Databook

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EWAQ~F-	R3.4

Air cooled scroll chillers

ECOLOGICAL
HFC
410A
REFRIGERANT

EWAQ~F-

SS (Standard Efficiency - Standard Noise) - Cooling Capacity from 207 to 612 kW
SL (Standard Efficiency - Low Noise) - Cooling Capacity from 207 to 612 kW
SR (Standard Efficiency - Reduced Noise) - Cooling Capacity from 199 to 582 kW
XS (High Efficiency - Standard Noise) - Cooling Capacity from 171 to 675 kW
XL (High Efficiency - Low Noise) - Cooling Capacity from 171 to 675 kW
XR (High Efficiency - Reduced Noise) - Cooling Capacity from 166 to 648 kW

CE

DAIKIN

Low operating cost and extended operating life This 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 scroll compressors, large condenser coil surface area for maximum heat transfer and low discharge pressure, advanced technology condenser fans and a 'plate to plate' 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 hermetic orbiting scroll compressor complete with motor over-temperature and over-current devices and protection against excessive gas discharge temperature, a proactive control logic and are full factory-run-tested to optimized trouble-free operation.

Superior control logic The new MicroTech III 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.

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	97/23/EC (PED)
Machinery Directive	2006/42/EC
Low Voltage	2006/95/EC
Electromagnetic Compatibility	2004/108/EC
Electrical & Safety codes	EN 60204–1 / EN 60335-2-40
Manufacturing Quality Stds	UNI – EN ISO 9001:2004

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.).

Versions This range is available in two different versions:

STANDARD EFFICIENCY
12 sizes to cover a range from 207 up to 612 Kw with an EER up to 2.85 and an ESEER up to 4.26 (data referred to Standard Noise).

HIGH EFFICIENCY
14 sizes to cover a range from 171 up to 675 Kw with an EER up to 3.17 and an ESEER up to 4.48 (data referred to Standard Noise).

The EER (Energy Efficiency Ratio) is the ratio of the Cooling Capacity to the Power Input of the unit. The Power Input includes: the power input for operation of the compressor, the power input of all control and safety devices, the power input for fans.

The ESEER (European Seasonal Energy Efficiency Ratio) is a weighed formula enabling to take into account the variation of EER with the load rate and the variation of air inlet condenser temperature.

ESEER = A x EER100% + B x EER75% + C x EER50% + D x EER25%

	A	B	C	D
K	0.03 (3%)	0.33 (33%)	0.41 (41%)	0.23 (23%)
T	35°C	30°C	25°C	20°C

K = Coefficient
T = Air inlet condenser temperature

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, compressor sound enclosure.

REDUCED SOUND
Condenser fan rotating at 705 rpm, rubber antivibration under compressor, compressor sound enclosure.

Cabinet and structure The cabinet is made of galvanized steel sheet and painted to provide a high resistance to corrosion. Colour 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 uniformly distributed along the profiles of the base and this facilitates the arrangement of the unit.

Compressor The compressor is hermetic orbiting scroll compressor complete with motor over-temperature and over-current devices. An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops. The compressors are connected in Tandem or Trio on a single refrigerating circuit and are fitted on rubber antivibration mounts and complete with oil charge.

Refrigerant Units have been optimized to operates with R-410A, refrigerant with zero ODP (Ozone Depletion Potential). R-410A has been the logical choice for our multiple scroll chiller because today it is one of the most promising refrigerants in terms of efficiency, stability and environmental impact. R-410A offers a small swept volume, a good heat exchange capacity and leads to reduced component sizes of items such as heat exchangers and tubing.

Evaporator (Plate Heat Exchanger) The unit is equipped with a direct expansion plate to plate type evaporator. This heat exchanger is made of stainless steel brazed plates and is covered with a 20mm closed cell insulation material. The exchanger is equipped with an electric heater for protection against freezing down to –28°C and evaporator water connections are provided with victaulic kit (as standard). The evaporator is manufactured in accordance to PED approval. Flow switch on evaporator standard factory mounted. Water filter is standard.

Condenser The condenser is manufactured with internally enhanced seamless copper tubes arranged in a staggered row pattern and mechanically expanded into lanced and rippled aluminum condenser fins with full fin collars. An integral sub-cooler circuit provides sub-cooling to effectively eliminate liquid flashing and increase cooling capacity without increasing the power input.

Condenser fans (ø 800) 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. Fan motors are internally protected from overtemperature and are IP54.

Electronic expansion valve 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 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.

Refrigerant circuit Each unit has 2 independent refrigerant circuits and each one includes:
- Compressors
- Refrigerant
- Evaporator
- Air Cooled Condenser
- Electronic expansion valve
- Liquid line shut off valve
- Sight glass with moisture indicator
- Filter drier
- Charging valves
- High pressure switch
- High pressure transducers
- Low pressure transducers
- 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, compressors and fans starters and control circuit power supply.

MicroTech III controller MicroTech III controller is installed as standard; it can be used to modify unit set-points and check control parameters. A built-in display shows chiller operating status plus temperatures and pressures of water, refrigerant and air, programmable values, set-points. A sophisticated software with predictive logic, selects the most energy efficient combination of compressors, EEXV and condenser fans to keep stable operating conditions to maximise chiller energy efficiency and reliability.
MicroTech III is able to protect critical components based on external signals from its system (such as motor temperatures, refrigerant gas, correct phase sequence (option), pressure switches and evaporator). The input coming from the high pressure switch cuts all digital output from the controller in less than 50ms, this is 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 Pressure / Temperature conversions.

Control section - main features Control Section has the following feature.
- Management of the refrigerant circuit 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 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 circuit load.
- Fan management according to condensing pressure.
- Re-start in case of power failure (automatic / manual).
- 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.
- Two different sets of default parameters could be stored for easy restore.

Safety device / logic for each refrigerant circuit The following devices / logics are available.
- High pressure (pressure switch).
- High pressure (transducer).
- Low pressure (transducer).
- High motor winding temperature.
- Low pressure ratio.
- No pressure change at start.

System security The following securities are available.
- Low Ambient temperature lock-out.
- Freeze protection.

Regulation type Proportional + integral + derivative regulation on the evaporator leaving water output probe.

MicroTech III MicroTech III built-in terminal has the following features.
- 164x44 dots 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.
- Memory to protect the data.
- General faults alarm relays.
- Password access to modify the setting.
- Application security to prevent application tampering or hardware usability with third party applications.
- Service report displaying all running hours and general conditions.
- Alarm history memory to allow an easy fault analysis.

Supervising systems (on request)

MicroTech III remote communication MicroTech III is able to communicate to BMS (Building Management System) based on the most common protocols as:
- ModbusRTU
- LonWorks, now also based on the international 8040 Standard Chiller Profile and LonMark Technology.
- BacNet BTP certifief over IP and MS/TP (class 4) (Native).
- Ethernet TCP/IP.

Standard Options (supplied on basic unit)

Direct on line starter (DOL)

Double setpoint - Dual leaving water temperature setpoints.

Evaporator victaulic kit - Hydraulic joint with gasket for an easy and quick water connection.

20mm evaporator insulation - The external shell is covered with a 20mm closed cell insulation material.

Evaporator electric heater - Electric heater (controlled by a thermostat) to protect the evaporator from freezing down to -28°C ambient temperature, providing the power supply is on.

Evaporator flow switch - Supplied separately to be wired and installed on the evaporator water piping (by the customer).

Electronic expansion valve

Ambient outside temperature sensor and setpoint reset

Hour run meter

General fault contactor

Main switch interlock door

Water filter - The water filter removes impurities from water by means of a fine physical barrier.

Options (on request)

MECHANICAL

Partial heat recovery - Produced with plate to plate heat exchangers to produce hot water.

Brine version - Allows the unit to operate down to -8°C leaving liquid temperature (antifreeze required).

Axial fans (250 Pa lift)

Condenser coil guards

Evaporator area guards

Cu-Cu condenser coil - To give better protection against corrosion by aggressive environments.

Cu-Cu-Sn condenser coil - To give better protection against corrosion in aggressive environments and by salty air.

Alucoat fins coil - Fins are protected by a special acrylic paint with a high resistance to corrosion.

Discharge line shut-off valve - Installed on the discharge port of the compressor to facilitate maintenance operation.

Suction line shut-off valve - Installed on the suction port of the compressor to facilitate maintenance operation.

High pressure side manometers

Low pressure side manometers

One centrifugal pump (low lift) - Hydronic kit consists of: single direct driven centrifugal pump, water filling system 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.

One centrifugal pump (high lift) Hydronic kit consists of: single direct driven centrifugal pump, water filling system 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.

Two centrifugal pump (low lift) - Hydronic kit consists of: twin direct driven centrifugal pumps, water filling system 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 pumps are protected from freezing with an additional electrical heater.

Two centrifugal pump (high lift) Hydronic kit consists of: twin direct driven centrifugal pumps, water filling system 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 pumps are protected from freezing with an additional electrical heater.

Double pressure relief valve with diverter

ELECTRICAL / CONTROL

Compressor thermal overload relays - Safety electronic devices that, added to the standard protection devices, protect compressor motors against overload and current unbalance.

Phase monitor - Device that monitors input voltage and stops the chiller in case of phase loss or wrong phase sequence.

Under / Over voltage control - Electronic device that monitors and displays input voltage, and stops the chiller in case of phase loss, wrong phase sequence, or voltage exceeding minimum and maximum allowed values.

Energy meter - 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. An integrated RS485 module allows a Modbus communication to an external BMS.

Capacitors for power factor correction - Devices that increase the power factor of the unit. The capacitors are "dry" self-regenerating type with over pressure disconnecting safety device insulated with a no toxic dielectric mix without PCB or PCT.

Speedtrol (fan speed control device - ON/OFF - up to -18°C) - Continuous fan speed regulation on the first fan (VFD driven) of each circuit. It allows unit operation down to -18ºC.

Setpoint reset, Demand limit and Alarm from external device - 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. Demand Limit: Chiller capacity can be limited through an external 4-20mA signal or via network. 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.

Compressors circuit breakers Safety devices that include in a single device all safety functions otherwise provided by standard fuses and optional thermal relays, such as protection against overcurrent, overload, current unbalance.

Fans circuit breakers - Safety devices that, added to the standard protection devices, protect fan motors against overload and overcurrent.

Fans speed regulation (+ fan silent mode) - Continuous fan speed regulation of all fans (VFD driven) for improved sound level of the unit during low ambient temperature operation. At very low temperatures, all fans except the first are switched off thus allowing unit operation down to -18°C.

INSTALLATION

Rubber anti vibration mounts - 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 - Supplied separately, these are positioned under the base of the unit during installation. Ideal for dampening vibrations for installation on roofs and metallic structures.

External tank without cabinet (500 L)

External tank without cabinet (1000 L)

External tank with cabinet (500 L)

External tank with cabinet (1000 L)

OTHER

Container Kit

Witness test

Acoustic test

Machine type

EWA	= Air cooled chiller cooling only
EWY	= Air cooled chiller heat pump
ERA	= Air cooled condensing unit

Refrigerant

D	= R-134a
P	= R-407C
Q	= R-410A

Capacity class in kW (Cooling)

Always 3-digit code

Model series

A, B, …..

Inverter

-	= Non inverter

Efficiency level

S	= Standard Efficiency
X	= High Efficiency

Sound level

S	= Standard sound
L	= Low sound
R	= Reduced sound

EWAQ F-SS

MODEL		210	230	250	280	320	350	400	360
Capacity - Cooling (1)	kW	207	225	248	284	315	360	408	360
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	22.0	25.0	23.0	25.0	21.0	25.0	21.0
Unit power input - Cooling (1)	kW	72.6	84.0	92.5	107	120	140	153	140
EER (1)	---	2.85	2.68	2.69	2.65	2.63	2.57	2.67	2.57
ESEER	---	3.91	3.89	3.93	3.86	3.90	3.85	3.90	4.14
IPLV	---	4.45	4.39	4.41	4.34	4.38	4.31	4.32	4.39
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2447	2221
Width	mm	1224	1224	1224	1224	1224	1224	1224	2258
Length	mm	4413	4413	4413	5313	5313	6213	6213	3210
WEIGHT									
Unit Weight	kg	2058	2058	2130	2202	2284	2409	2659	2509
Operating Weight	kg	2070	2070	2142	2216	2298	2424	2699	2524
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	12	12	14	14	14	40	14
Nominal water flow rate - Cooling	l/s	9.9	10.7	11.8	13.6	15.0	17.2	19.5	17.2
Nominal Water pressure drop - Cooling	kPa	37	43	53	56	69	30	32	30
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	21845	21845	21148	27306	26435	32767	32513	32767
Quantity	No.	4	4	4	5	5	6	6	6
Speed	rpm	900	900	900	900	900	900	900	900
Motor input	kW	7.0	7.0	7.0	8.8	8.8	10.5	10.5	10.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	19	23	27	26	25	25	25	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	93	94	95	95	95	97	97	97
Sound Pressure - Cooling (8)	dB(A)	75	75	76	76	76	77	78	78
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	18	18	18	18	21	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SS

MODEL		410	480	550	610				
Capacity - Cooling (1)	kW	408	482	553	612				
Capacity control - Type	---	Step	Step	Step	Step				
Capacity control - Minimum capacity	%	25.0	17.0	14.0	17.0				
Unit power input - Cooling (1)	kW	153	185	205	226				
EER (1)	---	2.67	2.60	2.70	2.70				
ESEER	---	4.16	4.26	4.18	4.21				
IPLV	---	4.42	4.52	4.56	4.61				
CASING									
Colour (2)	---	IW	IW	IW	IW				
Material (2)	---	GPSS	GPSS	GPSS	GPSS				
DIMENSIONS									
Height	mm	2397	2221	2221	2221				
Width	mm	2258	2258	2258	2258				
Length	mm	3210	4110	5010	5010				
WEIGHT									
Unit Weight	kg	2759	2990	3336	3558				
Operating Weight	kg	2799	3036	3382	3604				
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE				
Water Volume	l	40	46	46	46				
Nominal water flow rate - Cooling	l/s	19.5	23.0	26.4	29.2				
Nominal Water pressure drop - Cooling	kPa	32	35	46	56				
Insulation material (4)		CC	CC	CC	CC				
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP				
FAN									
Type (6)	---	DPT	DPT	DPT	DPT				
Drive (7)	---	DOL	DOL	DOL	DOL				
Diameter	mm	800	800	800	800				
Nominal air flow	l/s	32513	43690	54612	52870				
Quantity	No.	6	8	10	10				
Speed	rpm	900	900	900	900				
Motor input	kW	10.5	14.0	17.5	17.5				
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll				
Oil charge	l	25	38	38	38				
Quantity	No.	4	6	6	6				
SOUND LEVEL									
Sound Power - Cooling	dB(A)	97	97	99	99				
Sound Pressure - Cooling (8)	dB(A)	78	78	79	79				
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A				
Refrigerant charge	kg	24	34	40	46				
N. of circuits	No.	2	2	2	2				
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"				

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SL

MODEL		210	230	250	280	320	350	400	360
Capacity - Cooling (1)	kW	207	225	248	284	315	360	408	360
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	22.0	25.0	23.0	25.0	21.0	25.0	21.0
Unit power input - Cooling (1)	kW	72.6	84.0	92.5	107	120	140	153	140
EER (1)	---	2.85	2.68	2.69	2.65	2.63	2.57	2.67	2.57
ESEER	---	3.91	3.89	3.93	3.86	3.90	3.85	3.90	4.14
IPLV	---	4.45	4.39	4.41	4.34	4.38	4.31	4.32	4.39
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2447	2221
Width	mm	1224	1224	1224	1224	1224	1224	1224	2258
Length	mm	4413	4413	4413	5313	5313	6213	6213	3210
WEIGHT									
Unit Weight	kg	2297	2297	2373	2449	2535	2666	2968	2766
Operating Weight	kg	2309	2309	2385	2463	2549	2681	3008	2781
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	12	12	14	14	14	40	14
Nominal water flow rate - Cooling	l/s	9.9	10.7	11.8	13.6	15.0	17.2	19.5	17.2
Nominal Water pressure drop - Cooling	kPa	37	43	53	56	69	30	32	30
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	21845	21845	21148	27306	26435	32767	32513	32767
Quantity	No.	4	4	4	5	5	6	6	6
Speed	rpm	900	900	900	900	900	900	900	900
Motor input	kW	7.0	7.0	7.0	8.8	8.8	10.5	10.5	10.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	19	23	27	26	25	25	25	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	91	92	92	93	93	94	94	94
Sound Pressure - Cooling (8)	dB(A)	73	73	73	73	73	74	74	75
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	18	18	18	18	21	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SL

MODEL		410	480	550	610				
Capacity - Cooling (1)	kW	408	482	553	612				
Capacity control - Type	---	Step	Step	Step	Step				
Capacity control - Minimum capacity	%	25.0	17.0	14.0	17.0				
Unit power input - Cooling (1)	kW	153	185	205	226				
EER (1)	---	2.67	2.60	2.70	2.70				
ESEER	---	4.16	4.26	4.18	4.21				
IPLV	---	4.42	4.52	4.56	4.61				
CASING									
Colour (2)	---	IW	IW	IW	IW				
Material (2)	---	GPSS	GPSS	GPSS	GPSS				
DIMENSIONS									
Height	mm	2397	2221	2221	2221				
Width	mm	2258	2258	2258	2258				
Length	mm	3210	4110	5010	5010				
WEIGHT									
Unit Weight	kg	3068	3315	3679	3912				
Operating Weight	kg	3108	3362	3725	3958				
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE				
Water Volume	l	40	46	46	46				
Nominal water flow rate - Cooling	l/s	19.5	23.0	26.4	29.2				
Nominal Water pressure drop - Cooling	kPa	32	35	46	56				
Insulation material (4)		CC	CC	CC	CC				
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP				
FAN									
Type (6)	---	DPT	DPT	DPT	DPT				
Drive (7)	---	DOL	DOL	DOL	DOL				
Diameter	mm	800	800	800	800				
Nominal air flow	l/s	32513	43690	54612	52870				
Quantity	No.	6	8	10	10				
Speed	rpm	900	900	900	900				
Motor input	kW	10.5	14.0	17.5	17.5				
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll				
Oil charge	l	25	38	38	38				
Quantity	No.	4	6	6	6				
SOUND LEVEL									
Sound Power - Cooling	dB(A)	94	95	96	96				
Sound Pressure - Cooling (8)	dB(A)	75	75	76	76				
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A				
Refrigerant charge	kg	24	34	40	46				
N. of circuits	No.	2	2	2	2				
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"				

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SR

MODEL		200	220	240	270	300	330	370	340
Capacity - Cooling (1)	kW	199	215	236	272	299	342	384	342
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	22.0	25.0	23.0	25.0	21.0	25.0	21.0
Unit power input - Cooling (1)	kW	72.7	85.1	94.6	109	123	143	158	143
EER (1)	---	2.73	2.52	2.49	2.49	2.42	2.39	2.44	2.39
ESEER	---	4.40	4.33	4.26	4.29	4.21	4.23	4.15	4.40
IPLV	---	4.88	4.80	4.70	4.79	4.69	4.69	4.60	4.84
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2447	2221
Width	mm	1224	1224	1224	1224	1224	1224	1224	2258
Length	mm	4413	4413	4413	5313	5313	6213	6213	3210
WEIGHT									
Unit Weight	kg	2412	2412	2491	2571	2661	2799	3116	2899
Operating Weight	kg	2424	2424	2504	2585	2676	2814	3156	2914
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	12	12	14	14	14	40	14
Nominal water flow rate - Cooling	l/s	9.5	10.2	11.3	13.0	14.3	16.3	18.3	16.3
Nominal Water pressure drop - Cooling	kPa	34	40	48	51	63	27	29	27
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	16743	16743	16285	20929	20356	25115	24922	25115
Quantity	No.	4	4	4	5	5	6	6	6
Speed	rpm	705	705	705	705	705	705	705	705
Motor input	kW	3.0	3.0	3.0	3.8	3.8	4.5	4.5	4.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	19	23	27	26	25	25	25	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	85	86	87	87	87	89	90	89
Sound Pressure - Cooling (8)	dB(A)	66	67	68	68	68	69	70	70
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	18	18	18	18	21	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SR

MODEL		380	460	530	580				
Capacity - Cooling (1)	kW	384	457	529	582				
Capacity control - Type	---	Step	Step	Step	Step				
Capacity control - Minimum capacity	%	25.0	17.0	14.0	17.0				
Unit power input - Cooling (1)	kW	158	190	206	231				
EER (1)	---	2.44	2.41	2.56	2.53				
ESEER	---	4.29	4.67	4.63	4.57				
IPLV	---	4.72	5.04	4.91	4.81				
CASING									
Colour (2)	---	IW	IW	IW	IW				
Material (2)	---	GPSS	GPSS	GPSS	GPSS				
DIMENSIONS									
Height	mm	2397	2221	2221	2221				
Width	mm	2258	2258	2258	2258				
Length	mm	3210	4110	5010	5010				
WEIGHT									
Unit Weight	kg	3216	3481	3863	4108				
Operating Weight	kg	3256	3527	3909	4154				
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE				
Water Volume	l	40	46	46	46				
Nominal water flow rate - Cooling	l/s	18.3	21.8	25.2	27.8				
Nominal Water pressure drop - Cooling	kPa	29	31	42	51				
Insulation material (4)		CC	CC	CC	CC				
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP				
FAN									
Type (6)	---	DPT	DPT	DPT	DPT				
Drive (7)	---	DOL	DOL	DOL	DOL				
Diameter	mm	800	800	800	800				
Nominal air flow	l/s	24922	33487	41858	40713				
Quantity	No.	6	8	10	10				
Speed	rpm	705	705	705	705				
Motor input	kW	4.5	6.0	7.5	7.5				
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll				
Oil charge	l	25	38	38	38				
Quantity	No.	4	6	6	6				
SOUND LEVEL									
Sound Power - Cooling	dB(A)	90	89	91	92				
Sound Pressure - Cooling (8)	dB(A)	71	70	71	72				
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A				
Refrigerant charge	kg	24	34	40	46				
N. of circuits	No.	2	2	2	2				
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"				

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XS

MODEL		170	200	220	250	310	350	320	360
Capacity - Cooling (1)	kW	171	195	221	245	317	357	317	357
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	21.0	25.0	22.0	23.0	25.0	23.0	25.0
Unit power input - Cooling (1)	kW	54.3	61.6	69.9	77.4	101	114	101	114
EER (1)	---	3.15	3.16	3.16	3.17	3.12	3.12	3.12	3.12
ESEER	---	4.02	4.23	4.07	4.21	4.16	4.18	4.43	4.46
IPLV	---	4.55	4.73	4.63	4.63	4.68	4.65	4.60	4.80
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2221	2221
Width	mm	1224	1224	1224	1224	1224	1224	2258	2258
Length	mm	4413	4413	5313	5313	6213	6213	3210	3210
WEIGHT									
Unit Weight	kg	1688	1958	2210	2339	2500	2632	2600	2732
Operating Weight	kg	1700	1973	2225	2353	2514	2672	2514	2772
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	14	14	14	14	40	14	40
Nominal water flow rate - Cooling	l/s	8.2	9.3	10.5	11.7	15.1	17.0	15.1	17.0
Nominal Water pressure drop - Cooling	kPa	25	27	34	42	22	23	22	23
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	21845	21148	26874	25204	31722	30245	31722	30245
Quantity	No.	4	4	5	5	6	6	6	6
Speed	rpm	900	900	900	900	900	900	900	900
Motor input	kW	7.0	7.0	8.8	8.8	10.5	10.5	10.5	10.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	13	16	19	23	26	25	26	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	91	93	94	95	96	96	96	96
Sound Pressure - Cooling (8)	dB(A)	72	74	75	76	76	76	77	77
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	14	18	18	21	24	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XS

