

# RAE C Kc

## AIR COOLED CHILLERS FOR INDOOR INSTALLATION

SERIES RAE C Kc MULTISCROLL WITH R410A REFRIGERANT.



Above picture is only indicative and is not binding.



Packaged air cooled heat pumps of **RAE... C Kc series** are suitable for indoor installation since they are provided with condensing centrifugal plug-fan with directly coupled motor and they can be ducted with a high available pressure. They are suitable for small and medium sized air conditioning systems, in residential and commercial applications. They can be also connected to fancoil units or used to cool pure fluid solutions for air conditioning or in industrial applications. Multiscroll technology allows to reach great efficiency improvements at part loads, if compared to the other traditional systems for cooling capacity control. The coupling of high-efficiency finned exchangers and the thermo physical purity of R410A refrigerant, particularly glide-free at state exchanges, allows this range to attain EER nominal values close to 3. These units have been designed considering limited footprint and keeping, at the same time, high cooling performances. Such result has been attained with high-quality and up-to-date components. All units are completely assembled and tested in the factory with specific quality procedures and are already equipped with all necessary hydraulic, refrigerant and electrical connections for a quick installation on site. Before factory test, cooling circuits are tested under pressure and then charged with R410a refrigerant and a non-freezing oil charge.

Following versions are available:  
**RAE .... C Kc** – standard version

**Operation limits (standard unit):**

**Air:** from +10° to +42°C (-8°C / +42°C with option BT)

**Water (out from the evaporator):** From 5 to 15°C.

**Operation limits (silenced unit):**

**Air:** from +10° to +40°C (-8°C / +40°C with option BT)

**Water (out from the evaporator):** From 5 to 15°C.

**MAIN COMPONENTS**

**Structure** made of a base and a chassis manufactured in high-thickness galvanised steel, assembled with stainless steel rivets. All galvanised steel surfaces are powder-coated with colour RAL 7035. The technical compartment, including the electrical board and compressors, is completely closed and isolated from the air flow. The external panels, to be easily dismantled, allow the full access to the main components. The airflow crossing the condensing coil can be ducted both on the inlet and outlet, keeping the available pressure to the condensing fans section.

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The unit is available with air outlet on top (standard) or from the front (on request).

The condensing air inlet and outlet sections are provided with suitable connection frames for the external aerualic ducts.

When required, the hydraulic kit (buffer tank and pump group) is installed inside the unit.

**Scroll compressor** for R410a refrigerant, operating on one single circuit or on two independent circuits in tandem version. The compressors are installed on rubber isolation dampers, provided with direct-start motors cooled by suction gas and fitted with both in-built overload protections of manual reset type and crankcase heaters. They are charged with polyester oil and the terminal board is IP54. The on-board microprocessor automatically controls the individual compressors to regulate the cooling capacity..

**Stainless steel plate evaporator** of single or dual circuit type, with high thickness close cell insulation. The max operating pressure limits are 10 bar for water side and 45 bar for refrigerant side. The evaporator is also equipped with safety water flow switch switching off the unit in case of low water flow through the evaporator.

**Heat-exchange external coils** with micro-finned copper tubes, positioned in staggered rows and mechanically expanded into an aluminium finned pack. Fins are designed with such a shape providing the highest heat exchange efficiency (turbo-fin).The max operating pressure refrigerant side is 45 relative bar. The front section of the coil can be provided with a protection grid.

**Radial plug-fans** of directly coupled type, with wing-profile aluminium blades so not to create air turbulence, made of high-performance composite material. They therefore ensure the highest efficiency together with the lowest sound level. Each fan is suitably sized to ensure the correct air flow to the condensing coil for indoor ductable installation. The IP 54 fan motors are of three-phase asynchronous AC type, completely closed and provided with in-built overload protection, incorporated to the motor windings. As an option, we could provide a frequency converter (inverter V/F) for the modulating control of the condensing pressure through the fans speed regulation, allowing the unit operation down to  $-20^{\circ}\text{C}$  of external air (option BF). In addition, on request, it is possible to provide the unit with Brushless motor fans, so to increase the energy efficiency of the chiller and allow its operation with external temperature down to  $-20^{\circ}\text{C}$ . (Option EC).

