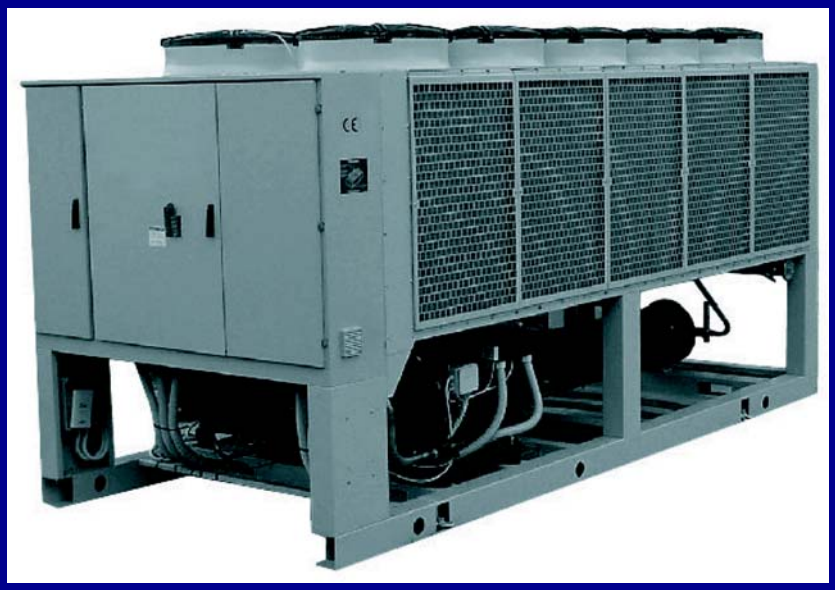
DAIKIN

EEDEN07-424

technical data



Applied Systems

R-134a

Air-cooled
EWAP-AJYNN

Air-cooled
EWAP-AJYNN

In all of us, a green heart

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.

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

Daikin units comply with the European regulations that guarantee the safety of the product.

Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil units (FC); the certified data of certified models are listed in the Eurovent Directory.

DAIKIN EUROPE N.V.

Naamloze Vennootschap

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RPR Oostende

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DAIKIN

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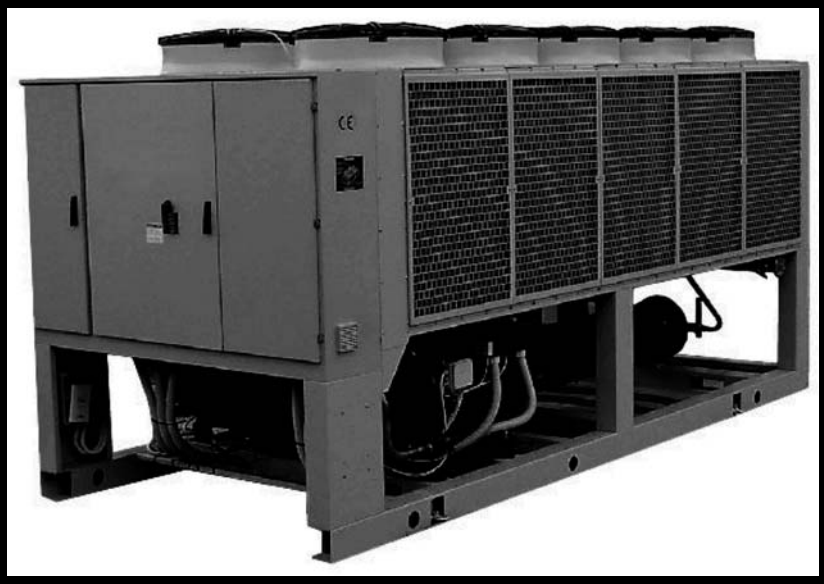
technical data



Applied Systems

R-134a

Air-cooled
EWAP-AJYNN

Cooling only

Heating only

Heat pump

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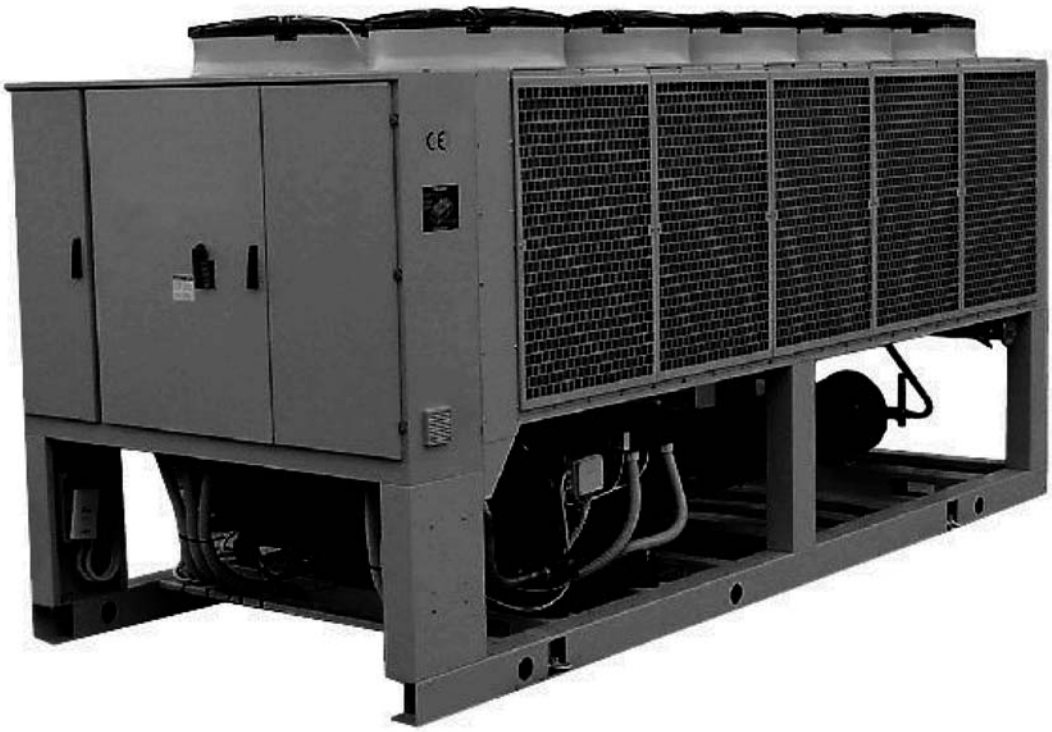
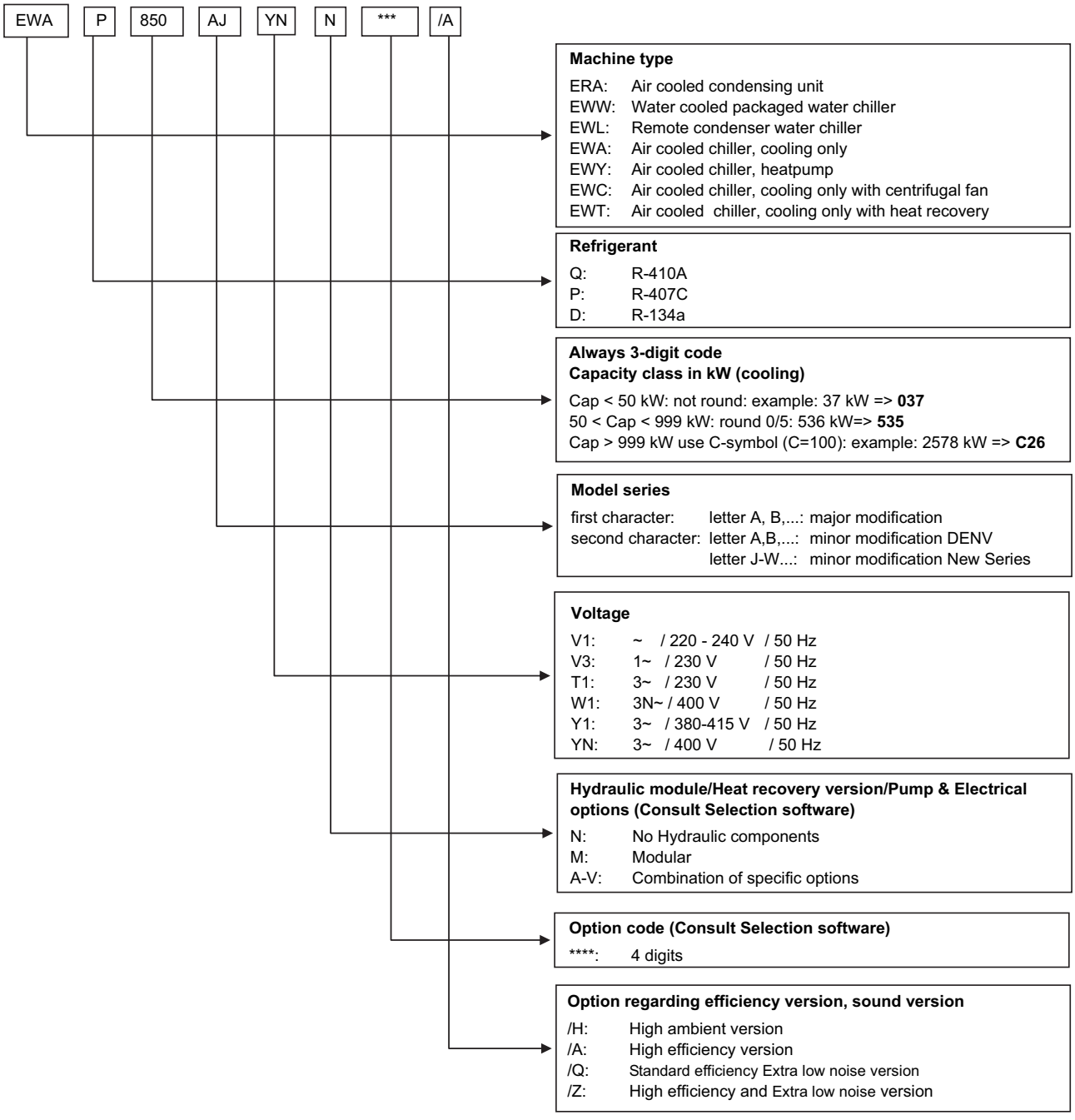
EWAP-AJYNN

1 Features



2 Nomenclature

EWAP-AJYNN



3 Specifications

To supply and install, where specified in the project n° ……. unit(s) air cooled water chiller with cooling capacity of ……. kW, to cool ……. l/sec. of water from ……. °C to ……. °C working with ……. °C ambient temperature.

The unit should work with electricity at ……. V, 3ph, 50Hz. The electrical power absorbed should not exceed ……. kW. The units COP will be at least ……. at the working conditions of the project. Part load COP will be at least ……. at the working conditions of the project.

The units will have 2 or 3 independent refrigerant circuits, and the respective electronic microprocessor will allow the starting of the compressors. Each chiller will be factory assembled on a robust baseframe made of zinc coated steel, protected by an epoxy paint.

The unit will be tested at full load in the factory at the nominal working conditions and water temperatures. Before shipment a full test will be held to avoid any losses. Chiller will be delivered to the job site completely assembled and charged with refrigerant and oil.

Comply with the manufacturer instructions for rigging and handling equipment.

GENERAL

All units should be designed and manufactured in accordance with applicable selections of the following which are equivalent to American Air-conditioning industry applicable codes:

Rating of chillers	**EN 12055**
Construction of pressure vessel	**TUV Standards (on request)**
Electrical codes	**IEC 204-1 CEI 44-5 Elect. & Safety Codes**
Safety Codes	**IEC 204-1 CEI 44-5 Elect. & Safety Codes**
Manufacturing Quality Stds	**ISO9001:2000**

REFRIGERANT

Will be accepted R-407C or equivalent refrigerant.

UNIT DESCRIPTION

Each chiller consist of multiple semi-hermetic rotary screw compressor, direct expansion avaporator, air-cooled condenser section, control system and all components necessary for safe and controlled unit operation.

NOISE LEVEL AND VIBRATIONS

Sound pressure level at 1 meter distance in free field, semispheric conditions, shall not exceed ……dBA. The sound pressure levels must be rated in accordance to ISO 3744. Other types of rating unacceptable. Vibration level should not exceed 2 mm/s.

DIMENSIONS

Unit length shall not exceed ……. mm, unit width shall not exceed ……. mm, unit height shall not exceed ……. mm.

CHILLER COMPONENTS

Compressors

- ✓ The compressors shall be field serviceable, semi-hermetic, single-screw type with one main helical rotor meshing with two opposed gaterotor. Twin-screw compressor will no accepted because of the large bearing loads inherent with this design. For a Single-screw compressor the two exactly opposed gaterotors create two exactly opposed compression cycles which results in balanced forces acting on the rotor compressor. The gaterotors will be constructed of a carbon impregnated engineered composite material. The gaterotor supports will be constructed of cast iron.
- ✓ The oil injection shall be used for these compressors in order to get high COP also at high condensing pressure and low sound pressure levels in each load condition.
- ✓ Refrigerant system differential pressure shall provide oil flow throught service replaceble, 0.5 micron, full flow, cartridge type oil filter internal to compressor. Filter bypass or oil pump not acceptable.
- ✓ The compressor's oil cooling must be realized by liquid injection. External dedicated heat exchanger and additional piping to carry the oil from the compressor to heat exchanger and viceversa will be not accepted.
- ✓ The compressor shall be provided with a high efficiency, oil separator and with built-in oil filter.
- ✓ The compressor shall be direct electrical drive, without gear transmission between the screw and the electrical motor. The motor's compressor shall be designed for star/delta. Soft start should be available as option.
- ✓ The compressor casing shall be provided with ports to realize economized refrigerant cycles.
- ✓ Shall be present two thermal protection realized by a thermistor for high temperature protection to motor and a thermistor for discharge gas high temperature protection.
- ✓ The compressor shall be provided with an automatic spring return of capacity control valve to the minimum load position to ensure compressor starting always at minimum motor load so with the minimum mechanical stress.

3 Specifications

Evaporator

- ✓ The units shall be supplied with shell and tubes counter-flow evaporator single refrigerant pass. It will be direct expansion with refrigerant inside the tubes and water outside (shell side) with carbon steel tube sheets, with straight copper tubes that are spirally wound internally for higher efficiencies, expanded on the tube plates.
- ✓ The external shell, shall be linked with an electrical heater to prevent freezing up to -28°C ambient temperature, commanded by a thermostat and shall be insulated with flexible, closed cell polyurethane insulation material.
- ✓ The evaporator will have 2 or 3 circuits, one for each compressor and shall be single refrigerant pass to ensure a simplier oil circulation so to ensure always a perfect oil return to the compressor.
- ✓ If a plate to plate heat exchanger is used, the manufacturer shall provide to furniture an adequate buffer tank to avoid frequently compressors star-stop and to allow a good evaporator leaving water temperature control. The manufacturer also shall provide to furniture a feed water line filter, a monitoring system of the refrigerant pressure drop inside the plat to plate heat exchanger and a system to protect the component from hydraulic pressure waves caused by water circulation pump stop.
- ✓ Evaporator is manufactured in accordance to PED approval.

Condenser coil

- ✓ The condenser coils are constructed with internally enchanced seamless copper tubes having a "W" configuration 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 are given by a collar that will increase the surface area in connection with the tubes, protecting them from ambient corrosion.
- ✓ The coils will have an integral subcooler circuit which provides sufficient subcooling to effectively eliminate the possibility of liquid flashing and increase the unit's efficiency of 5-7% without an increase in power absorbed, and the surface area will be designed in order to have an air velocity not higher than 2.8 m/sec.

Condenser fans

- ✓ The fans used in conjunction with the condenser coils, shall be helical type with aerofoil blades for higher efficiencies and lower noise. Each fan shall be equipped with a heavy-gauge 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 -40°C to +55°C. There is also an accident protection within the motors.