MODEL		400	430	450	520	610	680		
Capacity - Cooling (1)	kW	404	429	458	529	609	675		
Capacity control - Type	---	Step	Step	Step	Step	Step	Step		
Capacity control - Minimum capacity	%	21.0	20.0	25.0	17.0	14.0	17.0		
Unit power input - Cooling (1)	kW	129	136	145	168	196	216		
EER (1)	---	3.13	3.15	3.15	3.14	3.11	3.12		
ESEER	---	4.37	4.41	4.36	4.48	4.43	4.36		
IPLV	---	4.69	4.64	4.59	4.88	4.76	4.57		
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW		
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS		
DIMENSIONS									
Height	mm	2221	2221	2221	2221	2221	2221		
Width	mm	2258	2258	2258	2258	2258	2258		
Length	mm	4110	4110	4110	5010	5010	5910		
WEIGHT									
Unit Weight	kg	2744	2845	2861	3569	3667	4054		
Operating Weight	kg	2784	2891	2907	3615	3727	4115		
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE		
Water Volume	l	40	46	46	46	60	60		
Nominal water flow rate - Cooling	l/s	19.3	20.5	21.8	25.3	29.0	32.2		
Nominal Water pressure drop - Cooling	kPa	31	29	30	41	44	55		
Insulation material (4)		CC	CC	CC	CC	CC	CC		
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP		
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT		
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL		
Diameter	mm	800	800	800	800	800	800		
Nominal air flow	l/s	42296	40326	40326	50408	50408	60489		
Quantity	No.	8	8	8	10	10	12		
Speed	rpm	900	900	900	900	900	900		
Motor input	kW	14.0	14.0	14.0	17.5	17.5	21.0		
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll		
Oil charge	l	25	25	25	38	38	38		
Quantity	No.	4	4	4	6	6	6		
SOUND LEVEL									
Sound Power - Cooling	dB(A)	97	98	98	98	99	100		
Sound Pressure - Cooling (8)	dB(A)	78	78	79	78	79	79		
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A		
Refrigerant charge	kg	35	35	35	40	40	46		
N. of circuits	No.	2	2	2	2	2	2		
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"		

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XL

MODEL		170	200	220	250	310	350	320	350
Capacity - Cooling (1)	kW	171	195	221	245	317	357	317	357
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	21.0	25.0	22.0	23.0	25.0	23.0	25.0
Unit power input - Cooling (1)	kW	54.3	61.6	69.9	77.4	101	114	101	114
EER (1)	---	3.15	3.16	3.16	3.17	3.12	3.12	3.12	3.12
ESEER	---	4.02	4.23	4.07	4.21	4.16	4.18	4.43	4.46
IPLV	---	4.55	4.73	4.63	4.63	4.68	4.65	4.60	4.80
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2221	2221
Width	mm	1224	1224	1224	1224	1224	1224	2258	2258
Length	mm	4413	4413	5313	5313	6213	6213	3210	3210
WEIGHT									
Unit Weight	kg	1909	2193	2457	2592	2761	2900	2861	3000
Operating Weight	kg	1921	2207	2472	2607	2776	2940	2876	3040
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	14	14	14	14	40	14	40
Nominal water flow rate - Cooling	l/s	8.2	9.3	10.5	11.7	15.1	17.0	15.1	17.0
Nominal Water pressure drop - Cooling	kPa	25	27	34	42	22	23	22	23
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	21845	21148	26874	25204	31722	30245	31722	30245
Quantity	No.	4	4	5	5	6	6	6	6
Speed	rpm	900	900	900	900	900	900	900	900
Motor input	kW	7.0	7.0	8.8	8.8	10.5	10.5	10.5	10.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	13	16	19	23	26	25	26	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	90	91	92	92	93	93	93	93
Sound Pressure - Cooling (8)	dB(A)	71	73	73	73	74	74	74	74
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	14	18	18	21	24	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XL

MODEL		400	430	450	520	610	680		
Capacity - Cooling (1)	kW	404	429	458	529	609	675		
Capacity control - Type	---	Step	Step	Step	Step	Step	Step		
Capacity control - Minimum capacity	%	21.0	20.0	25.0	17.0	14.0	17.0		
Unit power input - Cooling (1)	kW	129	136	145	168	196	216		
EER (1)	---	3.13	3.15	3.15	3.14	3.11	3.12		
ESEER	---	4.37	4.41	4.36	4.48	4.43	4.36		
IPLV	---	4.69	4.64	4.59	4.88	4.76	4.57		
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW		
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS		
DIMENSIONS									
Height	mm	2221	2221	2221	2221	2221	2221		
Width	mm	2258	2258	2258	2258	2258	2258		
Length	mm	4110	4110	4110	5010	5010	5910		
WEIGHT									
Unit Weight	kg	3017	3124	3141	3923	4026	4434		
Operating Weight	kg	3057	3170	3187	3970	4087	4494		
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE		
Water Volume	l	40	46	46	46	60	60		
Nominal water flow rate - Cooling	l/s	19.3	20.5	21.8	25.3	29.0	32.2		
Nominal Water pressure drop - Cooling	kPa	31	29	30	41	44	55		
Insulation material (4)		CC	CC	CC	CC	CC	CC		
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP		
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT		
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL		
Diameter	mm	800	800	800	800	800	800		
Nominal air flow	l/s	42296	40326	40326	50408	50408	60489		
Quantity	No.	8	8	8	10	10	12		
Speed	rpm	900	900	900	900	900	900		
Motor input	kW	14.0	14.0	14.0	17.5	17.5	21.0		
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll		
Oil charge	l	25	25	25	38	38	38		
Quantity	No.	4	4	4	6	6	6		
SOUND LEVEL									
Sound Power - Cooling	dB(A)	95	95	95	95	96	97		
Sound Pressure - Cooling (8)	dB(A)	75	75	75	75	76	76		
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A		
Refrigerant charge	kg	35	35	35	40	40	46		
N. of circuits	No.	2	2	2	2	2	2		
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"		

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XR

MODEL		170	190	210	240	300	330	310	340
Capacity - Cooling (1)	kW	166	188	212	237	305	341	305	341
Capacity control - Type	---	Step	Step	Step	Step	Step	Step	Step	Step
Capacity control - Minimum capacity	%	25.0	21.0	25.0	22.0	23.0	25.0	23.0	25.0
Unit power input - Cooling (1)	kW	52.5	60.6	68.0	76.4	101	116	101	116
EER (1)	---	3.16	3.11	3.12	3.10	3.03	2.94	3.03	2.94
ESEER	---	4.67	4.78	4.65	4.74	4.67	4.58	4.82	4.77
IPLV	---	5.19	4.99	5.12	5.15	5.04	5.02	5.14	4.88
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW	IW	IW
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS
DIMENSIONS									
Height	mm	2271	2271	2271	2271	2271	2271	2221	2221
Width	mm	1224	1224	1224	1224	1224	1224	2258	2258
Length	mm	4413	4413	5313	5313	6213	6213	3210	3210
WEIGHT									
Unit Weight	kg	2004	2303	2580	2722	2900	3045	3000	3145
Operating Weight	kg	2017	2317	2594	2736	2914	3085	3014	3185
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE	PHE	PHE
Water Volume	l	12	14	14	14	14	40	14	40
Nominal water flow rate - Cooling	l/s	7.9	9.0	10.1	11.3	14.5	16.3	14.5	16.3
Nominal Water pressure drop - Cooling	kPa	24	25	31	39	21	21	21	21
Insulation material (4)		CC	CC	CC	CC	CC	CC	CC	CC
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP	HFP	HFP
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
Diameter	mm	800	800	800	800	800	800	800	800
Nominal air flow	l/s	16743	16285	20618	19522	24428	23426	24428	23426
Quantity	No.	4	4	5	5	6	6	6	6
Speed	rpm	705	705	705	705	705	705	705	705
Motor input	kW	3.0	3.0	3.8	3.8	4.5	4.5	4.5	4.5
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Oil charge	l	13	16	19	23	26	25	26	25
Quantity	No.	4	4	4	4	4	4	4	4
SOUND LEVEL									
Sound Power - Cooling	dB(A)	83	84	85	86	87	87	87	87
Sound Pressure - Cooling (8)	dB(A)	64	65	66	67	67	67	68	68
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	14	18	18	21	24	24	24	24
N. of circuits	No.	2	2	2	2	2	2	2	2
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"	3"	3"

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-XR

MODEL		390	410	430	500	580	650		
Capacity - Cooling (1)	kW	386	408	434	504	581	648		
Capacity control - Type	---	Step	Step	Step	Step	Step	Step		
Capacity control - Minimum capacity	%	21.0	20.0	25.0	17.0	14.0	17.0		
Unit power input - Cooling (1)	kW	127	135	145	168	198	216		
EER (1)	---	3.04	3.02	2.99	3.00	2.94	3.00		
ESEER	---	4.82	4.78	4.68	4.97	4.84	4.79		
IPLV	---	5.01	4.88	4.98	5.05	5.08	5.05		
CASING									
Colour (2)	---	IW	IW	IW	IW	IW	IW		
Material (2)	---	GPSS	GPSS	GPSS	GPSS	GPSS	GPSS		
DIMENSIONS									
Height	mm	2221	2221	2221	2221	2221	2221		
Width	mm	2258	2258	2258	2258	2258	2258		
Length	mm	4110	4110	4110	5010	5010	5910		
WEIGHT									
Unit Weight	kg	3168	3280	3298	4120	4228	4655		
Operating Weight	kg	3208	3326	3344	4166	4288	4716		
WATER HEAT EXCHANGER									
Type (3)	---	PHE	PHE	PHE	PHE	PHE	PHE		
Water Volume	l	40	46	46	46	60	60		
Nominal water flow rate - Cooling	l/s	18.4	19.5	20.7	24.0	27.7	30.9		
Nominal Water pressure drop - Cooling	kPa	28	26	27	38	40	51		
Insulation material (4)		CC	CC	CC	CC	CC	CC		
AIR HEAT EXCHANGER									
Type (5)	---	HFP	HFP	HFP	HFP	HFP	HFP		
FAN									
Type (6)	---	DPT	DPT	DPT	DPT	DPT	DPT		
Drive (7)	---	DOL	DOL	DOL	DOL	DOL	DOL		
Diameter	mm	800	800	800	800	800	800		
Nominal air flow	l/s	32570	31235	31235	39044	39044	46852		
Quantity	No.	8	8	8	10	10	12		
Speed	rpm	705	705	705	705	705	705		
Motor input	kW	6.0	6.0	6.0	7.5	7.5	9.0		
COMPRESSOR									
Type	---	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll		
Oil charge	l	25	25	25	38	38	38		
Quantity	No.	4	4	4	6	6	6		
SOUND LEVEL									
Sound Power - Cooling	dB(A)	89	89	90	89	90	92		
Sound Pressure - Cooling (8)	dB(A)	69	70	70	69	70	71		
REFRIGERANT CIRCUIT									
Refrigerant type	---	R410A	R410A	R410A	R410A	R410A	R410A		
Refrigerant charge	kg	35	35	35	40	40	46		
N. of circuits	No.	2	2	2	2	2	2		
PIPING CONNECTIONS									
Evaporator water inlet/outlet		3"	3"	3"	3"	3"	3"		

Fluid: Water
(1) Cooling capacity, unit power input in cooling and EER are based on the following conditions: evaporator 12.0/7.0°C; ambient 35.0°C, unit at full load operation;
(2) IW: Ivory White; GPSS: Galvanized and Painted Steel Sheet; (3) PHE: Plate Heat Exchanger --- S&T: Single Pass Shell & Tube
(4) CC: Closed Cell; (5) HFP: High efficiency fin and tube type with integral subcooler
(6) DPT: Direct Propeller Type; (7) DOL: Direct On Line - VFD: Inverter - BRS: Brushless
(8) The values are according to ISO 3744 and are referred to: evaporator 12/7°C, ambient 35°C, full load operation.

EWAQ F-SS

MODEL		210	230	250	280	320	350	400	360
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	349	404	419	476	505	621	649	621
Nominal running current cooling	A	130	147	161	187	208	242	262	242
Mximum running current	A	160	176	191	225	254	286	314	286
Maximum current for wires sizing	A	176	193	210	247	279	314	345	314
FANS									
Nominal running current cooling	A	16	16	16	20	20	24	24	24
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	72	80	88	102	117	131	145	131
		72	80	88	102	117	131	145	131
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-SS

MODEL		410	480	550	610				
POWER SUPPLY									
Phases	Nr	3	3	3	3				
Frequency	Hz	50	50	50	50				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
UNIT									
Maximum starting current	A	649	634	768	810				
Nominal running current cooling	A	262	322	356	391				
Mximum running current	A	314	383	433	474				
Maximum current for wires sizing	A	345	421	476	522				
FANS									
Nominal running current cooling	A	24	32	40	40				
COMPRESSORS									
Phases	Nr	3	3	3	3				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
Maximum running current	A	145	175	189	217				
		145	175	203	217				
Starting method	---	DOL	DOL	DOL	DOL				

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-SL

MODEL		210	230	250	280	320	350	400	360
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	349	404	419	476	505	621	649	621
Nominal running current cooling	A	130	147	161	187	208	242	262	242
Mximum running current	A	160	176	191	225	254	286	314	286
Maximum current for wires sizing	A	176	193	210	247	279	314	345	314
FANS									
Nominal running current cooling	A	16	16	16	20	20	24	24	24
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	72	80	88	102	117	131	145	131
		72	80	88	102	117	131	145	131
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-SL

MODEL		410	480	550	610				
POWER SUPPLY									
Phases	Nr	3	3	3	3				
Frequency	Hz	50	50	50	50				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
UNIT									
Maximum starting current	A	649	634	768	810				
Nominal running current cooling	A	262	322	356	391				
Mximum running current	A	314	383	433	474				
Maximum current for wires sizing	A	345	421	476	522				
FANS									
Nominal running current cooling	A	24	32	40	40				
COMPRESSORS									
Phases	Nr	3	3	3	3				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
Maximum running current	A	145	175	189	217				
		145	175	203	217				
Starting method	---	DOL	DOL	DOL	DOL				

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-SR

MODEL		200	220	240	270	300	330	370	340
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	344	398	414	469	498	613	641	613
Nominal running current cooling	A	129	149	164	189	214	247	270	247
Mximum running current	A	155	170	186	218	247	277	305	277
Maximum current for wires sizing	A	170	187	204	239	272	305	336	305
FANS									
Nominal running current cooling	A	10	10	10	13	13	16	16	16
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	72	80	88	102	117	131	145	131
		72	80	88	102	117	131	145	131
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-SR

MODEL		380	460	530	580				
POWER SUPPLY									
Phases	Nr	3	3	3	3				
Frequency	Hz	50	50	50	50				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
UNIT									
Maximum starting current	A	641	623	754	796				
Nominal running current cooling	A	270	328	359	398				
Mximum running current	A	305	372	419	460				
Maximum current for wires sizing	A	336	409	460	506				
FANS									
Nominal running current cooling	A	16	21	26	26				
COMPRESSORS									
Phases	Nr	3	3	3	3				
Voltage	V	400	400	400	400				
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%				
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%				
Maximum running current	A	145	175	189	217				
		145	175	203	217				
Starting method	---	DOL	DOL	DOL	DOL				

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-XS

MODEL		170	200	220	250	310	350	320	360
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	281	338	353	408	480	509	480	509
Nominal running current cooling	A	110	117	128	141	181	202	181	202
Mximum running current	A	138	149	164	180	229	258	229	258
Maximum current for wires sizing	A	151	164	181	198	251	284	251	284
FANS									
Nominal running current cooling	A	16	16	20	20	24	24	24	24
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	61	66	72	80	102	117	102	117
		61	66	72	80	102	117	102	117
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-XS

MODEL		400	430	450	520	610	680		
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3		
Frequency	Hz	50	50	50	50	50	50		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
UNIT									
Maximum starting current	A	629	643	657	642	768	818		
Nominal running current cooling	A	229	240	254	300	343	379		
Mximum running current	A	294	308	322	391	433	482		
Maximum current for wires sizing	A	323	338	354	430	476	530		
FANS									
Nominal running current cooling	A	32	32	32	40	40	48		
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
Maximum running current	A	131	131	145	175	189	217		
		131	145	145	175	203	217		
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL		

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-XL

MODEL		170	200	220	250	310	350	320	350
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	281	338	353	408	480	509	480	509
Nominal running current cooling	A	110	117	128	141	181	202	181	202
Mximum running current	A	138	149	164	180	229	258	229	258
Maximum current for wires sizing	A	151	164	181	198	251	284	251	284
FANS									
Nominal running current cooling	A	16	16	20	20	24	24	24	24
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	61	66	72	80	102	117	102	117
		61	66	72	80	102	117	102	117
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-XL

MODEL		400	430	450	520	610	680		
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3		
Frequency	Hz	50	50	50	50	50	50		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
UNIT									
Maximum starting current	A	629	643	657	642	768	818		
Nominal running current cooling	A	229	240	254	300	343	379		
Mximum running current	A	294	308	322	391	433	482		
Maximum current for wires sizing	A	323	338	354	430	476	530		
FANS									
Nominal running current cooling	A	32	32	32	40	40	48		
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
Maximum running current	A	131	131	145	175	189	217		
		131	145	145	175	203	217		
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL		

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-XR

MODEL		170	190	210	240	300	330	310	340
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3	3	3
Frequency	Hz	50	50	50	50	50	50	50	50
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
UNIT									
Maximum starting current	A	276	332	346	401	472	501	472	501
Nominal running current cooling	A	107	116	125	139	180	204	180	204
Mximum running current	A	132	143	157	173	220	249	220	249
Maximum current for wires sizing	A	145	158	173	190	242	274	242	274
FANS									
Nominal running current cooling	A	10	10	13	13	16	16	16	16
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3	3	3
Voltage	V	400	400	400	400	400	400	400	400
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%	-10%	-10%
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%	+10%	+10%
Maximum running current	A	61	66	72	80	102	117	102	117
		61	66	72	80	102	117	102	117
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL

EWAQ F-XR

MODEL		390	410	430	500	580	650		
POWER SUPPLY									
Phases	Nr	3	3	3	3	3	3		
Frequency	Hz	50	50	50	50	50	50		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
UNIT									
Maximum starting current	A	618	632	646	628	754	801		
Nominal running current cooling	A	226	239	255	300	347	380		
Mximum running current	A	283	296	310	377	419	465		
Maximum current for wires sizing	A	311	326	341	415	460	512		
FANS									
Nominal running current cooling	A	21	21	21	26	26	31		
COMPRESSORS									
Phases	Nr	3	3	3	3	3	3		
Voltage	V	400	400	400	400	400	400		
Voltage tolerance Minimum	%	-10%	-10%	-10%	-10%	-10%	-10%		
Voltage tolerance Maximum	%	+10%	+10%	+10%	+10%	+10%	+10%		
Maximum running current	A	131	131	145	175	189	217		
		131	145	145	175	203	217		
Starting method	---	DOL	DOL	DOL	DOL	DOL	DOL		

Fluid: Water
Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.
Maximum starting current: starting current of biggest compressor + current of the other compressors at maximum load + fans current at maximum load
Nominal current in cooling mode is referred to the following conditions: evaporator 12/7°C; ambient 35°C; compressors + fans current.
Maximum running current is based on max compressor absorbed current in its envelope and max fans absorbed current
Maximum unit current for wires sizing is based on minimum allowed voltage
Maximum current for wires sizing: (compressors full load ampere + fans current) x 1,1.

EWAQ F-SS

	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
210	79.8	73.2	72.9	69.9	70.9	68.1	60.5	48.9	74.9	93.5
230	80.4	73.8	73.5	70.5	71.5	68.7	61.1	49.5	75.4	94.1
250	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	75.9	94.6
280	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	76.0	95.1
320	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	76.0	95.1
350	81.9	75.3	75.0	72.0	73.0	70.2	62.6	51.0	77.0	96.6
400	81.9	75.3	75.0	72.0	73.0	70.2	62.6	51.0	77.6	97.5
360	82.8	76.2	75.9	72.9	73.9	71.1	63.5	51.9	77.8	96.6
410	82.8	76.2	75.9	72.9	73.9	71.1	63.5	51.9	78.5	97.5
480	82.6	76.0	75.7	72.7	73.7	70.9	63.3	51.7	77.7	97.1
550	83.7	77.1	76.8	73.8	74.8	72.0	64.4	52.8	78.7	98.6
610	84.4	77.8	77.5	74.5	75.5	72.7	65.1	53.5	79.5	99.4

EWAQ F-SL

	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
210	77.7	71.1	70.8	67.8	68.8	66.0	58.4	46.8	72.7	91.4
230	77.9	71.3	71.0	68.0	69.0	66.2	58.6	47.0	72.9	91.5
250	78.0	71.4	71.1	68.1	69.1	66.3	58.7	47.1	73.0	91.7
280	78.3	71.7	71.4	68.4	69.4	66.6	59.0	47.4	73.3	92.5
320	78.3	71.7	71.4	68.4	69.4	66.6	59.0	47.4	73.3	92.5
350	78.8	72.2	71.9	68.9	69.9	67.1	59.5	47.9	73.9	93.5
400	79.0	72.4	72.1	69.1	70.1	67.3	59.7	48.1	74.0	93.8
360	79.7	73.1	72.8	69.8	70.8	68.0	60.4	48.8	74.7	93.5
410	79.7	73.1	72.8	69.8	70.8	68.0	60.4	48.8	74.8	93.8
480	80.1	73.5	73.2	70.2	71.2	68.4	60.8	49.2	75.1	94.5
550	80.7	74.1	73.8	70.8	71.8	69.0	61.4	49.8	75.7	95.7
610	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	76.0	95.9

EWAQ F-SR

	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
200	71.4	64.8	64.5	61.5	62.5	59.7	52.1	40.5	66.4	85.0
220	72.3	65.7	65.4	62.4	63.4	60.6	53.0	41.4	67.4	86.0
240	73.1	66.5	66.2	63.2	64.2	61.4	53.8	42.2	68.2	86.8
270	72.9	66.3	66.0	63.0	64.0	61.2	53.6	42.0	68.0	87.1
300	72.9	66.3	66.0	63.0	64.0	61.2	53.6	42.0	68.0	87.1
330	74.3	67.7	67.4	64.4	65.4	62.6	55.0	43.4	69.3	89.0
370	75.3	68.7	68.4	65.4	66.4	63.6	56.0	44.4	70.3	90.2
340	75.2	68.6	68.3	65.3	66.3	63.5	55.9	44.3	70.2	89.0
380	75.3	68.7	68.4	65.4	66.4	63.6	56.0	44.4	71.2	90.2
460	74.6	68.0	67.7	64.7	65.7	62.9	55.3	43.7	69.6	89.0
530	75.9	69.3	69.0	66.0	67.0	64.2	56.6	45.0	71.0	90.9
580	77.0	70.4	70.1	67.1	68.1	65.3	57.7	46.1	72.1	92.0