**Independent cooling circuits** each provided with a shut-off valve for refrigerant charge, antifreeze sensor, shut-off valves on liquid lines, sight glass, dehydrating filter, high-pressure safety device on high pressure refrigerant side and mechanical thermostatic expansion valve, as well as high and low pressure switches and gauges.

**Electric board** built in compliance with 60204-1/IEC 204-1 standards, inside of which are placed the control system and the components for motors starting, wired and tested in the factory. It is made by a cabinet suitable for indoor installation, containing power and control devices, microprocessor electronic board complete with keypad and display, for visualizing the several functions available, main switch of lock-door type, isolation transformer for auxiliary circuits, automatic switches, fuses and protection switches for compressors and fans, terminals for general alarm and remote ON/OFF, programming the switch-over and rotation between two units after a pre-set time, terminal board and possibility to interface to BMS systems.

## ACCESSORIES

- A Amperometer:** Electrical device to measure the electrical current absorbed by the unit.
- AE Electrical power supply different than standard:** 230 V three-phase, 460 V three-phase. Frequency 50/60 Hz.
- BT Low temperature operation ( $-8^{\circ}\text{C}$ ):** Electronic device for the continuous modulating voltage control of the condensing pressure through the variation of the fan rotation speed (Alternative to BF and EC).
- BF Low ambient temperature operation (down to  $-20^{\circ}\text{C}$ ):** Electronic device, frequency converter type, for the continuous modulating control of the condensing pressure through the variation of the fan rotation speed (Alternative to BT and EC).
- CFU Soundproofed compressors cabinet with higher thickness material:** Compressor insulation with high-density sound and fireproofing materials of higher thickness. (Included in S version).
- CS Compressors inrush counter:** Electromechanical device positioned inside the electrical board, recording the total inrush starts of compressors.
- EC Radial fans with electronic commutated motor:** Made of high-performance composite material, with external rotor directly coupled to a three-phase electronically commutated motor (EC), they have the possibility of a continuous regulation of the speed by means of a 0-10V signal, completely managed by the microprocessor. Thanks to a more accurate adjustment of air flow, they allow operation of the unit with external temperature down to  $-20^{\circ}\text{C}$ . (Alternative to BT and BF).
- GP Condensing coil protection grid:** Metal grid to protect against accidental impacts.
- I1 Victaulic insulation on pump side:** Insulation of the joints by close-cell polyurethane material, to prevent condensation, pump side.
- I2 Victaulic insulation buffer tank side:** Insulation of the joints by close-cell polyurethane material, to prevent condensation, buffer tank side.
- IH RS 485 Serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems, for a remote control and monitoring of the unit. (Alternative to IH LON or IWG)
- IH LON Protocol serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems with LON protocol, for a remote control and monitoring of the unit. (Alternative to IH or IWG).
- IM Seawood packing:** Fumigated seawood case and film envelope together added with slowly vaporizing corrosion inhibitors completely nitrates and heavy metals (VCI) free suitable for long sea transports.
- IWG SNMP or TCP/IP Protocol serial interface:** Electronic card to be connected to the microprocessor to allow connection of the units to supervision systems with SNMP or TCP/IP protocol, for a remote control and monitoring of the unit. (Alternative to IH or IH LON).
- MF Phase monitor:** Electronic device that checks the correct sequence and/or the lack of one of the 3 phases, switching off the unit if necessary.
- MV Buffer tank module:** Of suitable capacity complete with expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, check valves for filter service operations.
- P1 Pump group:** Chilled water pump group made of a single pump, expansion vessel, safety valve water gauge, water charge and discharge valves, air purging valves, electric control of the pump. The pump is of enbloc 2-pole type for standard and S versions.