Refrigerant circuit

- ✓ The unit must have refrigerant circuits completely independent of each other with one compressor per circuit.
- ✓ Each circuit shall include an: electronic expansion valve, compressor discharge shut-off valve, a liquid line shut-off valve with charging connection, replaceable core filter-drier, sight glass with moisture indicator and insulated suction line. Suction line shut-off valve should be available as option.

Regulation of cooling capacity

- ✓ Each unit will have a microprocessor for the control of compressor slide valve's position (2 slide valves, one for each compressor's cycles).
- ✓ The slides shall have a stepless motion that allows a unit's operation with infinitely variable capacity control down to 12,5% (2 compressors) or down to 8,3% (3 compressors) of the cooling capacity. The chiller shall be capable of stable operation to a minimum of 12,5% (2 compressors) or 8,3% (3 compressors) of full load without hot gas bypass.
- ✓ Step unloading unacceptable because of evaporator leaving water temperature fluctuation and low compressor's efficiency at partial load.
- ✓ The system shall stage the unit based on the leaving water temperature.

Electronic expansion valve

- ✓ Electronic expansion valve allows a simple and perfect control system that quickly interacts at load variations. This valve combines two functions: liquid solenoid and electronic expansion valve.
- ✓ It is managed directly by a microprocessor to mach exactly the plant thermal load.
- ✓ Thermostatic valve unacceptable because of its limited load range, higher refrigerant pressure drop and because of leaving evaporator water temperature control less good than an electronic device.

Condensation control

- ✓ The units will be provided with an automatic control for condensing pressure which ensures the working at low external temperatures down to +10°C, because of the ON/OFF of the condenser fans, to maintain condensing pressure. Fan speed control, to allow unit's operation with very low ambient temperature, should be available as option.

3 Specifications

Control panel

- ✓ Field power connection, control interlock terminals, and unit control system should be centrally located in an electric panel (IP 54). Power and starting controls should be separate from safety and operating controls in different compartments of the same panel.
- ✓ Starting will be star/delta type as standard feature.
- ✓ Power and starting controls should include fuses and contactors for each compressor winding and fan motors. Operating and safety controls should include energy saving control; emergency stop switch; overload protection for compressor motor; high and low pressure cut-out switch (for each refrigerant circuit); anti-freeze thermostat; cut-out switch for each compressor.
- ✓ All of the information regarding the unit will be reported on a display and with the internal built-in calender and clock that will switch the unit ON/OFF during day time all year long.
- ✓ The following features and functions shall be included:
  - resetting chilled water temperature by controlling the return water temperature or by a remote 4-20 mA DC signal or by controlling the external ambient temperature;
  - soft load function to prevent the system from operating at full load during the chilled fluid pulldown period;
  - password protection of critical parameters of control;
  - start-to-start and stop-to-star timers to provide minimum compressor off-time with maximum motor protection;
  - communication capability with a PC or remote monitoring;
  - discharge pressure control through intelligent cycling of condenser fans;
  - lead-lag selection by manual or automatically by circuit run hours;
  - double set point for brine unit version;
  - scheduling via internal time clock to allow programming of a yearly start-stop schedule accommodating weekends and holidays.

Display Capabilities

The controller as a minimum shall be capable of monitoring and displaying the following data:

Analogue Inputs (AI)	Digital Inputs (DI)
1 Entering Evaporator fluid Temp.	1 Control switch one per comp.
2 Leaving Evaporator fluid Temp.	2 Evaporator Fluid flow switch
3 Outside Air Temp	3 Phase monitor
4 Not Used	4 Double Setpoint (Ice Mode)
5 Discharge Press., one per comp.	5 High Press. Switch, one per compressor
6 Discharge Press., one per comp.	6 High Press. Switch, one per compressor
7 Setpoint Override (Setpoint Reset)	7 Low Press. Switch, one per compressor
8 Demand Limit or Current Limit (Site Selectable)	8 Oil Press. Switch, one per compressor
9 % Capacity Signal, one per comp.	9 Transition Fault, one per compressor
10 % Capacity Signal, one per comp.	10 Discharge Temp. Switch, one per comp.
	11 External Alarm

Standard Customer Interfaces

The controller as a minimum shall be capable of providing the following interlocks: -

Chiller Enable Signal:	Digital Input, customer contact must be capable of handling 110Volts, 50HZ, 1Amp.
Chiller Common Fault:	Volt free, normally open, digital contact, Must be capable of switching 250V, 50HZ, 1Amp.
Pump Enable Signal:	Volt free, normally open, digital contact, Must be capable of switching 250V, 50HZ, 1Amp.
Setpoint Override:	4 – 20 mA DC analoque input signal.
Demand Limit:	4 – 20 mA DC analoque input signal.
Or	
Current Limit:	4 – 20 mA DC analoque input signal.

Optional Customer Interfaces

Compressor Running Signals:	Volt free, normally open, digital contact, Capable of switching 250V, 50HZ, 1Amp.

Optional High Level Communications Interface

The controller as a minimum shall be capable of providing the data shown in the above list and document, using the following options:

Option A	RS485 Serial card	Option B	RS232 Serial card
Option C	LonWorks interface to FTT10A Transceiver.	Option D	Bacnet Compatible
Option E	Use of Compass Points (manufactured by North Communications) to allow communications with Such as Honeywell, Satchwell, Johnson Controls, Trend etc.		

3 Specifications

NOISE REDUCTION SOLUTIONS

- ✓ The unit compressors shall be mounted on a metal baseframe which shall be connected with unit's metal baseframe by rubber antivibration supports to prevent the transmission of vibrations to all metal unit structure and so to control the unit noise. (for all Noise Versions)
- ✓ The discharge compressor line shall be provided with a metal, flexible coupling between the discharge compressor valve and the air condensing section to eliminate vibration and so to reduce the noise unit emission. (only for Noise Versions OPRN, OPLN)
- ✓ The chiller shall be provided with an acoustically compressor enclosure. This enclosure shall be realized with an light, corrosion resisting aluminium structure and metal panels. The compressors sound-proof enclosure shall be internally fitted with flexible, multi layer, high density materials. The middle layer is 3 mm, very high density and high efficiency noise reduction material. The enclosure shall be carefully assembled to avoid decreasing of its noise reduction power. (only for Noise Versions OPLN)
- ✓ The chiller shall be provided with very low speed condenser fans and with a larger condenser section.

3 Specifications

3-1 TECHNICAL SPECIFICATIONS				EWAP800AJYNN	EWAP900AJYNN	EWAP950AJYNN	EWAPC10AJYNN	EWAPC11AJYNN	EWAPC12AJYNN
Capacity (Eurovent conditions specified in notes)	Cooling	Nominal	kW	790	875	944	1026	1092	1158
Capacity Steps			%	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 8.3-100
Nominal input (Eurovent conditions specified in notes)	Cooling		kW	340	373	405	442	476	507
EER				2.32	2.34	2.33	2.32	2.29	2.28
ESEER				2.87	2.90	2.89	2.88	2.84	2.90
Casing	Colour			RAL7032					
Dimensions	Unit	Height	mm	2520	2520	2520	2520	2520	2520
		Width	mm	6210	7110	7110	8010	8010	9170
		Depth	mm	2230	2230	2230	2230	2230	2230
Weight	Unit		kg	5165	5425	5555	5795	5905	7990
	Operating Weight		kg	5430	5710	5840	6070	6180	8270
Water Heat Exchanger	Minimum water volume in the system (Formula)			The minimum water content per unit should be calculated with a certain approximation using this simplified formula: Q= 35.83 X (P(kW) / ? T(°C)) X (1/ N) where : Q = minimum water content per unit expressed in litres P = minimum cooling capacity of the unit expressed in kW ?T = evaporator entering / leaving water temperature difference expressed in °C N = Number of compressors For more accurate determination of quantity of water, it is advisable to contact the designer of the plant.					
Air heat exchanger	Type			Lanced fins – internally spiral wound tubes					
Water Heat Exchanger	Type			Shell and tube					
	Minimum water volume in the system		l	278	271	271	256	256	263
	Water flow rate	Min	l/min	882	1090	1096	1371	1373	1212
		Nominal	l/min	2265	2508	2706	2941	3130	3320
		Max	l/min	2788	3445	3465	4337	4341	3833
Nominal water pressure drop	Cooling	Heat exchanger	kPa	66	53	61	46	52	75
Water Heat Exchanger	Model	Quantity		1	1	1	1	1	1
Fan	Type			Helical					
	Drive			Direct drive					
	Diameter		mm	800	800	800	800	800	800
	Nominal air flow		m³/min	3978	4314	4644	4974	5304	5970
	Model	Quantity		12	13	14	15	16	18
		Speed	rpm	860	860	860	860	860	860
		Motor Output	W	2000	2000	2000	2000	2000	2000
		Discharge direction		Vertical					
Compressor	Type			Semi-hermetic single screw compressor					
	Refrigerant oil charge		l	28	28	28	28	28	28
	Model	Quantity		2	2	2	2	2	3
		Speed	rpm	2950	2950	2950	2950	2950	2950
Sound Level	Sound Power	Cooling	dBA	101	102	102	103	103	103
	Sound Pressure	Cooling	dBA	80.5	80.5	81	81	81	81
	Sound Pressure + OPRN		dBA	75.0	75.0	75.5	76.0	76.0	76.5
	Sound Pressure + OPLN		dBA	72.5	72.5	72.5	72.5	72.5	73.0
Refrigerant circuit	Refrigerant type			R-407C					
	Refrigerant charge		kg	120	130	140	150	160	180
	No of circuits			2	2	2	2	2	3
	Refrigerant control			Electronic expansion valve					
Piping connections	Evaporator water inlet/outlet			Victaulic, diameter 219.1mm					

3 Specifications

3-1 TECHNICAL SPECIFICATIONS	EWAP800AJYNN	EWAP900AJYNN	EWAP950AJYNN	EWAPC10AJYNN	EWAPC11AJYNN	EWAPC12AJYNN
Safety Devices	High pressure (pressure switch)					
	Low pressure (pressure switch)					
	Condensation fan magneto-thermal					
	High discharge temperature on the compressor					
	Phase monitor					
	Star/delta transition failed					
	Low delta pressure between suction and discharge					
	Low pressure ratio					
	High oil pressure drop					
	Low oil pressure					
Notes	Nominal cooling capacity and power input are based on 12/7 °C entering/leaving water temp. and 35°C air ambient temp. Power input is for the whole unit.					

3-1 TECHNICAL SPECIFICATIONS				EWAPC13AJYNN	EWAPC14AJYNN	EWAPC15AJYNN	EWAPC16AJYNN	EWAPC17AJYNN	EWAPC18AJYNN
Capacity (Eurovent conditions specified in notes)	Cooling	Nominal	kW	1284	1354	1426	1516	1583	1650
Capacity Steps			%	stepless 8.3-10	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100
Nominal input (Eurovent conditions specified in notes)	Cooling		kW	546	578	609	647	682	717
EER				2.35	2.34	2.34	2.34	2.32	2.30
ESEER				2.98	2.98	2.97	2.98	2.95	2.93
Casing	Colour			RAL7032					
Dimensions	Unit	Height	mm	2520	2520	2520	2520	2520	2520
		Width	mm	10070	10070	10970	10970	11870	11870
		Depth	mm	2230	2230	2230	2230	2230	2230
Weight	Unit		kg	8305	8435	8890	8905	9155	9265
	Operating Weight		kg	8775	8905	9360	9350	9600	9710
Water Heat Exchanger	Minimum water volume in the system (Formula)			The minimum water content per unit should be calculated with a certain approximation using this simplified formula: Q= 35.83 X (P(kW) / ? T(°C)) X (1/ N) where : Q = minimum water content per unit expressed in litres P = minimum cooling capacity of the unit expressed in kW ?T = evaporator entering / leaving water temperature difference expressed in °C N = Number of compressors For more accurate determination of quantity of water, it is advisable to contact the designer of the plant.					
Air heat exchanger	Type			Lanced fins – internally spiral wound tubes					
Water Heat Exchanger	Type			Shell and tube					
	Minimum water volume in the system		l	432	432	432	419	419	419
	Water flow rate	Min	l/min	1614	1626	1642	2357	2359	2365
		Nominal	l/min	3681	3882	4088	4346	4538	4730
		Max	l/min	5104	5141	5192	7453	7460	7479
Nominal water pressure drop	Cooling	Heat exchanger	kPa	52	57	62	34	37	40
Water Heat Exchanger	Model	Quantity		1	1	1	1	1	1
Fan	Type			Helical					
	Drive			Direct drive					
	Diameter		mm	800	800	800	800	800	800
	Nominal air flow		m³/min	6300	6636	7440	7296	7632	7962
	Model	Quantity		19	20	22	22	23	24
		Speed	rpm	860	860	860	860	860	860
		Motor Output	W	2000	2000	2000	2000	2000	2000
		Discharge direction		Vertical					

3 Specifications

3-1 TECHNICAL SPECIFICATIONS				EWAPC13AJYNN	EWAPC14AJYNN	EWAPC15AJYNN	EWAPC16AJYNN	EWAPC17AJYNN	EWAPC18AJYNN
Compressor	Type			Semi-hermetic single screw compressor					
	Refrigerant oil charge		l	28	28	28	28	28	28
	Model	Quantity		3	3	3	3	3	3
		Speed	rpm	2950	2950	2950	2950	2950	2950
Sound Level	Sound Power	Cooling	dBA	104	104	104	104	104	104
	Sound Pressure	Cooling	dBA	81.5	81.5	81.5	81.5	81.5	81.5
	Sound Pressure + OPRN		dBA	76.0	76.0	76.5	76.5	77.0	77.0
	Sound Pressure + OPLN		dBA	72.5	73.0	73.0	73.0	73.5	73.5
Refrigerant circuit	Refrigerant type			R-407C					
	Refrigerant charge		kg	190	200	210	220	230	240
	No of circuits			3	3	3	3	3	3
	Refrigerant control			Electronic expansion valve					
Piping connections	Evaporator water inlet/outlet			Victaulic, diameter 273mm					
Safety Devices				High pressure (pressure switch)					
				Low pressure (pressure switch)					
				Condensation fan magneto-thermal					
				High discharge temperature on the compressor					
				Phase monitor					
				Star/delta transition failed					
				Low delta pressure between suction and discharge					
				Low pressure ratio					
				High oil pressure drop					
				Low oil pressure					
Notes				Nominal cooling capacity and power input are based on 12/7 °C entering/leaving water temp. and 35°C air ambient temp. Power input is for the whole unit.					