EWAQ F-XS

	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
170	77.4	70.8	70.5	67.5	68.5	65.7	58.1	46.5	72.4	91.0
200	79.4	72.8	72.5	69.5	70.5	67.7	60.1	48.5	74.4	93.0
220	80.0	73.4	73.1	70.1	71.1	68.3	60.7	49.1	75.0	94.2
250	80.5	73.9	73.6	70.6	71.6	68.8	61.2	49.6	75.5	94.7
310	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	76.0	95.6
350	80.9	74.3	74.0	71.0	72.0	69.2	61.6	50.0	76.0	95.6
320	81.8	75.2	74.9	71.9	72.9	70.1	62.5	50.9	76.8	95.6
360	81.8	75.2	74.9	71.9	72.9	70.1	62.5	50.9	76.8	95.6
400	82.9	76.3	76.0	73.0	74.0	71.2	63.6	52.0	77.9	97.3
430	83.3	76.7	76.4	73.4	74.4	71.6	64.0	52.4	78.3	97.7
450	83.6	77.0	76.7	73.7	74.7	71.9	64.3	52.7	78.6	98.0
520	82.7	76.1	75.8	72.8	73.8	71.0	63.4	51.8	77.7	97.7
610	83.7	77.1	76.8	73.8	74.8	72.0	64.4	52.8	78.7	98.6
680	84.3	77.7	77.4	74.4	75.4	72.6	65.0	53.4	79.4	99.8

EWAQ F-XL

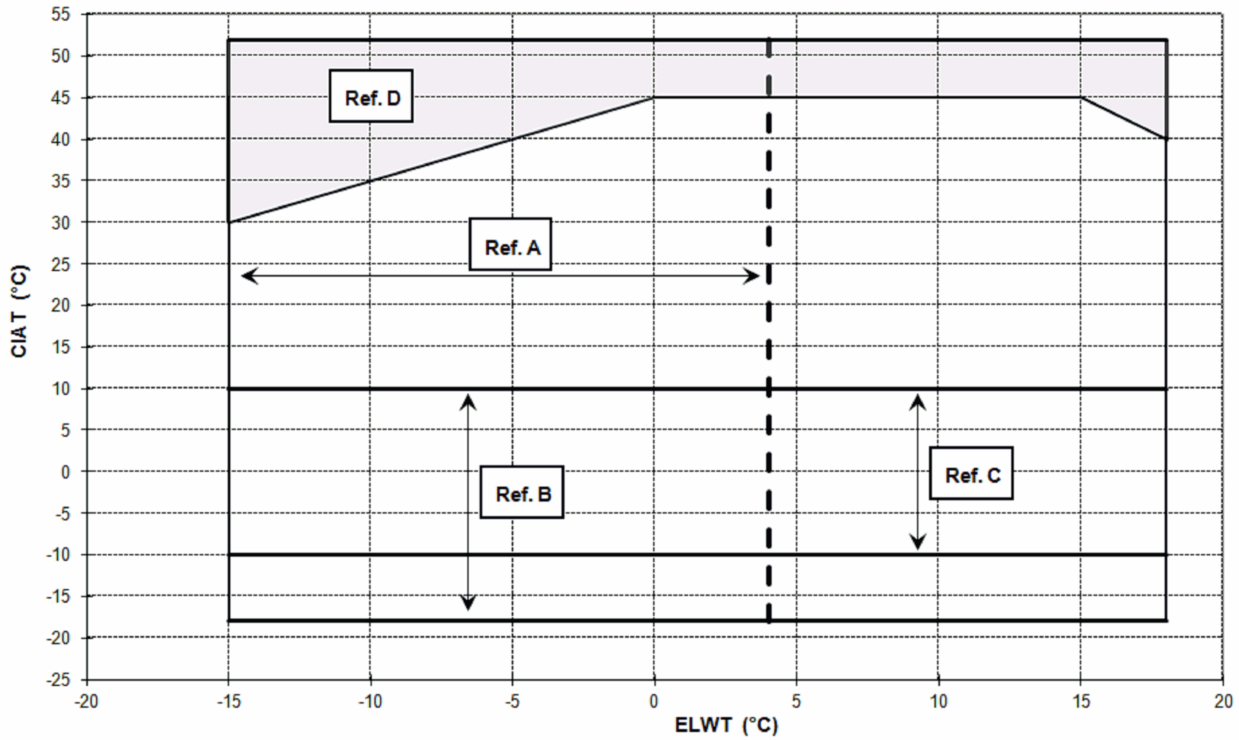
	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
170	76.4	69.8	69.5	66.5	67.5	64.7	57.1	45.5	71.4	90.0
200	77.6	71.0	70.7	67.7	68.7	65.9	58.3	46.7	72.6	91.2
220	78.1	71.5	71.2	68.2	69.2	66.4	58.8	47.2	73.1	92.3
250	78.2	71.6	71.3	68.3	69.3	66.5	58.9	47.3	73.2	92.4
310	78.5	71.9	71.6	68.6	69.6	66.8	59.2	47.6	73.6	93.2
350	78.5	71.9	71.6	68.6	69.6	66.8	59.2	47.6	73.6	93.2
320	79.4	72.8	72.5	69.5	70.5	67.7	60.1	48.5	74.4	93.2
350	79.4	72.8	72.5	69.5	70.5	67.7	60.1	48.5	74.4	93.2
400	80.2	73.6	73.3	70.3	71.3	68.5	60.9	49.3	75.2	94.6
430	80.3	73.7	73.4	70.4	71.4	68.6	61.0	49.4	75.3	94.7
450	80.4	73.8	73.5	70.5	71.5	68.7	61.1	49.5	75.4	94.8
520	80.4	73.8	73.5	70.5	71.5	68.7	61.1	49.5	75.4	95.4
610	80.7	74.1	73.8	70.8	71.8	69.0	61.4	49.8	75.7	95.7
680	81.1	74.5	74.2	71.2	72.2	69.4	61.8	50.2	76.1	96.6

EWAQ F-XR

	Sound pressure level at 1 m from the unit (rif. 2 x 10-5 Pa)								Power
MODEL	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)	dB(A)
170	69.0	62.4	62.1	59.1	60.1	57.3	49.7	38.1	64.0	82.6
190	70.2	63.6	63.3	60.3	61.3	58.5	50.9	39.3	65.2	83.8
210	70.9	64.3	64.0	61.0	62.0	59.2	51.6	40.0	66.0	85.1
240	71.7	65.1	64.8	61.8	62.8	60.0	52.4	40.8	66.7	85.9
300	72.2	65.6	65.3	62.3	63.3	60.5	52.9	41.3	67.2	86.9
330	72.2	65.6	65.3	62.3	63.3	60.5	52.9	41.3	67.2	86.9
310	73.1	66.5	66.2	63.2	64.2	61.4	53.8	42.2	68.1	86.9
340	73.1	66.5	66.2	63.2	64.2	61.4	53.8	42.2	68.1	86.9
390	74.4	67.8	67.5	64.5	65.5	62.7	55.1	43.5	69.4	88.8
410	74.9	68.3	68.0	65.0	66.0	63.2	55.6	44.0	69.9	89.3
430	75.4	68.8	68.5	65.5	66.5	63.7	56.1	44.5	70.4	89.8
500	73.9	67.3	67.0	64.0	65.0	62.2	54.6	43.0	68.9	88.9
580	75.3	68.7	68.4	65.4	66.4	63.6	56.0	44.4	70.3	90.3
650	76.1	69.5	69.2	66.2	67.2	64.4	56.8	45.2	71.1	91.5

Fluid: Water
Note: The values are according to ISO 3744 and are referred to: evaporator 12/7° C, air ambient 35°C, full load operation

Operating Limits



Legend:
ELWT = Evaporator Leaving Water Temperature (°C)
CIAT = Condenser Inlet Air Temperature (°C)

Ref.:
A = Operation with Glycol (below 4°C Evap LWT)
B = Fan speed modulation or Speedtroll required (below 10°C Condens. Air Temp.)
C = Fan speed modulation or Speedtroll required (below 10°C and up to -10°C Condens. Air Temp.)*
* Only referred to units with 4-5-6 fans
D = In this area units can work at partial load

Table 1 - Water heat exchanger - Minimum and maximum water Δt

A - Δt	**°C**	**8**
B - Δt	**°C**	**4**

Legend:
A = Max evaporator water Δt
B = Min evaporator water Δt

Table 2 - Water heat exchanger - Fouling factors

A	B	C	D
0.0176	1.000	1.000	1.000
0.0440	0.978	0.986	0.992
0.0880	0.957	0.974	0.983
0.1320	0.938	0.962	0.975

Legend:
A = Fouling factors (m2 °C / kW)
B = Cooling capacity correction factor
C = Power input correction factor
D = EER correction factor

Table 3 - Air heat exchanger - Altitude correction factors

A	0	300	600	900	1200	1500	1800
B	1013	977	942	908	875	843	812
C	1.000	0.993	0.986	0.979	0.973	0.967	0.960
D	1.000	1.005	1.009	1.015	1.021	1.026	1.031

Legend:
A = Elevation above sea level (m)
B = Barometric pressure (mbar)
C = Cooling capacity correction factor
D = Power input correction factor

- Maximum operating altitude is 2000 m above sea level
- Contact factory in case the unit has to be installed at altitudes between 1000 and 2000 m above sea level

Table 4 - Minimum glycol percentage for low air ambient temperature

AAT (2)	-3	-8	-15	-20
A (1)	10%	20%	30%	40%
AAT (2)	-3	-7	-12	-20
B (1)	10%	20%	30%	40%

Legend:
AAT = Air Ambient Temperature (°C) (2)
A = Ethylene glycol (%) (1)
B = Propylene glycol (%) (1)

(1) Minimum glycol percentage to prevent freezing of water circuit at indicated air ambient temperature
(2) Air ambient temperature do exceed the operating limits of the unit, as protection of water circuit may be needed in winter season at non-working conditions.

Table 5.1 - Available fan static pressure correction factors

A	0	10	20	30	40	50	60	70	80	90	100
B	1.000	0.998	0.996	0.995	0.993	0.992	0.991	0.989	0.986	0.985	0.982
C	1.000	1.004	1.009	1.012	1.018	1.021	1.024	1.027	1.034	1.039	1.045
D	1.0	-0.3	-0.5	-0.7	-1.0	-1.1	-1.3	-1.6	-1.8	2.1	-2.4

The above data are referred to:
- Fan 800 mm diameter
- Fan speed 890 rpm or 900 rpm

Legend:
A = External Static Pressure (Pa)
B = Cooling Capacity (kW) Correction factor
C = Compressor Power Input (kW) Correction factor
D = Reduction of Maximum Condenser Inlet Air Temperature (°C)

Table 5.2 - Available fan static pressure correction factors

A	0	10	20	30	40	50	60	70
B	1.000	0.996	0.991	0.985	0.978	0.970	0.954	0.927
C	1.000	1.005	1.012	1.020	1.028	1.039	1.058	1.092
D	1.0	-0.3	-0.7	-1.1	-1.6	-2.2	-3.3	-5.1

The above data are referred to:
- Fan 800 mm diameter
- Fan speed 700 rpm or 705 rpm

Legend:
A = External Static Pressure (Pa)
B = Cooling Capacity (kW) Correction factor
C = Compressor Power Input (kW) Correction factor
D = Reduction of Maximum Condenser Inlet Air Temperature (°C)

Water content in cooling circuits The cooled water distribution circuits should have minimum water content to avoid excessive compressors start and stop. In fact, each time the compressor starts up, an excessive quantity of oil goes from the compressor sump and simultaneously there is a rise in the temperature of the compressor motor's stator due to the inrush current during the start-up. To prevent damage to the compressors, have been envisaged the application of a device to limit frequent stops and restarts.
During the span of one hour there will be no more than 6 starts of the compressor. The plant side should therefore ensure that the overall water content allows a more constant functioning of the unit and consequently greater environmental comfort. The minimum water content per unit should be calculated with a certain approximation using this simplified formula:

For 4 compressors unit
M (liters) = (0.4349 x DT(°C) + 2.6158) x P(kW)

For 6 compressors unit
M (liters) = (0.5554) x P(kW)

where:
M = minimum water content per unit expressed in litres
P = cooling capacity of the unit expressed in kW
ΔT = evaporator entering / leaving water temperature difference expressed in °C

This formula is valid for standard microprocessor parameters. For more accurate determination of quantity of water, it is advisable to contact the designer of the plant.

Water charge, flow and quality

Water charge, flow and quality

Items (1) (6)			Cooling Water			Cooled Water		Heated water (2)				Tendency if out of criteria
			Circulating System		Once Flow			Low temperature		High temperature		
			Circulating water	Supply water (4)	Flowing water	Circulating water [Below 20°C]	Supply water (4)	Circulating water [20°C ~ 60°C]	Supply water (4)	Circulating water [60°C ~ 80°C]	Supply water (4)	
Items to be controlled:	pH	at 25°C	6.5 ~ 8.2	6.0 ~ 8.0	6.0 ~ 8.0	6.8 - 8.0	6.0 ~ 8.0	7.0 ~ 8.0	7.0 ~ 8.0	7.0 ~ 8.0	7.0 ~ 8.0	Corrosion + Scale
	Electrical conductivity	[mS/m] at 25°C	Below 80	Below 30	Below 40	Below 80	Below 80	Below 30	Below 30	Below 30	Below 30	Corrosion + Scale
		(μS/cm) at 25°C	(Below 800)	(Below 300)	(Below 400)	(Below 800)	(Below 800)	(Below 300)	(Below 300)	(Below 300)	(Below 300)	Corrosion + Scale
	Chloride ion	[mgCl^{2-}/l]	Below 200	Below 50	Below 50	Below 200	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	Sulfate ion	[mgSO^{2-}_4/l]	Below 200	Below 50	Below 50	Below 200	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	M-alkalinity (pH4.8)	[mg$CaCO_3$/l]	Below 100	Below 50	Below 50	Below 100	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Total hardness	[mg$CaCO_3$/l]	Below 200	Below 70	Below 70	Below 200	Below 70	Below 70	Below 70	Below 70	Below 70	Scale
	Calcium harness	[mg$CaCO_3$/l]	Below 150	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Silca ion	[mgSiO_2/l]	Below 50	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Scale
	Oxygen	(mg O2 /l)	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Corrosion
	Particole size	(mm)	Below 0.5	Below 0.5	Below 0.5	Below 0.5	Below 0.6	Below 0.5	Below 0.6	Below 0.5	Below 0.6	Erosion
	Total dissolved solids	(mg / l)	Below 1000	Below 1000	Below 1000	Below 1000	Below 1001	Below 1000	Below 1001	Below 1000	Below 1001	Erosion
	Ethykene, Propylene Glycol (weight conc.)		Below 60%	Below 60%	---	Below 60%	Below 60%	Below 60%	Below 60%	Below 60%	Below 60%	--
Items to be referred to:	Nitrate ion	(mg NO3- /l)	Below 100	Below 100	Below 100	Below 100	Below 101	Below 100	Below 101	Below 100	Below 101	Corrosion
	TOC Total organic carbon	(mg /l)	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Scale
	Iron	[mgFe/l]	Below 1.0	Below 0.3	Below 1.0	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Corrosion + Scale
	Copper	[mgCu/l]	Below 0.3	Below 0.1	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 0.1	Below 1.0	Below 0.1	Corrosion
	Sulfite ion	[mgS^{2-}/l]	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Corrosion
	Ammonium ion	[mgNH^{+}_4/l]	Below 1.0	Below 0.1	Below 1.0	Below 1.0	Below 0.1	Below 0.3	Below 0.1	Below 0.1	Below 0.1	Corrosion
	Remaining chloride	[mgCL/l]	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.25	Below 0.3	Below 0.1	Below 0.3	Corrosion
	Free carbide	[mgCO_2/l]	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 0.4	Below 4.0	Below 0.4	Below 4.0	Corrosion
	Stability index		6.0 ~ 7.0	---	---	---	---	---	---	---	---	Corrosion + Scale

1 Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.

2 In case of using heated water (more than 40°C), corrosion is generally noticeable.
Especially when the iron materials is in direct contact with water without any protection shields, it is desireable to give the valid measure for corrosion. E.g. chemical measure

3 In the cooling water using hermetic cooling tower, close circuit water is according to heated water standard, and scattered water is according to cooling water standard.

4 Supply water is considered drink water, industrial water and ground water except for genuine water, neutral water and soft water.

5 The above mentioned items are representable items in corrosion and scale cases.

6 The limits above have to be considered as a general prescription and con not totallu assure the absence of corrossion and erosion.
Some particular combinations of elements or the presence of components not listed in the table or factors not considered may trigger corrosion phenomena.

EWAQ F-SS

			210						230					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	220	208	195	182	174	166	240	227	213	198	189	179
	PI	kW	60.1	65.3	71.3	78.4	83.2	88.5	69.3	75.4	82.5	90.5	95.9	102
	qw	l/s	10.5	9.9	9.3	8.7	8.3	7.9	11.4	10.8	10.1	9.4	9.0	8.5
	dpw	kPa	41	37	33	29	26	24	49	44	39	34	31	28
7	CC	kW	233	220	207	193	184	176	254	240	225	209	199	125
	PI	kW	61.2	66.5	72.6	79.7	84.6	89.9	70.6	76.8	84	92.1	97.5	52.9
	qw	l/s	11.1	10.5	9.9	9.2	8.8	8.4	12.1	11.4	10.7	10.0	9.5	6.0
	dpw	kPa	46	42	37	32	29	26	55	49	43	38	34	13
9	CC	kW	246	232	219	204	195	186	267	253	237	221	210	133
	PI	kW	62.4	67.7	73.9	81.2	86.1	91.5	72	78.3	85.5	93.7	99.1	53.4
	qw	l/s	11.7	11.1	10.4	9.7	9.3	8.9	12.8	12.1	11.3	10.5	10.0	6.3
	dpw	kPa	52	46	41	36	33	30	61	55	48	42	38	15
11	CC	kW	259	245	231	215	206	196	281	266	250	232	222	140
	PI	kW	63.6	69	75.3	82.7	87.6	93	73.5	79.9	87.2	95.4	101	54
	qw	l/s	12.4	11.7	11.0	10.3	9.8	9.4	13.4	12.7	11.9	11.1	10.6	6.7
	dpw	kPa	58	52	46	40	37	33	68	61	54	47	42	17
13	CC	kW	273	258	243	227	217	125	296	280	263	245	233	149
	PI	kW	64.9	70.4	76.8	84.2	89.2	43.5	75	81.5	88.8	97.2	103	54.6
	qw	l/s	13.1	12.4	11.6	10.9	10.4	6.0	14.1	13.4	12.6	11.7	11.2	7.1
	dpw	kPa	64	58	51	44	41	13	75	67	59	52	47	19
15	CC	kW	287	272	256	239	229	132	310	293	276	257	164	157
	PI	kW	66.3	71.9	78.3	85.9	90.9	44	76.5	83.1	90.6	99	52.5	55.2
	qw	l/s	13.7	13.0	12.2	11.4	10.9	6.3	14.8	14.0	13.2	12.3	7.9	7.5
	dpw	kPa	71	64	56	49	45	15	83	74	66	57	23	21

			250						280					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	265	251	235	219	209	198	303	287	270	251	239	226
	PI	kW	76.3	83.2	90.9	99.5	105	111	88.5	96.5	106	116	122	130
	qw	l/s	12.6	11.9	11.2	10.4	9.9	9.4	14.5	13.7	12.9	12.0	11.4	10.8
	dpw	kPa	60	54	47	41	37	34	64	57	50	44	39	35
7	CC	kW	280	264	248	231	220	209	320	303	284	265	252	161
	PI	kW	77.7	84.7	92.5	101	107	113	90.2	98.3	107	118	124	68.5
	qw	l/s	13.3	12.6	11.8	11.0	10.5	10.0	15.3	14.4	13.6	12.6	12.0	7.7
	dpw	kPa	67	60	53	46	42	38	71	63	56	49	44	18
9	CC	kW	294	279	262	244	232	135	337	319	299	279	265	170
	PI	kW	79.2	86.2	94.1	103	108	52.4	91.9	100	109	120	126	69.3
	qw	l/s	14.1	13.3	12.5	11.6	11.1	6.4	16.1	15.2	14.3	13.3	12.7	8.1
	dpw	kPa	75	67	59	51	46	16	79	70	62	54	49	20
11	CC	kW	309	293	275	256	244	143	354	335	315	293	279	180
	PI	kW	80.7	87.8	95.7	105	110	52.9	93.7	102	111	122	128	70.1
	qw	l/s	14.8	14.0	13.2	12.3	11.7	6.8	16.9	16.0	15.0	14.0	13.3	8.6
	dpw	kPa	83	74	65	57	51	18	87	78	69	60	54	23
13	CC	kW	325	308	289	269	257	151	371	351	330	307	293	190
	PI	kW	82.3	89.4	97.4	106	112	53.5	95.6	104	113	124	131	71
	qw	l/s	15.5	14.7	13.8	12.9	12.3	7.2	17.8	16.8	15.8	14.7	14.0	9.1
	dpw	kPa	91	82	72	63	57	20	96	86	76	66	60	25
15	CC	kW	341	322	303	283	167	160	389	368	346	322	209	200
	PI	kW	83.9	91.1	99.2	108	51.4	54	97.6	106	116	126	68.4	72
	qw	l/s	16.3	15.4	14.5	13.5	8.0	7.7	18.6	17.6	16.6	15.4	10.0	9.6
	dpw	kPa	100	90	79	69	24	22	105	94	83	72	31	28

EWAQ F-SS

			320						350					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	336	318	299	278	265	251	387	365	342	317	301	190
	PI	kW	98.3	107	118	130	137	146	116	126	138	151	159	86
	qw	l/s	16.0	15.2	14.3	13.3	12.6	12.0	18.5	17.4	16.3	15.1	14.3	9.1
	dpw	kPa	79	71	62	54	49	44	34	31	27	23	21	8
7	CC	kW	354	335	315	293	279	163	408	385	360	334	317	201
	PI	kW	100	109	120	132	139	67.1	119	129	140	153	162	86.8
	qw	l/s	16.9	16.0	15.0	14.0	13.3	7.8	19.5	18.4	17.2	15.9	15.1	9.6
	dpw	kPa	87	78	69	60	55	19	38	34	30	26	23	9
9	CC	kW	372	352	331	309	294	172	429	405	379	351	334	213
	PI	kW	102	111	122	134	142	67.9	121	131	143	156	164	87.7
	qw	l/s	17.8	16.8	15.8	14.7	14.0	8.2	20.5	19.3	18.1	16.8	15.9	10.2
	dpw	kPa	97	87	77	67	60	21	43	38	33	28	26	11
11	CC	kW	390	370	348	324	309	182	451	425	398	369	237	226
	PI	kW	104	114	124	136	144	68.6	124	134	145	158	84.5	88.6
	qw	l/s	18.7	17.7	16.6	15.5	14.7	8.7	21.6	20.3	19.0	17.6	11.3	10.8
	dpw	kPa	107	96	85	74	67	23	47	42	37	31	13	12
13	CC	kW	409	388	365	339	323	193	473	446	417	387	250	238
	PI	kW	106	116	127	139	147	69.5	126	136	148	161	85.4	89.5
	qw	l/s	19.6	18.5	17.4	16.2	15.5	9.2	22.6	21.3	20.0	18.5	12.0	11.4
	dpw	kPa	118	105	93	81	73	26	52	46	40	35	14	13
15	CC	kW	429	406	381	355	212	203	495	467	437	405	264	252
	PI	kW	109	118	129	141	66.9	70.4	129	139	151	164	86.3	90.4
	qw	l/s	20.5	19.4	18.3	17.0	10.2	9.7	23.7	22.4	20.9	19.4	12.6	12.0
	dpw	kPa	129	116	102	89	32	29	57	51	44	38	16	15

