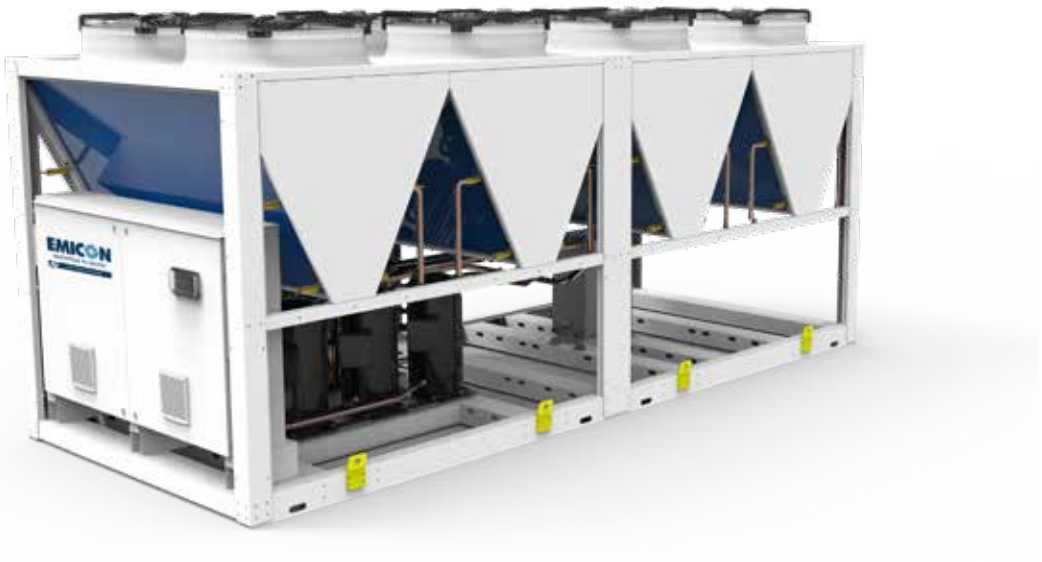
RAE N MC Kc/Kr

AIR COOLED CHILLERS FOR OUTDOOR INSTALLATION
EQUIPPED WITH SCROLL COMPRESSORS,
AXIAL FANS AND MICROCHANNEL CONDENSING COILS

Cooling capacity from 78 kW to 636 kW

R410A
R454B
AIR
AC
EC
alu
ERP 2021

HIGHLY SUSTAINABLE



VERSIONS

RAE N MC - standard version
RAE N MC S - silenced version
RAE N MC HE - high efficiency version
RAE N MC S HE - high efficiency silenced version

Packaged air cooled chillers of RAE N MC series are suitable for outdoor installation and can be used to cool pure fluid solutions for air conditioning or in industrial applications.
Multiscroll technology allows to reach great efficiency improvements at part load, if compared to the other traditional systems for cooling capacity control.

All the units are totally factory assembled and tested, following specific quality procedures. Besides they are totally hydraulic, cooling and electrical connected permitting a quick installation once on site. Before the test the cooling circuits of each unit are subjected to a pressure test and then charged with Refrigerant R410A or R454B and non-freezing oil. So, once on site, the units must be only positioned and electrically and hydraulically connected.

Reduced sound level in versions S is realised by using condensers with larger surface areas as well as sound-proofed compressor cabinets.

Units CE certified in compliance with the European regulation 2016/2281 ERP 2021.

MAIN COMPONENTS

STRUCTURE
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, easily accessible, contains the compressors and the main components.

SCROLL COMPRESSOR
Scroll compressors operating on one or two independent circuits in single, tandem or trio version. The compressors are installed on rubber isolation dampers, provided with direct-start motors cooled by suction gas and fitted with both overload protection 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 and UV ray-proof. The max operating pressure limits are 6 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.

EXTERNAL CONDENSING COIL
Totally made up of aluminum alloy to grant a perfect and continuous contact among tubes and fins optimizing the thermal exchange and reducing dimensions.
The high passivation degree of the used alloy, besides the peculiar assembling way, avoids the possibility to have galvanic corrosion phenomena. On demand it is also possible to provide the units installed in particularly aggressive environments with surface treatments against exchangers environmental corrosion.
The cross "V" arrangement of the condensing coils makes the units of this series perfectly each other modular, granting at the same time the easiest access to the technical room both for checking operations required during the normal unit functioning and for maintenance.