3-1 TECHNICAL SPECIFICATIONS				EWAP850AJYNN/A	EWAP900AJYNN/A	EWAP950AJYNN/A	EWAPC10AJYNN/A	EWAPC11AJYNN/A	EWAPC12AJYNN/A
Capacity (Eurovent conditions specified in notes)	Cooling	Nominal	kW	854	954	1028	1124	1196	1253
Capacity Steps			%	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 12.5-100	stepless 8.3-100
Nominal input (Eurovent conditions specified in notes)	Cooling		kW	319	354	386	424	458	476
EER				2.67	2.69	2.66	2.65	2.61	2.63
ESEER				3.20	3.24	3.21	3.21	3.17	3.24
Casing	Colour			RAL7032					
Dimensions	Unit	Height	mm	2520	2520	2520	2520	2520	2520
		Width	mm	8010	8910	8910	9810	9810	11870
		Depth	mm	2230	2230	2230	2230	2230	2230
Weight	Unit		kg	5900	6170	6290	6525	6645	9050
	Operating Weight		kg	6185	6440	6560	6780	6900	9320
Water Heat Exchanger	Minimum water volume in the system (Formula)			The minimum water content per unit should be calculated with a certain approximation using this simplified formula: Q= 35.83 X (P(kW) / ? T(°C)) X (1/ N) where : Q = minimum water content per unit expressed in litres P = minimum cooling capacity of the unit expressed in kW ?T = evaporator entering / leaving water temperature difference expressed in °C N = Number of compressors For more accurate determination of quantity of water, it is advisable to contact the designer of the plant.					
Air heat exchanger	Type			Lanced fins – internally spiral wound tubes					

3 Specifications

3-1 TECHNICAL SPECIFICATIONS				EWAP850AJYNN/A	EWAP900AJYNN/A	EWAP950AJYNN/A	EWAPC10AJYNN/A	EWAPC11AJYNN/A	EWAPC12AJYNN/A
Water Heat Exchanger	Type			Shell and tube					
	Minimum water volume in the system		l	271	256	256	270	270	278
	Water flow rate	Min	l/min	1084	1351	1374	1169	1176	1560
		Nominal	l/min	2448	2735	2947	3222	3429	3592
		Max	l/min	3428	4271	4345	3696	4934	4934
Nominal water pressure drop	Cooling	Heat exchanger	kPa	51	41	46	76	85	53
Water Heat Exchanger	Model	Quantity		1	1	1	1	1	1
Fan	Type			Helical					
	Drive			Direct drive					
	Diameter		mm	800	800	800	800	800	800
	Nominal air flow		m³/min	5310	5640	5970	6300	6636	7962
	Model	Quantity		16	17	18	19	20	24
		Speed	rpm	860	860	860	860	860	860
		Motor Output	W	2000	2000	2000	2000	2000	2000
		Discharge direction		Vertical					
Compressor	Type			Semi-hermetic single screw compressor					
	Refrigerant oil charge		l	28	28	28	28	28	28
	Model	Quantity		2	2	2	2	2	3
		Speed	rpm	2950	2950	2950	2950	2950	2950
Sound Level	Sound Power	Cooling	dBA	102	102	103	103	103	104
	Sound Pressure	Cooling	dBA	80.5	80.5	81	81	81	81
	Sound Pressure + OPRN		dBA	75.0	75.0	75.5	76.0	76.5	76.5
	Sound Pressure + OPLN		dBA	72.5	72.5	72.5	72.5	72.5	73.0
Refrigerant circuit	Refrigerant type			R-407C					
	Refrigerant charge		kg	160	170	180	190	200	240
	No of circuits			2	2	2	2	2	3
	Refrigerant control			Electronic expansion valve					
Piping connections	Evaporator water inlet/outlet			Victaulic, diameter 219.1mm					
Safety Devices				High pressure (pressure switch)					
				Low pressure (pressure switch)					
				Condensation fan magneto-thermal					
				High discharge temperature on the compressor					
				Phase monitor					
				Star/delta transition failed					
				Low delta pressure between suction and discharge					
				Low pressure ratio					
				High oil pressure drop					
				Low oil pressure					
Notes				Nominal cooling capacity and power input are based on 12/7 °C entering/leaving water temp. and 35°C air ambient temp. Power input is for the whole unit.					
				Unit C17 and C18 are longer than 14000 mm so beware of special transportation required.					

3-1 TECHNICAL SPECIFICATIONS				EWAPC13AJYNN/A	EWAPC14AJYNN/A	EWAPC15AJYNN/A	EWAPC16AJYNN/A	EWAPC17AJYNN/A	EWAPC18AJYNN/A
Capacity (Eurovent conditions specified in notes)	Cooling	Nominal	kW	1357	1427	1497	1595	1644	1729
Capacity Steps			%	stepless 8.3-100					
Nominal input (Eurovent conditions specified in notes)	Cooling		kW	512	542	575	611	654	678
EER				2.65	2.63	2.60	2.61	2.51	2.55

3 Specifications

3-1 TECHNICAL SPECIFICATIONS				EWAPC13AJYNN/A	EWAPC14AJYNN/A	EWAPC15AJYNN/A	EWAPC16AJYNN/A	EWAPC17AJYNN/A	EWAPC18AJYNN/A
ESEER				3.28	3.26	3.22	3.24	3.12	3.18
Casing	Colour			RAL7032					
Dimensions	Unit	Height	mm	2520	2520	2520	2520	2520	2520
		Width	mm	12770	12770	13670	13670	14570	14570
		Depth	mm	2230	2230	2230	2230	2230	2230
Weight	Unit		kg	9505	9625	10060	10075	10410	10470
	Operating Weight		kg	9980	10100	10530	10520	10860	10920
Water Heat Exchanger	Minimum water volume in the system (Formula)			The minimum water content per unit should be calculated with a certain approximation using this simplified formula: Q= 35.83 X (P(kW) / ? T(°C)) X (1/ N) where : Q = minimum water content per unit expressed in litres P = minimum cooling capacity of the unit expressed in kW ?T = evaporator entering / leaving water temperature difference expressed in °C N = Number of compressors For more accurate determination of quantity of water, it is advisable to contact the designer of the plant.					
Air heat exchanger	Type			Lanced fins – internally spiral wound tubes					
Water Heat Exchanger	Type			Shell and tube					
	Minimum water volume in the system		l	432	432	432	419	419	419
	Water flow rate	Min	l/min	1629	1643	1634	2346	2356	2390
		Nominal	l/min	3890	4091	4291	4572	4713	4957
		Max	l/min	5153	5195	5166	7417	7452	7559
Nominal water pressure drop	Cooling	Heat exchanger	kPa	57	62	69	38	40	43
Water Heat Exchanger	Model	Quantity		1	1	1	1	1	1
Fan	Type			Helical					
	Drive			Direct drive					
	Diameter		mm	800	800	800	800	800	800
	Nominal air flow		m³/min	8292	8622	9468	9288	9618	9948
	Model	Quantity		25	26	28	28	29	30
		Speed	rpm	860	860	860	860	860	860
		Motor Output	W	2000	2000	2000	2000	2000	2000
		Discharge direction		Vertical					
Compressor	Type			Semi-hermetic single screw compressor					
	Refrigerant oil charge		l	28	28	28	28	28	28
	Model	Quantity		3	3	3	3	3	3
		Speed	rpm	2950	2950	2950	2950	2950	2950
Sound Level	Sound Power	Cooling	dBA	104	104	105	105	105	105
	Sound Pressure	Cooling	dBA	81.5	81.5	81.5	81.5	81.5	81.5
	Sound Pressure + OPRN		dBA	76.0	76.0	76.5	76.5	77.0	77.0
	Sound Pressure + OPLN		dBA	66.5	67.0	67.5	67.5	67.5	67.5
Refrigerant circuit	Refrigerant type			R-407C					
	Refrigerant charge		kg	250	260	270	280	290	300
	No of circuits			3	3	3	3	3	3
	Refrigerant control			Electronic expansion valve					
Piping connections	Evaporator water inlet/outlet			Victaulic, diameter 273mm					

3 Specifications

3-1 TECHNICAL SPECIFICATIONS	EWAPC13AJYNN/A	EWAPC14AJYNN/A	EWAPC15AJYNN/A	EWAPC16AJYNN/A	EWAPC17AJYNN/A	EWAPC18AJYNN/A
Safety Devices	High pressure (pressure switch)					
	Low pressure (pressure switch)					
	Condensation fan magneto-thermal					
	High discharge temperature on the compressor					
	Phase monitor					
	Star/delta transition failed					
	Low delta pressure between suction and discharge					
	Low pressure ratio					
	High oil pressure drop					
	Low oil pressure					
Notes	Nominal cooling capacity and power input are based on 12/7 °C entering/leaving water temp. and 35°C air ambient temp. Power input is for the whole unit.					
	Unit C17 and C18 are longer than 14000 mm so beware of special transportation required.					

3 Specifications

3-2 ELECTRICAL SPECIFICATIONS				EWAP800AJYNN	EWAP900AJYNN	EWAP950AJYNN	EWAPC10AJYNN	EWAPC11AJYNN	EWAPC12AJYNN
Power Supply	Name			YN					
	Phase			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%					
		Maximum	%	+10%					
Unit	Starting Current		A	1050	1054	1116	1120	1165	1265
	Nominal Running Current Cooling		A	517	561	673	729	780	796
	Maximum Running Current		A	647	703	767	833	896	963
	Max unit current for wires sizing		A	668	728	788	848	908	1002
Fan	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Nominal Running Current Cooling		A	48	52	56	60	64	72
Compressor	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Voltage Tolerance	Minimum	%	-10%					
		Maximum	%	+10%					
	Maximum Running Current		A	599	651	711	773	832	891
	Starting Method			Star-delta					
Notes				Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.					
				Max unit starting current: Starting current of biggest compressor + 75% of nominal absorbed current of the other compressor + fans current.					
				Max unit current for wires sizing : compressor FLA (Full Load Ampere) + fans current.					

3-2 ELECTRICAL SPECIFICATIONS				EWAPC13AJYNN	EWAPC14AJYNN	EWAPC15AJYNN	EWAPC16AJYNN	EWAPC17AJYNN	EWAPC18AJYNN
Power Supply	Name			YN					
	Phase			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%					
		Maximum	%	+10%					
Unit	Starting Current		A	1248	1344	1402	1405	1489	1491
	Nominal Running Current Cooling		A	823	864	1012	1070	1122	1173
	Maximum Running Current		A	1026	1082	1152	1222	1285	1347
	Max unit current for wires sizing		A	1062	1122	1186	1242	1302	1362
Fan	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Nominal Running Current Cooling		A	76	80	88	88	92	96
Compressor	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Voltage Tolerance	Minimum	%	-10%					
		Maximum	%	+10%					
	Maximum Running Current		A	950	1002	1064	1134	1193	1251
	Starting Method			Star-delta					
Notes				Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.					
				Max unit starting current: Starting current of biggest compressor + 75% of nominal absorbed current of the other compressor + fans current.					
				Max unit current for wires sizing : compressor FLA (Full Load Ampere) + fans current.					

3 Specifications

3-2 ELECTRICAL SPECIFICATIONS				EWAP850AJYNN/A	EWAP900AJYNN/A	EWAP950AJYNN/A	EWAPC10AJYNN/A	EWAPC11AJYNN/A	EWAPC12AJYNN/A
Power Supply	Name			YN					
	Phase			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%					
		Maximum	%	+10%					
Unit	Starting Current		A	1051	1055	1125	1129	1172	1259
	Nominal Running Current Cooling		A	477	523	652	707	757	710
	Maximum Running Current		A	660	723	782	853	920	984
	Max unit current for wires sizing		A	684	744	804	864	924	1026
Fan	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Nominal Running Current Cooling		A	64	68	72	76	80	96
Compressor	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Voltage Tolerance	Minimum	%	-10%					
		Maximum	%	+10%					
	Maximum Running Current		A	596	655	710	777	840	888
	Starting Method			Star-delta					
Notes				Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.					
				Max unit starting current: Starting current of biggest compressor + 75% of nominal absorbed current of the other compressor + fans current.					
				Max unit current for wires sizing : compressor FLA (Full Load Ampere) + fans current.					

3-2 ELECTRICAL SPECIFICATIONS				EWAPC13AJYNN/A	EWAPC14AJYNN/A	EWAPC15AJYNN/A	EWAPC16AJYNN/A	EWAPC17AJYNN/A	EWAPC18AJYNN/A
Power Supply	Name			YN					
	Phase			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%					
		Maximum	%	+10%					
Unit	Starting Current		A	1232	1332	1406	1407	1486	1489
	Nominal Running Current Cooling		A	756	796	972	1023	1078	1121
	Maximum Running Current		A	1048	1106	1168	1235	1296	1365
	Max unit current for wires sizing		A	1086	1146	1210	1266	1322	1386
Fan	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Nominal Running Current Cooling		A	100	104	112	112	112	120
Compressor	Phase			3	3	3	3	3	3
	Voltage		V	400	400	400	400	400	400
	Voltage Tolerance	Minimum	%	-10%					
		Maximum	%	+10%					
	Maximum Running Current		A	948	1002	1056	1123	1184	1245
	Starting Method			Star-delta					
Notes				Allowed voltage tolerance ± 10%. Voltage unbalance between phases must be within ± 3%.					
				Max unit starting current: Starting current of biggest compressor + 75% of nominal absorbed current of the other compressor + fans current.					
				Max unit current for wires sizing : compressor FLA (Full Load Ampere) + fans current.					

4 Options

OPTIONS

100% total heat recovery (R) - Produced with shell and tube heat exchangers to obtain hot water up to +55° C. The heat exchangers are installed on the refrigerant circuits in parallel to the condenser coils, to remove all the condensation heat.

25% partial heat recovery (D) - Produced with plate to plate heat exchangers installed between the compressor discharge and the condenser coil. Hot water can be produced up to a maximum temperature of +55°C.

Compressor thermal overload relays - Safety devices against compressor motor overloading in addition to the normal protection envisaged by the electrical windings.

Ammeter and voltmeter - Digital meters of unit drawn amperes and voltage values, installed on the electrical control panel.

Absorbed Current Limit / Display - This options allows to monitor the chiller absorbed current with possibility to set a limit value. This option excludes the Demand Limit.

Condenser power factor correction - Installed on the electrical control panel to ensure it conforms to the plant rules. (McQuay advices maximum 0,9).

100 Pa lift fans - For all the applications where a higher fans lift is required (not available for LN, XN, XXN versions and not compatible with fan speed modulation options).

250 Pa lift fans - For all the applications where a higher fans lift is required (not available for LN, XN, XXN versions and not compatible with fan speed modulation options).

Fan speed control device - This device allows the continuous variation of the fan speed, modifying the air flow according to the external temperature conditions. It allows the unit working with air temperature down to -18°C.

Fan Silent Mode - The microprocessor clock switches the fan at low speed according to the client setting (i.e. Night & Day), providing that the ambient temperature/condensing pressure is allowing the speed change. It allows a perfect condensing control down to -18°C

Speedtrol - Continous fan speed modulation on the first fan of each circuit. It allows the unit working with air temperature down to -20°C.

Condenser coil guards - Metal protection guards fixed on all the external surface of the condenser coils.

Evaporator area guards - Metal protection guards around evaporator area.

Cu-Cu condensing coils - To give better protection against corrosion by aggressive environments.

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

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

20mm thicked evaporator insulation - Useful in really heavy operating conditions.

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

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

Spreader bars - Facilitate the lifting of the units keeping the ropes away from the unit's casing.

Rubber type antivibration mounts - Supplied separately. Ideal to reduce the vibrations when the unit is floor mounted.

Witness tests - The units are normally tested at the test bench prior to the shipment. On request, a second test can be carried out, at customer's presence, in accordance with the procedures indicated on the test form. (Not available for units with Glycol mixtures).

Soft start - Electronic starting device to reduce inrush current. An overload protection is included (no need of compressors thermal relays).

Over / Under Voltage - Phase monitor to control the minimum and maximum voltage value.

Water circulation pump - The pump is unit mounted. Hydronic kit consists of: one centrifugal pump direct driven, expansion tank, water feed circuit with pressure gauge, safety valve. The pump motor is protected by a circuit breaker installed in control panel. The kit is assembled and wired to the control panel.

Two water circulation pumps - Pumps units are unit mounted. Hydronic kit consists of: two centrifugal pumps direct driven, expansion tank, water feed circuit with pressure gauge, safety valve, check valves, shut-off valves. The pumps motors are protected by circuit breakers installed in control panel. The kit is assembled and wired to the control panel.

