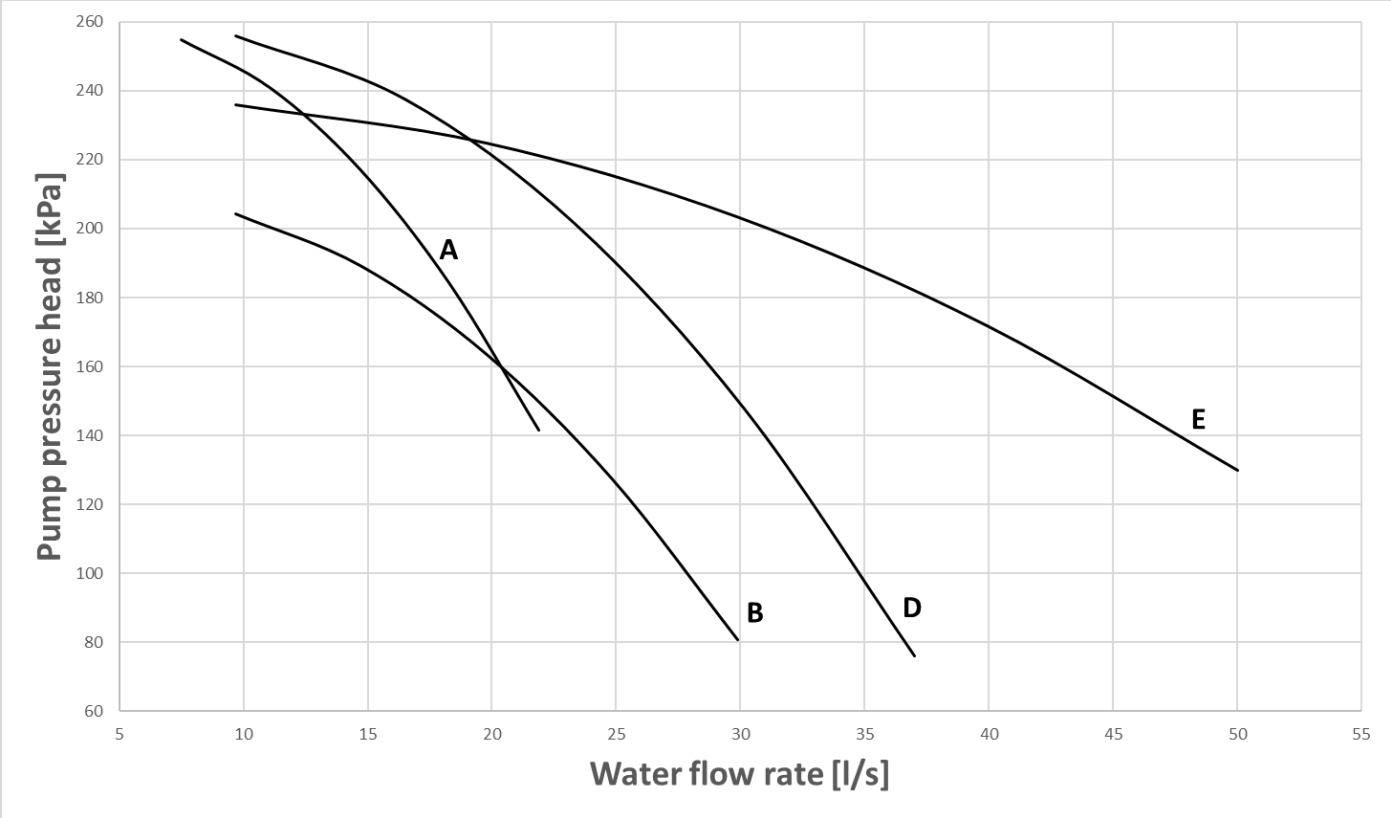
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

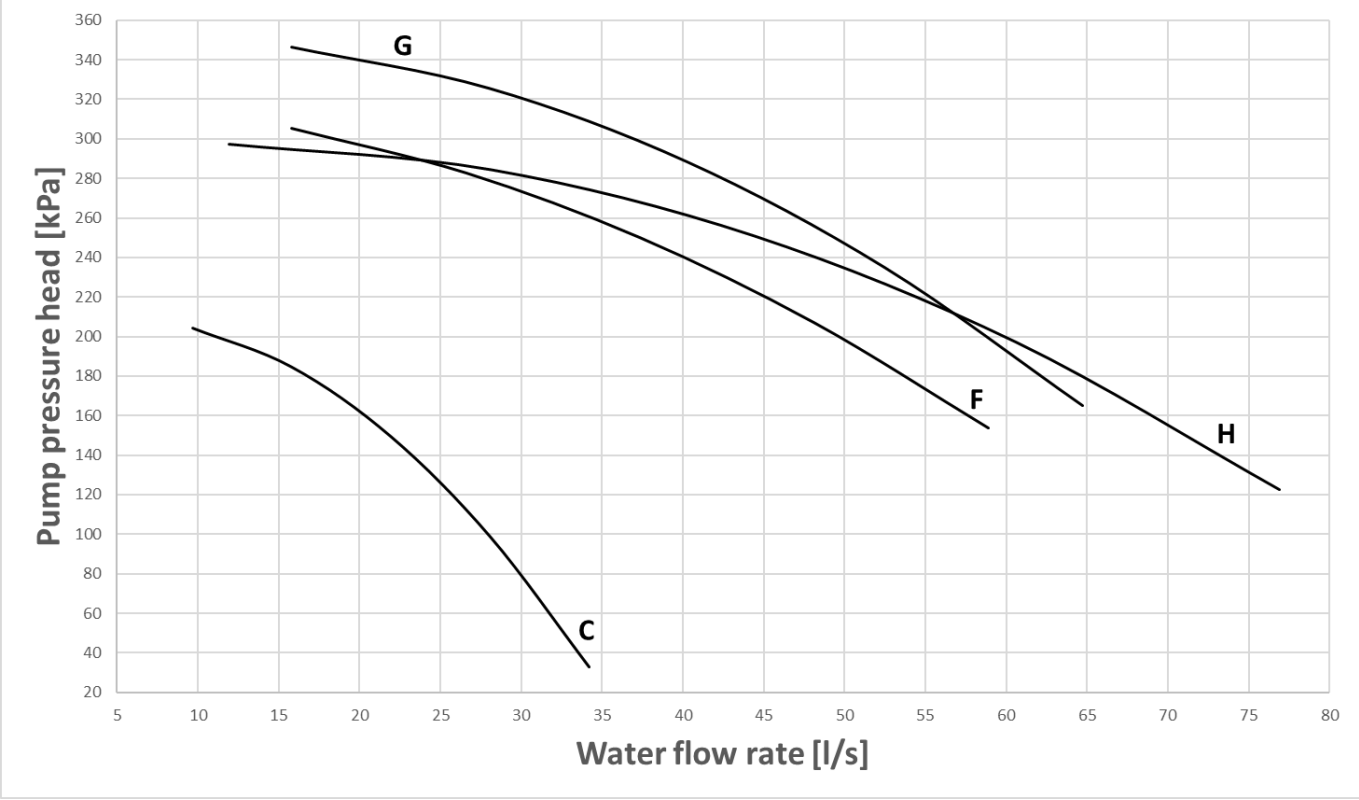
The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
The above data are referred the unit installed in compliancy with installation prescription.

All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit nameplate.

EWAD~T XS/XL/XR C

Dual pump - Low lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T X(S)(L) C - Double Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	5.5	400 - 3 - 50	10	IP55	F	16.7	22.4	200	177
380	B	5.5	400 - 3 - 50	10	IP55	F	18.1	28.8	173	144
400	C	5.5	400 - 3 - 50	10	IP55	F	19.1	20	167	147
420	C	5.5	400 - 3 - 50	10	IP55	F	19.9	21.6	163	141
440	C	5.5	400 - 3 - 50	10	IP55	F	20.9	23.6	156	133
490	B	5.5	400 - 3 - 50	10	IP55	F	23.5	46.1	138	92
540	D	7.5	400 - 3 - 50	10	IP55	F	25.8	39.0	184	145
570	D	7.5	400 - 3 - 50	10	IP55	F	26.7	36.6	177	140
730	E	11	400 - 3 - 50	10	IP55	F	34.7	32.0	189	157
820	E	11	400 - 3 - 50	10	IP55	F	39.2	38.5	174	136
950	E	11	400 - 3 - 50	10	IP55	F	45	43.8	152	108
C10	F	15	400 - 3 - 50	10	IP55	F	48.1	49.3	207	158
H10	F	15	400 - 3 - 50	10	IP55	F	51.6	52.3	191	138
H11	F	15	400 - 3 - 50	10	IP55	F	55.8	60.2	170	110
C13	G	18.5	400 - 3 - 50	10	IP55	F	60.9	37.2	188	151
H13	H	18.5	400 - 3 - 50	10	IP55	F	65.4	45.1	177	132
C14	H	18.5	400 - 3 - 50	10	IP55	F	69	52.6	161	108

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
The above data are referred the unit installed in compliancy with installation prescription.