			400						360					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	438	413	387	359	342	323	387	365	342	317	301	190
	PI	kW	128	138	150	164	173	183	116	126	138	151	159	86
	qw	l/s	20.9	19.7	18.5	17.1	16.3	15.4	18.5	17.4	16.3	15.1	14.3	9.1
	dpw	kPa	37	33	29	25	23	20	34	31	27	23	21	8
7	CC	kW	461	435	408	379	360	208	408	385	360	334	317	201
	PI	kW	130	141	153	167	176	84.5	119	129	140	153	162	86.8
	qw	l/s	22.0	20.8	19.5	18.1	17.2	9.9	19.5	18.4	17.2	15.9	15.1	9.6
	dpw	kPa	41	37	32	28	25	8	38	34	30	26	23	9
9	CC	kW	485	458	429	398	379	221	429	405	379	351	334	213
	PI	kW	133	143	155	169	178	85.3	121	131	143	156	164	87.7
	qw	l/s	23.2	21.9	20.5	19.0	18.1	10.5	20.5	19.3	18.1	16.8	15.9	10.2
	dpw	kPa	46	41	36	31	28	10	43	38	33	28	26	11
11	CC	kW	510	481	451	419	398	234	451	425	398	369	237	226
	PI	kW	135	146	158	172	181	86.1	124	134	145	158	84.5	88.6
	qw	l/s	24.4	23.0	21.6	20.0	19.0	11.2	21.6	20.3	19.0	17.6	11.3	10.8
	dpw	kPa	51	45	40	34	31	11	47	42	37	31	13	12
13	CC	kW	535	505	473	440	259	247	473	446	417	387	250	238
	PI	kW	138	149	161	174	82.9	86.9	126	136	148	161	85.4	89.5
	qw	l/s	25.6	24.2	22.6	21.0	12.4	11.8	22.6	21.3	20.0	18.5	12.0	11.4
	dpw	kPa	56	50	44	38	13	12	52	46	40	35	14	13
15	CC	kW	560	529	496	461	273	261	495	467	437	405	264	252
	PI	kW	140	151	163	177	83.7	87.7	129	139	151	164	86.3	90.4
	qw	l/s	26.8	25.3	23.7	22.1	13.1	12.5	23.7	22.4	20.9	19.4	12.6	12.0
	dpw	kPa	61	55	48	42	15	13	57	51	44	38	16	15

EWAQ F-SS

			410						480					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	438	413	387	359	342	323	516	488	457	424	402	290
	PI	kW	128	138	150	164	173	183	152	166	182	200	212	138
	qw	l/s	20.9	19.7	18.5	17.1	16.3	15.4	24.6	23.2	21.8	20.2	19.2	13.8
	dpw	kPa	37	33	29	25	23	20	40	36	31	27	24	13
7	CC	kW	461	435	408	379	360	208	544	514	482	447	424	307
	PI	kW	130	141	153	167	176	84.5	156	170	185	203	215	140
	qw	l/s	22.0	20.8	19.5	18.1	17.2	9.9	26.0	24.5	23.0	21.3	20.2	14.7
	dpw	kPa	41	37	32	28	25	8	44	40	35	30	27	14
9	CC	kW	485	458	429	398	379	221	573	541	507	470	446	325
	PI	kW	133	143	155	169	178	85.3	159	173	189	207	219	142
	qw	l/s	23.2	21.9	20.5	19.0	18.1	10.5	27.3	25.8	24.2	22.4	21.3	15.5
	dpw	kPa	46	41	36	31	28	10	49	44	38	33	30	16
11	CC	kW	510	481	451	419	398	234	602	568	532	493	360	343
	PI	kW	135	146	158	172	181	86.1	162	177	193	211	137	144
	qw	l/s	24.4	23.0	21.6	20.0	19.0	11.2	28.8	27.1	25.4	23.6	17.2	16.4
	dpw	kPa	51	45	40	34	31	11	54	48	42	37	19	18
13	CC	kW	535	505	473	440	259	247	631	595	557	517	379	361
	PI	kW	138	149	161	174	82.9	86.9	166	181	197	215	139	146
	qw	l/s	25.6	24.2	22.6	21.0	12.4	11.8	30.2	28.5	26.7	24.7	18.1	17.3
	dpw	kPa	56	50	44	38	13	12	60	53	47	40	22	20
15	CC	kW	560	529	496	461	273	261	661	623	583	540	399	380
	PI	kW	140	151	163	177	83.7	87.7	170	185	201	220	141	149
	qw	l/s	26.8	25.3	23.7	22.1	13.1	12.5	31.6	29.8	27.9	25.9	19.1	18.2
	dpw	kPa	61	55	48	42	15	13	66	58	51	44	24	22

			550						610					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	591	559	525	488	465	441	654	618	581	540	515	488
	PI	kW	171	185	201	220	233	246	190	205	223	243	257	272
	qw	l/s	28.1	26.6	25.0	23.3	22.2	21.0	31.2	29.5	27.7	25.8	24.5	23.3
	dpw	kPa	52	47	41	36	32	29	64	57	50	44	40	36
7	CC	kW	623	589	553	515	490	403	688	652	612	569	543	515
	PI	kW	174	188	205	224	236	197	193	209	226	247	260	275
	qw	l/s	29.7	28.1	26.4	24.6	23.4	19.2	32.8	31.1	29.2	27.2	25.9	24.6
	dpw	kPa	58	52	46	40	36	24	71	64	56	49	44	40
9	CC	kW	655	620	583	542	516	426	724	685	644	599	571	413
	PI	kW	177	192	208	227	240	200	197	212	230	250	264	174
	qw	l/s	31.3	29.6	27.8	25.9	24.7	20.3	34.6	32.7	30.7	28.6	27.3	19.7
	dpw	kPa	64	58	51	44	40	27	79	70	62	54	49	26
11	CC	kW	689	652	612	570	543	394	760	720	676	630	600	436
	PI	kW	180	195	212	231	243	160	200	216	234	254	268	176
	qw	l/s	32.9	31.2	29.3	27.2	25.9	18.8	36.3	34.4	32.3	30.1	28.7	20.9
	dpw	kPa	71	64	56	49	44	23	87	78	69	60	54	29
13	CC	kW	723	684	642	598	570	416	797	755	709	661	630	460
	PI	kW	184	199	215	234	247	162	204	220	237	258	271	178
	qw	l/s	34.6	32.7	30.7	28.6	27.3	19.9	38.1	36.1	33.9	31.6	30.2	22.0
	dpw	kPa	78	70	62	54	49	26	96	86	76	66	60	32
15	CC	kW	757	717	673	627	521	438	835	791	743	693	661	485
	PI	kW	187	202	219	238	198	164	207	223	241	262	275	179
	qw	l/s	36.3	34.3	32.2	30.0	24.9	21.0	40.0	37.9	35.6	33.2	31.6	23.2
	dpw	kPa	86	77	68	59	41	29	105	94	83	72	66	35

Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*

EWAQ F-SL

			210						230					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	220	208	195	182	174	166	240	227	213	198	189	179
	PI	kW	60.1	65.3	71.3	78.4	83.2	88.5	69.3	75.4	82.5	90.5	95.9	102
	qw	l/s	10.5	9.9	9.3	8.7	8.3	7.9	11.4	10.8	10.1	9.4	9.0	8.5
	dpw	kPa	41	37	33	29	26	24	49	44	39	34	31	28
7	CC	kW	233	220	207	193	184	176	254	240	225	209	199	125
	PI	kW	61.2	66.5	72.6	79.7	84.6	89.9	70.6	76.8	84	92.1	97.5	52.9
	qw	l/s	11.1	10.5	9.9	9.2	8.8	8.4	12.1	11.4	10.7	10.0	9.5	6.0
	dpw	kPa	46	42	37	32	29	26	55	49	43	38	34	13
9	CC	kW	246	232	219	204	195	186	267	253	237	221	210	133
	PI	kW	62.4	67.7	73.9	81.2	86.1	91.5	72	78.3	85.5	93.7	99.1	53.4
	qw	l/s	11.7	11.1	10.4	9.7	9.3	8.9	12.8	12.1	11.3	10.5	10.0	6.3
	dpw	kPa	52	46	41	36	33	30	61	55	48	42	38	15
11	CC	kW	259	245	231	215	206	196	281	266	250	232	222	140
	PI	kW	63.6	69	75.3	82.7	87.6	93	73.5	79.9	87.2	95.4	101	54
	qw	l/s	12.4	11.7	11.0	10.3	9.8	9.4	13.4	12.7	11.9	11.1	10.6	6.7
	dpw	kPa	58	52	46	40	37	33	68	61	54	47	42	17
13	CC	kW	273	258	243	227	217	125	296	280	263	245	233	149
	PI	kW	64.9	70.4	76.8	84.2	89.2	43.5	75	81.5	88.8	97.2	103	54.6
	qw	l/s	13.1	12.4	11.6	10.9	10.4	6.0	14.1	13.4	12.6	11.7	11.2	7.1
	dpw	kPa	64	58	51	44	41	13	75	67	59	52	47	19
15	CC	kW	287	272	256	239	229	132	310	293	276	257	164	157
	PI	kW	66.3	71.9	78.3	85.9	90.9	44	76.5	83.1	90.6	99	52.5	55.2
	qw	l/s	13.7	13.0	12.2	11.4	10.9	6.3	14.8	14.0	13.2	12.3	7.9	7.5
	dpw	kPa	71	64	56	49	45	15	83	74	66	57	23	21

			250						280					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	265	251	235	219	209	198	303	287	270	251	239	226
	PI	kW	76.3	83.2	90.9	99.5	105	111	88.5	96.5	106	116	122	130
	qw	l/s	12.6	11.9	11.2	10.4	9.9	9.4	14.5	13.7	12.9	12.0	11.4	10.8
	dpw	kPa	60	54	47	41	37	34	64	57	50	44	39	35
7	CC	kW	280	264	248	231	220	209	320	303	284	265	252	161
	PI	kW	77.7	84.7	92.5	101	107	113	90.2	98.3	107	118	124	68.5
	qw	l/s	13.3	12.6	11.8	11.0	10.5	10.0	15.3	14.4	13.6	12.6	12.0	7.7
	dpw	kPa	67	60	53	46	42	38	71	63	56	49	44	18
9	CC	kW	294	279	262	244	232	135	337	319	299	279	265	170
	PI	kW	79.2	86.2	94.1	103	108	52.4	91.9	100	109	120	126	69.3
	qw	l/s	14.1	13.3	12.5	11.6	11.1	6.4	16.1	15.2	14.3	13.3	12.7	8.1
	dpw	kPa	75	67	59	51	46	16	79	70	62	54	49	20
11	CC	kW	309	293	275	256	244	143	354	335	315	293	279	180
	PI	kW	80.7	87.8	95.7	105	110	52.9	93.7	102	111	122	128	70.1
	qw	l/s	14.8	14.0	13.2	12.3	11.7	6.8	16.9	16.0	15.0	14.0	13.3	8.6
	dpw	kPa	83	74	65	57	51	18	87	78	69	60	54	23
13	CC	kW	325	308	289	269	257	151	371	351	330	307	293	190
	PI	kW	82.3	89.4	97.4	106	112	53.5	95.6	104	113	124	131	71
	qw	l/s	15.5	14.7	13.8	12.9	12.3	7.2	17.8	16.8	15.8	14.7	14.0	9.1
	dpw	kPa	91	82	72	63	57	20	96	86	76	66	60	25
15	CC	kW	341	322	303	283	167	160	389	368	346	322	209	200
	PI	kW	83.9	91.1	99.2	108	51.4	54	97.6	106	116	126	68.4	72
	qw	l/s	16.3	15.4	14.5	13.5	8.0	7.7	18.6	17.6	16.6	15.4	10.0	9.6
	dpw	kPa	100	90	79	69	24	22	105	94	83	72	31	28

EWAQ F-SL

			320						350					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	336	318	299	278	265	251	387	365	342	317	301	190
	PI	kW	98.3	107	118	130	137	146	116	126	138	151	159	86
	qw	l/s	16.0	15.2	14.3	13.3	12.6	12.0	18.5	17.4	16.3	15.1	14.3	9.1
	dpw	kPa	79	71	62	54	49	44	34	31	27	23	21	8
7	CC	kW	354	335	315	293	279	163	408	385	360	334	317	201
	PI	kW	100	109	120	132	139	67.1	119	129	140	153	162	86.8
	qw	l/s	16.9	16.0	15.0	14.0	13.3	7.8	19.5	18.4	17.2	15.9	15.1	9.6
	dpw	kPa	87	78	69	60	55	19	38	34	30	26	23	9
9	CC	kW	372	352	331	309	294	172	429	405	379	351	334	213
	PI	kW	102	111	122	134	142	67.9	121	131	143	156	164	87.7
	qw	l/s	17.8	16.8	15.8	14.7	14.0	8.2	20.5	19.3	18.1	16.8	15.9	10.2
	dpw	kPa	97	87	77	67	60	21	43	38	33	28	26	11
11	CC	kW	390	370	348	324	309	182	451	425	398	369	237	226
	PI	kW	104	114	124	136	144	68.6	124	134	145	158	84.5	88.6
	qw	l/s	18.7	17.7	16.6	15.5	14.7	8.7	21.6	20.3	19.0	17.6	11.3	10.8
	dpw	kPa	107	96	85	74	67	23	47	42	37	31	13	12
13	CC	kW	409	388	365	339	323	193	473	446	417	387	250	238
	PI	kW	106	116	127	139	147	69.5	126	136	148	161	85.4	89.5
	qw	l/s	19.6	18.5	17.4	16.2	15.5	9.2	22.6	21.3	20.0	18.5	12.0	11.4
	dpw	kPa	118	105	93	81	73	26	52	46	40	35	14	13
15	CC	kW	429	406	381	355	212	203	495	467	437	405	264	252
	PI	kW	109	118	129	141	66.9	70.4	129	139	151	164	86.3	90.4
	qw	l/s	20.5	19.4	18.3	17.0	10.2	9.7	23.7	22.4	20.9	19.4	12.6	12.0
	dpw	kPa	129	116	102	89	32	29	57	51	44	38	16	15

			400						360					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	438	413	387	359	342	323	387	365	342	317	301	190
	PI	kW	128	138	150	164	173	183	116	126	138	151	159	86
	qw	l/s	20.9	19.7	18.5	17.1	16.3	15.4	18.5	17.4	16.3	15.1	14.3	9.1
	dpw	kPa	37	33	29	25	23	20	34	31	27	23	21	8
7	CC	kW	461	435	408	379	360	208	408	385	360	334	317	201
	PI	kW	130	141	153	167	176	84.5	119	129	140	153	162	86.8
	qw	l/s	22.0	20.8	19.5	18.1	17.2	9.9	19.5	18.4	17.2	15.9	15.1	9.6
	dpw	kPa	41	37	32	28	25	8	38	34	30	26	23	9
9	CC	kW	485	458	429	398	379	221	429	405	379	351	334	213
	PI	kW	133	143	155	169	178	85.3	121	131	143	156	164	87.7
	qw	l/s	23.2	21.9	20.5	19.0	18.1	10.5	20.5	19.3	18.1	16.8	15.9	10.2
	dpw	kPa	46	41	36	31	28	10	43	38	33	28	26	11
11	CC	kW	510	481	451	419	398	234	451	425	398	369	237	226
	PI	kW	135	146	158	172	181	86.1	124	134	145	158	84.5	88.6
	qw	l/s	24.4	23.0	21.6	20.0	19.0	11.2	21.6	20.3	19.0	17.6	11.3	10.8
	dpw	kPa	51	45	40	34	31	11	47	42	37	31	13	12
13	CC	kW	535	505	473	440	259	247	473	446	417	387	250	238
	PI	kW	138	149	161	174	82.9	86.9	126	136	148	161	85.4	89.5
	qw	l/s	25.6	24.2	22.6	21.0	12.4	11.8	22.6	21.3	20.0	18.5	12.0	11.4
	dpw	kPa	56	50	44	38	13	12	52	46	40	35	14	13
15	CC	kW	560	529	496	461	273	261	495	467	437	405	264	252
	PI	kW	140	151	163	177	83.7	87.7	129	139	151	164	86.3	90.4
	qw	l/s	26.8	25.3	23.7	22.1	13.1	12.5	23.7	22.4	20.9	19.4	12.6	12.0
	dpw	kPa	61	55	48	42	15	13	57	51	44	38	16	15

EWAQ F-SL

			410						480					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	438	413	387	359	342	323	516	488	457	424	402	290
	PI	kW	128	138	150	164	173	183	152	166	182	200	212	138
	qw	l/s	20.9	19.7	18.5	17.1	16.3	15.4	24.6	23.2	21.8	20.2	19.2	13.8
	dpw	kPa	37	33	29	25	23	20	40	36	31	27	24	13
7	CC	kW	461	435	408	379	360	208	544	514	482	447	424	307
	PI	kW	130	141	153	167	176	84.5	156	170	185	203	215	140
	qw	l/s	22.0	20.8	19.5	18.1	17.2	9.9	26.0	24.5	23.0	21.3	20.2	14.7
	dpw	kPa	41	37	32	28	25	8	44	40	35	30	27	14
9	CC	kW	485	458	429	398	379	221	573	541	507	470	446	325
	PI	kW	133	143	155	169	178	85.3	159	173	189	207	219	142
	qw	l/s	23.2	21.9	20.5	19.0	18.1	10.5	27.3	25.8	24.2	22.4	21.3	15.5
	dpw	kPa	46	41	36	31	28	10	49	44	38	33	30	16
11	CC	kW	510	481	451	419	398	234	602	568	532	493	360	343
	PI	kW	135	146	158	172	181	86.1	162	177	193	211	137	144
	qw	l/s	24.4	23.0	21.6	20.0	19.0	11.2	28.8	27.1	25.4	23.6	17.2	16.4
	dpw	kPa	51	45	40	34	31	11	54	48	42	37	19	18
13	CC	kW	535	505	473	440	259	247	631	595	557	517	379	361
	PI	kW	138	149	161	174	82.9	86.9	166	181	197	215	139	146
	qw	l/s	25.6	24.2	22.6	21.0	12.4	11.8	30.2	28.5	26.7	24.7	18.1	17.3
	dpw	kPa	56	50	44	38	13	12	60	53	47	40	22	20
15	CC	kW	560	529	496	461	273	261	661	623	583	540	399	380
	PI	kW	140	151	163	177	83.7	87.7	170	185	201	220	141	149
	qw	l/s	26.8	25.3	23.7	22.1	13.1	12.5	31.6	29.8	27.9	25.9	19.1	18.2
	dpw	kPa	61	55	48	42	15	13	66	58	51	44	24	22

			550						610					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	591	559	525	488	465	441	654	618	581	540	515	488
	PI	kW	171	185	201	220	233	246	190	205	223	243	257	272
	qw	l/s	28.1	26.6	25.0	23.3	22.2	21.0	31.2	29.5	27.7	25.8	24.5	23.3
	dpw	kPa	52	47	41	36	32	29	64	57	50	44	40	36
7	CC	kW	623	589	553	515	490	403	688	652	612	569	543	515
	PI	kW	174	188	205	224	236	197	193	209	226	247	260	275
	qw	l/s	29.7	28.1	26.4	24.6	23.4	19.2	32.8	31.1	29.2	27.2	25.9	24.6
	dpw	kPa	58	52	46	40	36	24	71	64	56	49	44	40
9	CC	kW	655	620	583	542	516	426	724	685	644	599	571	413
	PI	kW	177	192	208	227	240	200	197	212	230	250	264	174
	qw	l/s	31.3	29.6	27.8	25.9	24.7	20.3	34.6	32.7	30.7	28.6	27.3	19.7
	dpw	kPa	64	58	51	44	40	27	79	70	62	54	49	26
11	CC	kW	689	652	612	570	543	394	760	720	676	630	600	436
	PI	kW	180	195	212	231	243	160	200	216	234	254	268	176
	qw	l/s	32.9	31.2	29.3	27.2	25.9	18.8	36.3	34.4	32.3	30.1	28.7	20.9
	dpw	kPa	71	64	56	49	44	23	87	78	69	60	54	29
13	CC	kW	723	684	642	598	570	416	797	755	709	661	630	460
	PI	kW	184	199	215	234	247	162	204	220	237	258	271	178
	qw	l/s	34.6	32.7	30.7	28.6	27.3	19.9	38.1	36.1	33.9	31.6	30.2	22.0
	dpw	kPa	78	70	62	54	49	26	96	86	76	66	60	32
15	CC	kW	757	717	673	627	521	438	835	791	743	693	661	485
	PI	kW	187	202	219	238	198	164	207	223	241	262	275	179
	qw	l/s	36.3	34.3	32.2	30.0	24.9	21.0	40.0	37.9	35.6	33.2	31.6	23.2
	dpw	kPa	86	77	68	59	41	29	105	94	83	72	66	35

Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*

EWAQ F-SR

			200						220					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	213	201	188	175	166	95.2	231	218	204	189	179	114
	PI	kW	59.1	64.6	71.2	78.8	84	38.8	69.2	75.8	83.4	92	97.7	50
	qw	l/s	10.1	9.6	9.0	8.3	7.9	4.5	11.0	10.4	9.7	9.0	8.5	5.4
	dpw	kPa	39	35	30	26	24	8	46	41	36	31	28	11
7	CC	kW	225	212	199	185	176	101	244	230	215	199	127	121
	PI	kW	60.4	66	72.7	80.4	85.7	39.3	70.8	77.5	85.1	93.8	47.9	50.6
	qw	l/s	10.7	10.1	9.5	8.8	8.4	4.8	11.6	11.0	10.2	9.5	6.1	5.8
	dpw	kPa	43	39	34	29	27	9	51	45	40	34	14	13
9	CC	kW	237	224	210	195	186	108	257	242	226	209	135	128
	PI	kW	61.8	67.5	74.3	82.1	87.4	39.8	72.5	79.3	87	95.8	48.5	51.2
	qw	l/s	11.3	10.7	10.0	9.3	8.9	5.2	12.3	11.5	10.8	10.0	6.4	6.1
	dpw	kPa	48	43	38	33	30	10	57	50	44	38	16	14
11	CC	kW	250	236	221	205	120	115	270	254	238	220	142	136
	PI	kW	63.2	69.1	75.9	83.9	38.1	40.3	74.2	81.1	88.9	97.8	49.2	51.9
	qw	l/s	11.9	11.3	10.6	9.8	5.7	5.5	12.9	12.1	11.4	10.5	6.8	6.5
	dpw	kPa	54	48	42	36	12	11	63	56	49	42	18	16
13	CC	kW	263	248	232	216	127	122	283	267	249	157	150	144
	PI	kW	64.7	70.7	77.7	85.7	38.6	40.9	76	83	90.9	47.3	49.8	52.6
	qw	l/s	12.6	11.9	11.1	10.3	6.1	5.8	13.5	12.8	11.9	7.5	7.2	6.9
	dpw	kPa	59	53	47	40	14	13	69	61	54	21	20	18
15	CC	kW	276	260	244	227	135	129	297	279	261	166	159	152
	PI	kW	66.3	72.5	79.5	87.7	39.2	41.5	77.8	85	93	47.9	50.5	53.3
	qw	l/s	13.2	12.5	11.7	10.9	6.4	6.2	14.2	13.4	12.5	7.9	7.6	7.3
	dpw	kPa	66	58	51	45	16	14	76	67	59	24	22	20