NOTE

1 Spring type isolators (usually used with reciprocating chillers) are not recommended for EWAP-AJYNN chiller because screw compressors do not generate low frequency vibrations.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAP800-C14AJYNN

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)									
		25		30		35		40		42	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
800	4	808,7	248,3	768,6	275,7	726,4	307,3	681,4	343,5	662,8	359,5
	5	831,4	251,7	790,6	279,0	747,5	310,4	701,6	346,4	682,6	362,2
	6	854,5	255,2	812,9	282,4	768,8	313,6	722,1	349,3	702,7	365,0
	7	877,8	258,8	835,3	286,0	790,4	317,0	742,8	352,5	723,0	368,0
	8	901,5	262,5	858,0	289,6	812,3	320,5	763,7	355,7	743,6	371,2
	9	925,4	266,2	881,0	293,4	834,3	324,2	784,9	359,2	764,3	374,5
900	4	895,8	274,7	851,1	303,6	804,2	336,5	754,4	373,9	733,8	390,3
	5	920,9	278,6	875,5	307,5	827,5	340,2	776,8	377,5	755,6	393,7
	6	946,6	282,7	900,1	311,5	851,1	344,2	799,3	381,2	777,8	397,3
	7	972,3	286,9	924,9	315,7	875,0	348,2	822,1	385,1	800,2	401,1
	8	998,5	291,2	950,1	320,0	899,1	352,5	845,2	389,1	822,8	405,1
	9	1024,9	295,6	975,5	324,4	923,5	356,8	868,5	393,3	845,6	409,2
950	4	965,7	298,5	918,1	329,1	868,0	363,6	814,9	402,5	792,9	419,4
	5	992,6	302,9	944,1	333,5	892,9	367,9	838,8	406,7	816,3	423,5
	6	1019,9	307,4	970,4	338,0	918,0	372,4	862,9	411,0	840,0	427,7
	7	1047,4	311,9	996,8	342,6	943,6	376,9	887,3	415,5	863,9	432,1
	8	1075,2	316,7	1023,7	347,3	969,3	381,7	911,9	420,1	888,0	436,7
	9	1103,4	321,5	1050,7	352,2	995,3	386,5	936,8	424,9	912,4	441,4
C10	4	1051,1	326,7	998,9	360,0	943,9	397,6	885,7	440,0	861,4	458,4
	5	1080,5	331,5	1027,2	364,9	970,9	402,4	911,6	444,6	886,8	463,0
	6	1110,1	336,5	1055,8	369,8	998,4	407,3	937,7	449,4	912,6	467,7
	7	1140,2	341,5	1084,6	374,9	1026,1	412,4	964,2	454,4	938,5	472,6
	8	1170,6	346,8	1113,8	380,2	1054,1	417,6	991,0	459,5	964,8	477,6
	9	1201,2	352,1	1143,3	385,6	1082,4	423,0	1018,1	464,8	991,3	482,9
C11	4	1118,6	351,9	1063,4	388,2	1005,0	429,1	943,3	475,2	917,5	495,3
	5	1149,6	357,0	1093,1	393,3	1033,7	434,2	970,8	480,1	944,4	500,1
	6	1180,8	362,3	1123,3	398,6	1062,7	439,4	998,4	485,2	971,6	505,1
	7	1212,5	367,7	1153,9	404,0	1091,9	444,8	1026,4	490,5	999,1	510,3
	8	1244,5	373,2	1184,6	409,6	1121,5	450,3	1054,6	495,9	1026,9	515,7
	9	1277,0	378,9	1215,8	415,4	1151,3	456,1	1083,3	501,6	1054,9	521,2
C12	4	1183,6	368,2	1126,1	409,7	1065,2	457,4	1000,6	512,4	973,6	536,7
	5	1216,5	373,0	1157,8	414,3	1095,8	461,8	1030,0	516,4	1002,3	540,4
	6	1249,8	378,0	1190,1	419,2	1126,8	466,4	1059,6	520,5	1031,4	544,4
	7	1283,5	383,0	1222,5	424,1	1158,0	471,2	1089,6	524,9	1060,9	548,6
	8	1317,5	388,3	1255,4	429,3	1189,7	476,1	1119,9	529,6	1090,7	553,0
	9	1352,0	393,6	1288,6	434,6	1221,6	481,3	1150,5	534,4	1120,7	557,6
C13	4	1315,2	401,1	1249,2	443,5	1179,8	492,0	1106,1	547,2	1075,4	571,5
	5	1352,5	406,9	1285,1	449,2	1214,1	497,4	1139,1	552,4	1107,8	576,4
	6	1390,3	412,8	1321,4	455,1	1249,0	503,1	1172,4	557,7	1140,5	581,6
	7	1428,4	419,0	1358,2	461,2	1284,2	509,1	1206,1	563,3	1173,6	587,0
	8	1467,0	425,3	1395,4	467,5	1319,9	515,2	1240,2	569,2	1207,1	592,7
	9	1506,2	431,7	1433,0	473,9	1356,0	521,5	1274,6	575,3	1240,7	598,7
C14	4	1385,9	425,1	1316,9	469,2	1244,0	519,3	1167,3	576,0	1135,2	600,8
	5	1424,9	431,3	1354,3	475,4	1280,2	525,3	1201,7	581,7	1168,9	606,3
	6	1464,4	437,7	1392,5	481,7	1316,6	531,5	1236,6	587,7	1203,2	612,2
	7	1504,3	444,2	1430,8	488,3	1353,5	537,9	1271,7	593,9	1237,8	618,2
	8	1544,7	450,9	1469,7	495,0	1390,7	544,6	1307,4	600,3	1272,8	624,5
	9	1585,6	457,8	1509,1	501,9	1428,5	551,4	1343,5	607,0	1308,1	631,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTES

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.
2 Shaded values are referred to part load operation.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAPC15-C18AJYNN

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)											
		25		30		35		40		45		46	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
C15	4	1517,1	413,0	1447,2	454,8	1373,8	502,0	1296,4	555,2	1214,5	615,1	1197,6	628,0
	5	1560,7	418,6	1489,3	460,5	1414,3	507,6	1335,4	560,5	1251,9	620,2	1234,6	633,0
	6	1604,7	424,5	1531,9	466,3	1455,5	513,3	1374,8	566,1	1289,8	625,5	1272,2	638,2
	7	1649,5	430,4	1575,2	472,3	1497,1	519,3	1414,9	571,9	1328,1	631,0	1310,2	643,6
	8	1694,8	436,5	1619,0	478,5	1539,3	525,4	1455,5	577,9	1367,0	636,7	1348,7	649,3
	9	1740,6	442,8	1663,3	484,8	1582,1	531,7	1496,6	584,1	1406,4	642,7	1387,6	655,2
C16	4	1617,8	441,8	1542,1	486,2	1462,8	536,2	1379,2	592,6	1290,7	656,2	1272,6	669,8
	5	1664,5	448,0	1587,2	492,4	1506,2	542,4	1420,8	598,5	1330,7	661,8	1312,0	675,3
	6	1711,8	454,4	1633,0	498,8	1550,3	548,7	1463,1	604,7	1371,0	667,6	1352,1	681,1
	7	1759,8	460,9	1679,2	505,4	1594,7	555,2	1505,9	611,0	1412,0	673,6	1392,7	687,0
	8	1808,3	467,6	1726,2	512,2	1640,0	561,9	1549,2	617,6	1453,6	680,0	1433,8	693,3
	9	1857,4	474,5	1773,6	519,1	1685,7	568,9	1593,2	624,4	1495,6	686,5	1475,4	699,8
C17	4	1672,4	475,3	1593,1	523,5	1509,9	577,8	1421,9	639,1	1329,0	708,1	1309,7	722,9
	5	1720,1	482,0	1639,1	530,3	1554,1	584,5	1464,5	645,5	1369,7	714,1	1350,0	728,8
	6	1768,3	489,0	1685,8	537,2	1599,1	591,3	1507,5	652,1	1410,8	720,4	1390,7	735,1
	7	1817,2	496,0	1733,1	544,3	1644,4	598,4	1551,1	659,0	1452,5	727,0	1432,0	741,6
	8	1866,8	503,3	1780,8	551,7	1690,4	605,7	1595,3	666,2	1494,6	733,9	1473,8	748,4
	9	1916,8	510,8	1829,2	559,2	1737,0	613,2	1640,0	673,6	1537,3	741,0	1516,2	755,4
C18	4	1755,1	490,8	1673,4	540,7	1587,5	597,0	1497,0	660,5	1401,1	732,1	1381,2	747,5
	5	1805,1	497,6	1721,7	547,5	1634,1	603,7	1541,7	667,0	1444,0	738,2	1423,8	753,5
	6	1855,8	504,5	1770,7	554,5	1681,3	610,6	1586,9	673,7	1487,2	744,6	1466,7	759,8
	7	1906,9	511,7	1820,2	561,7	1729,1	617,8	1632,9	680,7	1531,2	751,2	1510,2	766,3
	8	1959,0	519,0	1870,4	569,1	1777,4	625,1	1679,3	687,8	1575,7	758,1	1554,2	773,2
	9	2011,5	526,5	1921,2	576,7	1826,3	632,7	1726,4	695,3	1620,6	765,3	1598,8	780,3

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAP800-C14AJYNN+OPRN+OPLN

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)							
		25		30		35		38	
		CC	PI	CC	PI	CC	PI	CC	PI
800	4	771,2	273,9	729,4	304,9	685,2	340,5	657,2	364,4
	5	792,3	277,9	749,7	308,7	704,4	344,1	675,9	367,8
	6	813,6	281,9	770,1	312,7	724,0	347,9	694,8	371,4
	7	835,0	286,1	790,7	316,8	743,7	351,8	714,0	375,2
	8	856,8	290,5	811,4	321,0	763,5	355,9	733,3	379,1
	9	878,6	294,9	832,4	325,4	783,5	360,2	752,7	383,3
900	4	853,1	302,3	806,8	334,6	757,7	371,3	726,9	395,8
	5	876,4	306,9	829,0	339,1	779,0	375,7	747,6	400,1
	6	899,9	311,6	851,5	343,8	800,5	380,3	768,3	404,5
	7	923,6	316,5	874,3	348,7	822,1	385,1	789,4	409,1
	8	947,5	321,6	897,2	353,7	844,0	390,0	810,6	413,9
	9	971,6	326,7	920,3	358,9	866,0	395,1	831,9	418,9
950	4	920,1	327,8	870,7	361,7	818,3	399,9	785,5	425,2
	5	944,9	332,9	894,5	366,8	841,0	405,0	807,6	430,1
	6	970,1	338,2	918,5	372,1	864,1	410,2	829,8	435,2
	7	995,3	343,6	942,7	377,5	887,1	415,6	852,2	440,5
	8	1020,7	349,1	967,2	383,1	910,5	421,1	874,8	446,0
	9	1046,6	354,8	991,8	388,8	934,0	426,8	897,5	451,6
C10	4	1000,2	359,2	945,8	396,2	888,5	437,9	852,4	465,4
	5	1027,2	364,8	971,7	401,9	913,2	443,5	876,3	470,9
	6	1054,4	370,7	997,8	407,7	938,0	449,3	900,5	476,6
	7	1081,9	376,6	1024,1	413,7	963,2	455,2	924,7	482,5
	8	1109,6	382,8	1050,7	419,9	988,4	461,3	949,2	488,5
	9	1137,5	389,0	1077,4	426,2	1013,9	467,6	974,1	494,8
C11	4	1064,5	387,3	1007,1	427,6	946,2	473,1	907,7	503,1
	5	1093,1	393,3	1034,3	433,7	972,1	479,0	933,1	508,9
	6	1121,9	399,5	1061,9	439,9	998,5	485,2	958,5	515,0
	7	1150,9	405,9	1089,7	446,3	1025,0	491,5	984,2	521,2
	8	1180,3	412,4	1117,8	452,8	1051,6	498,0	1010,2	527,7
	9	1209,7	419,1	1146,0	459,6	1078,6	504,8	1036,3	534,3
C12	4	1130,8	406,1	1070,8	452,9	1006,9	506,9	966,4	543,2
	5	1161,3	411,8	1100,1	458,4	1034,9	512,0	993,7	548,0
	6	1192,2	417,5	1129,8	464,1	1063,4	517,4	1021,2	553,1
	7	1223,4	423,5	1159,7	469,9	1091,9	523,0	1049,2	558,5
	8	1254,8	429,7	1189,9	476,0	1120,7	528,8	1077,2	564,1
	9	1286,6	436,0	1220,3	482,2	1149,9	534,9	1105,5	569,9
C13	4	1251,9	441,8	1183,4	489,3	1110,8	543,6	1065,1	579,8
	5	1286,3	448,5	1216,3	495,9	1142,2	550,0	1095,6	586,0
	6	1320,9	455,4	1249,5	502,8	1173,9	556,6	1126,4	592,4
	7	1356,0	462,6	1283,1	509,9	1205,8	563,5	1157,3	599,1
	8	1391,3	470,0	1316,9	517,2	1238,1	570,6	1188,6	606,0
	9	1427,1	477,5	1350,8	524,7	1270,5	578,0	1220,1	613,2
C14	4	1319,5	467,5	1247,7	516,6	1171,9	572,4	1124,2	609,3
	5	1355,5	474,7	1282,2	523,8	1204,8	579,4	1156,2	616,2
	6	1391,7	482,2	1317,1	531,2	1238,0	586,7	1188,3	623,3
	7	1428,3	489,8	1352,1	538,9	1271,3	594,2	1220,7	630,6
	8	1465,3	497,7	1387,4	546,8	1305,1	601,9	1253,5	638,2
	9	1502,6	505,8	1423,0	554,9	1339,1	609,9	1286,5	646,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTES

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAPC15-C18AJYNN+OPRN+OPLN

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)							
		25		30		35		38	
		CC	PI	CC	PI	CC	PI	CC	PI
C15	4	1394,4	488,4	1320,0	538,6	1241,2	595,2	1191,7	632,5
	5	1432,3	496,0	1356,3	546,2	1275,9	602,7	1225,3	639,9
	6	1470,5	503,8	1392,9	554,1	1310,8	610,5	1259,3	647,6
	7	1509,2	511,9	1429,9	562,1	1346,1	618,5	1293,6	655,5
	8	1548,1	520,1	1467,1	570,5	1381,7	626,7	1328,1	663,6
	9	1587,4	528,6	1504,7	579,0	1417,6	635,2	1363,0	672,1
C16	4	1477,4	526,7	1396,8	580,4	1311,4	640,9	1257,8	680,8
	5	1517,5	535,1	1435,1	588,8	1348,0	649,2	1293,4	689,0
	6	1558,0	543,7	1473,7	597,5	1384,9	657,8	1329,1	697,5
	7	1598,9	552,6	1513,0	606,4	1422,1	666,7	1365,2	706,2
	8	1640,2	561,8	1552,3	615,6	1459,7	675,8	1401,6	715,2
	9	1681,7	571,1	1592,1	625,0	1497,5	685,2	1438,3	724,5
C17	4	1542,7	555,0	1458,6	612,0	1369,8	676,3	1313,9	718,7
	5	1584,3	563,8	1498,5	620,8	1407,7	685,0	1350,6	727,2
	6	1626,5	572,8	1538,7	629,9	1446,1	693,9	1387,9	736,0
	7	1668,9	582,1	1579,4	639,2	1484,7	703,2	1425,4	745,2
	8	1711,7	591,6	1620,2	648,8	1523,8	712,7	1463,2	754,6
	9	1754,8	601,4	1661,5	658,6	1563,1	722,5	1501,3	764,3
C18	4	1607,9	583,3	1520,5	643,6	1428,0	711,6	1369,8	756,5
	5	1651,2	592,5	1561,9	652,8	1467,4	720,7	1408,1	765,4
	6	1694,8	601,9	1603,6	662,3	1507,3	730,0	1446,7	774,6
	7	1738,8	611,6	1645,8	672,0	1547,4	739,7	1485,7	784,1
	8	1783,2	621,5	1688,2	682,0	1587,8	749,6	1524,8	794,0
	9	1827,9	631,7	1731,0	692,3	1628,6	759,8	1564,4	804,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAP850-C14AJYNN/A: standard