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EWAD~T XR C - Double Pump Low Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	5.5	400 - 3 - 50	10	IP55	F	16.3	21.3	203	182
380	B	5.5	400 - 3 - 50	10	IP55	F	17.6	27.5	176	148
400	C	5.5	400 - 3 - 50	10	IP55	F	18.6	19.1	170	151
420	C	5.5	400 - 3 - 50	10	IP55	F	19.4	20.7	166	145
440	C	5.5	400 - 3 - 50	10	IP55	F	20.4	22.5	160	137
490	B	5.5	400 - 3 - 50	10	IP55	F	22.9	44.1	142	98
540	D	7.5	400 - 3 - 50	10	IP55	F	25.1	37.2	189	152
570	D	7.5	400 - 3 - 50	10	IP55	F	26.1	35	182	147
730	E	11	400 - 3 - 50	10	IP55	F	33.8	30.5	192	162
820	E	11	400 - 3 - 50	10	IP55	F	37.4	35.4	181	145
950	E	11	400 - 3 - 50	10	IP55	F	43.5	41.2	158	117
C10	F	15	400 - 3 - 50	10	IP55	F	46.3	46.1	215	169
H10	F	15	400 - 3 - 50	10	IP55	F	50.7	50.8	195	144
H11	F	15	400 - 3 - 50	10	IP55	F	54.5	57.9	177	119
C13	G	18.5	400 - 3 - 50	10	IP55	F	58.8	34.9	201	166
H13	H	18.5	400 - 3 - 50	10	IP55	F	62.9	42	188	146
C14	H	18.5	400 - 3 - 50	10	IP55	F	66.2	48.8	174	125

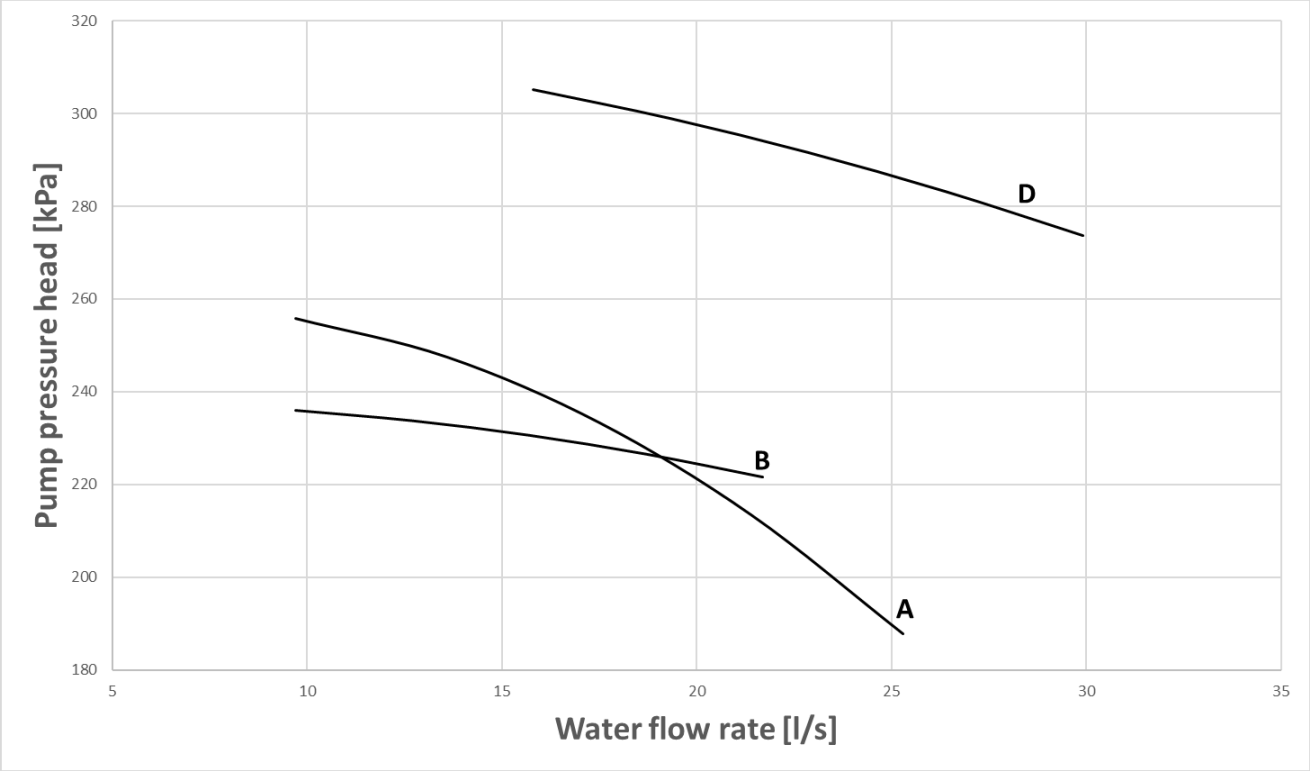
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

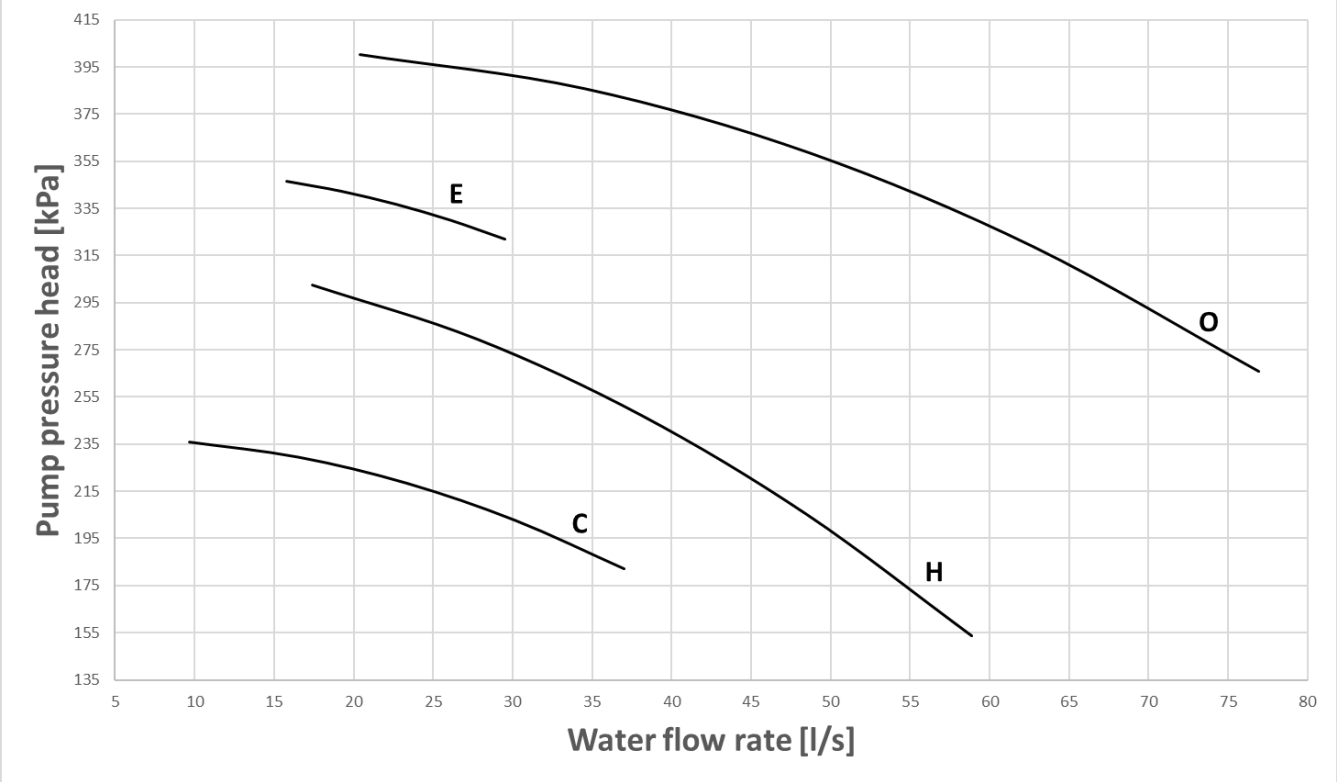
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EWAD~T SS/SL C