AXIAL FANS
Of directly coupled type, with wing-profile aluminium blades, are designed not to create air turbulence. This ensures the max efficiency with the lowest sound level. Each fan is provided with a galvanized steel protection grid, which is painted after construction. The IP54 fans motors are completely closed and provided with in-built overload protection thermostat, incorporated to the motor windings. With this type of fans the air flow rate that invests the heat exchange coil is adjusted with more precision allowing the unit to operate with external temperatures up to -20°C while maintaining high efficiency.

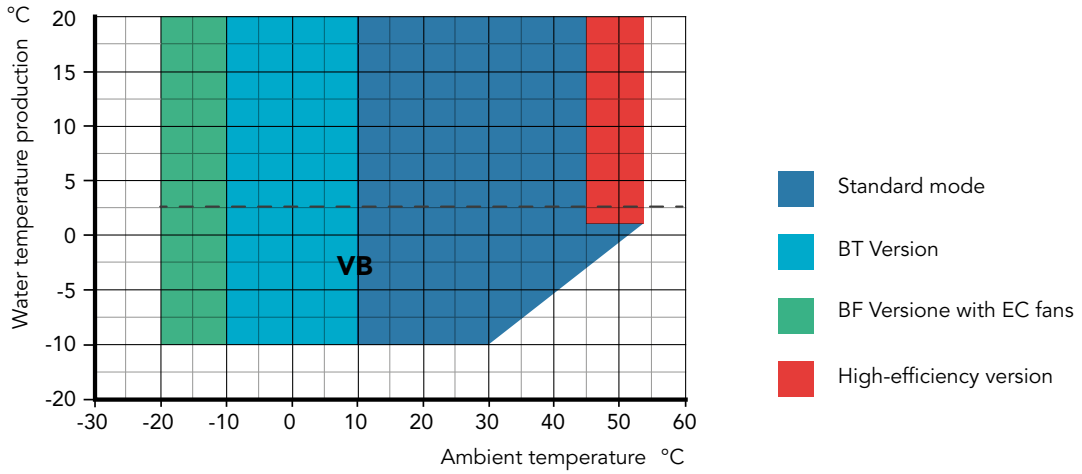
AXIAL FANS WITH INVERTER SYSTEM (only for mod. 5002÷6502)
With 6-poles electrical motor with external rotor directly coupled to the impeller and driven by a V/F inverter system which controls the condensation temperature. Aluminum blades with wings profile are suitably designed to avoid any turbulence in the air detachment zone, granting in this way the max efficiency with the minimum noise level. The fan is equipped with galvanized steel protection grid painted after the construction. The fan motors are of totally closed type and have got a protection factor IP54 and protection winding-flooded thermostat.

INDEPENDENT COOLING CIRCUITS
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 electronic thermostatic expansion valve, as well as high and low pressure switches and gauges.

ELECTRICAL BOARD
In compliance with CE Norms, contained in a suitable section protected by internal safety panel, provided with a lock-door main switch. Inside all the control and protection components are suitably placed, together with terminal board and auxiliaries. The electrical board also includes the control device for power supply phases to prevent the compressor wrong side rotation. Microprocessor and relevant display are also placed inside the electrical cabinet.

MICROPROCESSOR
For unit management installed inside the electrical cabinet, with double evaporator in/out control of the chilled water temperature, as well as control of working parameters and equalization of compressors working hours, failures auto-detection system, alarm log, start and set point timeslot programming, possibility of remote management and supervision by enabling standard communication protocols management.