- P1H Higher available pressure pump group:** Chilled water pump group made of a single pump, expansion vessel, safety valve water gauge, water charge and discharge valves, air purging valves, electric control of the pump. The pump is of enbloc 2-pole type for standard and S versions.
- P2 Double pump group (only one working):** Chilled water pump group made by two pumps in parallel, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, water shut-off valve on suction and check valve on discharge for each single pump, electric control of the pump. The pumps are of enbloc 2-pole type for standard and S versions.
- P2H Higher available pressure double pump group (only one working):** Chilled water pump group made by two higher available pressure pumps in parallel, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, water shut-off valve on suction and check valve on discharge for each single pump, electric control of the pump. The pumps are of enbloc 2-pole type for standard and S versions.
- PT In-line twin pump group (only one working):** Chilled water pump group made by a twin pump group with a single impeller body and two separate electric motors. The hydronic kit is made by an expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, electric control of the pump. The pumps are of enbloc 2-pole type for standard and S versions. (Not available for two-fans units)
- PA Rubber-type vibration dampers:** Bell-shaped vibration dampers supports for isolating the unit (supplied in kit), made of base and bell in galvanized steel and natural rubber mixture.
- PM Spring-type vibration dampers:** Spring-type vibration dampers supports, for isolating the unit (supplied in kit), mainly indicated for installation in difficult and aggressive environments. Made of two steel plates containing a suitable quantity of harmonic steel springs.
- PQ Remote display:** Remote terminal, allowing to display the temperature values detected by probes, the alarm digital inputs, the outputs and the remote ON/OFF of the unit, to change and program of the parameters, the signaling and the display of the present alarms.
- RA Anti-freeze heater on evaporator:** Electrical heater installed on the evaporator, in order to prevent freezing, provided with thermostat.
- RD Shut-off valve on compressors discharge side:** They are used to isolate compressors during service operation.
- RF Power factor correction system  $\cos\phi \geq 0,9$ :** Electrical device made by suitable condensers for compressor rephasing that ensure a  $\cos\phi$  value  $\geq 0,9$ , so to reduce absorption from electrical network.
- RH Shut-off valve on compressors suction side:** They are used to isolate compressors during service operation.
- RL Compressors overload relays:** Electromechanical protection devices against compressor's overload with displayed alarm.
- RM Condensing coil with pre-painted fins:** Double-layer treatment of condensing coils with epoxy coating.
- RP Partial heat recovery:** (about 20%) of condensing heat through a refrigerant/water plate exchanger (desuperheater) always in series to the compressors. It is used when you want to partially recover condensing heat capacity for production of sanitary water.
- RR Copper/Copper coil:** Special condensing coils with copper pipes and fins.
- RT Total heat recovery:** (100%) of condensing heat by refrigerant/water heat exchanger in alternative and in parallel to the condensing air section. It is used when you want to completely recover condensing heat capacity for production of sanitary water or for heating applications.
- SV Gravity overpressure damper:** For ducted units, to prevent the air return when the unit is not operating.
- TE Electronic thermostatic valve:** Electronic thermostatic valve that reduces the response times of the unit. Useful in case of frequent changes on cooling demand, so as to improve efficiency.
- V Voltmeter:** Electrical device measuring the electrical voltage of the unit power supply.
- VB Brine Version:** Unit suitable for working with evaporator outlet water temperatures lower than 0°C. A 20 mm evaporator insulation will be provided.
- VS Solenoid valve:** Electromagnetic solenoid valve on each cooling circuit to cut off the liquid line at compressors switch-off.