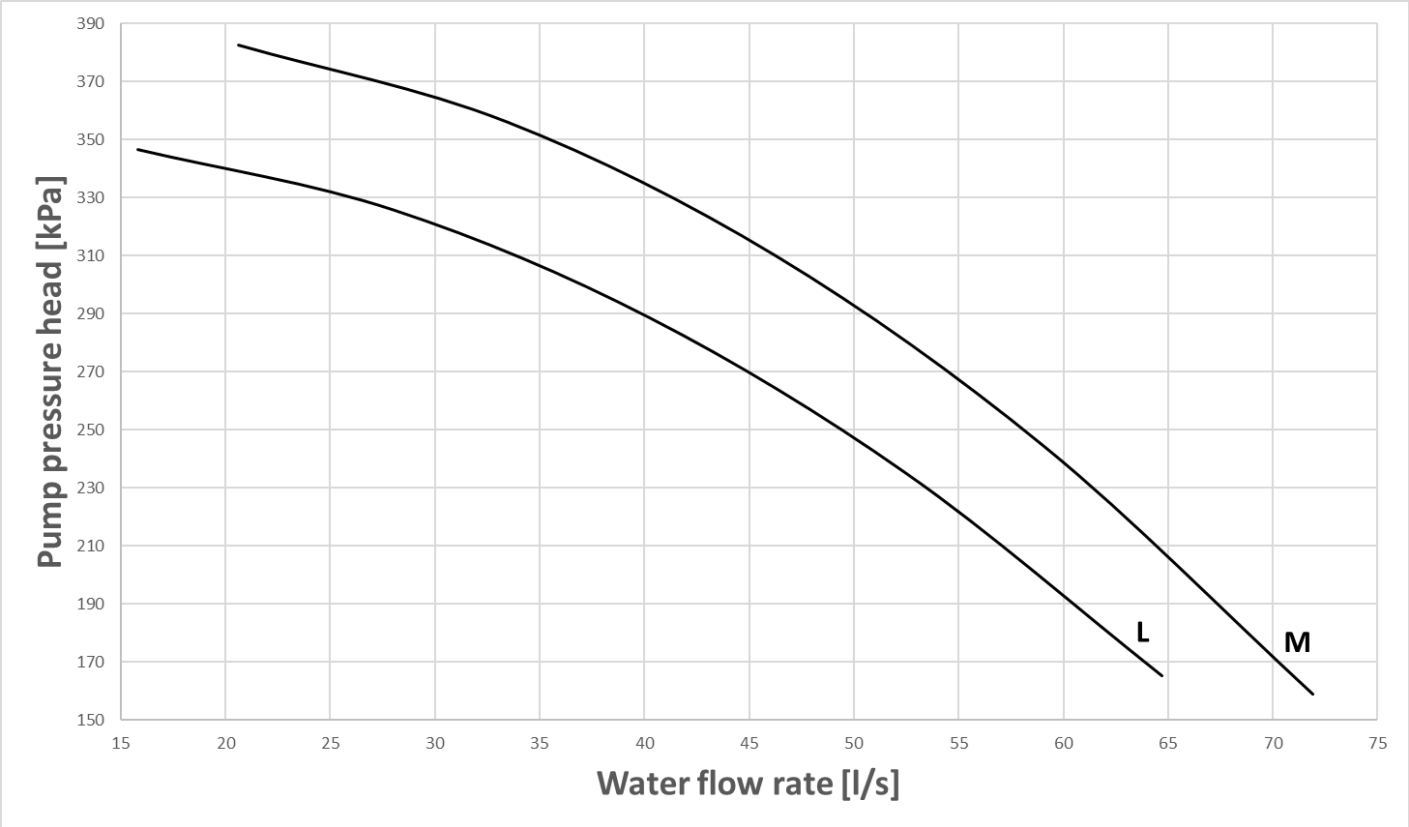
Dual pump – High lift

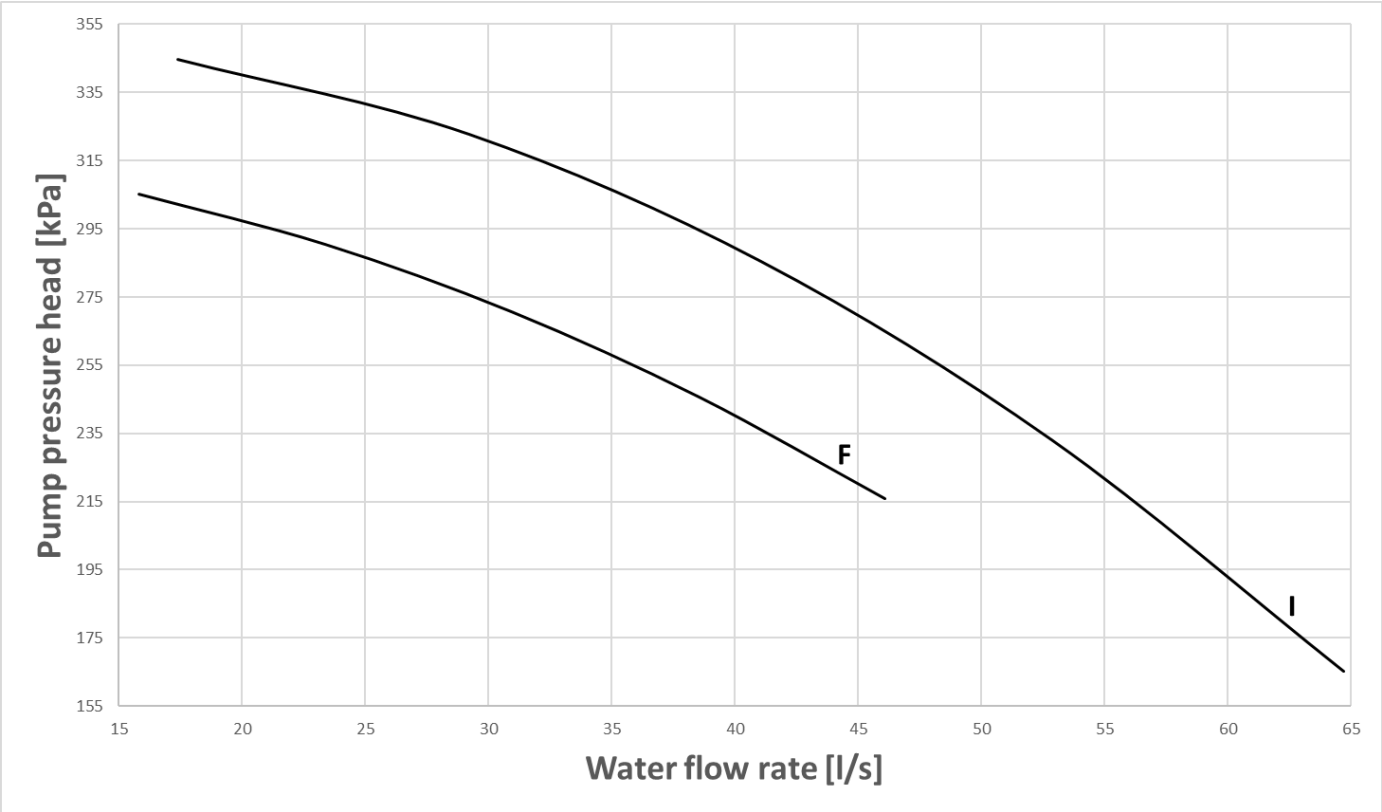




Note1: No *considering exchanger pressure drop.*

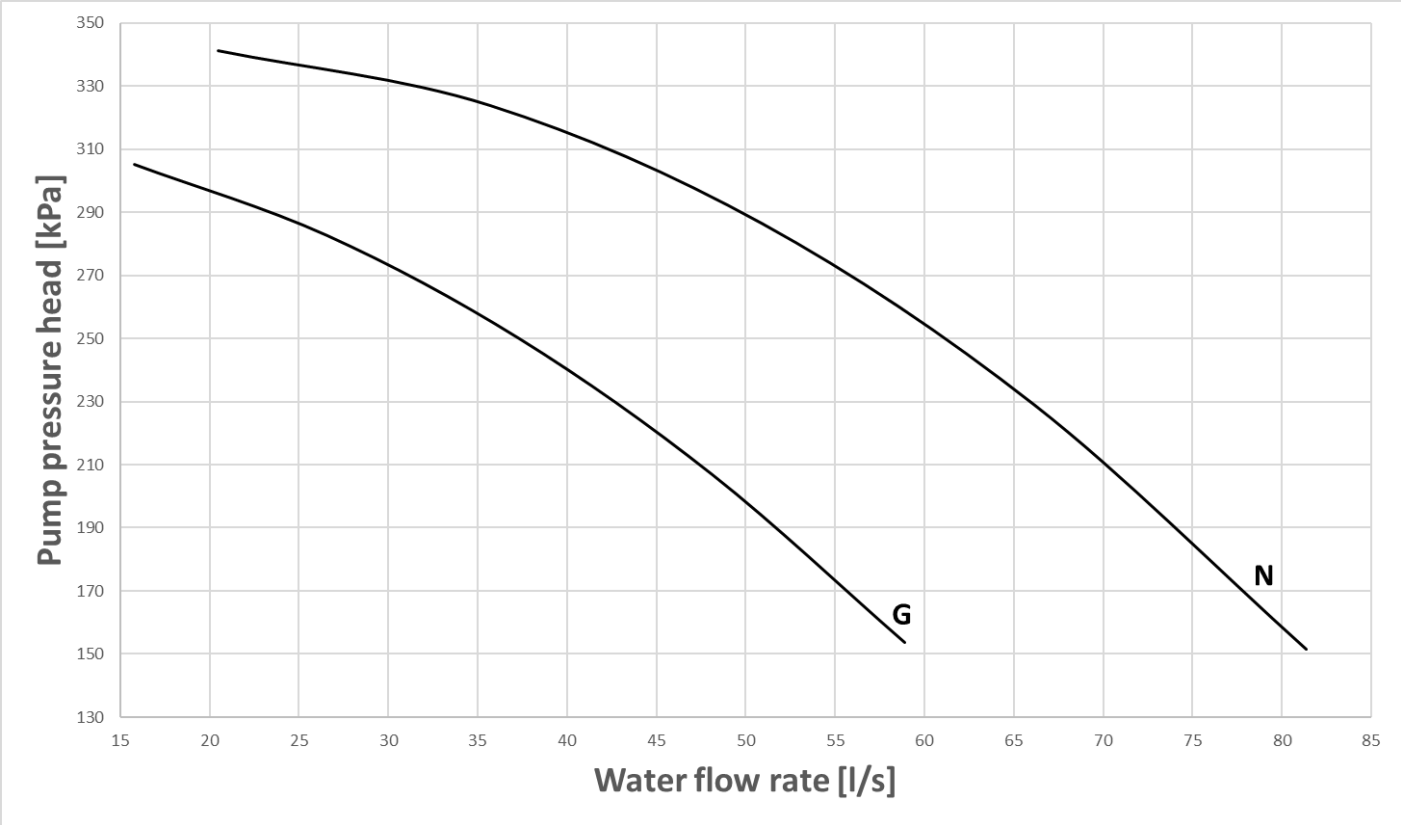
Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*



Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T S- C - Double Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
290	A	7.5	400 - 3 - 50	10	IP55	F	14.0	24.5	246	222
330	A	7.5	400 - 3 - 50	10	IP55	F	16.0	31.2	239	208
370	B	11	400 - 3 - 50	10	IP55	F	17.9	45.3	227	182
510	C	11	400 - 3 - 50	10	IP55	F	23.9	34.0	217	183
520	D	15	400 - 3 - 50	10	IP55	F	25.0	51.8	286	234
580	E	18.5	400 - 3 - 50	10	IP55	F	27.1	67.2	327	260
700	F	15	400 - 3 - 50	10	IP55	F	33.6	47.0	262	215
800	G	15	400 - 3 - 50	10	IP55	F	38.7	34.4	245	210
940	H	15	400 - 3 - 50	10	IP55	F	44.5	43.0	222	179
C10	I	18.5	400 - 3 - 50	10	IP55	F	47.4	48.0	259	211
H10	L	18.5	400 - 3 - 50	10	IP55	F	49.9	44.6	247	203
C11	L	18.5	400 - 3 - 50	10	IP55	F	54.2	57.1	226	169
H12	M	22	400 - 3 - 50	10	IP55	F	59.3	35.4	243	207
H13	N	22	400 - 3 - 50	10	IP55	F	64.2	46.2	237	191
H14	O	30	400 - 3 - 50	10	IP55	F	68.8	56.1	297	241

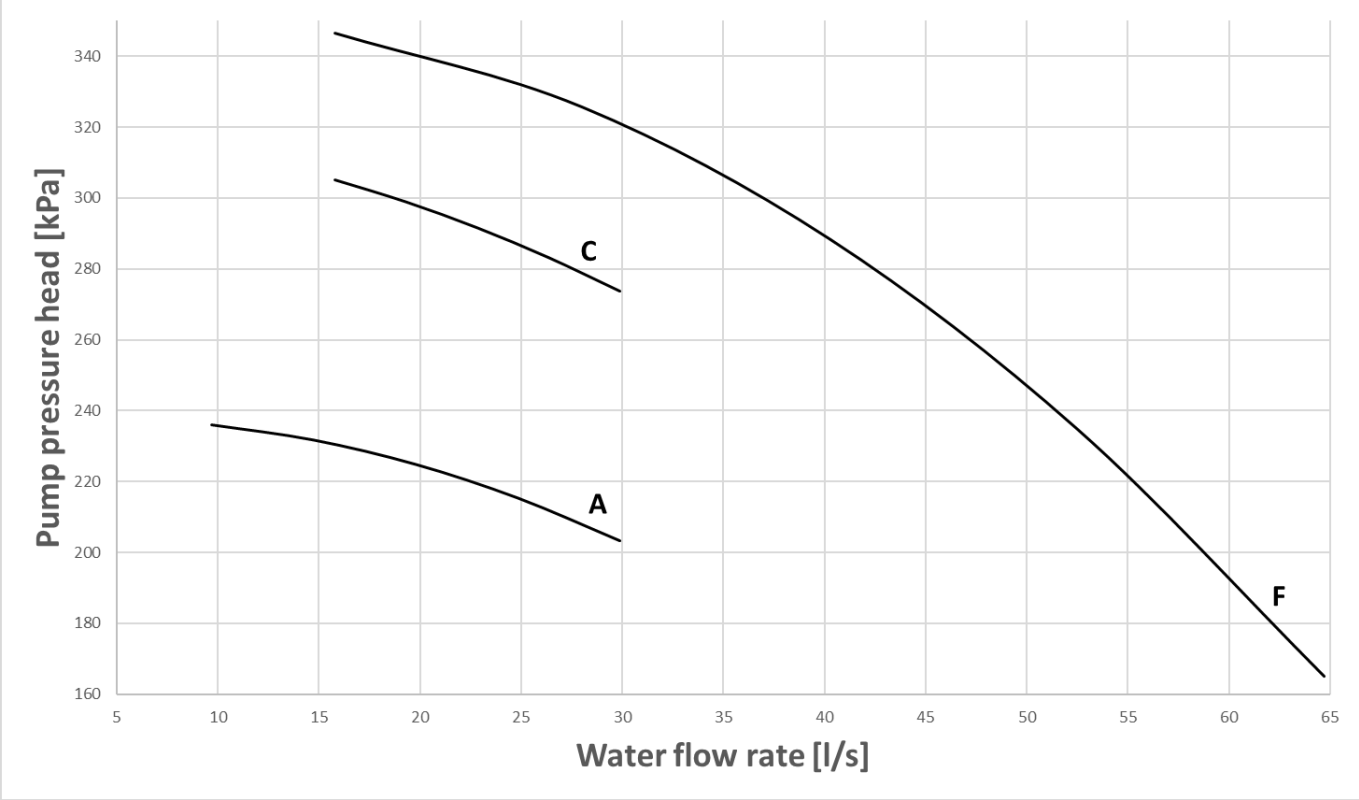
(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

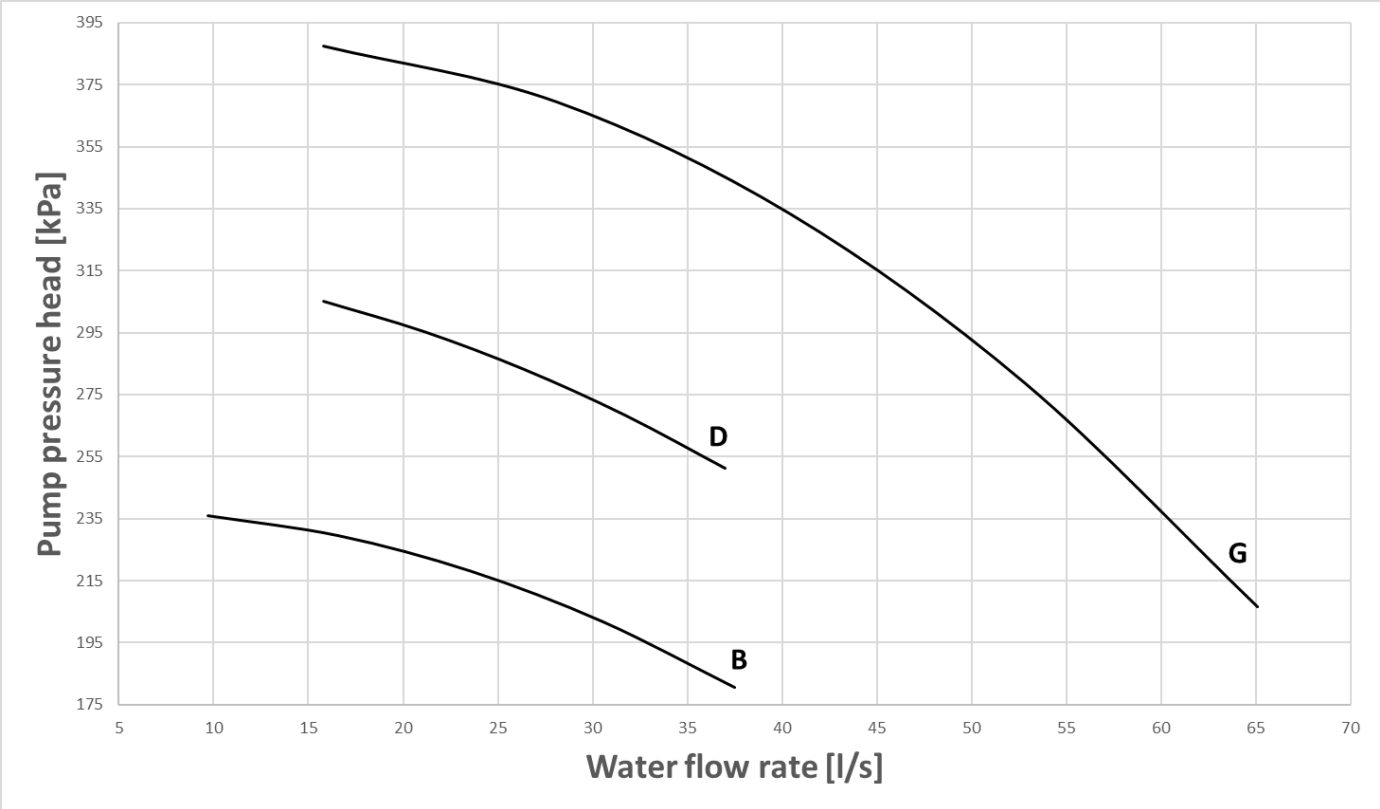
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EWAD~T XS/XL/XR C