OPERATING RANGE



ACCESSORIES

RAE N MC KC / RAE N MC S KC		801	1001	1301	1501	1651	1701	2001	2402	2702
Amperometer	A	o	o	o	o	o	o	o	o	o
Electrical power supply different than standard	AE	o	o	o	o	o	o	o	o	o
Operation in cooling mode down to -20°C	BF	o	o	o	o	o	o	--	o	o
Operation in cooling mode down to -10°C	BT	o	o	o	o	o	o	--	o	o
Compressors inrush counter	CS	o	o	o	o	o	o	o	o	o
Axial fans with electronic commutated motor	EC	o	o	o	o	o	o	•	o	o
Condensing coil protection grid	GP	o	o	o	o	o	o	o	o	o
Anti-intrusion grid	GP1	o	o	o	o	o	o	o	o	o
Victaulic insulation on pump side	I1	o	o	o	o	o	o	o	o	o
Victaulic insulation buffer tank side	I2	o	o	o	o	o	o	o	o	o
RS 485 Serial interface	IH	o	o	o	o	o	o	o	o	o
LON Protocol serial interface	IH-LON	o	o	o	o	o	o	o	o	o
Seawood packing	IM	o	o	o	o	o	o	o	o	o
TCP/IP Protocol serial interface	IWG	o	o	o	o	o	o	o	o	o
Phase monitor	MF	o	o	o	o	o	o	o	o	o
Buffer tank module	MV	o	o	o	o	o	o	o	o	o
Pump group	P1	o	o	o	o	o	o	o	o	o
Pump + tank	P1+MV	o	o	o	o	o	o	o	o	o
Higher available pressure pump group	P1H	o	o	o	o	o	o	o	o	o
Higher available pressure pump group + tank	P1H+MV	o	o	o	o	o	o	o	o	o
Double pump group	P2	o	o	o	o	o	o	o	o	o
Double pump group + tank	P2+MV	o	o	o	o	o	o	o	o	o
Higher available pressure double pump group	P2H	o	o	o	o	o	o	o	o	o
Higher available pressure double pump group + tank	P2H+MV	o	o	o	o	o	o	o	o	o
Rubber-type vibration dampers	PA	o	o	o	o	o	o	o	o	o
Anti-corrosive protection of the condensing coils (Powder coating)	PCP	o	o	o	o	o	o	o	o	o
Spring-type vibration dampers	PM	o	o	o	o	o	o	o	o	o
Remote display	PQ	o	o	o	o	o	o	o	o	o
In-line twin pump group (only one working)	PT	o	o	o	o	o	o	o	o	o
In-line twin pump group (only one working) + tank	PT+MV	o	o	o	o	o	o	o	o	o
Anti-freeze heater on evaporator	RA	o	o	o	o	o	o	o	o	o
Shut-off valve on compressors discharge side	RD	o	o	o	o	o	o	o	o	o
Power factor correction system cosfi ≥0,9	RF	o	o	o	o	o	o	o	o	o
Shut-off valve on compressors suction side	RH	o	o	o	o	o	o	o	o	o
Compressor overload relays	RL	o	o	o	o	o	o	o	o	o
Electronic thermostatic valve	TE	o	o	o	o	o	o	•	o	o
Voltmeter	V	o	o	o	o	o	o	o	o	o
Brine Version	VB	o	o	o	o	o	o	o	o	o
Solenoid valve	VS	o	o	o	o	o	o	o	o	o
Partial heat recovery	RP	o	o	o	o	o	o	o	o	o
Total heat recovery	RT	o	o	o	o	o	o	o	o	o