# LIQUID CHILLERS - AIR COOLED

## Technical data - RAE 361-1052 C Kc

RAE C		361	471	541	681	702	801	802	922	1052
<b>Cooling capacity</b>										
Cooling capacity	kW	36,1	45,7	52	67	70,2	79	80,8	92,6	105,1
Absorbed power	kW	12,5	15,6	18,3	20,6	20,2	24,1	24,3	31,6	36,5
EER		2,31	2,45	2,44	2,66	2,84	2,76	2,8	2,46	2,47
<b>Scroll compressors</b>										
Quantity	n	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	2	2	2	2	2	2	2	2
Circuits	n	1	1	1	1	2	1	2	2	2
Nominal absorbed current	A	22,4	27,5	31,6	33,6	33	40,4	40,6	50,9	58,8
Maximum absorbed current	A	30	29,8	34	51,4	51,4	60,4	60,4	77	88
Inrush current	A	72	116	118	162	161	196	196	235	239
<b>Centrifugal fans</b>										
Quantity	n	2	2	2	3	3	3	3	4	4
Total air flow	m <sup>3</sup> /h	14860	14525	14725	23000	22475	22000	22000	30740	30660
Available pressure	Pa	250	250,0	250	250	250	250	250	250	250
Rotation speed	rpm	1370	1370	1370	1370	1370	1370	1370	1370	1370
Motors power	kW	3,04	3,04	3,04	4,56	4,56	4,56	4,56	6,08	6,08
Nominal absorbed current	A	5,82	5,82	5,82	8,73	8,73	8,73	8,73	11,64	11,64
Sound pressure level 2)	dB(A)	75	75	75	76	76	76	76	78	77
<b>Brazed plate evaporator</b>										
Quantity	n	1	1	1	1	1	1	1	1	1
Water flow rate	m <sup>3</sup> /h	6,19	7,85	8,94	11,5	12,04	13,57	13,87	15,91	18,05
Pressure drop	kPa	56	56,4	55,9	65,2	56,1	62,4	62,7	55,8	59,5
<b>Pumps</b>										
Available pressure with P1	kPa	111	150	146	126	131	115	112	126	120
Motor power with P1	kW	1,1	1,5	1,5	1,5	1,5	1,5	1,5	2,2	2,2
Available pressure with P1H	kPa	228	220	216	239	247	233	231	220	213
Motor power with P1H	kW	2,2	2,2	2,2	3	3	3	3	4	4
Available pressure with P2	kPa	111	150	146	126	131	115	112	126	120
Motor power with P2	kW	1,1	1,5	1,5	1,5	1,5	1,5	1,5	2,2	2,2
Available pressure with P2H	kPa	228	220	216	239	247	233	231	220	213
Motor power with P2H	kW	2,2	2,2	2,2	3	3	3	3	4	4
Available pressure with PT	kPa	-	-	-	143	149	153	133	127	155
Motor power with P1T	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	3
Buffer tank water volume	l	85	85	85	115	115	115	115	115	115
<b>Electrical data</b>										
Total absorbed power	kW	15,5	18,6	21,3	25,2	24,8	28,7	28,9	37,7	42,6
<b>Dimensions</b>										
Length	mm	1600	1600	1600	2400	2400	2400	2400	3200	3200
Width	mm	1050	1050	1050	1050	1050	1050	1050	1050	1050
Height	mm	1895	1895	1895	1895	1895	1895	1895	1895	1895
Weight	kg	683	772	796	972	1026	1037	1078	1316	1371
Weight with empty MV included	kg	798	887	911	1132	1186	1197	1238	1476	1531
Refrigerant charge	kg	6,8	9,1	11,2	10,9	12,7	17,3	15,9	13,8	17,9
<b>Power supply</b>										
Power supply	V / ph / Hz	400 V/50 Hz / 3Ph + N + T								

### NOTES

Nominal condition referred to: air 35 °C - chilled water 7/12 °C.

2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.