			240						270					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	255	240	224	207	197	116	293	276	258	239	226	147
	PI	kW	77.2	84.6	92.8	102	108	49.1	88.7	97.2	107	118	125	65
	qw	l/s	12.1	11.4	10.7	9.9	9.4	5.5	14.0	13.2	12.3	11.4	10.8	7.0
	dpw	kPa	56	49	43	37	33	12	59	53	46	39	35	15
7	CC	kW	268	253	236	218	129	123	308	291	272	251	163	156
	PI	kW	78.9	86.3	94.6	104	47	49.6	90.7	99.3	109	120	62.2	65.9
	qw	l/s	12.8	12.1	11.3	10.4	6.2	5.9	14.7	13.9	13.0	12.0	7.8	7.4
	dpw	kPa	62	55	48	41	14	13	66	58	51	44	19	17
9	CC	kW	282	266	248	230	137	131	324	305	285	264	173	165
	PI	kW	80.7	88.2	96.5	106	47.5	50.2	92.7	101	111	122	63.1	66.8
	qw	l/s	13.5	12.7	11.9	11.0	6.5	6.2	15.5	14.6	13.6	12.6	8.3	7.9
	dpw	kPa	68	61	53	45	16	15	73	65	56	48	21	19
11	CC	kW	296	279	261	241	145	138	340	320	299	277	182	174
	PI	kW	82.5	90.1	98.5	108	48.1	50.8	94.9	104	114	125	64	67.8
	qw	l/s	14.1	13.3	12.5	11.5	6.9	6.6	16.2	15.3	14.3	13.2	8.7	8.3
	dpw	kPa	75	67	58	50	18	17	80	71	62	53	23	21
13	CC	kW	310	292	273	160	153	146	356	335	313	201	192	183
	PI	kW	84.4	92.1	101	46.2	48.8	51.5	97.1	106	116	61.6	65.1	68.8
	qw	l/s	14.8	14.0	13.1	7.6	7.3	7.0	17.0	16.0	15.0	9.6	9.2	8.8
	dpw	kPa	83	74	64	22	20	19	88	78	68	28	26	23
15	CC	kW	324	306	286	169	162	155	372	350	327	211	202	193
	PI	kW	86.3	94.1	103	46.9	49.4	52.1	99.5	109	119	62.7	66.2	69.9
	qw	l/s	15.5	14.6	13.7	8.1	7.7	7.4	17.8	16.8	15.7	10.1	9.7	9.2
	dpw	kPa	91	81	71	25	23	21	96	85	75	31	29	26

EWAQ F-SR

			300						330					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	323	305	285	263	156	149	372	349	325	299	193	184
	PI	kW	100	110	121	134	60.1	63.7	117	128	140	154	78.5	82.9
	qw	l/s	15.4	14.5	13.6	12.5	7.4	7.1	17.7	16.7	15.5	14.3	9.2	8.8
	dpw	kPa	73	65	56	48	17	15	32	28	24	21	9	8
7	CC	kW	339	320	299	276	165	158	391	367	342	315	205	195
	PI	kW	102	112	123	136	60.9	64.5	120	131	143	157	79.5	83.9
	qw	l/s	16.2	15.3	14.3	13.2	7.9	7.5	18.7	17.5	16.3	15.0	9.8	9.3
	dpw	kPa	80	72	63	53	19	17	35	31	27	23	10	9
9	CC	kW	356	336	314	290	175	167	411	386	359	226	216	206
	PI	kW	105	115	126	139	61.7	65.4	123	134	146	76.5	80.5	84.9
	qw	l/s	17.0	16.0	15.0	13.9	8.4	8.0	19.6	18.4	17.1	10.8	10.3	9.8
	dpw	kPa	89	79	69	59	21	20	39	34	30	12	11	10
11	CC	kW	373	352	329	304	185	177	430	404	376	239	229	218
	PI	kW	107	117	129	142	62.6	66.3	126	137	149	77.5	81.5	85.9
	qw	l/s	17.8	16.8	15.7	14.5	8.8	8.4	20.6	19.3	18.0	11.4	10.9	10.4
	dpw	kPa	98	87	76	65	24	22	43	38	33	13	12	11
13	CC	kW	391	368	344	203	195	186	450	423	393	252	241	230
	PI	kW	110	120	132	60.2	63.6	67.2	129	140	152	78.6	82.6	86.9
	qw	l/s	18.7	17.6	16.4	9.7	9.3	8.9	21.5	20.2	18.8	12.1	11.5	11.0
	dpw	kPa	107	95	83	29	27	24	47	41	36	15	13	12
15	CC	kW	408	384	359	214	205	196	471	442	411	266	254	242
	PI	kW	112	123	135	61.2	64.6	68.3	132	143	156	79.7	83.6	87.9
	qw	l/s	19.5	18.4	17.2	10.3	9.8	9.4	22.5	21.1	19.7	12.7	12.2	11.6
	dpw	kPa	117	104	90	32	30	27	51	45	39	16	15	14

			370						340					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	418	393	366	337	199	189	372	349	325	299	193	184
	PI	kW	130	142	155	170	76.4	80.7	117	128	140	154	78.5	82.9
	qw	l/s	19.9	18.7	17.4	16.1	9.5	9.0	17.7	16.7	15.5	14.3	9.2	8.8
	dpw	kPa	34	30	26	22	8	7	32	28	24	21	9	8
7	CC	kW	439	413	384	354	211	201	391	367	342	315	205	195
	PI	kW	133	145	158	173	77.3	81.5	120	131	143	157	79.5	83.9
	qw	l/s	21.0	19.7	18.3	16.9	10.1	9.6	18.7	17.5	16.3	15.0	9.8	9.3
	dpw	kPa	38	33	29	24	9	8	35	31	27	23	10	9
9	CC	kW	461	433	403	372	223	213	411	386	359	226	216	206
	PI	kW	136	148	161	176	78.2	82.4	123	134	146	76.5	80.5	84.9
	qw	l/s	22.0	20.7	19.3	17.8	10.7	10.2	19.6	18.4	17.1	10.8	10.3	9.8
	dpw	kPa	41	37	32	27	10	9	39	34	30	12	11	10
11	CC	kW	483	454	423	247	236	225	430	404	376	239	229	218
	PI	kW	139	151	164	75.3	79.2	83.4	126	137	149	77.5	81.5	85.9
	qw	l/s	23.1	21.7	20.2	11.8	11.3	10.8	20.6	19.3	18.0	11.4	10.9	10.4
	dpw	kPa	46	40	35	12	11	10	43	38	33	13	12	11
13	CC	kW	506	475	442	260	249	238	450	423	393	252	241	230
	PI	kW	142	154	167	76.3	80.1	84.3	129	140	152	78.6	82.6	86.9
	qw	l/s	24.2	22.7	21.2	12.5	11.9	11.4	21.5	20.2	18.8	12.1	11.5	11.0
	dpw	kPa	50	44	38	13	12	11	47	41	36	15	13	12
15	CC	kW	529	497	463	275	263	251	471	442	411	266	254	242
	PI	kW	145	157	170	77.3	81.1	85.2	132	143	156	79.7	83.6	87.9
	qw	l/s	25.3	23.8	22.1	13.2	12.6	12.0	22.5	21.1	19.7	12.7	12.2	11.6
	dpw	kPa	55	48	42	15	14	12	51	45	39	16	15	14

EWAQ F-SR

			380						460					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	418	393	366	337	199	189	496	467	435	400	294	279
	PI	kW	130	142	155	170	76.4	80.7	154	169	186	205	129	136
	qw	l/s	19.9	18.7	17.4	16.1	9.5	9.0	23.7	22.2	20.7	19.1	14.0	13.3
	dpw	kPa	34	30	26	22	8	7	37	33	28	24	13	12
7	CC	kW	439	413	384	354	211	201	522	491	457	421	310	295
	PI	kW	133	145	158	173	77.3	81.5	158	173	190	209	131	138
	qw	l/s	21.0	19.7	18.3	16.9	10.1	9.6	24.9	23.4	21.8	20.1	14.8	14.1
	dpw	kPa	38	33	29	24	9	8	41	36	31	27	14	13
9	CC	kW	461	433	403	372	223	213	548	515	480	343	328	311
	PI	kW	136	148	161	176	78.2	82.4	162	177	194	125	133	141
	qw	l/s	22.0	20.7	19.3	17.8	10.7	10.2	26.2	24.6	22.9	16.4	15.6	14.9
	dpw	kPa	41	37	32	27	10	9	45	40	35	18	16	15
11	CC	kW	483	454	423	247	236	225	575	540	502	362	345	328
	PI	kW	139	151	164	75.3	79.2	83.4	166	181	199	128	135	143
	qw	l/s	23.1	21.7	20.2	11.8	11.3	10.8	27.5	25.8	24.0	17.3	16.5	15.7
	dpw	kPa	46	40	35	12	11	10	50	44	38	20	18	16
13	CC	kW	506	475	442	260	249	238	601	565	525	380	363	206
	PI	kW	142	154	167	76.3	80.1	84.3	170	186	203	130	138	65
	qw	l/s	24.2	22.7	21.2	12.5	11.9	11.4	28.8	27.0	25.1	18.2	17.4	9.8
	dpw	kPa	50	44	38	13	12	11	54	48	41	22	20	6
15	CC	kW	529	497	463	275	263	251	628	589	548	399	381	217
	PI	kW	145	157	170	77.3	81.1	85.2	175	191	208	133	140	65.8
	qw	l/s	25.3	23.8	22.1	13.2	12.6	12.0	30.1	28.2	26.2	19.1	18.2	10.4
	dpw	kPa	55	48	42	15	14	12	59	52	45	24	22	7

			530						580					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	570	538	503	465	441	321	629	592	554	512	486	355
	PI	kW	170	185	203	223	236	150	190	207	226	248	263	167
	qw	l/s	27.2	25.6	24.0	22.2	21.0	15.3	30.0	28.2	26.4	24.4	23.1	16.9
	dpw	kPa	49	43	38	32	29	15	59	52	46	39	35	19
7	CC	kW	600	566	529	489	406	340	661	623	582	538	394	375
	PI	kW	173	189	206	227	186	152	195	211	231	253	160	169
	qw	l/s	28.6	27.0	25.2	23.3	19.4	16.2	31.5	29.7	27.8	25.7	18.8	17.9
	dpw	kPa	54	48	42	36	25	17	65	58	51	43	23	21
9	CC	kW	631	595	556	514	427	359	694	654	611	565	417	396
	PI	kW	177	193	211	231	189	154	199	216	235	257	162	172
	qw	l/s	30.1	28.4	26.5	24.6	20.4	17.1	33.1	31.2	29.2	27.0	19.9	18.9
	dpw	kPa	60	53	46	40	27	19	72	64	56	48	26	24
11	CC	kW	662	624	583	539	398	379	728	686	641	593	439	418
	PI	kW	181	197	215	235	148	156	203	220	239	261	165	174
	qw	l/s	31.6	29.8	27.9	25.8	19.0	18.1	34.8	32.8	30.6	28.3	21.0	20.0
	dpw	kPa	66	58	51	44	24	22	79	71	62	53	29	26
13	CC	kW	693	653	611	496	419	399	762	718	671	621	463	440
	PI	kW	185	201	219	185	150	159	207	224	243	265	167	176
	qw	l/s	33.2	31.3	29.2	23.7	20.0	19.1	36.4	34.3	32.1	29.7	22.1	21.1
	dpw	kPa	72	64	56	37	26	24	87	77	68	58	32	29
15	CC	kW	725	683	638	520	441	420	796	750	702	509	486	463
	PI	kW	189	205	223	188	153	161	211	228	248	161	169	178
	qw	l/s	34.7	32.7	30.6	24.9	21.1	20.1	38.1	35.9	33.6	24.4	23.3	22.2
	dpw	kPa	79	70	61	41	29	27	95	85	74	39	36	32

Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*

EWAQ F-XS

			170						200					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	180	171	161	151	145	138	206	195	184	172	165	157
	PI	kW	45.6	49.4	53.6	58.3	61.5	64.9	51.6	55.9	60.7	66.4	70.2	74.3
	qw	l/s	8.6	8.1	7.7	7.2	6.9	6.6	9.8	9.3	8.8	8.2	7.9	7.5
	dpw	kPa	28	25	22	20	18	16	30	27	24	21	19	17
7	CC	kW	190	181	171	160	153	146	218	207	195	183	175	167
	PI	kW	46.3	50.1	54.3	59.1	62.2	65.6	52.4	56.7	61.6	67.3	71.1	75.3
	qw	l/s	9.1	8.6	8.2	7.6	7.3	7.0	10.4	9.9	9.3	8.7	8.3	8.0
	dpw	kPa	31	28	25	22	20	18	33	30	27	23	21	19
9	CC	kW	201	191	181	169	162	154	231	219	206	193	185	177
	PI	kW	47	50.8	55.1	59.8	63	66.4	53.3	57.6	62.6	68.3	72.1	76.3
	qw	l/s	9.6	9.1	8.6	8.1	7.7	7.4	11.0	10.4	9.9	9.2	8.8	8.4
	dpw	kPa	35	31	28	25	23	21	37	34	30	26	24	22
11	CC	kW	213	202	191	179	171	163	244	231	218	204	196	187
	PI	kW	47.7	51.6	55.8	60.6	63.8	67.2	54.2	58.6	63.6	69.3	73.2	77.4
	qw	l/s	10.2	9.6	9.1	8.5	8.2	7.8	11.6	11.0	10.4	9.8	9.4	8.9
	dpw	kPa	39	35	31	28	25	23	42	37	33	29	27	24
13	CC	kW	224	213	201	188	180	172	257	244	230	216	207	197
	PI	kW	48.5	52.4	56.7	61.5	64.6	68	55.1	59.5	64.6	70.4	74.3	78.5
	qw	l/s	10.7	10.2	9.6	9.0	8.6	8.2	12.3	11.7	11.0	10.3	9.9	9.4
	dpw	kPa	43	39	35	31	28	26	46	42	37	33	30	27
15	CC	kW	236	224	211	198	190	181	271	257	242	227	218	208
	PI	kW	49.3	53.2	57.5	62.3	65.5	68.9	56.1	60.6	65.7	71.5	75.4	79.6
	qw	l/s	11.3	10.7	10.1	9.5	9.1	8.7	13.0	12.3	11.6	10.9	10.4	10.0
	dpw	kPa	48	43	39	34	31	28	52	46	41	36	33	30

			220						250					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	234	221	208	195	187	179	258	245	232	217	208	199
	PI	kW	58.7	63.4	68.9	75.3	79.7	84.5	64.7	70.1	76.3	83.4	88.1	93.3
	qw	l/s	11.1	10.5	9.9	9.3	8.9	8.5	12.3	11.7	11.0	10.3	9.9	9.5
	dpw	kPa	37	33	30	26	24	22	47	42	37	33	30	28
7	CC	kW	247	234	221	207	199	190	274	260	245	230	221	211
	PI	kW	59.6	64.3	69.9	76.4	80.8	85.7	65.7	71.1	77.4	84.5	89.3	94.4
	qw	l/s	11.8	11.2	10.5	9.9	9.5	9.0	13.1	12.4	11.7	11.0	10.5	10.1
	dpw	kPa	42	38	34	29	27	25	52	47	42	37	34	31
9	CC	kW	262	248	234	220	210	201	289	275	260	244	234	223
	PI	kW	60.5	65.4	71	77.5	82	86.9	66.7	72.2	78.5	85.7	90.4	95.6
	qw	l/s	12.5	11.9	11.2	10.5	10.0	9.6	13.8	13.1	12.4	11.6	11.2	10.7
	dpw	kPa	47	42	38	33	30	28	59	53	47	42	38	35
11	CC	kW	277	262	248	232	223	213	306	290	274	258	247	236
	PI	kW	61.5	66.4	72.1	78.7	83.2	88.1	67.7	73.3	79.6	86.8	91.7	96.9
	qw	l/s	13.2	12.5	11.8	11.1	10.6	10.2	14.6	13.9	13.1	12.3	11.8	11.3
	dpw	kPa	53	47	42	37	34	31	65	59	53	47	43	39
13	CC	kW	292	277	262	245	235	225	322	306	290	272	261	249
	PI	kW	62.6	67.5	73.3	80	84.5	89.4	68.8	74.4	80.8	88.1	92.9	98.2
	qw	l/s	14.0	13.3	12.5	11.7	11.3	10.8	15.4	14.7	13.9	13.0	12.5	11.9
	dpw	kPa	59	53	47	41	38	35	73	66	59	52	48	44
15	CC	kW	308	292	276	259	248	238	339	323	305	287	275	263
	PI	kW	63.6	68.7	74.5	81.3	85.8	90.8	69.9	75.6	82	89.4	94.2	99.5
	qw	l/s	14.7	14.0	13.2	12.4	11.9	11.4	16.2	15.4	14.6	13.7	13.2	12.6
	dpw	kPa	65	59	52	46	43	39	81	73	65	58	53	49

EWAQ F-XS

			310						350					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	334	317	299	280	267	255	377	358	337	315	301	286
	PI	kW	84.4	91.7	99.9	109	115	122	94.9	103	113	123	131	138
	qw	l/s	15.9	15.1	14.3	13.3	12.7	12.1	18.0	17.1	16.1	15.0	14.3	13.6
	dpw	kPa	25	22	20	17	16	14	26	23	21	18	17	15
7	CC	kW	354	336	317	296	283	270	399	378	357	333	318	303
	PI	kW	85.8	93.1	101	111	117	123	96.6	105	114	125	132	140
	qw	l/s	16.9	16.0	15.1	14.1	13.5	12.9	19.0	18.1	17.0	15.9	15.2	14.4
	dpw	kPa	28	25	22	19	18	16	29	26	23	20	19	17
9	CC	kW	374	355	335	313	299	285	421	399	376	352	336	320
	PI	kW	87.3	94.6	103	112	119	125	98.3	107	116	127	134	142
	qw	l/s	17.9	16.9	16.0	14.9	14.3	13.6	20.1	19.1	18.0	16.8	16.1	15.3
	dpw	kPa	31	28	25	22	20	18	33	29	26	23	21	19
11	CC	kW	394	374	353	330	316	301	444	421	397	371	354	337
	PI	kW	88.8	96.2	105	114	120	127	100	109	118	129	137	144
	qw	l/s	18.9	17.9	16.9	15.8	15.1	14.4	21.2	20.1	19.0	17.7	16.9	16.1
	dpw	kPa	35	31	28	24	22	20	36	33	29	25	23	21
13	CC	kW	416	394	372	348	333	317	467	443	417	390	373	354
	PI	kW	90.4	97.9	106	116	122	129	102	111	121	132	139	147
	qw	l/s	19.9	18.9	17.8	16.6	15.9	15.2	22.3	21.2	20.0	18.7	17.8	17.0
	dpw	kPa	38	35	31	27	25	22	40	36	32	28	26	23
15	CC	kW	437	415	391	366	350	333	491	466	438	410	391	372
	PI	kW	92.1	99.6	108	118	124	131	104	113	123	134	141	149
	qw	l/s	20.9	19.9	18.7	17.5	16.8	16.0	23.5	22.3	21.0	19.6	18.7	17.8
	dpw	kPa	43	38	34	30	27	25	45	40	36	31	28	26

			320						360					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	334	317	299	280	267	255	377	358	337	315	301	286
	PI	kW	84.4	91.7	99.9	109	115	122	94.9	103	113	123	131	138
	qw	l/s	15.9	15.1	14.3	13.3	12.7	12.1	18.0	17.1	16.1	15.0	14.3	13.6
	dpw	kPa	25	22	20	17	16	14	26	23	21	18	17	15
7	CC	kW	354	336	317	296	283	270	399	378	357	333	318	303
	PI	kW	85.8	93.1	101	111	117	123	96.6	105	114	125	132	140
	qw	l/s	16.9	16.0	15.1	14.1	13.5	12.9	19.0	18.1	17.0	15.9	15.2	14.4
	dpw	kPa	28	25	22	19	18	16	29	26	23	20	19	17
9	CC	kW	374	355	335	313	299	285	421	399	376	352	336	320
	PI	kW	87.3	94.6	103	112	119	125	98.3	107	116	127	134	142
	qw	l/s	17.9	16.9	16.0	14.9	14.3	13.6	20.1	19.1	18.0	16.8	16.1	15.3
	dpw	kPa	31	28	25	22	20	18	33	29	26	23	21	19
11	CC	kW	394	374	353	330	316	301	444	421	397	371	354	337
	PI	kW	88.8	96.2	105	114	120	127	100	109	118	129	137	144
	qw	l/s	18.9	17.9	16.9	15.8	15.1	14.4	21.2	20.1	19.0	17.7	16.9	16.1
	dpw	kPa	35	31	28	24	22	20	36	33	29	25	23	21
13	CC	kW	416	394	372	348	333	317	467	443	417	390	373	354
	PI	kW	90.4	97.9	106	116	122	129	102	111	121	132	139	147
	qw	l/s	19.9	18.9	17.8	16.6	15.9	15.2	22.3	21.2	20.0	18.7	17.8	17.0
	dpw	kPa	38	35	31	27	25	22	40	36	32	28	26	23
15	CC	kW	437	415	391	366	350	333	491	466	438	410	391	372
	PI	kW	92.1	99.6	108	118	124	131	104	113	123	134	141	149
	qw	l/s	20.9	19.9	18.7	17.5	16.8	16.0	23.5	22.3	21.0	19.6	18.7	17.8
	dpw	kPa	43	38	34	30	27	25	45	40	36	31	28	26

EWAQ F-XS

			400						430					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	426	405	382	358	342	326	453	430	406	380	363	346
	PI	kW	109	117	127	139	146	154	115	124	134	146	154	162
	qw	l/s	20.3	19.3	18.2	17.0	16.3	15.5	21.6	20.5	19.3	18.1	17.3	16.5
	dpw	kPa	34	31	27	24	22	20	32	29	26	22	20	19
7	CC	kW	451	428	404	378	362	345	479	455	429	402	384	366
	PI	kW	110	119	129	140	148	156	117	126	136	148	156	164
	qw	l/s	21.5	20.4	19.3	18.0	17.3	16.4	22.9	21.7	20.5	19.2	18.3	17.5
	dpw	kPa	38	34	31	27	24	22	36	32	29	25	23	21
9	CC	kW	476	452	427	399	382	364	506	481	453	424	406	387
	PI	kW	112	121	131	142	150	158	119	128	138	150	158	166
	qw	l/s	22.7	21.6	20.4	19.1	18.3	17.4	24.2	23.0	21.6	20.3	19.4	18.5
	dpw	kPa	42	38	34	30	27	25	40	36	32	28	26	23
11	CC	kW	502	477	450	421	403	384	534	507	478	447	428	408
	PI	kW	114	123	133	144	152	160	121	130	140	152	160	168
	qw	l/s	24.0	22.8	21.5	20.1	19.3	18.4	25.5	24.2	22.9	21.4	20.5	19.5
	dpw	kPa	47	43	38	33	30	28	44	40	36	31	29	26
13	CC	kW	528	502	474	444	425	405	562	534	503	471	451	430
	PI	kW	116	125	135	146	154	162	123	132	142	154	162	170
	qw	l/s	25.3	24.0	22.7	21.2	20.3	19.4	26.9	25.5	24.1	22.5	21.6	20.6
	dpw	kPa	52	47	42	37	34	31	49	44	40	35	32	29
15	CC	kW	555	527	498	466	447	426	591	561	530	496	475	453
	PI	kW	118	127	137	148	156	164	125	134	144	156	164	172
	qw	l/s	26.6	25.2	23.8	22.3	21.4	20.4	28.3	26.9	25.4	23.7	22.7	21.7
	dpw	kPa	58	52	47	41	37	34	55	49	44	38	35	32