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)											
		25		30		35		40		45		46	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
850	4	864,4	227,6	824,3	251,8	782,0	279,6	737,6	311,4	690,5	348,0	680,7	356,0
	5	889,8	230,6	848,7	254,7	805,7	282,3	760,3	313,9	712,2	350,2	702,3	358,0
	6	915,6	233,7	873,6	257,8	829,7	285,2	783,3	316,5	734,4	352,5	724,2	360,2
	7	941,6	236,8	898,9	260,9	854,1	288,2	806,7	319,3	756,7	354,9	746,3	362,6
	8	968,1	240,1	924,4	264,1	878,6	291,3	830,4	322,3	779,4	357,5	768,9	365,2
	9	995,0	243,4	950,5	267,4	903,6	294,5	854,4	325,3	802,4	360,3	791,7	367,9
900	4	967,5	255,2	921,4	281,0	873,3	310,3	822,8	343,6	769,3	381,4	758,3	389,6
	5	996,0	258,8	949,0	284,6	899,9	313,8	848,2	346,8	793,7	384,4	782,5	392,5
	6	1025,1	262,5	977,2	288,3	926,9	317,4	874,1	350,3	818,4	387,5	807,0	395,6
	7	1054,5	266,3	1005,5	292,1	954,2	321,1	900,3	353,8	843,5	390,9	831,7	398,8
	8	1084,4	270,3	1034,2	296,0	981,9	325,0	926,9	357,6	868,9	394,3	857,0	402,2
	9	1114,6	274,3	1063,5	300,1	1010,0	329,0	953,8	361,4	894,6	398,0	882,4	405,8
950	4	1042,8	279,5	993,4	307,2	941,7	338,4	887,6	373,5	830,3	413,0	818,4	421,5
	5	1073,3	283,5	1022,9	311,2	970,2	342,3	914,6	377,3	856,2	416,7	844,2	425,1
	6	1104,1	287,7	1052,7	315,4	998,8	346,4	942,1	381,3	882,5	420,4	870,2	428,8
	7	1135,5	291,9	1082,9	319,7	1027,8	350,7	970,2	385,4	909,2	424,4	896,6	432,7
	8	1167,3	296,3	1113,6	324,1	1057,4	355,0	998,4	389,7	936,3	428,5	923,4	436,8
	9	1199,4	300,8	1144,6	328,6	1087,3	359,5	1027,0	394,1	963,7	432,7	950,6	441,0
C10	4	1141,8	308,1	1086,9	338,3	1029,3	372,4	968,8	410,7	905,2	453,8	892,0	463,1
	5	1175,3	312,7	1119,1	342,9	1060,4	376,9	998,6	415,0	933,6	457,9	920,2	467,1
	6	1209,3	317,4	1152,0	347,6	1091,9	381,5	1028,8	419,5	962,4	462,2	948,7	471,4
	7	1243,9	322,2	1185,2	352,5	1123,9	386,3	1059,5	424,2	991,6	466,7	977,6	475,8
	8	1278,8	327,1	1218,9	357,5	1156,3	391,3	1090,5	429,1	1021,2	471,4	1007,0	480,4
	9	1314,2	332,2	1253,1	362,6	1189,0	396,4	1121,9	434,1	1051,2	476,2	1036,7	485,2
C11	4	1215,4	333,4	1157,1	366,3	1095,9	403,4	1031,6	445,2	963,9	492,3	949,8	502,4
	5	1250,8	338,3	1191,2	371,2	1128,8	408,3	1063,1	449,9	993,8	496,7	979,5	506,8
	6	1286,8	343,3	1225,8	376,3	1162,0	413,3	1094,9	454,7	1024,2	501,3	1009,7	511,3
	7	1323,1	348,5	1260,8	381,5	1195,7	418,4	1127,3	459,8	1055,1	506,2	1040,2	516,1
	8	1360,0	353,8	1296,5	386,8	1229,9	423,7	1160,0	465,0	1086,3	511,2	1071,1	521,0
	9	1397,2	359,2	1332,4	392,3	1264,4	429,2	1193,2	470,4	1118,0	516,4	1102,4	526,2
C12	4	1267,2	338,1	1209,3	374,6	1148,5	416,5	1084,2	464,8	1016,1	520,2	1001,9	532,3
	5	1303,9	342,3	1244,8	378,7	1182,7	420,4	1117,2	468,3	1047,7	523,2	1033,4	535,1
	6	1341,1	346,7	1280,8	383,0	1217,5	424,5	1150,6	472,0	1079,9	526,4	1065,1	538,2
	7	1378,8	351,2	1317,3	387,5	1252,7	428,8	1184,5	475,9	1112,3	529,9	1097,4	541,5
	8	1417,1	355,8	1354,2	392,0	1288,3	433,2	1218,9	480,1	1145,3	533,5	1130,0	545,1
	9	1455,7	360,5	1391,7	396,8	1324,5	437,8	1253,7	484,4	1178,6	537,4	1163,2	548,9
C13	4	1374,4	365,9	1310,6	404,0	1243,5	447,4	1172,9	496,9	1098,1	553,4	1082,6	565,7
	5	1414,6	370,8	1349,4	408,8	1280,8	452,0	1208,7	501,2	1132,5	557,3	1116,7	569,4
	6	1455,3	375,8	1388,6	413,8	1318,7	456,8	1245,2	505,8	1167,3	561,4	1151,2	573,4
	7	1496,5	381,0	1428,5	418,9	1357,1	461,9	1282,0	510,5	1202,7	565,7	1186,4	577,6
	8	1538,3	386,3	1468,9	424,3	1396,1	467,1	1319,4	515,5	1238,5	570,3	1221,8	582,1
	9	1580,6	391,8	1509,9	429,7	1435,5	472,4	1357,2	520,6	1274,7	575,1	1257,6	586,8
C14	4	1445,7	389,5	1378,8	429,5	1308,5	474,8	1234,5	526,1	1156,2	584,4	1140,0	596,9
	5	1487,4	394,8	1419,2	434,7	1347,4	479,9	1271,8	531,0	1192,0	588,8	1175,5	601,3
	6	1530,0	400,2	1460,2	440,1	1387,0	485,2	1309,9	536,0	1228,4	593,5	1211,5	605,9
	7	1572,9	405,8	1501,6	445,7	1427,1	490,7	1348,3	541,3	1265,3	598,5	1248,1	610,7
	8	1616,4	411,5	1543,8	451,5	1467,5	496,3	1387,2	546,8	1302,5	603,6	1285,0	615,8
	9	1660,5	417,4	1586,4	457,4	1508,6	502,2	1426,8	552,5	1340,4	609,0	1322,5	621,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAPC15-18AJYNN/A

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)											
		25		30		35		40		45		46	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
C15	4	1517,1	413,0	1447,2	454,8	1373,8	502,0	1296,4	555,2	1214,5	615,1	1197,6	628,0
	5	1560,7	418,6	1489,3	460,5	1414,3	507,6	1335,4	560,5	1251,9	620,2	1234,6	633,0
	6	1604,7	424,5	1531,9	466,3	1455,5	513,3	1374,8	566,1	1289,8	625,5	1272,2	638,2
	7	1649,5	430,4	1575,2	472,3	1497,1	519,3	1414,9	571,9	1328,1	631,0	1310,2	643,6
	8	1694,8	436,5	1619,0	478,5	1539,3	525,4	1455,5	577,9	1367,0	636,7	1348,7	649,3
	9	1740,6	442,8	1663,3	484,8	1582,1	531,7	1496,6	584,1	1406,4	642,7	1387,6	655,2
C16	4	1617,8	441,8	1542,1	486,2	1462,8	536,2	1379,2	592,6	1290,7	656,2	1272,6	669,8
	5	1664,5	448,0	1587,2	492,4	1506,2	542,4	1420,8	598,5	1330,7	661,8	1312,0	675,3
	6	1711,8	454,4	1633,0	498,8	1550,3	548,7	1463,1	604,7	1371,0	667,6	1352,1	681,1
	7	1759,8	460,9	1679,2	505,4	1594,7	555,2	1505,9	611,0	1412,0	673,6	1392,7	687,0
	8	1808,3	467,6	1726,2	512,2	1640,0	561,9	1549,2	617,6	1453,6	680,0	1433,8	693,3
	9	1857,4	474,5	1773,6	519,1	1685,7	568,9	1593,2	624,4	1495,6	686,5	1475,4	699,8
C17	4	1672,4	475,3	1593,1	523,5	1509,9	577,8	1421,9	639,1	1329,0	708,1	1309,7	722,9
	5	1720,1	482,0	1639,1	530,3	1554,1	584,5	1464,5	645,5	1369,7	714,1	1350,0	728,8
	6	1768,3	489,0	1685,8	537,2	1599,1	591,3	1507,5	652,1	1410,8	720,4	1390,7	735,1
	7	1817,2	496,0	1733,1	544,3	1644,4	598,4	1551,1	659,0	1452,5	727,0	1432,0	741,6
	8	1866,8	503,3	1780,8	551,7	1690,4	605,7	1595,3	666,2	1494,6	733,9	1473,8	748,4
	9	1916,8	510,8	1829,2	559,2	1737,0	613,2	1640,0	673,6	1537,3	741,0	1516,2	755,4
C18	4	1755,1	490,8	1673,4	540,7	1587,5	597,0	1497,0	660,5	1401,1	732,1	1381,2	747,5
	5	1805,1	497,6	1721,7	547,5	1634,1	603,7	1541,7	667,0	1444,0	738,2	1423,8	753,5
	6	1855,8	504,5	1770,7	554,5	1681,3	610,6	1586,9	673,7	1487,2	744,6	1466,7	759,8
	7	1906,9	511,7	1820,2	561,7	1729,1	617,8	1632,9	680,7	1531,2	751,2	1510,2	766,3
	8	1959,0	519,0	1870,4	569,1	1777,4	625,1	1679,3	687,8	1575,7	758,1	1554,2	773,2
	9	2011,5	526,5	1921,2	576,7	1826,3	632,7	1726,4	695,3	1620,6	765,3	1598,8	780,3

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAP850-C14AJYNN/A+OPRN+OPLN

Unit size	LWE	AIR AMBIENT TEMPERATURE (°C)									
		25		30		35		40		42	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
850	4	835,3	244,9	794,2	271,3	750,8	301,7	704,8	336,5	685,7	351,9
	5	859,4	248,3	817,3	274,6	773,0	304,8	726,2	339,4	706,6	354,6
	6	883,7	251,8	840,8	278,1	795,5	308,1	747,7	342,4	727,7	357,5
	7	908,3	255,4	864,4	281,6	818,2	311,5	769,4	345,6	749,1	360,6
	8	933,3	259,1	888,4	285,3	841,3	315,0	791,5	348,9	770,9	363,8
	9	958,4	262,9	912,8	289,1	864,6	318,7	813,9	352,4	792,7	367,1
900	4	932,5	274,7	885,4	302,7	836,1	334,6	784,0	370,8	762,3	386,6
	5	959,3	278,8	911,2	306,8	860,9	338,5	807,6	374,5	785,6	390,2
	6	986,6	283,0	937,5	311,0	886,0	342,6	831,6	378,4	809,1	394,0
	7	1014,1	287,4	964,1	315,3	911,3	346,9	855,9	382,5	833,0	398,0
	8	1042,2	291,9	990,9	319,8	937,2	351,3	880,5	386,7	857,1	402,2
	9	1070,5	296,5	1018,1	324,4	963,2	355,8	905,4	391,1	881,4	406,5
950	4	1004,4	300,9	954,0	330,8	900,8	364,6	845,0	402,6	821,8	419,1
	5	1033,1	305,5	981,5	335,4	927,4	369,1	870,4	407,0	846,6	423,4
	6	1062,0	310,2	1009,4	340,2	954,1	373,8	895,8	411,5	871,6	427,9
	7	1091,4	315,1	1037,5	345,1	981,1	378,6	921,5	416,2	896,9	432,5
	8	1121,1	320,1	1066,2	350,1	1008,4	383,6	947,7	421,1	922,6	437,3
	9	1151,1	325,2	1095,0	355,3	1036,1	388,8	974,2	426,2	948,4	442,3
C10	4	1097,4	332,4	1041,1	365,1	982,1	402,0	919,9	443,6	894,1	461,6
	5	1128,8	337,6	1071,2	370,4	1010,9	407,2	947,5	448,6	921,0	466,5
	6	1160,6	343,0	1101,8	375,8	1040,2	412,5	975,3	453,8	948,3	471,6
	7	1192,7	348,5	1132,7	381,3	1069,8	418,0	1003,5	459,1	976,0	476,9
	8	1225,3	354,1	1164,0	387,0	1099,6	423,7	1032,0	464,7	1003,9	482,4
	9	1258,1	360,0	1195,5	392,9	1129,8	429,5	1060,7	470,4	1032,2	488,1
C11	4	1167,6	360,2	1107,8	396,0	1044,8	436,4	978,6	481,8	951,0	501,5
	5	1200,7	365,8	1139,6	401,7	1075,3	441,9	1007,5	487,2	979,5	506,8
	6	1234,1	371,6	1171,7	407,5	1106,1	447,6	1037,0	492,7	1008,3	512,3
	7	1268,1	377,5	1204,3	413,4	1137,3	453,6	1066,7	498,5	1037,4	518,0
	8	1302,4	383,6	1237,2	419,5	1168,7	459,7	1096,7	504,5	1066,9	523,9
	9	1337,0	389,9	1270,5	425,8	1200,6	465,9	1127,0	510,7	1096,5	530,0
C12	4	1226,2	363,6	1166,8	403,6	1104,1	449,4	1037,5	502,3	1009,8	525,6
	5	1260,9	368,5	1200,4	408,3	1136,3	453,9	1068,5	506,3	1040,3	529,4
	6	1296,3	373,5	1234,2	413,2	1169,1	458,6	1099,8	510,6	1071,0	533,5
	7	1331,8	378,6	1268,7	418,2	1202,1	463,4	1131,6	515,1	1102,2	537,8
	8	1367,9	383,9	1303,6	423,5	1235,6	468,5	1163,7	519,8	1133,7	542,3
	9	1404,4	389,4	1338,7	428,9	1269,4	473,7	1196,1	524,8	1165,5	547,1
C13	4	1327,4	393,7	1261,9	435,1	1192,8	482,4	1120,0	536,5	1089,5	560,2
	5	1365,3	399,3	1298,3	440,7	1227,9	487,8	1153,5	541,4	1122,5	564,9
	6	1403,7	405,0	1335,3	446,4	1263,4	493,3	1187,4	546,6	1155,9	569,9
	7	1442,4	410,9	1372,7	452,2	1299,3	499,0	1221,8	552,1	1189,5	575,2
	8	1481,8	417,0	1410,5	458,3	1335,6	505,0	1256,6	557,7	1223,6	580,7
	9	1521,5	423,3	1448,8	464,6	1372,4	511,1	1291,6	563,6	1258,1	586,5
C14	4	1395,7	419,1	1327,1	462,5	1254,6	511,7	1178,2	567,5	1146,5	591,9
	5	1435,1	425,1	1365,0	468,5	1291,2	517,6	1213,2	573,1	1180,7	597,3
	6	1475,1	431,4	1403,6	474,7	1328,2	523,6	1248,6	578,9	1215,5	603,0
	7	1515,5	437,8	1442,4	481,1	1365,6	529,9	1284,3	585,0	1250,5	608,9
	8	1556,4	444,3	1481,9	487,7	1403,4	536,4	1320,6	591,2	1286,2	615,1
	9	1597,7	451,1	1521,6	494,4	1441,6	543,1	1357,1	597,8	1322,0	621,5