# LIQUID CHILLERS - AIR COOLED

## Technical data - RAE 1172-2652 C Kc

RAE C		1172	1302	1502	1672	1602	1902	2102	2412	2652
<b>Cooling capacity</b>										
Cooling capacity	kW	117	130,9	149,8	165,1	159,5	182,5	205,8	234	256,4
Absorbed power	kW	40,7	43,6	49,4	56,3	54,1	64,4	75,1	81,4	88,5
EER		2,5	2,55	2,62	2,58	2,49	2,46	2,43	2,36	2,41
<b>Scroll compressors</b>										
Quantity	n	2	2	2	2	4	4	4	4	4
Standard steps capacity	n	2	2	2	2	4	4	4	4	4
Circuits	n	2	2	2	2	2	2	2	2	2
Nominal absorbed current	A	65	69,2	79,1	90,8	87	103,5	120,9	130	140,4
Maximum absorbed current	A	97	106	119	132	132	154	176	194	212
Inrush current	A	243	245	327	332	219	288	301	308	315
<b>Centrifugal fans</b>										
Quantity	n	4	4	4	4	5	5	5	5	5
Total air flow	m <sup>3</sup> /h	30580	42330	42600	41980	52985	51085	51480	71550	72660
Available pressure	Pa	250	250	250	250	150	180	150	220	160
Rotation speed	rpm	1370	1390	1390	1390	1390	1390	1390	1345	1345
Motors power	kW	6,08	7,8	7,8	7,8	9,75	9,75	9,75	17,85	17,85
Nominal absorbed current	A	11,64	15,92	15,92	15,92	19,9	19,9	19,9	33,15	33,15
Sound pressure level 2)	dB(A)	77	78	79	79	79	79	79	82	83
<b>Brazed plate evaporator</b>										
Quantity	n	1	1	1	1	1	1	1	1	1
Water flow rate	m <sup>3</sup> /h	20,11	22,5	25,73	28,38	27,21	31,37	35,37	40,21	44,06
Pressure drop	kPa	58,9	64	62,5	67,1	78,2	75,5	78,3	78,4	70,2
<b>Pumps</b>										
Available pressure with P1	kPa	117	107	109	138	129	128	120	114	71
Motor power with P1	kW	2,2	2,2	3	4	3	4	4	4	4
Available pressure with P1H	kPa	210	199	241	230	255	243	225	253	210
Motor power with P1H	kW	4	4	5,5	5,5	5,5	5,5	5,5	7,5	7,5
Available pressure with P2	kPa	117	107	109	138	129	128	120	114	71
Motor power with P2	kW	2,2	2,2	3	4	3	4	4	4	4
Available pressure with P2H	kPa	210	199	241	230	255	243	225	253	210
Motor power with P2H	kW	4	4	5,5	5,5	5,5	5,5	5,5	7,5	7,5
Available pressure with PT	kPa	150	138	131	105	110	134	121	151	113
Motor power with P1T	kW	3	3	3	3	3	4	4	5,5	7,5
Buffer tank water volume	l	115	320	320	320	400	400	400	400	400
<b>Electrical data</b>										
Total absorbed power	kW	46,8	51,4	57,2	64,1	63,9	74,2	84,9	99,3	106,4
<b>Dimensions</b>										
Length	mm	3200	3700	3700	3700	4600	4600	4600	4600	4600
Width	mm	1050	1250	1250	1250	1250	1250	1250	1250	1250
Height	mm	1895	2220	2220	2220	2220	2220	2220	2220	2220
Weight	kg	1429	1680	1808	1879	2260	2362	2466	2663	2698
Weight with empty MV included	kg	1589	2095	2223	2294	2760	2862	2966	3163	3198
Refrigerant charge	kg	22,2	20,3	26,8	32,4	25,1	33,2	41,1	34,1	42,9
Power supply	V / ph / Hz	400 V/50 Hz / 3Ph + N + T								
<b>NOTES</b>										
Nominal condition referred to: air 35 °C - chilled water 7/12 °C.										
2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts.										

CORRECTION FACTOR FOR COOLING CAPACITY R410A (Scroll Compressors)

WATER EVAPORATOR OUTLET °C	EXTERNAL AIR TEMPERATURE °C								
	28	30	32	35	38	40	42	45	48
17	1,522	1,492	1,463	1,416	1,370	1,339	1,304	1,252	1,212
16	1,477	1,448	1,419	1,374	1,330	1,330	1,265	1,213	1,174
15	1,433	1,404	1,376	1,333	1,289	1,260	1,226	1,175	1,137
14	1,388	1,360	1,333	1,291	1,249	1,221	1,187	1,137	1,099
13	1,343	1,317	1,290	1,250	1,209	1,182	1,148	1,099	1,062
12	1,298	1,273	1,247	1,208	1,169	1,142	1,110	1,060	1,024
11	1,253	1,229	1,204	1,166	1,128	1,103	1,071	1,022	0,987
10	1,028	1,185	1,161	1,125	1,088	1,064	1,032	0,984	0,949
9	1,163	1,141	1,118	1,087	1,048	1,025	0,993	0,946	0,912
8	1,118	1,097	1,075	1,041	1,008	0,985	0,954	0,907	0,874
7	1,073	1,053	1,032	1	0,968	0,946	0,915	0,869	0,837
6	1,027	1,007	0,986	0,956	0,925	0,904	0,873	0,827	0,800
5	0,981	0,961	0,941	0,911	0,882	0,862	0,831	0,785	0,763
4	0,948	0,928	0,909	0,880	0,851	0,831	0,802	0,759	0,735
3	0,915	0,896	0,877	0,848	0,820	0,801	0,773	0,732	0,708
2	0,881	0,863	0,845	0,817	0,789	0,770	0,744	0,706	0,681
1	0,848	0,830	0,813	0,785	0,757	0,739	0,715	0,680	0,654
0	0,815	0,798	0,781	0,753	0,726	0,708	0,686	0,653	0,626
-1	0,781	0,765	0,749	0,722	0,695	0,677	0,657	0,627	0,599
-2	0,748	0,732	0,717	0,690	0,664	0,647	0,628	0,601	0,572
-3	0,715	0,700	0,685	0,659	0,633	0,616	0,599	0,575	0,544
-4	0,681	0,667	0,653	0,627	0,602	0,585	0,570	0,548	0,517
-5	0,648	0,634	0,621	0,596	0,571	0,554	0,541	0,522	0,490