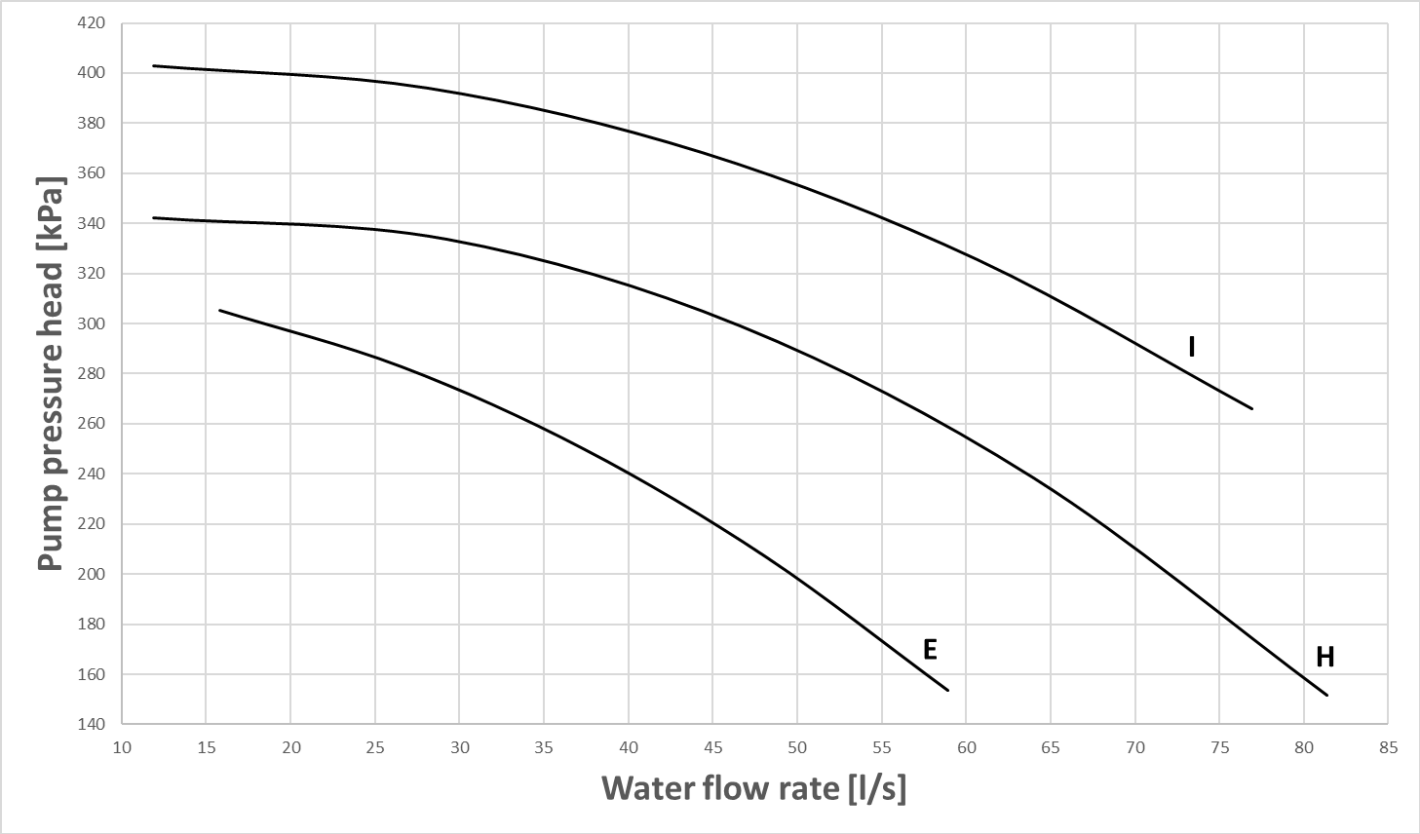
Dual pump – High lift





Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*



Note1: No *considering exchanger pressure drop.*

Note2: *The curves refer to operation with pure water. When using mixture of water and glycol please contact factory*

EWAD~T X(S)(L) C - Double Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	11	400 - 3 - 50	10	IP55	F	16.7	22.4	229	207
380	A	11	400 - 3 - 50	10	IP55	F	18.1	28.8	227	198
400	B	11	400 - 3 - 50	10	IP55	F	19.1	20	226	206
420	B	11	400 - 3 - 50	10	IP55	F	19.9	21.6	224	203
440	B	11	400 - 3 - 50	10	IP55	F	20.9	23.6	223	199
490	C	15	400 - 3 - 50	10	IP55	F	23.5	46.1	290	244
540	D	15	400 - 3 - 50	10	IP55	F	25.8	39.0	284	245
570	D	15	400 - 3 - 50	10	IP55	F	26.7	36.6	282	245
730	E	15	400 - 3 - 50	10	IP55	F	34.7	32.0	259	227
820	E	15	400 - 3 - 50	10	IP55	F	39.2	38.5	243	205
950	F	18.5	400 - 3 - 50	10	IP55	F	45	43.8	269	226
C10	F	18.5	400 - 3 - 50	10	IP55	F	48.1	49.3	256	206
H10	G	22	400 - 3 - 50	10	IP55	F	51.6	52.3	285	232
H11	G	22	400 - 3 - 50	10	IP55	F	55.8	60.2	263	203
C13	H	22	400 - 3 - 50	10	IP55	F	60.9	37.2	251	214
H13	H	22	400 - 3 - 50	10	IP55	F	65.4	45.1	232	187
C14	I	30	400 - 3 - 50	10	IP55	F	69	52.6	297	244

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
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EWAD~T XR C - Double Pump High Lift										
models	ref. curve	Pump motor power input	Power supply	PN	Motor protection	Insulation class	Water flow rate (1)	Evaporator pressure drop (1)	Pump water head @ std condition (2)	Available water head @ std condition (1) (3)
		kW	V – ph. – Hz	-	-	-	l/s	kPa	kPa	KPa
350	A	11	400 - 3 - 50	10	IP55	F	16.3	21.3	230	208
380	A	11	400 - 3 - 50	10	IP55	F	17.6	27.5	228	200
400	B	11	400 - 3 - 50	10	IP55	F	18.6	19.1	226	207
420	B	11	400 - 3 - 50	10	IP55	F	19.4	20.7	225	205
440	B	11	400 - 3 - 50	10	IP55	F	20.4	22.5	224	201
490	C	15	400 - 3 - 50	10	IP55	F	22.9	44.1	291	247
540	D	15	400 - 3 - 50	10	IP55	F	25.1	37.2	286	249
570	D	15	400 - 3 - 50	10	IP55	F	26.1	35	284	249
730	E	15	400 - 3 - 50	10	IP55	F	33.8	30.5	262	231
820	E	15	400 - 3 - 50	10	IP55	F	37.4	35.4	250	214
950	F	18.5	400 - 3 - 50	10	IP55	F	43.5	41.2	276	234
C10	F	18.5	400 - 3 - 50	10	IP55	F	46.3	46.1	264	218
H10	G	22	400 - 3 - 50	10	IP55	F	50.7	50.8	289	238
H11	G	22	400 - 3 - 50	10	IP55	F	54.5	57.9	270	212
C13	H	22	400 - 3 - 50	10	IP55	F	58.8	34.9	259	224
H13	H	22	400 - 3 - 50	10	IP55	F	62.9	42	243	201
C14	I	30	400 - 3 - 50	10	IP55	F	66.2	48.8	307	258

(1) Standard Rating Conditions for Air to water chillers according to EN14511:2 Outdoor Heat exchanger inlet dry bulb temperature 35°; Indoor heat exchanger inlet water temperature 12°C, outlet water temperature 7°C.
(2) Total head of the pump.
(3) Available head external to the unit (already including the pressure drop in the exchanger)

The above data are referred to the unit without additional optional.
In case of unit with opt. 08 please contact the factory.
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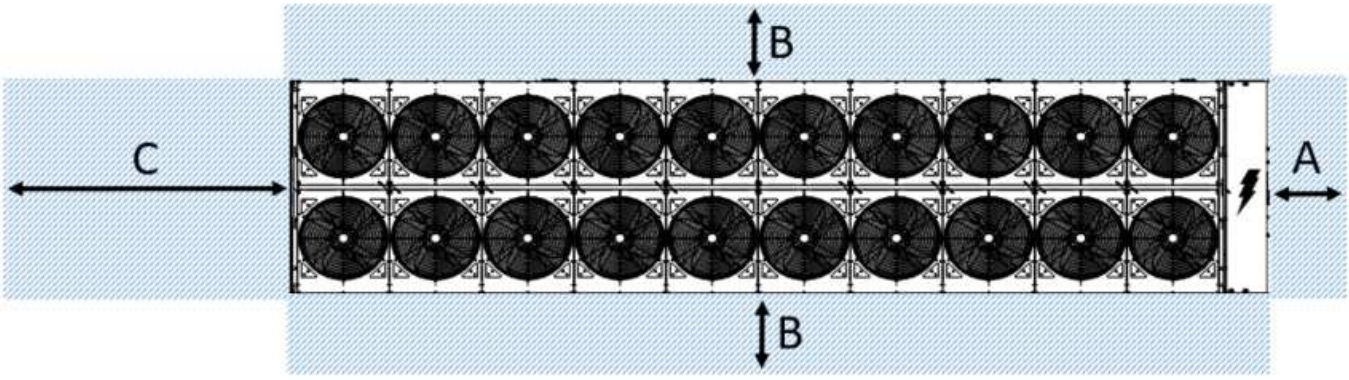
All the data are subject to change without notice. For updated information on project base refer to Chiller Selection Software and unit nameplate.

Warning Installation and maintenance of the unit must be performed only by qualified personnel who have knowledge with local codes and regulations, and experience with this type of equipment. Must be avoided the unit installation in places that could be considered dangerous for all the maintenance operations.