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 1 Cooling capacity tables

EWAPC15-18AJYNN/A+OPRN+OPLN

Unit size	LWE.	AIR AMBIENT TEMPERATURE (°C)									
		25		30		35		40		42	
		CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
C15	4	1467,1	442,6	1395,4	487,7	1320,0	538,5	1240,3	595,9	1207,2	620,8
	5	1508,4	449,0	1435,2	494,1	1358,2	544,9	1276,9	602,0	1243,0	626,8
	6	1550,2	455,6	1475,4	500,8	1396,8	551,5	1313,9	608,4	1279,3	633,1
	7	1592,3	462,4	1516,1	507,6	1435,8	558,2	1351,2	615,0	1315,9	639,6
	8	1635,0	469,4	1557,2	514,6	1475,4	565,2	1389,0	621,8	1353,0	646,3
	9	1678,2	476,5	1598,8	521,8	1515,2	572,4	1427,1	628,9	1390,5	653,3
C16	4	1558,9	476,2	1481,2	524,3	1399,6	578,6	1313,3	639,7	1277,2	666,3
	5	1602,8	483,3	1523,5	531,4	1440,0	585,6	1352,0	646,5	1315,3	672,9
	6	1647,2	490,6	1566,2	538,8	1481,0	592,9	1391,1	653,6	1353,8	679,9
	7	1692,2	498,1	1609,5	546,3	1522,5	600,3	1430,8	660,9	1392,7	687,1
	8	1737,6	505,8	1653,3	554,1	1564,5	608,1	1470,8	668,5	1431,9	694,6
	9	1783,5	513,7	1697,3	562,1	1606,9	616,0	1511,3	676,3	1471,7	702,3
C17	4	1624,6	503,1	1543,7	554,4	1458,6	612,1	1368,6	677,2	1331,1	705,5
	5	1670,0	510,6	1587,4	561,9	1500,5	619,5	1408,6	684,4	1370,4	712,5
	6	1716,1	518,3	1631,7	569,6	1543,0	627,1	1449,3	691,8	1410,3	719,8
	7	1762,5	526,2	1676,5	577,5	1586,0	635,0	1490,3	699,4	1450,4	727,4
	8	1809,6	534,2	1721,7	585,6	1629,4	643,1	1531,7	707,4	1491,1	735,2
	9	1857,0	542,5	1767,4	594,0	1673,2	651,4	1573,6	715,6	1532,3	743,3
C18	4	1690,2	530,1	1606,3	584,4	1517,6	645,7	1423,9	714,8	1384,8	744,8
	5	1737,3	537,9	1651,5	592,3	1561,1	653,4	1465,4	722,2	1425,5	752,1
	6	1784,8	546,0	1697,2	600,3	1604,9	661,4	1507,3	730,0	1466,7	759,7
	7	1832,9	554,2	1743,5	608,6	1649,3	669,6	1549,8	738,0	1508,3	767,6
	8	1881,5	562,7	1790,2	617,1	1694,1	678,1	1592,7	746,3	1550,4	775,8
	9	1930,5	571,3	1837,5	625,9	1739,6	686,8	1635,9	754,9	1592,9	784,3

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
LWE: Leaving Water Evaporator (°C)

NOTE

1 The power input is for compressor only; cooling cap. and power input referred to evap. fouling factor=0,0176m^2 °C/kW.

5 Capacity tables

5 - 2 Capacity correction factor

Evaporator fouling factors

Fouling factorsm² °C / kW	Cooling capacity correction factor	Power input corretion factor	COP correction factor
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

Condenser fouling factors

Elvation above sea level (m)	0	300	600	900	1200	1500	1800
Barometric pressure (mbar)	1013	977	942	908	875	843	812
Cooling cap.correction factor	1,000	0,993	0,986	0,979	0,973	0,967	0,960
Power input correction factor	1,000	1,005	1,009	1,015	1,021	1,026	1,031

Ethylene glycol and low ambient temperature correction factors

Air ambient temperature °C	-3	-8	-15	-23	-35
% of ethylene glycol by weight	10	20	30	40	50
Cooling capacity correction factor	0,991	0,982	0,972	0,961	0,946
Power input correction factor	0,996	0,992	0,986	0,976	0,966
Flow rate correction factor	1,013	1,040	1,074	1,121	1,178
Water pressure drops correction factor	1,070	1,129	1,181	1,263	1,308

Low temperature operation performance factors

Ethylene glycol/water leaving temperature °C	2	0	-2	-4	-6	-8
Max air ambient temperature °C EWAP-AJYNN	40	39	38	37	36	35
Max air ambient temperature °C /A units	44	43	42	41	40	39
Cooling capacity correction factor	0,842	0,785	0,725	0,670	0,613	0,562
Power input compressors correction factor	0,95	0,94	0,92	0,89	0,87	0,84
Min. % of ethylene glycol	10	20	20	30	30	30

NOTE

1 Low temperature operation performance factors must be applied to the nominal performance data to have the adjusted value (12/7°C, design ambient temperature).

5 Capacity tables

5 - 3 Heat recovery ratings

EWAP-AJYNN
EWAP-AJYNN/A

Standard unit size	/A unit size		LWPR		
			45	50	55
			HC	HC	HC
800	850	Leaving chilled water temperature 7°C ΔT 5°C – Air temperature 35 °C	165	133	99
900	900		181	146	108
950	950		197	160	118
C10	C10		212	172	127
C11	C11		228	185	137
C12	C12		247	200	148
C13	C13		263	213	158
C14	C14		279	226	168
C15	C15		295	239	177
C16	C16		311	252	187
C17	C17		326	264	196
C18	C18		342	277	205

SYMBOLS

HC: Heating Capacity (kW)
LWPR: Leaving desuper-heaters water temperature (°C)

5 Capacity tables

5 - 3 Heat recovery ratings

EWAPC15-C18AJYNN

Unit size	LWE	LWTR											
		40			45			50			55		
		CC	PI	TRC	CC	PI	TRC	CC	PI	TRC	CC	PI	TRC
C15	4	1417,5	474,3	1891,8	1341,0	524,9	1865,9	1260,3	581,9	1842,2	1175,0	646,2	1821,2
	5	1461,4	478,5	1939,9	1383,3	528,8	1912,1	1301,1	585,4	1886,5	1214,1	649,2	1863,3
	6	1506,0	482,8	1988,8	1426,4	532,8	1959,2	1342,5	589,1	1931,6	1253,8	652,4	1906,2
	7	1551,2	487,2	2038,4	1470,1	537,1	2007,2	1384,6	593,0	1977,6	1294,1	655,9	1950,0
	8	1597,2	491,9	2089,1	1514,5	541,5	2056,0	1427,3	597,2	2024,5	1335,1	659,5	1994,6
	9	1643,9	496,6	2140,5	1559,5	546,1	2105,6	1470,6	601,5	2072,1	1376,7	663,5	2040,2
C16	4	1515,0	503,7	2018,7	1432,5	557,0	1989,5	1345,5	617,1	1962,6	1253,6	684,9	1938,5
	5	1562,3	508,2	2070,5	1478,1	561,2	2039,3	1389,3	621,0	2010,3	1295,6	688,2	1983,8
	6	1610,3	512,9	2123,2	1524,4	565,7	2090,1	1433,9	625,0	2058,9	1338,2	691,7	2029,9
	7	1659,1	517,8	2176,9	1571,4	570,3	2141,7	1479,1	629,3	2108,4	1381,6	695,5	2077,1
	8	1708,6	522,8	2231,4	1619,2	575,1	2194,3	1525,1	633,8	2158,9	1425,6	699,6	2125,2
	9	1758,9	528,0	2286,9	1667,7	580,2	2247,9	1571,7	638,5	2210,2	1470,4	703,9	2174,3
C17	4	1582,5	530,2	2112,7	1496,7	586,6	2083,3	1406,3	650,3	2056,6	1310,6	722,0	2032,6
	5	1631,6	534,9	2166,5	1544,1	591,0	2135,1	1451,8	654,2	2106,0	1354,3	725,4	2079,7
	6	1681,4	539,8	2221,2	1592,2	595,6	2187,8	1498,1	658,4	2156,5	1398,7	729,0	2127,7
	7	1732,0	544,8	2276,8	1641,0	600,4	2241,4	1545,1	662,9	2208,0	1443,7	733,0	2176,7
	8	1783,4	550,0	2333,4	1690,6	605,4	2296,0	1592,9	667,5	2260,4	1489,5	737,1	2226,6
	9	1835,6	555,4	2391,0	1741,0	610,6	2351,6	1641,3	672,4	2313,7	1536,0	741,6	2277,6
C18	4	1649,9	556,8	2206,7	1560,9	616,3	2177,2	1467,1	683,4	2150,5	1367,7	759,1	2126,8
	5	1700,8	561,6	2262,4	1610,1	620,8	2230,9	1514,3	687,5	2201,8	1413,1	762,6	2175,7
	6	1752,5	566,6	2319,1	1660,0	625,5	2285,5	1562,4	691,8	2254,2	1459,1	766,3	2225,4
	7	1804,9	571,8	2376,7	1710,6	630,5	2341,1	1611,1	696,4	2307,5	1505,9	770,4	2276,3
	8	1858,2	577,2	2435,4	1762,1	635,7	2397,8	1660,6	701,2	2361,8	1553,4	774,7	2328,1
	9	1912,2	582,8	2495,0	1814,2	641,0	2455,2	1710,9	706,3	2417,2	1601,6	779,3	2380,9

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power Input for the compressor only (kW)
TRC: Total Heat Recovery Capacity (kW)
LWE: Leaving Water Evaporator (°C)
LWTR: Leaving Water Total Heat Recovery (°C)

NOTE

1 Values are based on:
- ΔT=5°C entering/leaving condenser water temperature
- ΔT=5°C entering/leaving evaporator water temperature and with evaporator fouling factor=0,0176 m^2 °C/kW
- condenser fouling factor=0,0440 m^2 °C/kW.

5 Capacity tables

5 - 3 Heat recovery ratings

EWAP800-C14AJYNN

Unit size	LWE	LWTR											
		40			45			50			55		
		CC	PI	TRC	CC	PI	TRC	CC	PI	TRC	CC	PI	TRC
800	4	783,8	265,6	1049,4	741,3	296,3	1037,6	696,4	331,7	1028,1	648,9	372,2	1021,1
	5	808,1	267,5	1075,6	764,8	297,9	1062,7	719,1	332,9	1052,0	670,6	372,9	1043,5
	6	832,9	269,5	1102,4	788,8	299,7	1088,5	742,1	334,2	1076,3	692,7	373,7	1066,4
	7	858,1	271,6	1129,7	813,1	301,5	1114,6	765,5	335,7	1101,2	715,2	374,8	1090,0
	8	883,6	273,8	1157,4	837,7	303,5	1141,2	789,3	337,4	1126,7	738,0	376,0	1114,0
	9	909,6	276,2	1185,8	862,8	305,6	1168,4	813,4	339,2	1152,6	761,1	377,4	1138,5
900	4	870,4	291,3	1161,7	823,1	323,4	1146,5	773,2	360,0	1133,2	720,4	401,5	1121,9
	5	897,6	293,7	1191,3	849,3	325,6	1174,9	798,4	361,8	1160,2	744,6	402,9	1147,5
	6	925,2	296,2	1221,4	875,9	327,9	1203,8	824,0	363,8	1187,8	769,1	404,5	1173,6
	7	953,2	298,8	1252,0	903,0	330,3	1233,3	850,0	365,9	1215,9	794,1	406,2	1200,3
	8	981,6	301,5	1283,1	930,4	332,8	1263,2	876,5	368,1	1244,6	819,4	408,1	1227,5
	9	1010,5	304,3	1314,8	958,3	335,4	1293,7	903,3	370,5	1273,8	845,1	410,1	1255,2
950	4	939,5	315,7	1255,2	889,0	349,5	1238,5	835,7	387,6	1223,3	779,3	430,5	1209,8
	5	968,4	318,4	1286,8	917,0	352,0	1269,0	862,6	389,9	1252,5	805,2	432,5	1237,7
	6	997,9	321,3	1319,2	945,4	354,7	1300,1	890,0	392,3	1282,3	831,4	434,6	1266,0
	7	1027,8	324,2	1352,0	974,2	357,5	1331,7	917,8	394,9	1312,7	858,1	436,8	1294,9
	8	1058,1	327,2	1385,3	1003,5	360,4	1363,9	946,0	397,6	1343,6	885,2	439,2	1324,4
	9	1088,9	330,4	1419,3	1033,3	363,4	1396,7	974,6	400,4	1375,0	912,7	441,8	1354,5
C10	4	1024,6	343,9	1368,5	969,2	380,6	1349,8	910,8	421,9	1332,7	849,1	468,5	1317,6
	5	1056,3	346,9	1403,2	999,9	383,4	1383,3	940,3	424,5	1364,8	877,3	470,7	1348,0
	6	1088,5	350,0	1438,5	1030,9	386,3	1417,2	970,2	427,2	1397,4	906,0	473,1	1379,1
	7	1121,2	353,3	1474,5	1062,5	389,4	1451,9	1000,6	430,0	1430,6	935,1	475,6	1410,7
	8	1154,4	356,6	1511,0	1094,6	392,6	1487,2	1031,5	433,0	1464,5	964,7	478,3	1443,0
	9	1188,1	360,1	1548,2	1127,1	396,0	1523,1	1062,8	436,1	1498,9	994,8	481,1	1475,9
C11	4	1091,0	370,3	1461,3	1032,5	410,1	1442,6	970,8	455,0	1425,8	905,4	505,6	1411,0
	5	1124,5	373,5	1498,0	1064,9	413,1	1478,0	1001,9	457,7	1459,6	935,3	507,8	1443,1
	6	1158,5	376,8	1535,3	1097,7	416,2	1513,9	1033,5	460,5	1494,0	965,6	510,3	1475,9
	7	1193,0	380,2	1573,2	1131,0	419,4	1550,4	1065,6	463,5	1529,1	996,4	512,9	1509,3
	8	1228,0	383,7	1611,7	1164,9	422,8	1587,7	1098,2	466,6	1564,8	1027,7	515,7	1543,4
	9	1263,5	387,4	1650,9	1199,2	426,3	1625,5	1131,3	469,9	1601,2	1059,5	518,7	1578,2
C12	4	1145,4	396,1	1541,5	1084,5	442,7	1527,2	1020,0	496,3	1516,3	951,4	557,8	1509,2
	5	1180,4	398,8	1579,2	1118,4	444,9	1563,3	1052,7	497,9	1550,6	982,9	558,6	1541,5
	6	1216,0	401,6	1617,6	1152,8	447,3	1600,1	1085,8	499,7	1585,5	1014,8	559,6	1574,4
	7	1252,2	404,5	1656,7	1187,7	449,9	1637,6	1119,5	501,7	1621,2	1047,1	561,0	1608,1
	8	1288,8	407,6	1696,4	1223,2	452,6	1675,8	1153,7	504,0	1657,7	1080,0	562,5	1642,5
	9	1326,0	410,8	1736,8	1259,2	455,5	1714,7	1188,4	506,4	1694,8	1113,4	564,3	1677,7
C13	4	1278,0	425,4	1703,4	1207,9	472,6	1680,5	1134,1	526,6	1660,7	1056,0	588,1	1644,1
	5	1318,1	428,8	1746,9	1246,6	475,7	1722,3	1171,3	529,1	1700,4	1091,7	589,9	1681,6
	6	1358,9	432,5	1791,4	1286,0	478,9	1764,9	1209,2	531,8	1741,0	1127,9	592,0	1719,9
	7	1400,4	436,2	1836,6	1326,0	482,4	1808,4	1247,6	534,8	1782,4	1164,8	594,3	1759,1
	8	1442,5	440,2	1882,7	1366,6	486,0	1852,6	1286,7	538,0	1824,7	1202,2	597,0	1799,2
	9	1485,3	444,3	1929,6	1407,9	489,9	1897,8	1326,3	541,5	1867,8	1240,2	599,8	1840,0
C14	4	1347,7	449,9	1797,6	1274,4	498,8	1773,2	1197,2	554,2	1751,4	1115,5	617,1	1732,6
	5	1389,7	453,7	1843,4	1315,0	502,2	1817,2	1236,2	557,3	1793,5	1152,9	619,5	1772,4
	6	1432,5	457,6	1890,1	1356,2	505,9	1862,1	1275,8	560,5	1836,3	1190,8	622,2	1813,0
	7	1475,8	461,7	1937,5	1398,1	509,7	1907,8	1316,1	563,9	1880,0	1229,4	625,1	1854,5
	8	1519,9	466,0	1985,9	1440,6	513,8	1954,4	1357,0	567,6	1924,6	1268,7	628,3	1897,0
	9	1564,6	470,4	2035,0	1483,7	518,0	2001,7	1398,5	571,5	1970,0	1308,5	631,6	1940,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
TRC: Total Heat Recovery Capacity (kW)
LWE: Leaving Water Evaporator (°C)
LWTR: Leaving Water Total Heat Recovery (°C)

NOTE

1 Values are based on:
- ΔT=5°C entering/leaving condenser water temperature
- ΔT=5°C entering/leaving evaporator water temperature and with evaporator fouling factor=0,0176 m^2 °C/kW
- condenser fouling factor=0,0440 m^2 °C/kW.