			450						520					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	485	460	433	404	386	367	557	529	500	469	449	428
	PI	kW	123	132	143	155	164	173	140	152	166	182	192	203
	qw	l/s	23.1	21.9	20.6	19.3	18.4	17.5	26.5	25.2	23.8	22.4	21.4	20.4
	dpw	kPa	33	30	26	23	21	19	45	41	37	32	30	27
7	CC	kW	513	486	458	428	409	389	589	560	529	496	475	453
	PI	kW	125	135	145	158	166	175	142	155	168	184	195	206
	qw	l/s	24.5	23.2	21.8	20.4	19.5	18.5	28.1	26.7	25.3	23.7	22.7	21.6
	dpw	kPa	37	33	30	26	24	21	51	46	41	36	33	30
9	CC	kW	541	513	483	452	431	411	622	591	559	524	502	478
	PI	kW	127	137	147	160	168	177	145	157	171	187	197	209
	qw	l/s	25.9	24.5	23.1	21.6	20.6	19.6	29.7	28.2	26.7	25.0	24.0	22.8
	dpw	kPa	41	37	33	29	26	24	57	51	46	40	37	34
11	CC	kW	570	541	510	476	455	433	656	623	589	552	529	505
	PI	kW	129	139	149	162	170	179	147	160	174	190	200	212
	qw	l/s	27.3	25.9	24.4	22.8	21.8	20.7	31.3	29.8	28.2	26.4	25.3	24.1
	dpw	kPa	46	41	37	32	29	27	63	57	51	45	41	37
13	CC	kW	600	569	536	501	479	456	690	656	620	581	557	531
	PI	kW	131	141	152	164	172	181	150	162	176	193	203	215
	qw	l/s	28.7	27.2	25.7	24.0	22.9	21.8	33.0	31.4	29.7	27.8	26.6	25.4
	dpw	kPa	51	46	41	36	33	30	70	63	57	50	46	42
15	CC	kW	631	599	564	527	504	480	725	690	652	611	585	558
	PI	kW	133	143	154	166	174	183	152	165	180	196	206	218
	qw	l/s	30.2	28.7	27.0	25.2	24.1	23.0	34.7	33.0	31.2	29.3	28.0	26.7
	dpw	kPa	57	51	45	39	36	33	78	70	63	55	51	46

EWAQ F-XS

			610						680					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	644	612	577	539	515	489	713	678	640	599	573	546
	PI	kW	164	177	193	210	222	235	183	197	213	232	245	258
	qw	l/s	30.7	29.2	27.5	25.7	24.5	23.3	34.0	32.3	30.5	28.6	27.3	26.0
	dpw	kPa	49	44	40	35	32	28	62	56	50	43	40	36
7	CC	kW	680	645	609	569	544	517	752	715	675	632	605	577
	PI	kW	166	180	196	213	225	238	186	200	216	235	248	261
	qw	l/s	32.4	30.8	29.0	27.2	25.9	24.7	35.9	34.1	32.2	30.2	28.9	27.5
	dpw	kPa	55	50	44	39	35	32	69	62	55	49	44	40
9	CC	kW	716	680	641	600	573	546	793	753	711	666	638	608
	PI	kW	169	183	199	216	228	241	189	203	219	238	251	264
	qw	l/s	34.2	32.5	30.6	28.6	27.4	26.1	37.9	36.0	34.0	31.8	30.5	29.1
	dpw	kPa	61	55	49	43	39	36	76	69	61	54	49	45
11	CC	kW	753	715	675	631	604	575	834	793	748	701	672	641
	PI	kW	172	186	202	220	231	244	192	206	222	241	253	267
	qw	l/s	36.0	34.2	32.2	30.2	28.9	27.5	39.9	37.9	35.8	33.5	32.1	30.6
	dpw	kPa	68	61	54	48	44	39	85	76	68	60	55	50
13	CC	kW	792	751	709	663	634	604	877	833	787	737	706	674
	PI	kW	175	189	205	223	235	248	195	209	226	244	257	270
	qw	l/s	37.9	35.9	33.9	31.7	30.3	28.9	41.9	39.9	37.6	35.3	33.8	32.2
	dpw	kPa	75	68	60	53	48	44	94	85	75	66	61	55
15	CC	kW	831	789	744	696	666	549	920	875	826	774	742	708
	PI	kW	178	192	208	226	238	199	198	212	229	247	260	273
	qw	l/s	39.8	37.8	35.6	33.3	31.9	26.3	44.1	41.9	39.6	37.1	35.5	33.9
	dpw	kPa	83	74	66	58	53	36	103	93	83	73	67	61

Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*

EWAQ F-XL

			170						200					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	180	171	161	151	145	138	206	195	184	172	165	157
	PI	kW	45.6	49.4	53.6	58.3	61.5	64.9	51.6	55.9	60.7	66.4	70.2	74.3
	qw	l/s	8.6	8.1	7.7	7.2	6.9	6.6	9.8	9.3	8.8	8.2	7.9	7.5
	dpw	kPa	28	25	22	20	18	16	30	27	24	21	19	17
7	CC	kW	190	181	171	160	153	146	218	207	195	183	175	167
	PI	kW	46.3	50.1	54.3	59.1	62.2	65.6	52.4	56.7	61.6	67.3	71.1	75.3
	qw	l/s	9.1	8.6	8.2	7.6	7.3	7.0	10.4	9.9	9.3	8.7	8.3	8.0
	dpw	kPa	31	28	25	22	20	18	33	30	27	23	21	19
9	CC	kW	201	191	181	169	162	154	231	219	206	193	185	177
	PI	kW	47	50.8	55.1	59.8	63	66.4	53.3	57.6	62.6	68.3	72.1	76.3
	qw	l/s	9.6	9.1	8.6	8.1	7.7	7.4	11.0	10.4	9.9	9.2	8.8	8.4
	dpw	kPa	35	31	28	25	23	21	37	34	30	26	24	22
11	CC	kW	213	202	191	179	171	163	244	231	218	204	196	187
	PI	kW	47.7	51.6	55.8	60.6	63.8	67.2	54.2	58.6	63.6	69.3	73.2	77.4
	qw	l/s	10.2	9.6	9.1	8.5	8.2	7.8	11.6	11.0	10.4	9.8	9.4	8.9
	dpw	kPa	39	35	31	28	25	23	42	37	33	29	27	24
13	CC	kW	224	213	201	188	180	172	257	244	230	216	207	197
	PI	kW	48.5	52.4	56.7	61.5	64.6	68	55.1	59.5	64.6	70.4	74.3	78.5
	qw	l/s	10.7	10.2	9.6	9.0	8.6	8.2	12.3	11.7	11.0	10.3	9.9	9.4
	dpw	kPa	43	39	35	31	28	26	46	42	37	33	30	27
15	CC	kW	236	224	211	198	190	181	271	257	242	227	218	208
	PI	kW	49.3	53.2	57.5	62.3	65.5	68.9	56.1	60.6	65.7	71.5	75.4	79.6
	qw	l/s	11.3	10.7	10.1	9.5	9.1	8.7	13.0	12.3	11.6	10.9	10.4	10.0
	dpw	kPa	48	43	39	34	31	28	52	46	41	36	33	30

			220						250					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	234	221	208	195	187	179	258	245	232	217	208	199
	PI	kW	58.7	63.4	68.9	75.3	79.7	84.5	64.7	70.1	76.3	83.4	88.1	93.3
	qw	l/s	11.1	10.5	9.9	9.3	8.9	8.5	12.3	11.7	11.0	10.3	9.9	9.5
	dpw	kPa	37	33	30	26	24	22	47	42	37	33	30	28
7	CC	kW	247	234	221	207	199	190	274	260	245	230	221	211
	PI	kW	59.6	64.3	69.9	76.4	80.8	85.7	65.7	71.1	77.4	84.5	89.3	94.4
	qw	l/s	11.8	11.2	10.5	9.9	9.5	9.0	13.1	12.4	11.7	11.0	10.5	10.1
	dpw	kPa	42	38	34	29	27	25	52	47	42	37	34	31
9	CC	kW	262	248	234	220	210	201	289	275	260	244	234	223
	PI	kW	60.5	65.4	71	77.5	82	86.9	66.7	72.2	78.5	85.7	90.4	95.6
	qw	l/s	12.5	11.9	11.2	10.5	10.0	9.6	13.8	13.1	12.4	11.6	11.2	10.7
	dpw	kPa	47	42	38	33	30	28	59	53	47	42	38	35
11	CC	kW	277	262	248	232	223	213	306	290	274	258	247	236
	PI	kW	61.5	66.4	72.1	78.7	83.2	88.1	67.7	73.3	79.6	86.8	91.7	96.9
	qw	l/s	13.2	12.5	11.8	11.1	10.6	10.2	14.6	13.9	13.1	12.3	11.8	11.3
	dpw	kPa	53	47	42	37	34	31	65	59	53	47	43	39
13	CC	kW	292	277	262	245	235	225	322	306	290	272	261	249
	PI	kW	62.6	67.5	73.3	80	84.5	89.4	68.8	74.4	80.8	88.1	92.9	98.2
	qw	l/s	14.0	13.3	12.5	11.7	11.3	10.8	15.4	14.7	13.9	13.0	12.5	11.9
	dpw	kPa	59	53	47	41	38	35	73	66	59	52	48	44
15	CC	kW	308	292	276	259	248	238	339	323	305	287	275	263
	PI	kW	63.6	68.7	74.5	81.3	85.8	90.8	69.9	75.6	82	89.4	94.2	99.5
	qw	l/s	14.7	14.0	13.2	12.4	11.9	11.4	16.2	15.4	14.6	13.7	13.2	12.6
	dpw	kPa	65	59	52	46	43	39	81	73	65	58	53	49

EWAQ F-XL

			310						350					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	334	317	299	280	267	255	377	358	337	315	301	286
	PI	kW	84.4	91.7	99.9	109	115	122	94.9	103	113	123	131	138
	qw	l/s	15.9	15.1	14.3	13.3	12.7	12.1	18.0	17.1	16.1	15.0	14.3	13.6
	dpw	kPa	25	22	20	17	16	14	26	23	21	18	17	15
7	CC	kW	354	336	317	296	283	270	399	378	357	333	318	303
	PI	kW	85.8	93.1	101	111	117	123	96.6	105	114	125	132	140
	qw	l/s	16.9	16.0	15.1	14.1	13.5	12.9	19.0	18.1	17.0	15.9	15.2	14.4
	dpw	kPa	28	25	22	19	18	16	29	26	23	20	19	17
9	CC	kW	374	355	335	313	299	285	421	399	376	352	336	320
	PI	kW	87.3	94.6	103	112	119	125	98.3	107	116	127	134	142
	qw	l/s	17.9	16.9	16.0	14.9	14.3	13.6	20.1	19.1	18.0	16.8	16.1	15.3
	dpw	kPa	31	28	25	22	20	18	33	29	26	23	21	19
11	CC	kW	394	374	353	330	316	301	444	421	397	371	354	337
	PI	kW	88.8	96.2	105	114	120	127	100	109	118	129	137	144
	qw	l/s	18.9	17.9	16.9	15.8	15.1	14.4	21.2	20.1	19.0	17.7	16.9	16.1
	dpw	kPa	35	31	28	24	22	20	36	33	29	25	23	21
13	CC	kW	416	394	372	348	333	317	467	443	417	390	373	354
	PI	kW	90.4	97.9	106	116	122	129	102	111	121	132	139	147
	qw	l/s	19.9	18.9	17.8	16.6	15.9	15.2	22.3	21.2	20.0	18.7	17.8	17.0
	dpw	kPa	38	35	31	27	25	22	40	36	32	28	26	23
15	CC	kW	437	415	391	366	350	333	491	466	438	410	391	372
	PI	kW	92.1	99.6	108	118	124	131	104	113	123	134	141	149
	qw	l/s	20.9	19.9	18.7	17.5	16.8	16.0	23.5	22.3	21.0	19.6	18.7	17.8
	dpw	kPa	43	38	34	30	27	25	45	40	36	31	28	26

			320						350					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	334	317	299	280	267	255	377	358	337	315	301	286
	PI	kW	84.4	91.7	99.9	109	115	122	94.9	103	113	123	131	138
	qw	l/s	15.9	15.1	14.3	13.3	12.7	12.1	18.0	17.1	16.1	15.0	14.3	13.6
	dpw	kPa	25	22	20	17	16	14	26	23	21	18	17	15
7	CC	kW	354	336	317	296	283	270	399	378	357	333	318	303
	PI	kW	85.8	93.1	101	111	117	123	96.6	105	114	125	132	140
	qw	l/s	16.9	16.0	15.1	14.1	13.5	12.9	19.0	18.1	17.0	15.9	15.2	14.4
	dpw	kPa	28	25	22	19	18	16	29	26	23	20	19	17
9	CC	kW	374	355	335	313	299	285	421	399	376	352	336	320
	PI	kW	87.3	94.6	103	112	119	125	98.3	107	116	127	134	142
	qw	l/s	17.9	16.9	16.0	14.9	14.3	13.6	20.1	19.1	18.0	16.8	16.1	15.3
	dpw	kPa	31	28	25	22	20	18	33	29	26	23	21	19
11	CC	kW	394	374	353	330	316	301	444	421	397	371	354	337
	PI	kW	88.8	96.2	105	114	120	127	100	109	118	129	137	144
	qw	l/s	18.9	17.9	16.9	15.8	15.1	14.4	21.2	20.1	19.0	17.7	16.9	16.1
	dpw	kPa	35	31	28	24	22	20	36	33	29	25	23	21
13	CC	kW	416	394	372	348	333	317	467	443	417	390	373	354
	PI	kW	90.4	97.9	106	116	122	129	102	111	121	132	139	147
	qw	l/s	19.9	18.9	17.8	16.6	15.9	15.2	22.3	21.2	20.0	18.7	17.8	17.0
	dpw	kPa	38	35	31	27	25	22	40	36	32	28	26	23
15	CC	kW	437	415	391	366	350	333	491	466	438	410	391	372
	PI	kW	92.1	99.6	108	118	124	131	104	113	123	134	141	149
	qw	l/s	20.9	19.9	18.7	17.5	16.8	16.0	23.5	22.3	21.0	19.6	18.7	17.8
	dpw	kPa	43	38	34	30	27	25	45	40	36	31	28	26

EWAQ F-XL

			400						430					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	426	405	382	358	342	326	453	430	406	380	363	346
	PI	kW	109	117	127	139	146	154	115	124	134	146	154	162
	qw	l/s	20.3	19.3	18.2	17.0	16.3	15.5	21.6	20.5	19.3	18.1	17.3	16.5
	dpw	kPa	34	31	27	24	22	20	32	29	26	22	20	19
7	CC	kW	451	428	404	378	362	345	479	455	429	402	384	366
	PI	kW	110	119	129	140	148	156	117	126	136	148	156	164
	qw	l/s	21.5	20.4	19.3	18.0	17.3	16.4	22.9	21.7	20.5	19.2	18.3	17.5
	dpw	kPa	38	34	31	27	24	22	36	32	29	25	23	21
9	CC	kW	476	452	427	399	382	364	506	481	453	424	406	387
	PI	kW	112	121	131	142	150	158	119	128	138	150	158	166
	qw	l/s	22.7	21.6	20.4	19.1	18.3	17.4	24.2	23.0	21.6	20.3	19.4	18.5
	dpw	kPa	42	38	34	30	27	25	40	36	32	28	26	23
11	CC	kW	502	477	450	421	403	384	534	507	478	447	428	408
	PI	kW	114	123	133	144	152	160	121	130	140	152	160	168
	qw	l/s	24.0	22.8	21.5	20.1	19.3	18.4	25.5	24.2	22.9	21.4	20.5	19.5
	dpw	kPa	47	43	38	33	30	28	44	40	36	31	29	26
13	CC	kW	528	502	474	444	425	405	562	534	503	471	451	430
	PI	kW	116	125	135	146	154	162	123	132	142	154	162	170
	qw	l/s	25.3	24.0	22.7	21.2	20.3	19.4	26.9	25.5	24.1	22.5	21.6	20.6
	dpw	kPa	52	47	42	37	34	31	49	44	40	35	32	29
15	CC	kW	555	527	498	466	447	426	591	561	530	496	475	453
	PI	kW	118	127	137	148	156	164	125	134	144	156	164	172
	qw	l/s	26.6	25.2	23.8	22.3	21.4	20.4	28.3	26.9	25.4	23.7	22.7	21.7
	dpw	kPa	58	52	47	41	37	34	55	49	44	38	35	32

			450						520					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	485	460	433	404	386	367	557	529	500	469	449	428
	PI	kW	123	132	143	155	164	173	140	152	166	182	192	203
	qw	l/s	23.1	21.9	20.6	19.3	18.4	17.5	26.5	25.2	23.8	22.4	21.4	20.4
	dpw	kPa	33	30	26	23	21	19	45	41	37	32	30	27
7	CC	kW	513	486	458	428	409	389	589	560	529	496	475	453
	PI	kW	125	135	145	158	166	175	142	155	168	184	195	206
	qw	l/s	24.5	23.2	21.8	20.4	19.5	18.5	28.1	26.7	25.3	23.7	22.7	21.6
	dpw	kPa	37	33	30	26	24	21	51	46	41	36	33	30
9	CC	kW	541	513	483	452	431	411	622	591	559	524	502	478
	PI	kW	127	137	147	160	168	177	145	157	171	187	197	209
	qw	l/s	25.9	24.5	23.1	21.6	20.6	19.6	29.7	28.2	26.7	25.0	24.0	22.8
	dpw	kPa	41	37	33	29	26	24	57	51	46	40	37	34
11	CC	kW	570	541	510	476	455	433	656	623	589	552	529	505
	PI	kW	129	139	149	162	170	179	147	160	174	190	200	212
	qw	l/s	27.3	25.9	24.4	22.8	21.8	20.7	31.3	29.8	28.2	26.4	25.3	24.1
	dpw	kPa	46	41	37	32	29	27	63	57	51	45	41	37
13	CC	kW	600	569	536	501	479	456	690	656	620	581	557	531
	PI	kW	131	141	152	164	172	181	150	162	176	193	203	215
	qw	l/s	28.7	27.2	25.7	24.0	22.9	21.8	33.0	31.4	29.7	27.8	26.6	25.4
	dpw	kPa	51	46	41	36	33	30	70	63	57	50	46	42
15	CC	kW	631	599	564	527	504	480	725	690	652	611	585	558
	PI	kW	133	143	154	166	174	183	152	165	180	196	206	218
	qw	l/s	30.2	28.7	27.0	25.2	24.1	23.0	34.7	33.0	31.2	29.3	28.0	26.7
	dpw	kPa	57	51	45	39	36	33	78	70	63	55	51	46

EWAQ F-XL

			610						680					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	644	612	577	539	515	489	713	678	640	599	573	546
	PI	kW	164	177	193	210	222	235	183	197	213	232	245	258
	qw	l/s	30.7	29.2	27.5	25.7	24.5	23.3	34.0	32.3	30.5	28.6	27.3	26.0
	dpw	kPa	49	44	40	35	32	28	62	56	50	43	40	36
7	CC	kW	680	645	609	569	544	517	752	715	675	632	605	577
	PI	kW	166	180	196	213	225	238	186	200	216	235	248	261
	qw	l/s	32.4	30.8	29.0	27.2	25.9	24.7	35.9	34.1	32.2	30.2	28.9	27.5
	dpw	kPa	55	50	44	39	35	32	69	62	55	49	44	40
9	CC	kW	716	680	641	600	573	546	793	753	711	666	638	608
	PI	kW	169	183	199	216	228	241	189	203	219	238	251	264
	qw	l/s	34.2	32.5	30.6	28.6	27.4	26.1	37.9	36.0	34.0	31.8	30.5	29.1
	dpw	kPa	61	55	49	43	39	36	76	69	61	54	49	45
11	CC	kW	753	715	675	631	604	575	834	793	748	701	672	641
	PI	kW	172	186	202	220	231	244	192	206	222	241	253	267
	qw	l/s	36.0	34.2	32.2	30.2	28.9	27.5	39.9	37.9	35.8	33.5	32.1	30.6
	dpw	kPa	68	61	54	48	44	39	85	76	68	60	55	50
13	CC	kW	792	751	709	663	634	604	877	833	787	737	706	674
	PI	kW	175	189	205	223	235	248	195	209	226	244	257	270
	qw	l/s	37.9	35.9	33.9	31.7	30.3	28.9	41.9	39.9	37.6	35.3	33.8	32.2
	dpw	kPa	75	68	60	53	48	44	94	85	75	66	61	55
15	CC	kW	831	789	744	696	666	549	920	875	826	774	742	708
	PI	kW	178	192	208	226	238	199	198	212	229	247	260	273
	qw	l/s	39.8	37.8	35.6	33.3	31.9	26.3	44.1	41.9	39.6	37.1	35.5	33.9
	dpw	kPa	83	74	66	58	53	36	103	93	83	73	67	61

Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*

EWAQ F-XR

			170						190					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	176	167	157	147	140	133	200	189	178	166	159	151
	PI	kW	43.3	47.2	51.6	56.6	59.9	63.5	49.8	54.4	59.6	65.5	69.6	74
	qw	l/s	8.4	7.9	7.5	7.0	6.7	6.3	9.5	9.0	8.5	7.9	7.6	7.2
	dpw	kPa	26	24	21	18	17	15	28	25	22	19	18	16
7	CC	kW	186	176	166	155	148	140	212	200	188	176	168	159
	PI	kW	44.1	48.1	52.5	57.5	60.8	64.3	50.8	55.4	60.6	66.7	70.7	75.1
	qw	l/s	8.9	8.4	7.9	7.4	7.1	6.7	10.1	9.6	9.0	8.4	8.0	7.6
	dpw	kPa	30	27	24	21	19	17	31	28	25	22	20	18
9	CC	kW	196	186	175	163	156	148	224	212	199	186	177	169
	PI	kW	44.9	48.9	53.4	58.4	61.7	65.2	51.8	56.4	61.7	67.8	71.9	76.3
	qw	l/s	9.4	8.9	8.4	7.8	7.5	7.1	10.7	10.1	9.5	8.9	8.5	8.1
	dpw	kPa	33	30	26	23	21	19	35	31	28	24	22	20
11	CC	kW	207	196	184	172	164	156	236	223	210	196	187	178
	PI	kW	45.8	49.8	54.3	59.3	62.6	66.1	52.9	57.5	62.9	69	73.1	77.6
	qw	l/s	9.9	9.4	8.8	8.2	7.9	7.5	11.3	10.7	10.0	9.4	8.9	8.5
	dpw	kPa	37	33	29	26	23	21	39	35	31	27	25	22
13	CC	kW	218	206	194	181	173	164	248	235	221	207	197	124
	PI	kW	46.7	50.7	55.2	60.2	63.5	67.1	54	58.7	64.1	70.3	74.4	40.2
	qw	l/s	10.4	9.9	9.3	8.7	8.3	7.9	11.9	11.2	10.6	9.9	9.4	5.9
	dpw	kPa	41	37	33	28	26	23	43	39	34	30	27	11
15	CC	kW	229	217	204	190	182	173	261	247	233	217	208	132
	PI	kW	47.6	51.7	56.2	61.2	64.5	68.1	55.1	59.9	65.4	71.6	75.8	40.7
	qw	l/s	11.0	10.4	9.8	9.1	8.7	8.3	12.5	11.8	11.1	10.4	9.9	6.3
	dpw	kPa	45	41	36	31	29	26	48	43	38	33	30	12