NOTES

The listed coefficients are mean values referred to different units, so the performances calculated by the tables could be different up to 5% from the data for a specific unit.  
 If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table showed at the relevant section of the present catalogue.  
 Emicon AC SpA disclaims all responsibilities in case of damages deriving from violation of this instructions.  
 For further clarifications or informations, you are kindly request to contact our sales department.

CORRECTION FACTOR FOR ABSORBED CAPACITY R410A (Scroll Compressors)

WATER EVAPORATOR OUTLET °C	EXTERNAL AIR TEMPERATURE °C								
	28	30	32	35	38	40	42	45	48
17	1,007	1,039	1,071	1,126	1,180	1,217	1,257	1,316	1,366
16	0,994	1,026	1,058	1,113	1,168	1,204	1,244	1,304	1,355
15	0,981	1,013	1,046	1,100	1,155	1,192	1,232	1,292	1,345
14	0,968	1,001	1,033	1,088	1,143	1,179	1,219	1,279	1,335
13	0,955	0,988	1,020	1,075	1,130	1,167	1,207	1,267	1,324
12	0,942	0,975	1,008	1,063	1,118	1,154	1,194	1,255	1,314
11	0,929	0,962	0,995	1,050	1,105	1,142	1,182	1,242	1,304
10	0,916	0,949	0,982	1,037	1,093	1,129	1,170	1,230	1,294
9	0,903	0,936	0,970	1,025	1,080	1,117	1,157	1,218	1,283
8	0,890	0,924	0,957	1,012	1,067	1,104	1,145	1,206	1,273
7	0,877	0,911	0,944	1	1,055	1,092	1,132	1,193	1,263
6	0,872	0,904	0,937	0,987	1,037	1,071	1,110	1,169	1,232
5	0,866	0,898	0,929	0,974	1,020	1,050	1,088	1,145	1,201
4	0,853	0,884	0,915	0,961	1,006	1,036	1,074	1,132	1,189
3	0,839	0,870	0,901	0,947	0,992	1,023	1,061	1,119	1,177
2	0,825	0,856	0,888	0,933	0,979	1,009	1,048	1,106	1,166
1	0,812	0,843	0,874	0,919	0,965	0,996	1,034	1,093	1,154
0	0,798	0,829	0,860	0,906	0,951	0,982	1,020	1,080	0,142
-1	0,784	0,815	0,846	0,892	0,938	0,968	1,008	1,067	1,130
-2	0,770	0,801	0,832	0,878	0,924	0,955	0,994	1,054	1,118
-3	0,757	0,787	0,818	0,864	0,911	0,941	0,981	1,041	1,060
-4	0,743	0,774	0,804	0,850	0,897	0,928	0,968	1,028	1,094
-5	0,729	0,760	0,790	0,837	0,883	0,914	0,954	1,015	1,082

NOTES

The listed coefficients are mean values referred to different units, so the performances calculated by the tables could be different up to 5% from the data for a specific unit.  
 If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table showed at the relevant section of the present catalogue.  
 Emicon AC SpA disclaims all responsibilities in case of damages deriving from violation of this instructions.  
 The correction factors listed above are not to be taken into consideration for the Free-cooling units.  
 For further clarifications or informations, you are kindly request to contact our sales department.