5 Capacity tables

5 - 3 Heat recovery ratings

EWAP850-C14AJYNN/A

Unit size	LWE	LWTR											
		40			45			50			55		
		CC	PI	TRC	CC	PI	TRC	CC	PI	TRC	CC	PI	TRC
850	4	801,4	267,0	1068,4	757,3	297,4	1054,7	710,7	332,4	1043,1	661,5	372,6	1034,1
	5	826,7	269,0	1095,7	781,7	299,2	1080,9	734,2	333,7	1067,9	683,9	373,4	1057,3
	6	852,5	271,2	1123,7	806,5	301,0	1107,5	758,0	335,2	1093,2	706,8	374,4	1081,2
	7	878,6	273,4	1152,0	831,7	303,0	1134,7	782,3	336,9	1119,2	730,0	375,5	1105,5
	8	905,2	275,8	1181,0	857,3	305,2	1162,5	806,9	338,7	1145,6	753,6	376,9	1130,5
	9	932,2	278,2	1210,4	883,3	307,4	1190,7	831,9	340,6	1172,5	777,6	378,4	1156,0
900	4	900,5	294,0	1194,5	850,2	325,7	1175,9	797,4	361,8	1159,2	741,6	402,8	1144,4
	5	929,2	296,6	1225,8	877,9	328,1	1206,0	824,0	363,8	1187,8	767,0	404,4	1171,4
	6	958,5	299,3	1257,8	906,1	330,6	1236,7	851,0	366,0	1217,0	792,9	406,1	1199,0
	7	988,2	302,1	1290,3	934,7	333,2	1267,9	878,4	368,3	1246,7	819,1	408,1	1227,2
	8	1018,4	305,1	1323,5	963,8	336,0	1299,8	906,4	370,8	1277,2	845,9	410,2	1256,1
	9	1049,1	308,2	1357,3	993,3	338,9	1332,2	934,7	373,5	1308,2	873,0	412,5	1285,5
950	4	974,4	319,0	1293,4	920,5	352,4	1272,9	863,9	390,0	1253,9	804,2	432,4	1236,6
	5	1005,2	322,0	1327,2	950,2	355,1	1305,3	892,4	392,5	1284,9	831,5	434,6	1266,1
	6	1036,5	325,1	1361,6	980,4	358,1	1338,5	921,4	395,2	1316,6	859,2	436,9	1296,1
	7	1068,3	328,3	1396,6	1011,0	361,1	1372,1	950,8	398,0	1348,8	887,4	439,4	1326,8
	8	1100,6	331,6	1432,2	1042,2	364,3	1406,5	980,7	401,0	1381,7	916,0	442,1	1358,1
	9	1133,4	335,0	1468,4	1073,8	367,6	1441,4	1011,1	404,1	1415,2	945,1	445,0	1390,1
C10	4	1070,4	348,3	1418,7	1010,6	384,4	1395,0	947,8	425,1	1372,9	881,5	471,0	1352,5
	5	1104,6	351,6	1456,2	1043,5	387,5	1431,0	979,3	428,0	1407,3	911,6	473,5	1385,1
	6	1139,3	355,1	1494,4	1076,9	390,8	1467,7	1011,3	431,0	1442,3	942,3	476,2	1418,5
	7	1174,6	358,7	1533,3	1110,8	394,3	1505,1	1043,9	434,2	1478,1	973,4	479,1	1452,5
	8	1210,4	362,4	1572,8	1145,4	397,9	1543,3	1077,0	437,6	1514,6	1005,1	482,1	1487,2
	9	1246,8	366,3	1613,1	1180,4	401,6	1582,0	1110,7	441,1	1551,8	1037,3	485,3	1522,6
C11	4	1143,0	375,3	1518,3	1079,5	414,4	1493,9	1012,8	458,6	1471,4	942,4	508,4	1450,8
	5	1179,1	378,8	1557,9	1114,4	417,8	1532,2	1046,2	461,6	1507,8	974,4	511,0	1485,4
	6	1215,9	382,5	1598,4	1149,8	421,3	1571,1	1080,2	464,8	1545,0	1006,9	513,8	1520,7
	7	1253,3	386,3	1639,6	1185,8	424,9	1610,7	1114,8	468,2	1583,0	1040,0	516,9	1556,9
	8	1291,2	390,3	1681,5	1222,3	428,7	1651,0	1149,9	471,8	1621,7	1073,5	520,1	1593,6
	9	1329,8	394,3	1724,1	1259,4	432,6	1692,0	1185,5	475,5	1661,0	1107,7	523,5	1631,2
C12	4	1175,2	398,4	1573,6	1111,6	444,5	1556,1	1044,3	497,5	1541,8	973,0	558,3	1531,3
	5	1211,8	401,2	1613,0	1146,9	446,9	1593,8	1078,3	499,3	1577,6	1005,6	559,3	1564,9
	6	1248,9	404,2	1653,1	1182,7	449,5	1632,2	1112,8	501,3	1614,1	1038,7	560,6	1599,3
	7	1286,6	407,4	1694,0	1219,2	452,3	1671,5	1147,9	503,6	1651,5	1072,4	562,1	1634,5
	8	1324,9	410,7	1735,6	1256,1	455,2	1711,3	1183,5	506,0	1689,5	1106,6	564,0	1670,6
	9	1363,8	414,2	1778,0	1293,7	458,4	1752,1	1219,7	508,7	1728,4	1141,3	566,0	1707,3
C13	4	1278,0	425,4	1703,4	1207,9	472,6	1680,5	1134,1	526,6	1660,7	1056,0	588,1	1644,1
	5	1318,1	428,8	1746,9	1246,6	475,7	1722,3	1171,3	529,1	1700,4	1091,7	589,9	1681,6
	6	1358,9	432,5	1791,4	1286,0	478,9	1764,9	1209,2	531,8	1741,0	1127,9	592,0	1719,9
	7	1400,4	436,2	1836,6	1326,0	482,4	1808,4	1247,6	534,8	1782,4	1164,8	594,3	1759,1
	8	1442,5	440,2	1882,7	1366,6	486,0	1852,6	1286,7	538,0	1824,7	1202,2	597,0	1799,2
	9	1485,3	444,3	1929,6	1407,9	489,9	1897,8	1326,3	541,5	1867,8	1240,2	599,8	1840,0
C14	4	1347,7	449,9	1797,6	1274,4	498,8	1773,2	1197,2	554,2	1751,4	1115,5	617,1	1732,6
	5	1389,7	453,7	1843,4	1315,0	502,2	1817,2	1236,2	557,3	1793,5	1152,9	619,5	1772,4
	6	1432,5	457,6	1890,1	1356,2	505,9	1862,1	1275,8	560,5	1836,3	1190,8	622,2	1813,0
	7	1475,8	461,7	1937,5	1398,1	509,7	1907,8	1316,1	563,9	1880,0	1229,4	625,1	1854,5
	8	1519,9	466,0	1985,9	1440,6	513,8	1954,4	1357,0	567,6	1924,6	1268,7	628,3	1897,0
	9	1564,6	470,4	2035,0	1483,7	518,0	2001,7	1398,5	571,5	1970,0	1308,5	631,6	1940,1

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power input for the compressor only (kW)
TRC: Total Heat Recovery Capacity (kW)
LWE: Leaving Water Evaporator (°C)
LWTR: Leaving Water Total Heat Recovery (°C)

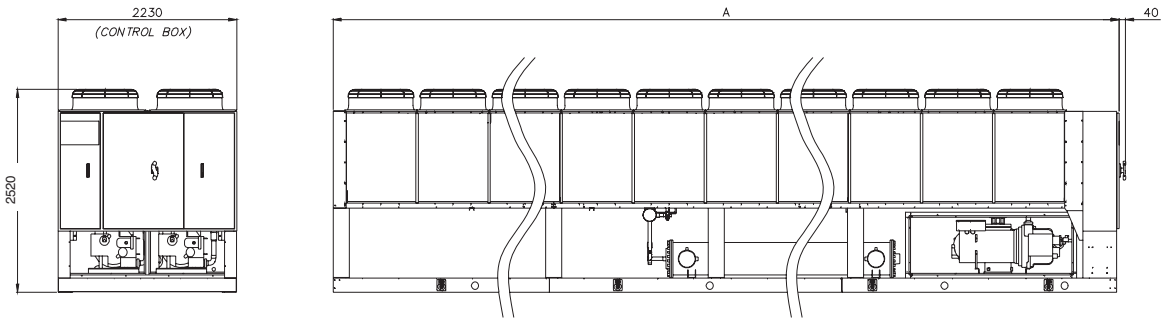
NOTE

1 Values are based on:
- ΔT=5°C entering/leaving condenser water temperature
- ΔT=5°C entering/leaving evaporator water temperature and with evaporator fouling factor=0,0176 m^2 °C/kW
- condenser fouling factor=0,0440 m^2 °C/kW.

6 Dimensional drawing & centre of gravity

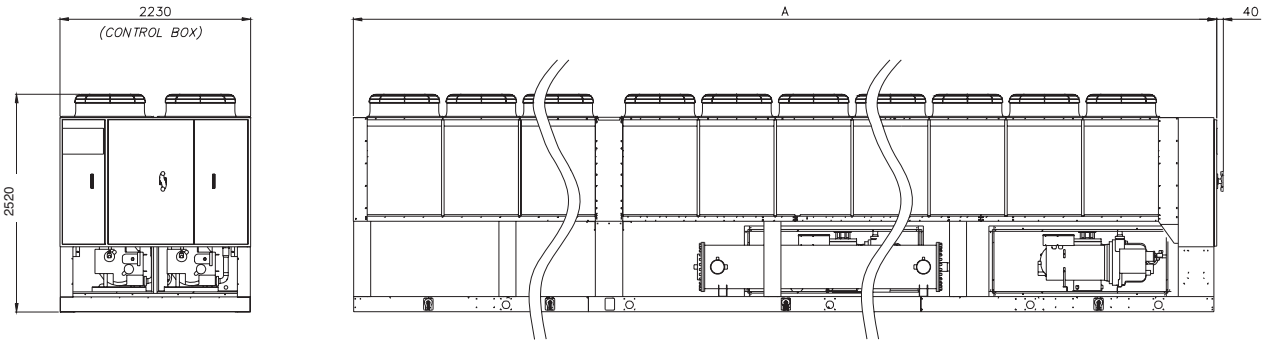
6 - 1 Dimensional drawing

EWAP800-C11AJYNN
EWAP850-C11AJYNN/A



EWAP-AJYNN	Length – A (mm)	EWAP-AJYNN/A	Length – A (mm)
800	6210	850/A	8010
900-950	7110	900-950/A	8910
C10-C11	8010	C10-C11 /A	9810

EWAPC12-C18AJYNN/A



EWAP-AJYNN	Length – A (mm)	EWAP-AJYNN/A	Length – A (mm)
C12	9170	C12	11870
C13-C14	10070	C13-C14	12770
C15-C16	10970	C15-C16	13670
C17-C18	11870	**C17-C18**	

7 Sound data

7 - 1 Sound level data

EWAP-AJYNN
EWAP-AJYNN/A

Standard unit size	/A unit size	Sound pressure level at 1 m from the unit in free field (rif. 2 x 10^{-5})								
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dBA
800	850	78,5	79,0	80,5	76,5	76,0	73,0	64,5	56,0	80.5
900	900	78,5	79,0	80,5	76,5	76,0	73,0	64,5	55,5	80.5
950	950	79,0	78,5	81,0	77,0	76,0	74,0	66,0	56,5	81.0
C10	C10	78,0	78,5	80,5	77,5	76,5	73,0	65,0	57,0	81.0
C11	C11	78,5	79,0	80,5	78,0	77,0	73,0	64,5	56,0	81.0
C12	C12	78,5	79,0	80,5	78,0	77,0	73,0	64,5	56,0	81.0
C13	C13	79,0	79,0	81,0	78,5	77,0	73,5	64,5	56,5	81.5
C14	C14	79,5	79,5	81,5	79,0	76,5	73,5	65,0	57,0	81.5
C15	C15	79,5	80,0	81,5	79,5	76,5	73,0	66,0	58,0	81.5
C16	C16	79,0	81,0	81,5	79,5	76,5	73,5	65,5	57,5	81.5
C17		79,0	81,5	82,0	79,5	76,5	73,5	66,0	58,0	81.5
C18		79,0	81,5	81,5	79,0	76,5	73,5	66,0	57,5	81.5

EWAP-AJYNN
EWAP-AJYNN/A + OPRN

Standard unit size	/A unit size	Sound pressure level at 1 m from the unit in free field (rif. 2 x 10^{-5})								
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dBA
800	850	74,5	71,5	74,5	71,5	70,0	67,5	58,5	51,5	75,0
900	900	75,0	72,0	74,5	71,5	70,5	67,5	59,0	51,5	75,0
950	950	75,5	72,5	75,0	72,0	71,0	67,5	59,5	52,0	75,5
C10	C10	75,5	73,0	75,5	72,5	71,0	69,0	59,5	52,5	76,0
C11	C11	76,0	73,0	76,0	72,5	71,0	69,0	60,0	53,0	76,0
C12	C12	77,0	73,5	76,5	73,0	71,5	69,0	60,5	53,5	76,5
C13	C13	77,5	73,0	76,0	73,0	71,5	69,0	60,5	53,0	76,0
C14	C14	77,5	73,5	75,5	73,5	71,0	69,0	60,5	53,0	76,0
C15	C15	78,0	74,0	75,5	73,5	71,5	69,5	60,5	54,0	76,5
C16	C16	78,0	74,5	76,0	73,5	72,0	69,5	60,0	53,5	76,5
C17		78,5	75,0	76,0	73,5	72,5	69,5	60,5	54,0	77,0
C18		78,5	75,5	76,5	74,0	72,5	69,5	60,5	54,5	77,0

EWAP-AJYNN
EWAP-AJYNN/A + OPLN

Standard unit size	/A unit size	Sound pressure level at 1 m from the unit in free field (rif. 2 x 10^{-5})								
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dBA
800	850	76,0	73,5	73,0	70,5	67,5	62,5	55,5	47,5	72,5
900	900	76,0	73,5	73,0	70,5	67,5	62,5	55,5	47,5	72,5
950	950	76,0	74,0	73,0	70,5	67,5	63,0	55,5	47,5	72,5
C10	C10	76,0	74,0	73,5	70,5	67,5	63,0	55,5	47,5	72,5
C11	C11	76,0	74,0	73,5	71,0	67,5	63,0	56,0	48,0	72,5
C12	C12	76,5	74,5	74,0	71,0	68,0	63,5	55,5	47,5	73,0
C13	C13	76,0	74,0	73,0	70,5	67,5	63,0	55,5	47,5	72,5
C14	C14	77,0	75,0	74,0	71,0	68,0	63,5	56,0	48,0	73,0
C15	C15	77,5	75,5	74,0	71,0	68,0	63,5	56,0	48,5	73,0
C16	C16	78,0	76,0	73,5	71,0	68,5	63,5	57,0	49,0	73,0
C17		77,5	75,5	74,5	71,5	68,0	63,5	57,5	49,0	73,5
C18		78,0	75,0	74,5	72,0	68,0	64,0	57,0	49,5	73,5

NOTE

1 Average sound pressure level rated in accordance to ISO 3744, free field semispheric conditions.
2 Sound pressure levels are referred to EWAP-AJYNN Units furnished without water pump and/or high lift fans.