			210						240					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	225	213	200	187	179	170	251	238	224	209	200	190
	PI	kW	55.9	61	66.8	73.7	78.3	83.5	62.8	68.6	75.1	82.7	87.7	93.1
	qw	l/s	10.7	10.1	9.5	8.9	8.5	8.1	12.0	11.3	10.7	10.0	9.5	9.1
	dpw	kPa	35	32	28	24	22	20	44	39	35	30	28	25
7	CC	kW	238	225	212	198	190	181	265	251	237	221	211	201
	PI	kW	57	62.1	68	74.9	79.7	84.8	63.9	69.8	76.4	84	89.1	94.5
	qw	l/s	11.4	10.8	10.1	9.5	9.0	8.6	12.7	12.0	11.3	10.6	10.1	9.6
	dpw	kPa	40	36	31	27	25	23	49	44	39	34	31	28
9	CC	kW	252	238	224	210	201	191	280	266	250	234	224	213
	PI	kW	58.1	63.3	69.3	76.3	81	86.3	65.1	71	77.7	85.4	90.5	96
	qw	l/s	12.0	11.4	10.7	10.0	9.6	9.1	13.4	12.7	11.9	11.2	10.7	10.2
	dpw	kPa	44	40	35	31	28	26	55	49	44	38	35	32
11	CC	kW	266	252	237	222	212	202	295	280	264	247	236	225
	PI	kW	59.3	64.5	70.6	77.7	82.5	87.8	66.4	72.3	79.1	86.8	92	97.5
	qw	l/s	12.7	12.0	11.3	10.6	10.1	9.7	14.1	13.4	12.6	11.8	11.3	10.7
	dpw	kPa	50	44	39	34	32	29	61	55	49	43	39	35
13	CC	kW	280	265	250	234	224	213	311	295	278	260	249	237
	PI	kW	60.5	65.8	72	79.2	84	89.3	67.7	73.7	80.5	88.3	93.5	99.1
	qw	l/s	13.4	12.7	12.0	11.2	10.7	10.2	14.9	14.1	13.3	12.4	11.9	11.3
	dpw	kPa	55	49	44	38	35	32	68	61	54	47	43	39
15	CC	kW	295	279	263	246	236	135	327	310	292	273	262	163
	PI	kW	61.8	67.2	73.4	80.7	85.6	40.3	69	75.1	82	89.9	95.1	50.1
	qw	l/s	14.1	13.4	12.6	11.8	11.3	6.5	15.7	14.8	14.0	13.1	12.5	7.8
	dpw	kPa	61	55	49	43	39	13	75	68	60	53	48	19

EWAQ F-XR

			300						330					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	325	307	289	269	256	243	364	344	323	300	285	270
	PI	kW	82.5	90.2	98.9	109	115	122	94.5	103	114	125	133	141
	qw	l/s	15.5	14.6	13.8	12.8	12.2	11.6	17.3	16.4	15.4	14.3	13.6	12.9
	dpw	kPa	23	21	18	16	15	13	24	22	19	17	15	13
7	CC	kW	343	325	305	284	271	257	384	363	341	316	301	172
	PI	kW	84.1	91.9	101	110	117	124	96.5	106	116	127	135	62.7
	qw	l/s	16.4	15.5	14.5	13.5	12.9	12.3	18.3	17.3	16.3	15.1	14.4	8.2
	dpw	kPa	26	23	21	18	16	15	27	24	21	18	17	5
9	CC	kW	362	342	322	299	285	271	405	382	359	333	317	182
	PI	kW	85.8	93.7	102	112	119	126	98.7	108	118	130	137	63.5
	qw	l/s	17.3	16.3	15.4	14.3	13.6	12.9	19.3	18.3	17.1	15.9	15.1	8.7
	dpw	kPa	29	26	23	20	18	16	30	27	24	20	19	6
11	CC	kW	381	360	339	315	301	189	426	402	377	350	333	193
	PI	kW	87.6	95.5	104	114	121	64.7	101	110	121	132	140	64.3
	qw	l/s	18.2	17.2	16.2	15.1	14.4	9.0	20.3	19.2	18.0	16.7	15.9	9.2
	dpw	kPa	32	29	26	22	20	8	33	30	26	23	20	7
13	CC	kW	401	379	356	332	316	200	447	422	396	368	350	204
	PI	kW	89.5	97.5	106	117	123	65.6	103	113	123	135	143	65.1
	qw	l/s	19.2	18.1	17.0	15.9	15.1	9.6	21.4	20.2	18.9	17.6	16.7	9.8
	dpw	kPa	36	32	28	24	22	9	37	33	29	25	23	8
15	CC	kW	421	398	374	348	332	211	469	443	415	385	226	216
	PI	kW	91.5	99.6	109	119	125	66.6	106	115	126	138	62.6	66.1
	qw	l/s	20.2	19.1	17.9	16.7	15.9	10.1	22.5	21.2	19.9	18.4	10.8	10.3
	dpw	kPa	40	35	31	27	25	10	41	36	32	27	9	9

			310						340					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	325	307	289	269	256	243	364	344	323	300	285	270
	PI	kW	82.5	90.2	98.9	109	115	122	94.5	103	114	125	133	141
	qw	l/s	15.5	14.6	13.8	12.8	12.2	11.6	17.3	16.4	15.4	14.3	13.6	12.9
	dpw	kPa	23	21	18	16	15	13	24	22	19	17	15	13
7	CC	kW	343	325	305	284	271	257	384	363	341	316	301	172
	PI	kW	84.1	91.9	101	110	117	124	96.5	106	116	127	135	62.7
	qw	l/s	16.4	15.5	14.5	13.5	12.9	12.3	18.3	17.3	16.3	15.1	14.4	8.2
	dpw	kPa	26	23	21	18	16	15	27	24	21	18	17	5
9	CC	kW	362	342	322	299	285	271	405	382	359	333	317	182
	PI	kW	85.8	93.7	102	112	119	126	98.7	108	118	130	137	63.5
	qw	l/s	17.3	16.3	15.4	14.3	13.6	12.9	19.3	18.3	17.1	15.9	15.1	8.7
	dpw	kPa	29	26	23	20	18	16	30	27	24	20	19	6
11	CC	kW	381	360	339	315	301	189	426	402	377	350	333	193
	PI	kW	87.6	95.5	104	114	121	64.7	101	110	121	132	140	64.3
	qw	l/s	18.2	17.2	16.2	15.1	14.4	9.0	20.3	19.2	18.0	16.7	15.9	9.2
	dpw	kPa	32	29	26	22	20	8	33	30	26	23	20	7
13	CC	kW	401	379	356	332	316	200	447	422	396	368	350	204
	PI	kW	89.5	97.5	106	117	123	65.6	103	113	123	135	143	65.1
	qw	l/s	19.2	18.1	17.0	15.9	15.1	9.6	21.4	20.2	18.9	17.6	16.7	9.8
	dpw	kPa	36	32	28	24	22	9	37	33	29	25	23	8
15	CC	kW	421	398	374	348	332	211	469	443	415	385	226	216
	PI	kW	91.5	99.6	109	119	125	66.6	106	115	126	138	62.6	66.1
	qw	l/s	20.2	19.1	17.9	16.7	15.9	10.1	22.5	21.2	19.9	18.4	10.8	10.3
	dpw	kPa	40	35	31	27	25	10	41	36	32	27	9	9

EWAQ F-XR

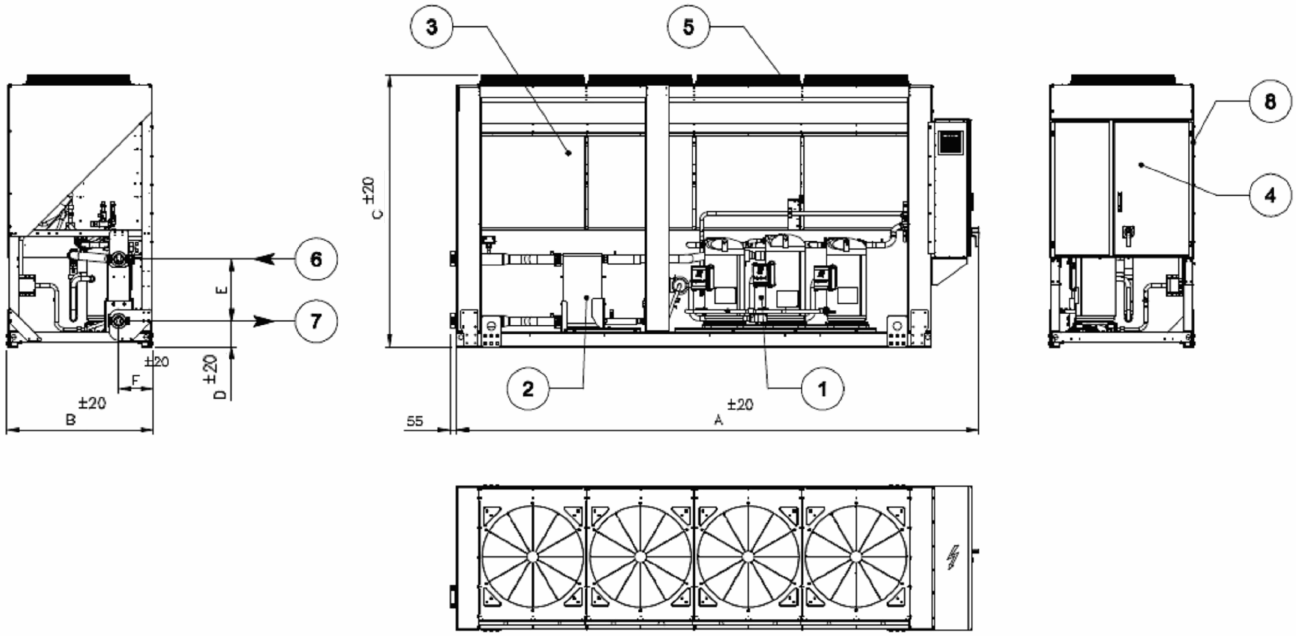
			390						410					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	410	389	366	341	325	309	435	411	387	360	343	326
	PI	kW	105	115	125	137	145	154	113	122	133	146	154	163
	qw	l/s	19.6	18.5	17.4	16.2	15.5	14.7	20.7	19.6	18.4	17.2	16.4	15.5
	dpw	kPa	32	29	25	22	20	18	30	27	24	21	19	17
7	CC	kW	433	411	386	360	343	326	459	434	408	380	362	344
	PI	kW	107	117	127	139	147	156	115	124	135	148	156	165
	qw	l/s	20.7	19.6	18.4	17.2	16.4	15.6	21.9	20.7	19.5	18.1	17.3	16.4
	dpw	kPa	36	32	28	25	23	20	33	30	26	23	21	19
9	CC	kW	457	433	407	380	362	344	484	458	430	401	382	363
	PI	kW	109	119	129	141	149	158	117	127	138	150	159	168
	qw	l/s	21.8	20.7	19.4	18.1	17.3	16.4	23.1	21.9	20.5	19.1	18.2	17.3
	dpw	kPa	40	36	32	28	25	23	37	33	29	26	23	21
11	CC	kW	481	456	428	399	381	362	509	482	453	422	402	305
	PI	kW	111	121	132	144	152	160	119	129	140	152	161	120
	qw	l/s	23.0	21.8	20.5	19.1	18.2	17.3	24.3	23.0	21.6	20.2	19.2	14.6
	dpw	kPa	44	40	35	31	28	25	41	37	33	28	26	15
13	CC	kW	506	479	450	420	401	252	535	506	476	443	423	321
	PI	kW	114	123	134	146	154	81.7	121	131	142	155	163	121
	qw	l/s	24.2	22.9	21.5	20.1	19.2	12.0	25.6	24.2	22.8	21.2	20.2	15.4
	dpw	kPa	49	44	39	34	31	12	46	41	36	31	29	16
15	CC	kW	531	503	473	441	421	266	562	532	500	465	444	269
	PI	kW	116	125	136	148	156	82.5	124	134	145	157	166	81.9
	qw	l/s	25.4	24.1	22.6	21.1	20.1	12.7	26.9	25.5	23.9	22.3	21.3	12.9
	dpw	kPa	54	48	43	37	34	14	50	45	40	35	31	12

			430						500					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	464	438	411	382	364	344	535	507	477	445	425	403
	PI	kW	121	131	143	156	165	175	137	150	165	182	193	205
	qw	l/s	22.1	20.9	19.6	18.2	17.3	16.4	25.5	24.2	22.7	21.2	20.2	19.2
	dpw	kPa	31	28	24	21	19	17	43	38	34	30	27	24
7	CC	kW	490	462	434	403	384	364	564	535	504	470	448	426
	PI	kW	124	134	145	158	167	177	140	153	168	185	196	208
	qw	l/s	23.4	22.1	20.7	19.2	18.3	17.4	26.9	25.5	24.0	22.4	21.4	20.3
	dpw	kPa	35	31	27	23	21	19	48	43	38	33	30	27
9	CC	kW	516	487	457	425	404	231	595	564	531	495	473	449
	PI	kW	126	136	148	161	170	79.8	143	156	171	188	199	211
	qw	l/s	24.6	23.3	21.8	20.3	19.3	11.0	28.4	26.9	25.4	23.7	22.6	21.4
	dpw	kPa	38	34	30	26	24	8	53	48	42	37	34	30
11	CC	kW	543	513	481	447	426	245	626	594	559	521	497	472
	PI	kW	128	139	150	163	172	80.5	146	159	174	191	203	215
	qw	l/s	25.9	24.5	23.0	21.4	20.3	11.7	29.9	28.4	26.7	24.9	23.8	22.6
	dpw	kPa	43	38	33	29	26	9	59	53	47	41	37	34
13	CC	kW	570	538	505	470	447	259	658	624	587	547	522	377
	PI	kW	131	141	153	166	175	81.3	149	162	178	195	206	133
	qw	l/s	27.3	25.8	24.2	22.5	21.4	12.4	31.5	29.8	28.1	26.2	25.0	18.0
	dpw	kPa	47	42	37	32	29	10	65	59	52	45	41	21
15	CC	kW	598	565	530	493	470	274	691	655	616	574	548	397
	PI	kW	133	144	155	169	177	82.1	152	166	181	199	210	135
	qw	l/s	28.6	27.0	25.4	23.6	22.5	13.1	33.1	31.3	29.5	27.5	26.2	19.0
	dpw	kPa	52	46	41	35	32	11	72	64	57	50	45	24

EWAQ F-XR

			580						650					
Twout		**Ta**	**25**	**30**	**35**	**40**	**43**	**46**	**25**	**30**	**35**	**40**	**43**	**46**
5	CC	kW	622	588	552	512	488	400	690	654	615	573	546	518
	PI	kW	163	178	194	213	226	187	180	195	213	233	246	261
	qw	l/s	29.6	28.0	26.3	24.4	23.2	19.1	32.9	31.2	29.3	27.3	26.0	24.7
	dpw	kPa	46	41	36	31	28	19	58	52	46	40	36	33
7	CC	kW	655	619	581	540	514	423	727	689	648	604	576	546
	PI	kW	166	181	198	217	230	190	183	199	216	236	250	264
	qw	l/s	31.2	29.5	27.7	25.8	24.5	20.2	34.7	32.9	30.9	28.8	27.5	26.1
	dpw	kPa	51	46	40	35	31	21	64	58	51	44	40	36
9	CC	kW	688	651	611	568	541	392	765	724	681	635	606	575
	PI	kW	170	184	201	221	233	150	187	202	220	240	253	268
	qw	l/s	32.9	31.1	29.2	27.1	25.8	18.7	36.5	34.6	32.5	30.3	28.9	27.5
	dpw	kPa	57	51	45	39	35	18	71	64	56	49	45	40
11	CC	kW	723	684	642	597	568	414	804	761	715	667	637	462
	PI	kW	173	188	205	224	237	152	190	206	223	243	257	166
	qw	l/s	34.6	32.7	30.7	28.5	27.2	19.8	38.4	36.4	34.2	31.9	30.4	22.1
	dpw	kPa	62	56	49	43	39	20	79	70	62	54	49	26
13	CC	kW	758	717	673	626	520	436	843	798	751	700	668	487
	PI	kW	177	192	209	228	188	154	194	209	227	247	260	168
	qw	l/s	36.3	34.3	32.2	29.9	24.9	20.9	40.3	38.2	35.9	33.5	32.0	23.3
	dpw	kPa	69	61	54	47	32	23	87	78	69	60	54	29
15	CC	kW	794	751	704	655	482	459	884	837	787	734	701	513
	PI	kW	180	196	213	232	148	156	197	213	231	251	264	170
	qw	l/s	38.0	35.9	33.7	31.4	23.1	22.0	42.3	40.1	37.7	35.1	33.5	24.6
	dpw	kPa	76	67	59	51	28	25	95	85	76	66	60	32

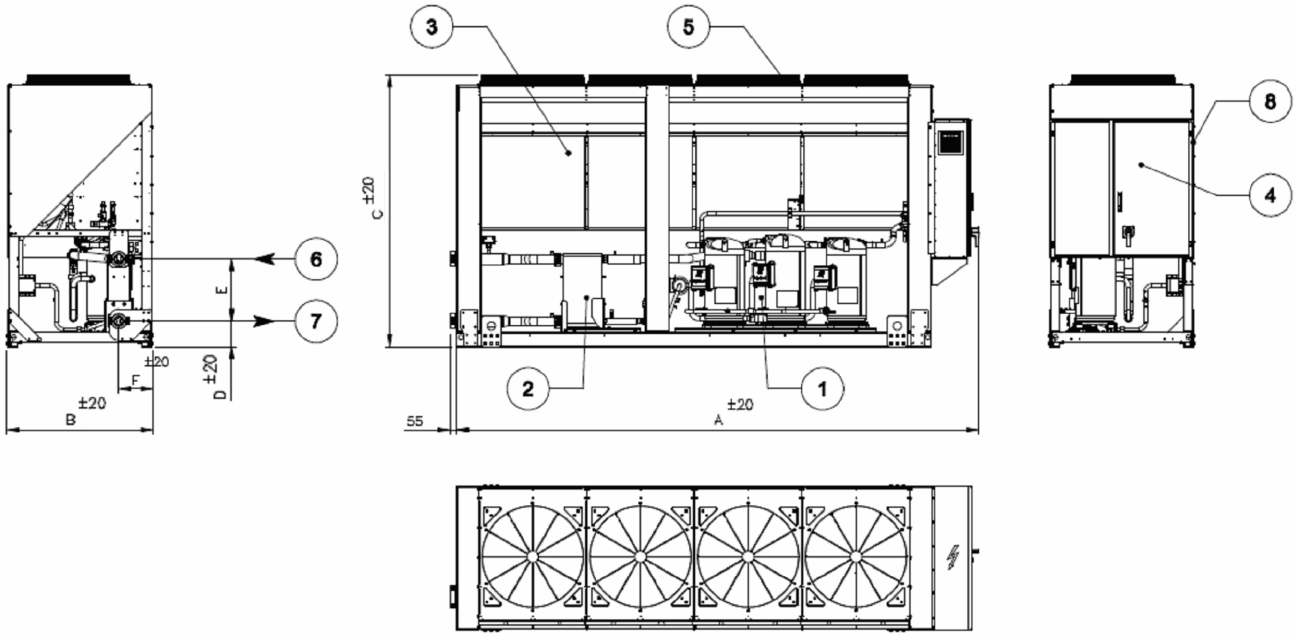
Fluid: Water
Ta: Condenser inlet air temperature; Twout: Evaporator leaving water temperature (Δt 5°C)
CC: Cooling capacity; PI: Power input; qw: Fluid flow rate; dpw: Fluid pressure drop
** For working condition where dpw value is "Italic-Red Color" please contac factory*



LEGEND

1: Compressor
2: Evaporator
3: Condenser coil
4: Electrical panel
5: Fan
6: Evaporator water inlet
7: Evaporator water outlet
8: Slot for power and control panel connection

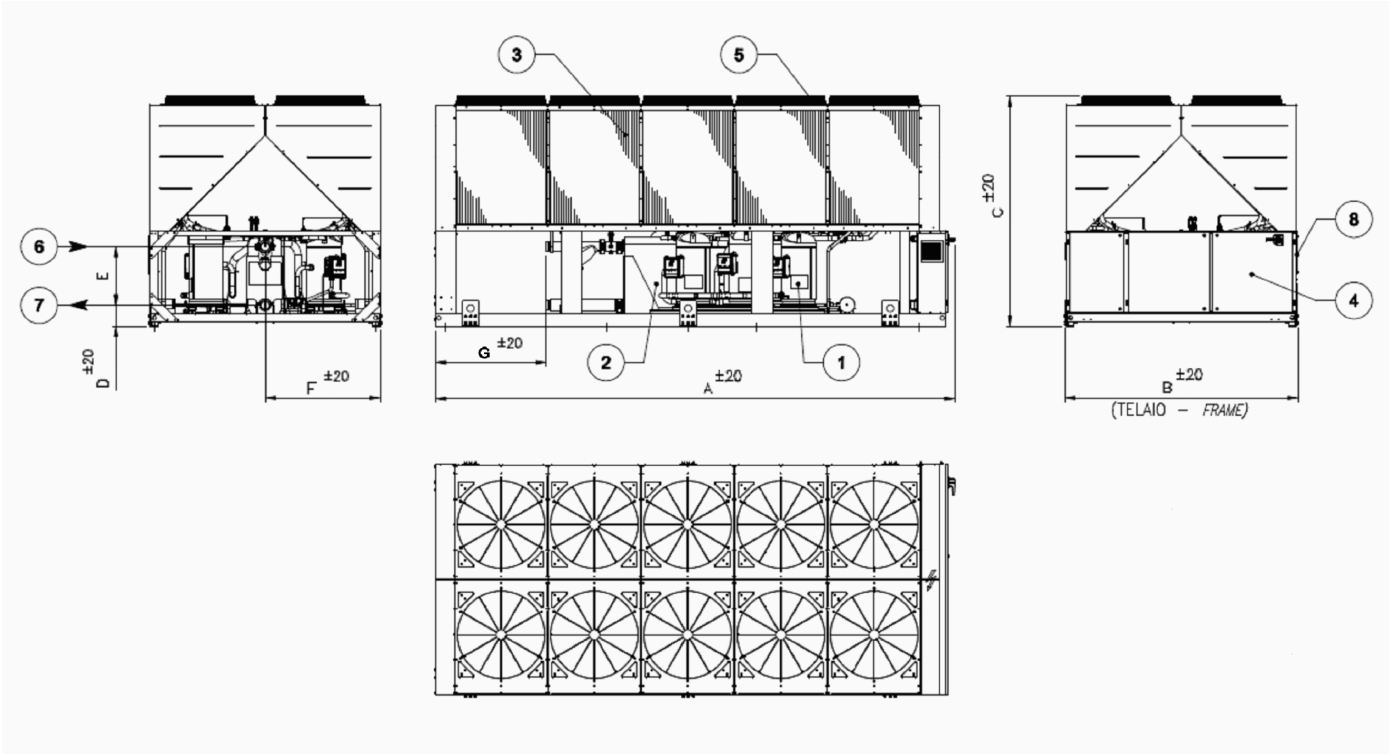
	A	B	C	D	E	F	G	H	I	L	M
EWAQ210F-SS	4413	1224	2271	212	519	286					
EWAQ230F-SS	4413	1224	2271	212	519	286					
EWAQ250F-SS	4413	1224	2271	212	519	286					
EWAQ280F-SS	5313	1224	2271	212	519	286					
EWAQ320F-SS	5313	1224	2271	212	519	286					
EWAQ350F-SS	6213	1224	2271	212	519	286					
EWAO400F-SS	6213	1224	2447	212	519	286					
EWAQ210F-SL	4413	1224	2271	212	519	286					
EWAQ230F-SL	4413	1224	2271	212	519	286					
EWAQ250F-SL	4413	1224	2271	212	519	286					
EWAO280F-SL	5313	1224	2271	212	519	286					
EWAQ320F-SL	5313	1224	2271	212	519	286					
EWAQ350F-SL	6213	1224	2271	212	519	286					
EWAO400F-SL	6213	1224	2447	212	519	286					
EWAO200F-SR	4413	1224	2271	212	519	286					
EWAQ220F-SR	4413	1224	2271	212	519	286					
EWAQ240F-SR	4413	1224	2271	212	519	286					
EWAO270F-SR	5313	1224	2271	212	519	286					
EWAO300F-SR	5313	1224	2271	212	519	286					
EWAQ330F-SR	6213	1224	2271	212	519	286					
EWAQ370F-SR	6213	1224	2447	212	519	286					
EWAO170F-XS	4413	1224	2271	212	519	286					
EWAQ200F-XS	4413	1224	2271	212	519	286					
EWAQ220F-XS	5313	1224	2271	212	519	286					
EWAQ250F-XS	5313	1224	2271	212	519	286					
EWAO310F-XS	6213	1224	2271	212	519	286					
EWAO350F-XS	6213	1224	2271	212	519	286					