Handling Care should be taken to avoid rough handling or shock due to dropping the unit. Do not push or pull the unit from anything other than the base frame. Never allow the unit to fall during unloading or moving as this may result in serious damage. To lift the unit, rings are provided in the base frame of the unit. Spreader bar and cables should be arranged to prevent damage to cabinet.

Location The units are produced for outdoor installation on roofs, floors or below ground level on condition that the area is free from obstacles for the passage of the condenser air. The unit should be positioned on solid foundations and perfectly leveled; in the case of installation on roofs or floors, it may be advisable to arrange the use of suitable weight distribution beams. When the units are installed on the ground, a concrete base at least 250 mm wider and longer than the unit's footprint should be laid. Furthermore, this base should withstand the unit weight mentioned in the technical data table.

Space requirements Each side of the unit must be accessible after installation for periodic service.
The following pictures shows you minimum recommended clearance requirements for service activities.



- A at least 1500 mm
- B at least 2200 mm
- C between 3000 and 4000 mm (according to evaporator dimension)

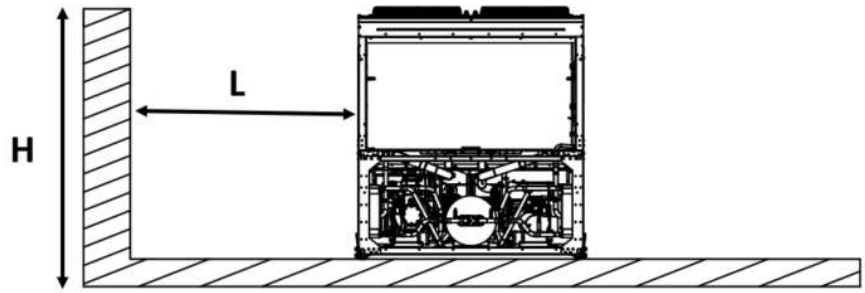
These clearances ensure proper space to perform all possible maintenance activities and replacing of unit's components.

NOTE: Installations with different (lower) clearances around the unit should be subjected and approved by local service referent.

The units are air-cooled, then it is important to respect minimum distances which guarantee the best ventilation of the condenser coils. Limitations of space reducing the air flow could cause significant reductions in cooling capacity and an increase in electricity consumption.
To determinate unit placement, careful consideration must be given to assure a sufficient air flow across the condenser heat transfer surface.
Two conditions must be avoided to achieve the best performance: warm air recirculation and coil starvation. Both these conditions cause an increase of condensing pressures that results in reductions in unit efficiency and capacity.

For single chiller installation in proximity of a wall the following indications are recommended:

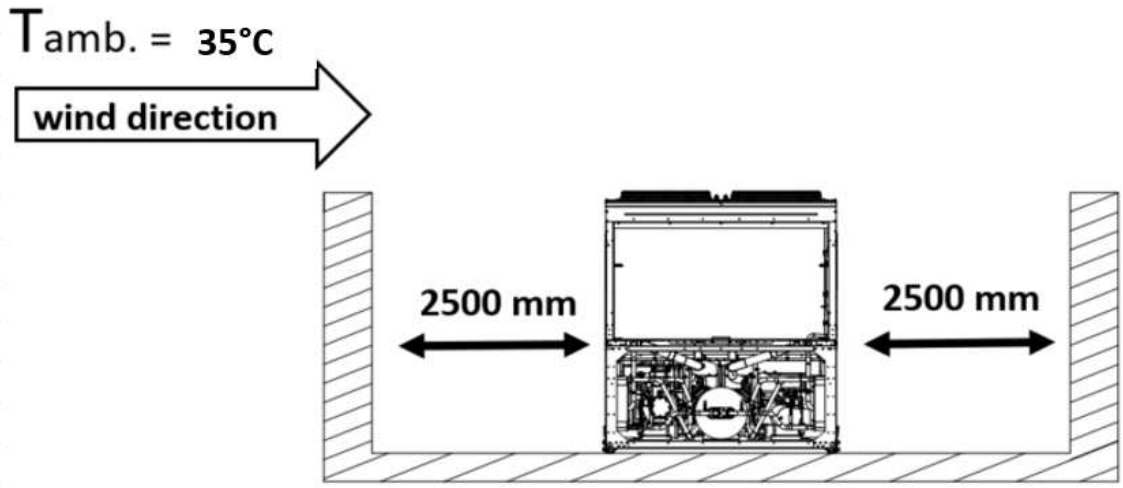
If H lower than chiller height and L must be at least 3 m no impact on chiller performances.



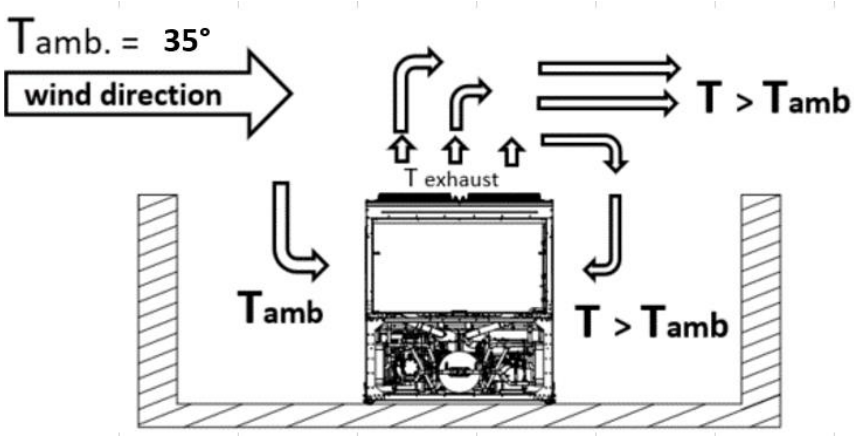
If H lower than chiller height and/or L shorter than 3 m chiller operation could be affected according to wind direction, ambient temperature. In such situation a proper analysis should be carried out to evaluate the impact on chiller operation considering all the specific boundary conditions.
Information on nominal air-flow are indicated in Technical specification tables.
The indicated airflow corresponds to an air velocity on condenser coil of ≈ 2.7 m/s.

Below some examples of possible derating due to installation conditions:

1) **Single chiller in a compound**

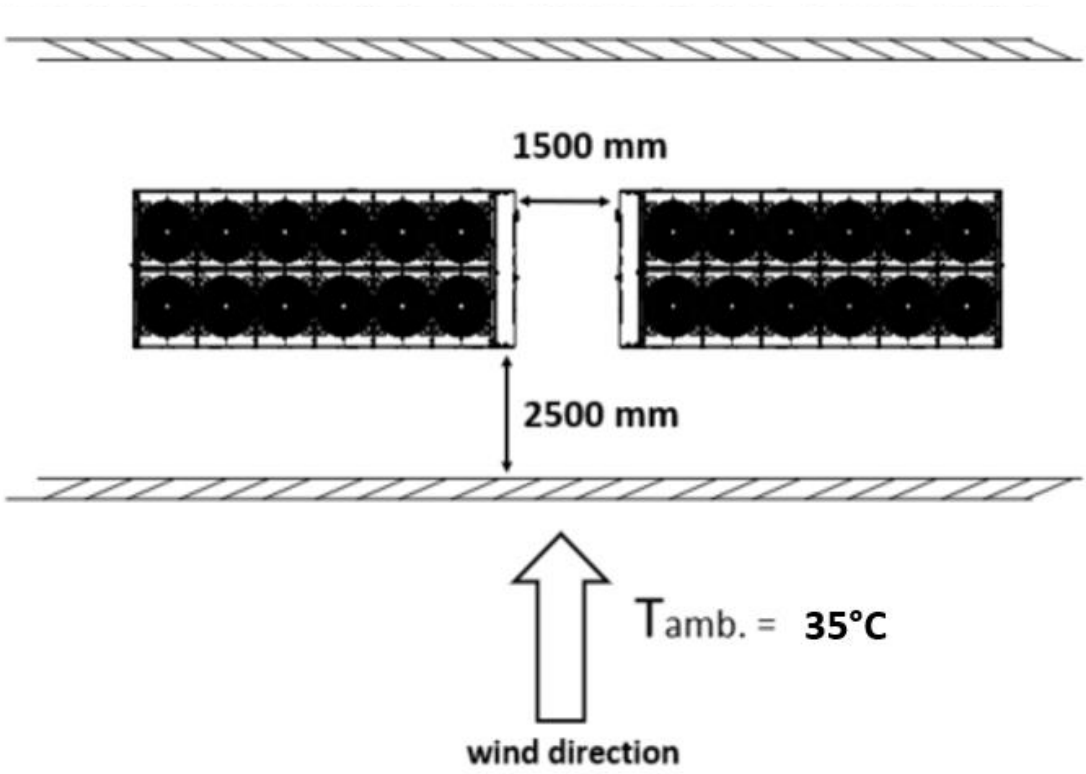


The walls have the same height of the chillers; ambient temperature = 46°C
In this due to the wind direction air recirculation will occur lading to air condensing pressure.