8 Installation

8 - 1 Installation method

EWAP-AJYNN

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, and block the pushing vehicle away from the unit to prevent damage to the cabinet. Never allow the unit fall during unloading or moving as this may result in serious damage. To lift the unit, holes are provided in the base of the unit. Spreader bar and cables should be arranged to prevent damage to the condenser coil or unit cabinet.

Location

EWAP-AJYNN 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. When the units are positioned in areas which are easily accessible by persons or animals, it is advisable to fit guards to protect the condenser coil guards and, when necessary, also guards to protect the evaporator area.

Space requirements

EWAP-AJYNN units are air-cooled, hence it is important to observe 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 results in reductions in unit efficiency and capacity. EWAP-AJYNN chiller performance is less affected in poor air flow situations because of its special condensing coil geometry.

Moreover DAIKIN's unique microprocessor has the ability to calculate the operating environment of the chiller and the capacity to optimize its performance staying on-line during abnormal conditions.

Each side of the unit must be accessible after installation for periodic service. Fig.1 shows 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.2). In the event the obstacles are higher than the units, the units should be at least 3000 mm from the obstacle (fig.4). Units installed closer than the minimun 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 efficienty reductions. Once again, the microprocessor will allow the chiller to stay on line, producing the maximum available capacity, even at less than recommended lateral clearances.

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.3); stong wind could be the cause of air warm recirculation.

For other installation solutions, consult DAIKIN technicians.

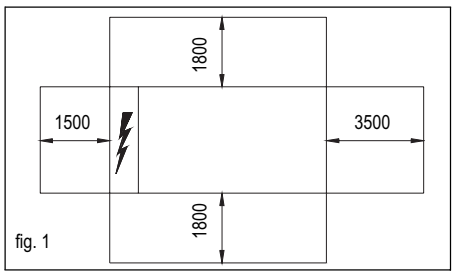


fig. 1

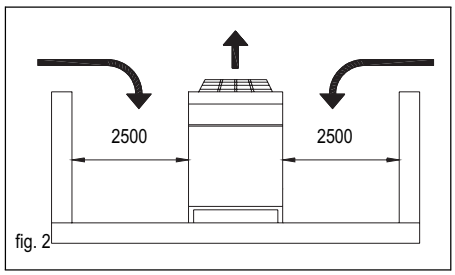


fig. 2

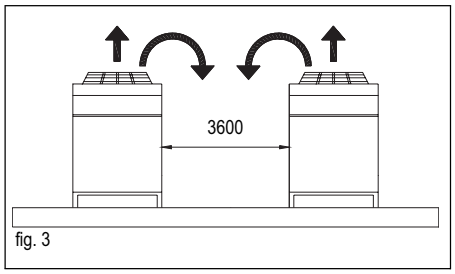


fig. 3

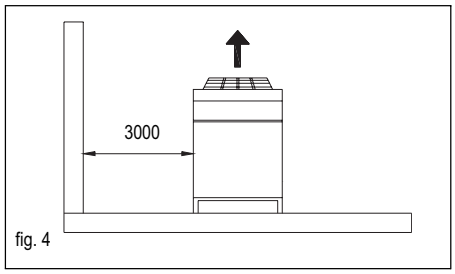


fig. 4

Acoustic protection

The low noise levels of the EWAP-AJYNN units means that they meet the most restrictive regulations, thanks to the availability of four versions with different sound levels. When the noise level must meet special requirements it will be necessary to pay the maximum attention to ensure the perfect insulation of the unit from the support base by applying appropriate vibration-dampening devices, applying vibration-dampening mounts on the water pipes and on the electrical connections.

9 Operation range

EWAP-AJYNN

Unit version		STANDARD	OPRN-OPLN
Max ambient temperature (1)	°C	42	38
Min ambient temperature	°C	+10 (2)	+10 (2)
Max leaving evaporator water temperature	°C	+10	+10
Min leaving evap. water temp.(without glycol)	°C	+4	+4
Min leaving evap. water temp.(with glycol)	°C	-8	-8
Max evaporator ΔT	°C	6	6
Min evaporator ΔT	°C	4	4

EWAP-AJYNN/A

Unit version		STANDARD	OPRN-OPLN
Max ambient temperature (1)	°C	46	42
Min ambient temperature	°C	+10 (2)	+10 (2)
Max leaving evaporator water temperature	°C	+10	+10
Min leaving evap. water temp.(without glycol)	°C	+4	+4
Min leaving evap. water temp.(with glycol)	°C	-8	-8
Max evaporator ΔT	°C	6	6
Min evaporator ΔT	°C	4	4

NOTE

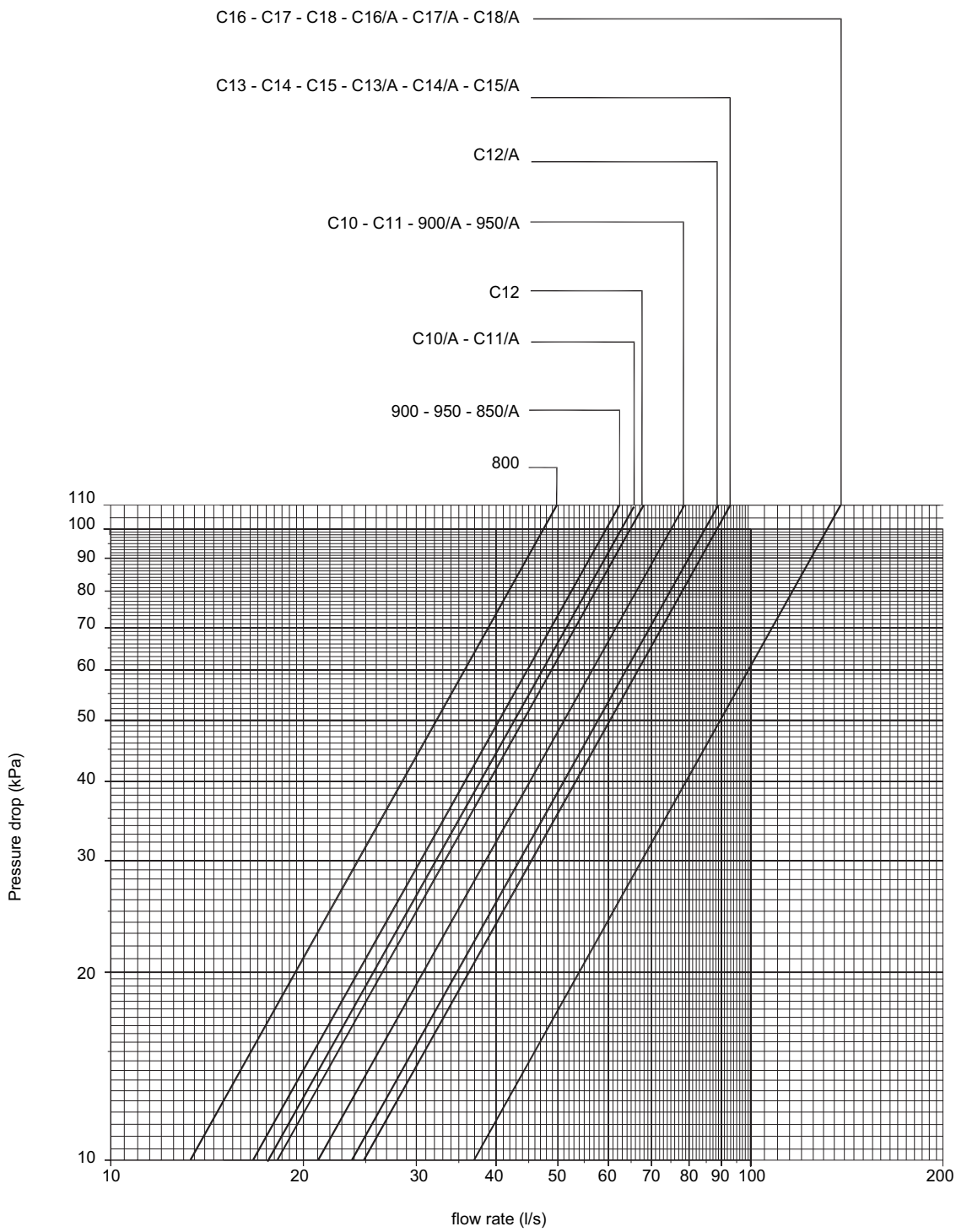
1 Max ambient temperature are referred to units working at full load. With higher temperatures the chillers will unloading.

2 When air temperature is lower then +10°C you need the fan speed control device. It allows the unit working with air temperature down to –18°C.

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

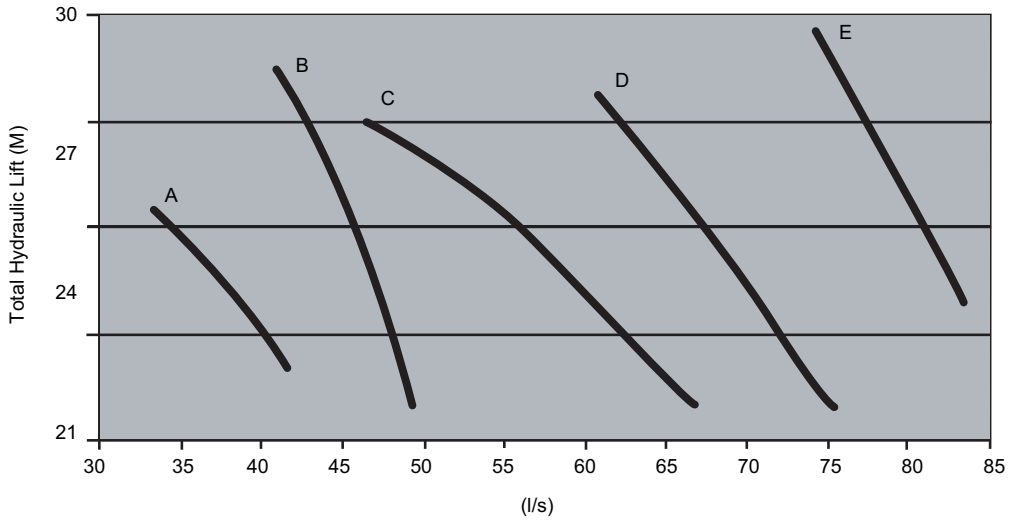
EWAP-AJYNN
EWAP-AJYNN/A



10 Hydraulic performance

10 - 2 Pump characteristics

EWAP-AJYNN



NOTE

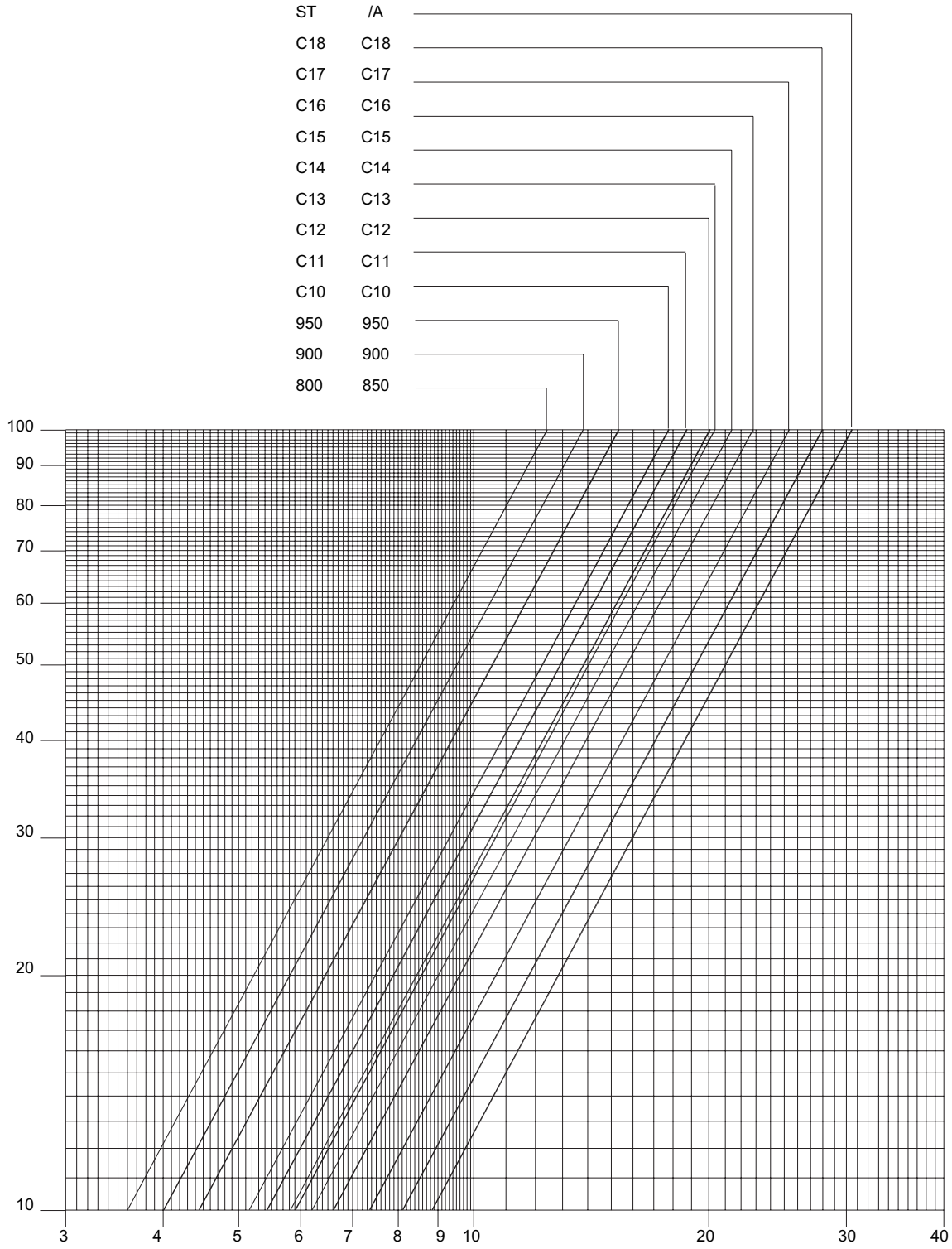
1 To have the useful hydraulic lift is necessary to subtract the evaporator pressure drop to the total hydraulic lift.

Standard unit size	EWAP-AJYNN ST + OPRN/OPLN type pump		/A unit size	EWAP-AJYNN/A ST + OPRN/OPLN type pump
800	A		850	A
900	A		900	B
950	B		950	B
C10	B		C10	C
C11	C		C11	C
C12	C		C12	C
C13	C		C13	C
C14	C		C14	D
C15	D		C15	D
C16	D		C16	E
C17	E		C17	E
C18	E		C18	E

10 Hydraulic performance

10 - 3 Heat recovery pressure drop

EWAP-AJYNN
EWAP-AJYNN/A



10 Hydraulic performance

10 - 3 Heat recovery pressure drop

EWAP-AJYNN