LEGEND

1: Compressor
2: Evaporator
3: Condenser coil
4: Electrical panel
5: Fan
6: Evaporator water inlet
7: Evaporator water outlet
8: Slot for power and control panel connection

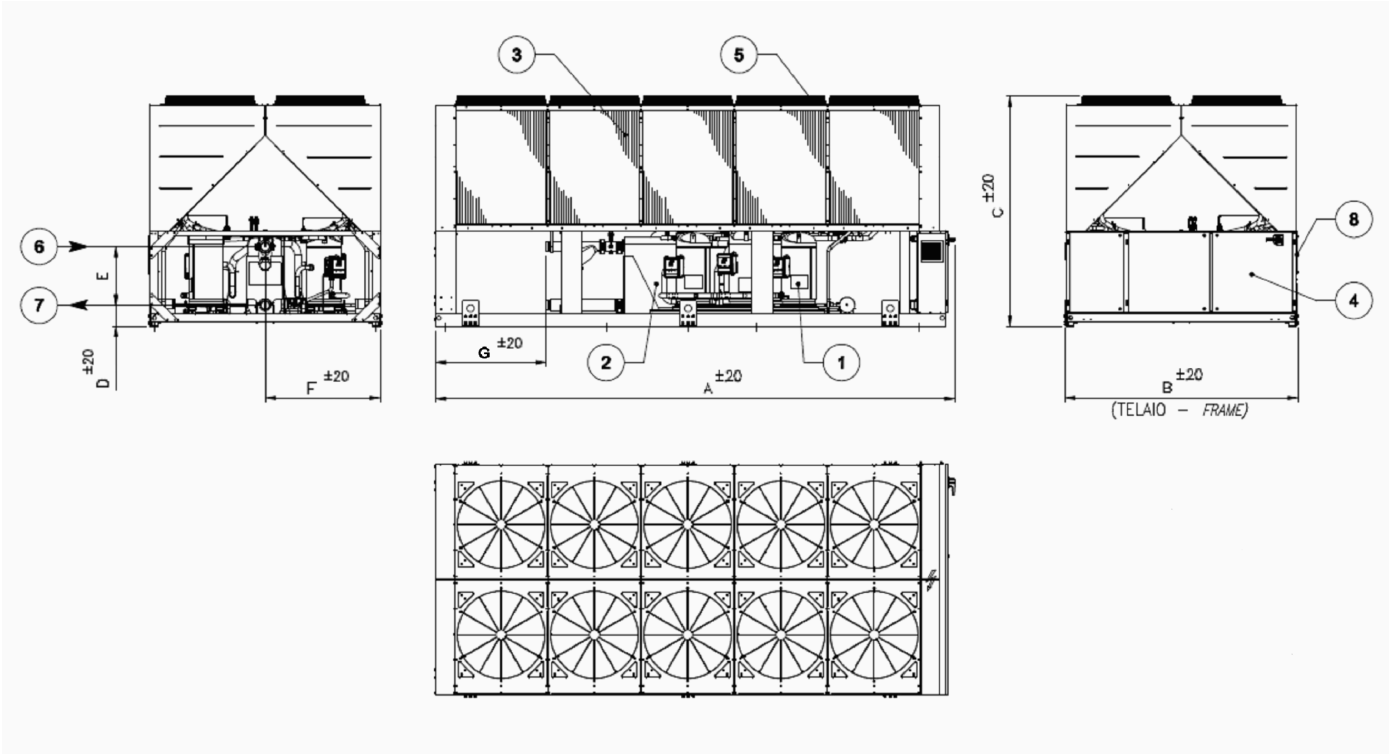
	A	B	C	D	E	F	G	H	I	L	M
EWAQ170F-XL	4413	1224	2271	212	519	286					
EWAQ200F-XL	4358	1224	2271	212	519	286					
EWAQ220F-XL	5313	1224	2271	212	519	286					
EWAQ250F-XL	5313	1224	2271	212	519	286					
EWAQ310F-XL	6213	1224	2271	212	519	286					
EWAQ350F-XL	6213	1224	2271	212	519	286					
EWAQ170F-XR	4413	1224	2271	212	519	286					
EWAQ190F-XR	4413	1224	2271	212	519	286					
EWAQ210F-XR	5313	1224	2271	212	519	286					
EWAQ240F-XR	5313	1224	2271	212	519	286					
EWAQ300F-XR	6213	1224	2271	212	519	286					
EWAQ330F-XR	6213	1224	2271	212	519	286					



LEGEND

1: Compressor
2: Evaporator
3: Condenser coil
4: Electrical panel
5: Fan
6: Evaporator water inlet
7: Evaporator water outlet
8: Slot for power and control panel connection

	A	B	C	D	E	F	G	H	I	L	M
EWAQ360F-SS	3210	2258	2221	202	568	1129	65				
EWAQ410F-SS	3210	2258	2397	202	568	1129	13				
EWAQ480F-SS	4110	2258	2221	202	568	1129	240				
EWAQ550F-SS	5010	2258	2221	202	568	1129	1140				
EWAQ610F-SS	5010	2258	2221	202	568	1129	1140				
EWAQ360F-SL	3210	2258	2221	202	568	1129	65				
EWAQ410F-SL	3210	2258	2397	202	568	1129	13				
EWAQ480F-SL	4110	2258	2221	202	568	1129	240				
EWAQ550F-SL	5010	2258	2221	202	568	1129	1140				
EWAQ610F-SL	5010	2258	2221	202	568	1129	1140				
EWAQ340F-SR	3210	2258	2221	202	568	1129	65				
EWAQ380F-SR	3210	2258	2397	202	568	1129	13				
EWAQ460F-SR	4110	2258	2221	202	568	1129	240				
EWAQ530F-SR	5010	2258	2221	202	568	1129	1140				
EWAQ580F-SR	5010	2258	2221	202	568	1129	1140				
EWAQ320F-XS	3210	2258	2221	202	568	1129	65				
EWAQ360F-XS	3210	2258	2221	202	568	1129	13				
EWAQ400F-XS	4110	2258	2221	202	568	1129	407				
EWAQ430F-XS	4110	2258	2221	202	568	1129	334				
EWAQ450F-XS	4110	2258	2221	202	568	1129	240				
EWAQ520F-XS	5010	2258	2221	202	568	1129	1140				
EWAQ610F-XS	5010	2258	2221	202	568	1129	1067				
EWAQ680F-XS	5910	2258	2221	202	568	1129	1967				
EWAQ320F-XL	3210	2258	2221	202	568	1129	65				
EWAQ350F-XL	3210	2258	2221	202	568	1129	13				
EWAQ400F-XL	4110	2258	2221	202	568	1129	407				



LEGEND

1: Compressor
2: Evaporator
3: Condenser coil
4: Electrical panel
5: Fan
6: Evaporator water inlet
7: Evaporator water outlet
8: Slot for power and control panel connection

	A	B	C	D	E	F	G	H	I	L	M
EWAQ430F-XL	4110	2258	2221	202	568	1129	334				
EWAQ450F-XL	4110	2258	2221	202	568	1129	240				
EWAQ520F-XL	5010	2258	2221	202	568	1129	1140				
EWAQ610F-XL	5010	2258	2221	202	568	1129	1067				
EWAQ680F-XL	5910	2258	2221	202	568	1129	1967				
EWAQ310F-XR	3210	2258	2221	202	568	1129	65				
EWAQ340F-XR	3210	2258	2221	202	568	1129	13				
EWAQ390F-XR	4110	2258	2221	202	568	1129	407				
EWAQ410F-XR	4110	2258	2221	202	568	1129	334				
EWAQ430F-XR	4110	2258	2221	202	568	1129	240				
EWAQ500F-XR	5010	2258	2221	202	568	1129	1140				
EWAQ580F-XR	5010	2258	2221	202	568	1129	1067				
EWAQ650F-XR	5910	2258	2221	202	568	1129	1967				

Warning Installation and maintenance of the unit must to 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 the condenser coil or unit cabinet.

Location The units are produced for outside 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 level; 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 The units are air-cooled, then it is important to respect the 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 result in reductions in unit efficiency and capacity.
Moreover the unique microprocessor has the ability to analyse the operating environment of the air cooled chiller and to optimize its performance to stay on-line during abnormal conditions.
Each side of the unit must be accessible after installation for periodic service. Fig.1 and 2 show you minimum recommended clearance requirements.
Vertical condenser air discharge must be unobstructed because the unit would have its capacity and efficiency significantly reduced.
If the units are positioned in places surrounded by walls or obstacles of the same height as the units, the units should be at least 2500 mm from obstacles (Fig.3 and 4). In the event the obstacles are higher than the units, the units should be at least 3000 mm from the obstacle (Fig.5 and 6). Units installed closer than the minimum recommended distance to a wall or other vertical riser may experience a combination of coil starvation and warm air recirculation, thus causing reduction in unit capacity and efficiency reductions. The microprocessor control is proactive in response "of design condition". In the case of single or compounded influences restricting airflow to the unit, the microprocessor will act to keep the compressor running (at reduced capacity) rather than allowing a shut-off on high discharge pressure.
When two or more units are positioned side by side it is recommended that the condenser coils are at least 3600 mm distance from one another (Fig.7 and 8); strong wind could be the cause of air warm recirculation.
For other installation solutions, consult our technicians.

The above recommended information are representative for general installation. A specific evaluation should be done by contractor depending on the case.

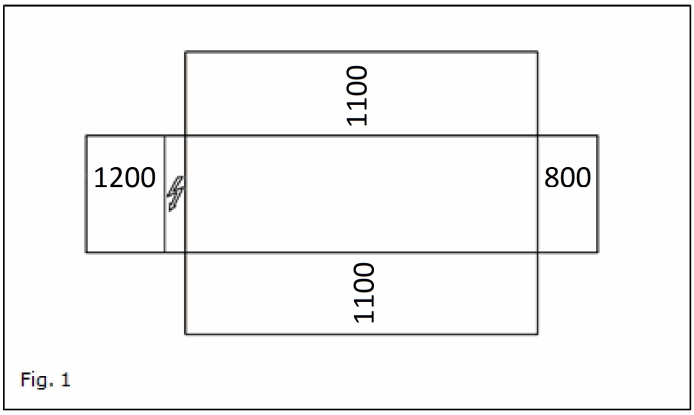


Fig. 1

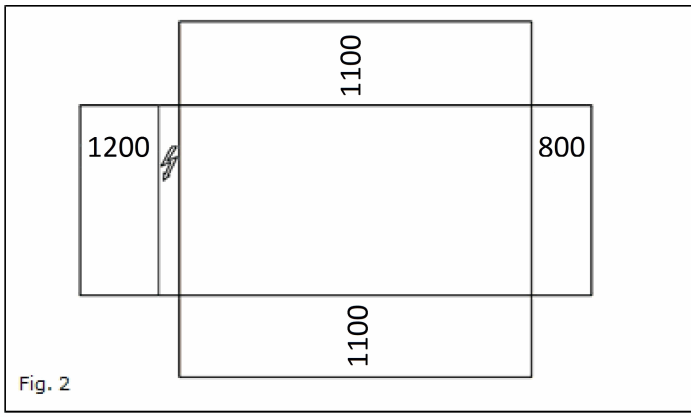


Fig. 2

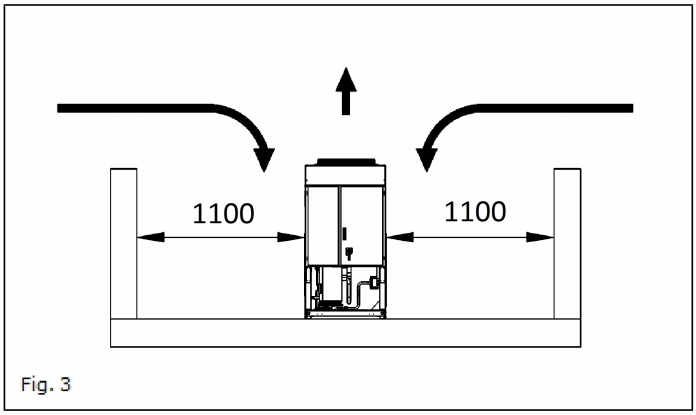


Fig. 3

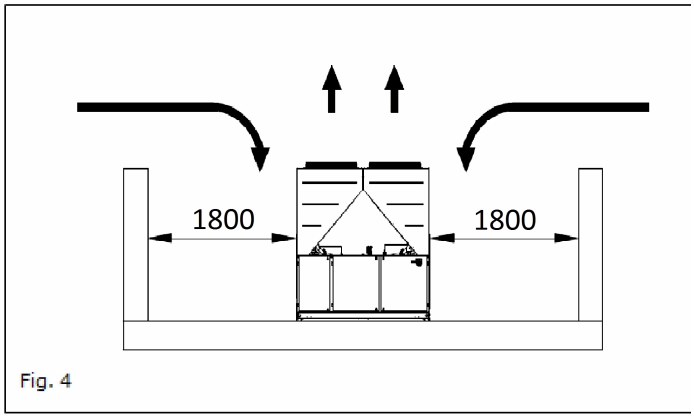


Fig. 4

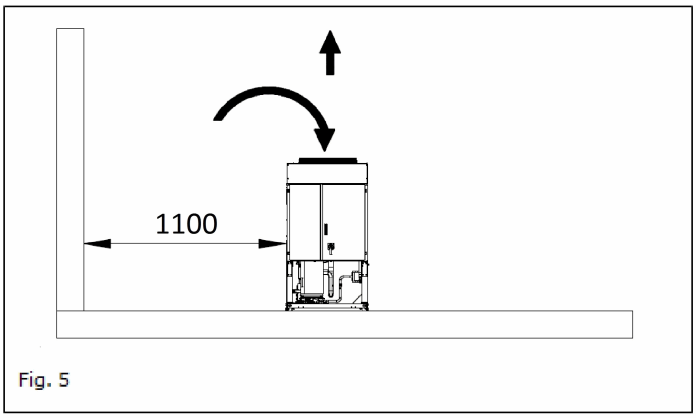


Fig. 5

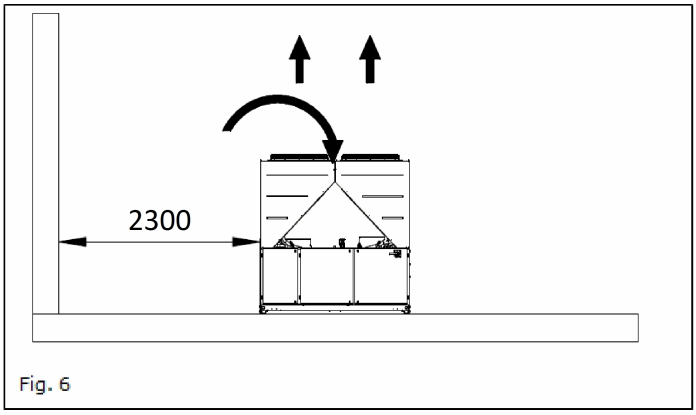


Fig. 6

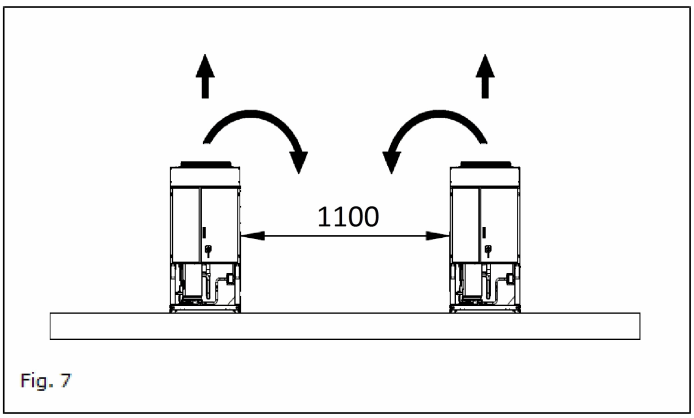


Fig. 7

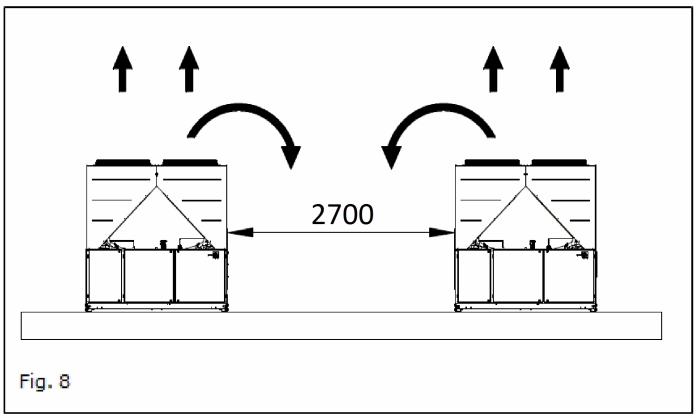


Fig. 8

Acoustic protection When noise level must meet special requirements, it is necessary to pay the maximum attention to ensure the perfect insulation of the unit from the support base by applying appropriate vibration-dampening devices on the unit, on the water pipes and on the electrical connections.

Storage The environment conditions have to be in the following limits:

Minimum ambient temperature: Maximum ambient temperature: Maximum R.H.:	-20°C +42°C 95% not condensing

General The chiller will be designed and manufactured in accordance with the following European directives:

- Construction of pressure vessel 97/23/EC (PED)
- Machinery Directive 2006/42/EC
- Low Voltage 2006/95/EC
- Electromagnetic Compatibility 2004/108/EC
- Electrical & Safety codes EN 60204–1 / EN 60335-2-40
- Manufacturing Quality Standards UNI – EN ISO 9001:2004

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 Only HFC 410A can be used.

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

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 as standard not less than: two independent refrigerant circuits, hermetic type rotary scroll compressors, electronic expansion device (EEXV), refrigerant direct expansion plate to plate heat exchanger, air-cooled condenser section, R-410A refrigerant, motor starting components, control system and all components necessary for a safe and stable unit operation.
The chiller will be factory assembled on a robust base frame made of galvanized steel, protected by an epoxy paint.

Sound level and vibrations Sound pressure level at 1 meter distance in free field, semispheric conditions, shall not exceed ……dB(A). The sound pressure levels must be rated in accordance to ISO 3744 (other types of rating can not 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

Evaporator (PHE) The units shall be equipped with a direct expansion plate to plate type evaporator.
- The evaporator will be made of of stainless steel brazed plates and shall be linked with an electrical heater to prevent freezing down to -28°C ambient temperature, controlled by a thermostat and shall be insulated with flexible, closed cell polyurethane insulation material (20-mm thick).
- The evaporator will have 2 refrigerant circuits.
- 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 will be standard factory mounted.
- Water filter will be standard.

Condenser coil The unit shall be equipped with condenser coils constructed with internally finned seamless copper tubes and arranged in a staggered row pattern and mechanically expanded into lanced and rippled aluminium fins with full fin collars for higher efficiencies. The space between the fins is given by a collar that will increase the surface area in connection with the tubes, protecting them from ambient corrosion.
- The condenser coils will have an integral subcooler circuit that provides sufficient subcooling to effectively eliminate the possibility of liquid flashing and increase the unit's efficiency with 5% to 7% without increasing in energy consumption.
- The condenser coils shall be leak-tested and submitted to a pressure test with dry air.

Condenser fans The condenser fans used in conjunction with the condenser coils, shall be propeller type with glass reinforced resin blades for higher efficiencies and lower sound. 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 IP54 and capable to work to ambient temperatures of - 20°C to + 65°C.
- The condenser fans shall have as a standard an internally protection from overtemperature.

Refrigerant circuit The unit shall have two refrigerant circuits.
• The circuit shall include as standard: electronic expansion device piloted by unit's microprocessor control, liquid line shut-off valve, sight glass with moisture indicator, replaceable filter drier, charging valves, high pressure switch, high and low pressure transducers and insulated suction line.

Condensation control The units will be provided with an automatic control for condensing pressure which ensures the working at low external temperatures down to - …… °C, to maintain condensing pressure.
• The unit automatically unloads when abnormal high condensing pressure is detected. This to prevent the shutdown of the refrigerant circuit (shutdown of the unit) due to a high-pressure fault.

Low sound unit configurations (on request) The unit compressor shall be connected with unit's metal base frame by rubber antivibration supports to prevent the transmission of vibrations to all metal unit structure, in order to control the unit sound.
• The chiller shall be provided with an acoustical compressor enclosure. This enclosure shall be realized with a light, corrosion resisting aluminium structure and metal panels. The compressor sound-proof enclosure shall be internally fitted with flexible, multi-layer, high density materials.

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.
• The water piping shall be protected against corrosion and freezing and insulated to prevent condensation.
• A choice of two pump types shall be available:
- in-line single pump
- in-line twin pumps.

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 funs protection devices, compressors and fans starters and control circuit power supply.

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 shows chiller operating status plus temperatures and pressures of water, refrigerant and air, programmable values, set-points.
• 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 maximise 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 garantee following minimu 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 (temperature tolerance = 0,1°C).
- 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.
- 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
- LonWorks, now also based on the international 8040 Standard Chiller Profile and LonMark Technology
- BacNet BTP certifief over IP and MS/TP (class 4) (Native)
- Ethernet TCP/IP.

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

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