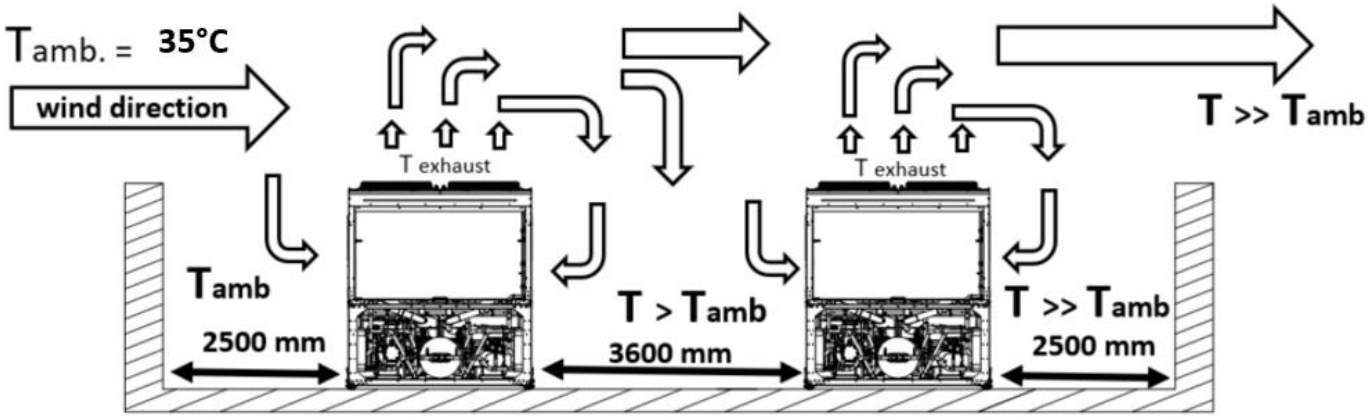
As result of this installation the impact on cooling capacity can be estimated in - 5% (avg. depending on unit size) on the catalog data.

2) Multiple chillers installed in line in a compound



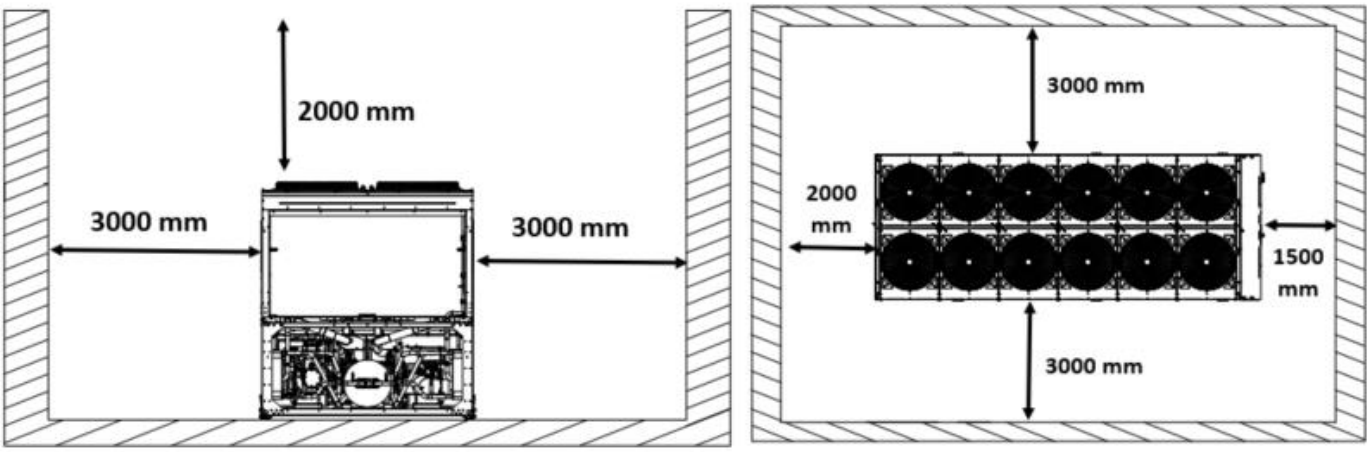
With walls having the same height of the chillers. The space between the chillers must be at least 1500 mm to ensure space to operate on the electrical panel. In this situation the impact on performances is the same of the previous.

3) Multiple chillers installed in parallel in a compound



The walls have the same height of the chillers; ambient temperature = 35°C;
The air temperature entering the second chiller is higher due to the mix with the exhaust air from 1th chiller in following the wind direction. The impact on the cooling capacity of the second chiller can be estimated in approximately -8% (avg. depending on unit size) on the catalog data.

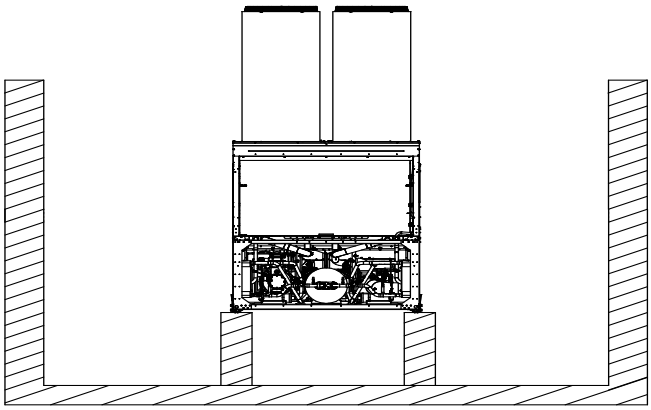
4) Single chiller installed in a pit



ambient temperature = 35°C.
In such situation the impact on cooling performances is about -15% (avg. depending on unit size) on catalog data.

To significantly reduce the negative effects countermeasures can be considered:

- Raise the chiller form the ground
- Provide ducts on fan's discharge.

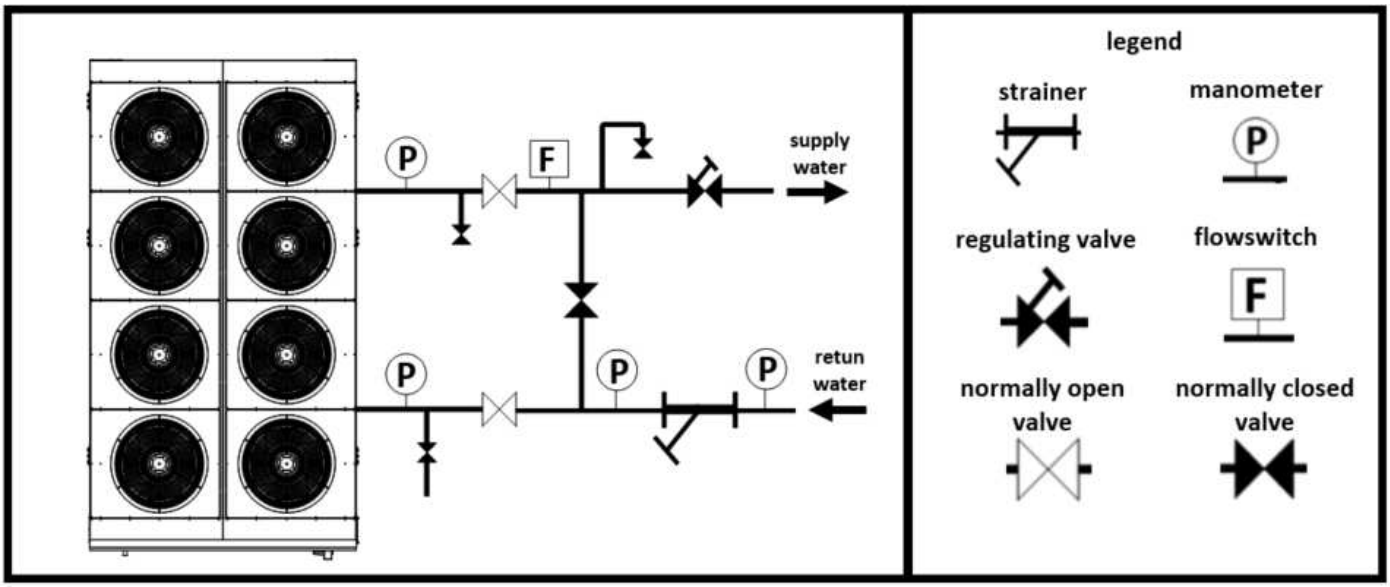


The above examples are intended as general guidelines and no comprehensive of all possible plant configuration and operating conditions.
In case of critical installation (not compliant with the advised clearances) should be analyzed by plant designer and proper to evaluate the impact on chiller operation and identify possible countermeasures.

Water piping

The water system must have:

- Anti-vibration joint to reduce transmission of vibrations to the structures.
- Isolating valves to isolate the unit from the water system during maintenance.
- The evaporator must not be exposed to flushing velocities or debris released during flushing. It is recommended that a properly sized bypass completed with valve arrangement is installed to insulate chiller's water heat exchanger during the flushing of the piping system.
- Flow switch.
- Manual or automatic air venting device at the system's highest point.; drain device at the system's lowest point.
- A suitable device that can maintain the water system under pressure (expansion tank, etc.).
- Water temperature and pressure indicators to assist the operator during service and maintenance.
- A filter or device that can remove particles from the fluid. The installation of the filter is mandatory. The use of a filter extends the life of the evaporator and pump and helps to keep the water system in a better condition.
- Precautions should be provided to protect the unit against freezing.
- The heat recovery device must be emptied of water during the winter season, unless an ethylene glycol mixture in appropriate percentage is added to the water circuit.
- If case of unit substitution, the entire water system must be emptied and cleaned before the new unit is installed. Regular tests and proper chemical treatment of water are recommended after starting up the new unit.
- If glycol is added to the water system as anti-freeze protection, pay attention to the fact that suction pressure will be lower, the unit's performance will be lower and water pressure drops will be greater. All unit-protection systems, such as anti-freeze, and low-pressure protection will need to be readjusted.
- To avoid damages to evaporator during flushing operation a normally closed bypass should by installed.



General The chiller will be designed and manufactured in accordance with the following European directives:
- Construction of pressure vessel 2014/68/EU
- Machinery Directive 2006/42/EC
- Low Voltage 2014/35/EU
- Electromagnetic Compatibility 2014/30/EU
- Electrical & Safety codes EN 60204–1 / EN 60335-2-40
- Manufacturing Quality Standards UNI – UNI EN ISO 14001

To avoid any losses, the unit will be tested at full load in the factory (at the nominal working conditions and water temperatures). The chiller will be delivered to the job site completely assembled and charged with refrigerant and oil.
The installation of the chiller must comply with the manufacturer's instructions for rigging and handling equipment.

The unit will be able to start up and operate (as standard) at full load with:
- outside air temperature from ..... °C to ..... °C
- evaporator leaving fluid temperature between ..... °C and ..... °C
-

Refrigerant HFC R134a

Performance Chiller shall supply the following performances:
- Number of chiller(s) : ..... unit(s)
- Cooling capacity for single chiller : ..... kW
- Power input for single chiller in cooling mode : ..... kW
- Heat exchanger entering water temperature in cooling mode : ..... °C
- Heat exchanger leaving water temperature in cooling mode : ..... °C
- Heat exchanger water flow : ..... l/s
- Nominal outside working ambient temperature in cooling mode : ..... °C
- Minimum full load efficiency (EER): …….. (kW/kW)
- Minimum part load efficiency (IPLV): …….. (kW/kW)

Operating voltage range should be 400V ±10%, 3ph, 50Hz, voltage unbalance maximum 3%, without neutral conductor and shall only have one power connection point.

Unit description Chiller shall include two or three independent refrigerant circuits, semi-hermetic type rotary single screw compressors, electronic expansion device (EEXV), direct expansion 'shell & tube' evaporator, air-cooled condenser section made with aluminum Microchannel technology, R-134a refrigerant, lubrication system, motor starting components, discharge line shut-off valve, control system and all components necessary for a safe and stable unit operation.

Sound level and vibrations Sound power level shall not exceed ……dB(A). The sound power levels must be rated in accordance to ISO 9614 and Sound Power rated according to ISO 3744 (other types of rating cannot be used). Vibration on the base frame should not exceed 2 mm/s.

Dimensions Unit dimensions shall not exceed following indications:
- Unit length ..... mm
- Unit width ..... mm
- Unit height ..... mm

Compressors The unit shall be equipped with:
- Semi-hermetic, single-screw type with one main helical rotor matching with gate rotor. The gate rotor will be constructed of a carbon impregnated engineered composite material. The gate rotor supports will be constructed of cast iron. Electrical motor shall be 2-pole, semi-hermetic, squirrel-cage induction type and cooled by suction gas.
- The compressor shall be provided with a built in, high efficiency, mesh type oil separator and oil filter.
- Refrigerant system differential pressure shall provide oil injection on all moving compressor parts to correctly lubricate them. Electrical oil pump lubricating system is not acceptable.
- The compressor's oil cooling must be realized, when necessary, by refrigerant liquid injection. External dedicated heat exchanger and additional piping to carry the oil from the compressor to heat exchanger and vice versa will be not accepted.
- The compressor shall be direct electrical driven, without gear transmission between the screw and the electrical motor.
- The compressor casing shall be provided with ports to realize economized refrigerant cycles.
- The unit shall be provided with two thermal protection realized by a thermistor for high temperature protection: one temperature sensor to protect electrical motor and another sensor to protect unit and lubricating oil from high discharge gas temperature.

• The compressor shall be equipped with an electric oil-crankcase heater.
• Compressor shall be fully field serviceable. Compressor that must be removed and returned to the factory for service shall be unacceptable.

Cooling capacity control system the chiller will have a microprocessor for the control of the compressor capacity in order to continuously modulate the compressor's rotational speed.
• The unit capacity control shall be infinitely modulating between 100% and the minimum.
• The system shall control the unit based on the leaving evaporator water temperature that shall be controlled by PID (Proportional Integral Derivative) logic.

Evaporator
The units shall be equipped with a direct expansion shell & tube evaporator with copper tubes rolled into steel tube sheets.
The external shell shall insulate with flexible, closed cell polyurethane insulation material (20 -mm thick).
• The evaporator will have 2 circuits, one for each compressor and shall be single refrigerant pass.
• The water connections shall be VICTAULIC type connections as standard to ensure quick mechanical disconnection between the unit and the hydronic network.
• The evaporator will be manufactured in accordance to PED approval.
• Flow switch on evaporator available as option (shipped loose).
• Water filter needs to be provided on the plant.

Condenser coil the condenser is made entirely of aluminum with flat tubes containing small channels. Full - depth louvered aluminum fins are inserted between the tubes maximizing the heat exchange. The Microchannel technology ensures the highest performance with the minimum surface for the exchanger. The quantity of refrigerant is also reduced compared to Cu/Al condenser. Special treatments ensure resistance to the corrosion by atmospheric agents extending the life time (available on request).

Condenser fans the condenser fans used in conjunction with the condenser coils, shall be propeller type with aluminum-magnesium alloy blades for higher efficiencies. Each fan shall be protected by a fan guard.
• The air discharge shall be vertical, and each fan must be coupled to the electrical motor, supplied as standard to IP55 and capable to work to ambient temperatures of - 20°C to + 65°C.
• The condenser fans shall have as a standard a thermally protection by internal thermal motor protection and protected by circuit breaker installed inside the electrical panel as a standard.

Refrigerant circuit the unit shall have two or three independent refrigerant circuits.
The circuit shall include as standard: electronic expansion device piloted by unit's microprocessor control, compressor discharge shut-off valves, economizer circuit, sight glass with moisture indicator, replaceable filter drier, charging valves, high pressure switch, high- and low-pressure transducers, oil pressure transducer and insulated suction line.

Hydronic kit options (on request) The hydronic module shall be integrated in the chiller chassis without increasing its dimensions and includes the following elements: centrifugal pump with motor protected by a circuit breaker installed in control panel, water filling system with pressure gauge, safety valve, drain valve.
• The hydronic module shall be assembled and wired to the control panel.
• A choice of two pump types shall be available:
- in-line single pump
- in-line twin pumps.

Master / Slave the unit shall be able to operate in Master / Slave mode in order to be connected with others similar units (up to 4). The master unit shall manage the slaves connected in series on the hydraulic plant with the aim of optimize the running hours of each compressor and to balance running hours.

iCM the unit shall be able to control the primary loop system (for systems up to 8 chillers) allowing in addition to the Master/Slave functionality also the capability to share the load among the units according the optimal condition and managing also the primary pumps integrated on the unit or external. In case of external pumps, the control should be able to manage dedicated pumps as well as manifolded pumps including the stand-by pumps if present (needed the additional intelligent Pump Manager controller).

Electrical control panel Power and control shall be located in the main panel that will be manufactured to ensure protection against all weather conditions.
• The electrical panel shall be IP54 and (when opening the doors) internally protected against possible accidental contact with live parts.
• The main panel shall be fitted with a main switch interlocked door that shuts off power supply when opening.
• The power section will include compressors and fans protection devices, fans starters and control.

Controller The controller will be installed as standard and it will be used to modify unit set-points and check control parameters.
• A built-in display will show chiller operating status plus temperatures and pressures of water, refrigerant and air, programmable values, setpoints.
• A sophisticated software with predictive logic, will select the most energy efficient combination of compressors, EEXV and condenser fans to keep stable operating conditions to maximize chiller energy efficiency and reliability.
• The controller will be able to protect critical components based on external signals from its system (such as motor temperatures, refrigerant gas and oil pressures, correct phase sequence, pressure switches and evaporator). The input coming from the high-pressure switch cuts all digital output from the controller in less than 50ms, this will be an additional security for the equipment.
• Fast program cycle (200ms) for a precise monitoring of the system.
• Floating point calculations supported for increased accuracy in P/T conversions.

Controller main features
Controller shall be guarantee following minimum functions:
• Management of the compressor stepless capacity and fans modulation.
• Chiller enabled to work in partial failure condition.
• Full routine operation at condition of:
- high ambient temperature value
- high thermal load
- high evaporator entering water temperature (start-up)
• Display of evaporator entering/leaving water temperature.
• Display of Outdoor Ambient Temperature.
• Display of condensing-evaporating temperature and pressure, suction and discharge superheat for each circuit.
• Leaving water evaporator temperature regulation.
• Compressor and evaporator pumps hours counter.
• Display of Status Safety Devices.
• Number of starts and compressor working hours.
• Optimized management of compressor load.
• Fan management according to condensing pressure.
• Re-start in case of power failure (automatic / manual).
• Soft Load (optimized management of the compressor load during the start-up).
• Start at high evaporator water temperature.
• Return Reset (Set Point Reset based on return water temperature).
• OAT (Outside Ambient temperature) Reset.
• Set point Reset (optional).
• Application and system upgrade with commercial SD cards.
• Ethernet port for remote or local servicing using standard web browsers.
• Master / Slave (provided as standard)
• Two different sets of default parameters could be stored for easy restore.

High Level Communications
Interface (on request) The chiller shall be able to communicate to BMS (Building Management System) based on the most common protocols as:
- ModbusRTU (natively supported by the controller)
- LonWorks, now also based on the international 8040 Standard Chiller Profile and LonMark Technology (external communication module)
- BacNet MSTP and BacNet IP (natively supported by the controller