• Standard, o Optional, -- Not available

RAE N MC KC / RAE N MC S KC		3102	3502	3802	4002	5002	5402	6002	6502
Amperometer	A	o	o	o	o	o	o	o	o
Electrical power supply different than standard	AE	o	o	o	o	o	o	o	o
Operation in cooling mode down to -20°C	BF	o	o	o	o	•	•	•	•
Operation in cooling mode down to -10°C	BT	o	o	o	o	--	--	--	--
Compressors inrush counter	CS	o	o	o	o	o	o	o	o
Axial fans with electronic commutated motor	EC	o	o	o	o	o	o	o	o
Condensing coil protection grid	GP	o	o	o	o	o	o	o	o
Anti-intrusion grid	GP1	o	o	o	o	o	o	o	o
Victaulic insulation on pump side	I1	o	o	o	o	o	o	o	o
Victaulic insulation buffer tank side	I2	o	o	o	o	o	o	o	o
RS 485 Serial interface	IH	o	o	o	o	o	o	o	o
LON Protocol serial interface	IH-LON	o	o	o	o	o	o	o	o
Seawood packing	IM	o	o	o	o	o	o	o	o
TCP/IP Protocol serial interface	IWG	o	o	o	o	o	o	o	o
Phase monitor	MF	o	o	o	o	o	o	o	o
Buffer tank module	MV	o	o	o	o	o	o	o	o
Pump group	P1	o	o	o	o	o	o	o	o
Pump + tank	P1+MV	o	o	o	o	o	o	o	o
Higher available pressure pump group	P1H	o	o	o	o	o	o	o	o
Higher available pressure pump group + tank	P1H+MV	o	o	o	o	o	o	o	o
Double pump group	P2	o	o	o	o	o	o	o	o
Double pump group + tank	P2+MV	o	o	o	o	o	o	o	o
Higher available pressure double pump group	P2H	o	o	o	o	o	o	o	o
Higher available pressure double pump group + tank	P2H+MV	o	o	o	o	o	o	o	o
Rubber-type vibration dampers	PA	o	o	o	o	o	o	o	o
Anti-corrosive protection of the condensing coils (Powder coating)	PCP	o	o	o	o	o	o	o	o
Spring-type vibration dampers	PM	o	o	o	o	o	o	o	o
Remote display	PQ	o	o	o	o	o	o	o	o
In-line twin pump group (only one working)	PT	o	o	o	o	o	o	o	o
In-line twin pump group (only one working) + tank	PT+MV	o	o	o	o	o	o	o	o
Anti-freeze heater on evaporator	RA	o	o	o	o	o	o	o	o
Shut-off valve on compressors discharge side	RD	o	o	o	o	o	o	o	o
Power factor correction system cosfi ≥0,9	RF	o	o	o	o	o	o	o	o
Shut-off valve on compressors suction side	RH	o	o	o	o	o	o	o	o
Compressor overload relays	RL	o	o	o	o	o	o	o	o
Electronic thermostatic valve	TE	o	o	o	•	•	•	•	•
Voltmeter	V	o	o	o	o	o	o	o	o
Brine Version	VB	o	o	o	o	o	o	o	o
Solenoid valve	VS	o	o	o	o	o	o	o	o
Partial heat recovery	RP	o	o	o	o	o	o	o	o
Total heat recovery	RT	o	o	o	o	o	o	o	o

• Standard, o Optional, -- Not available

TECHNICAL DATA

RAE N MC Kc		801	1001	1301	1501	1651	2001
Cooling capacity	kW	81,7	103,0	128,0	146,0	167,0	201,0
Total input power	kW	25,1	33,1	44,0	47,4	55,6	71,0
Nominal input current	A	49,3	60,7	76,6	83,8	96,5	118,4
EER	W/W	3,25	3,11	2,91	3,08	3,00	2,83
SEER (EN14825)	W/W	4,13	4,30	4,30	4,21	4,30	4,10
Circuits	n°	1	1	1	1	1	1
Compressors	n°	2	2	2	2	2	2
Refrigerant data R410A							
Refrigerant charge	kg	12	12	13	17	18	18
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088
Equivalent CO_2 charge	t	25,2	25,8	26,6	35,8	36,8	38,1
Axial fans (1)							
Quantity	n°	2	2	2	3	3	3
Total air flow	m^3/h	40750	40870	40900	60000	60010	71120
Total power input	kW	3,0	2,9	2,9	4,5	4,5	5,6
Total input current	A	6,4	6,4	6,3	9,7	9,6	8,8
Evaporator (2)							
Quantity	n°	1	1	1	1	1	1
Water flow	m^3/h	14,1	17,7	22,1	25,2	28,7	34,6
Pressure drop	kPa	40,7	53	44,9	41,4	53,3	62,3
Weight							
Transport weight	kg	1000	1090	1170	1538	1696	1809
Operating weight	kg	1008	1100	1182	1550	1710	1825
Dimensions							
Length	mm	2590	2590	2590	3630	3630	3630
Width	mm	1370	1370	1370	1370	1370	1370
Height	mm	2570	2570	2570	2570	2570	2570
Sound data							
Total LWA (3)	dB(A)	85,5	88,4	89,8	90,8	91,6	94,3
Total SPL 10m (4)	dB(A)	55,0	57,9	59,3	60,2	61,0	63,7
Power supply							
Voltage/phase/frequency	V/ph/Hz	3/400/50	3/400/50	3/400/50	3/400/50	3/400/50	3/400/50
General electrical data							
Maximum input power	[kW]	37,7	46,6	60,6	67,7	76,6	99,0
Maximum input current	[A]	75,8	90,4	111,4	125,7	142,9	176,3
Inrush current	[A]	215,8	329,3	356	370,3	468,3	501,7

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC HE Kc		801	1001	1301	1501	1651	1701	2102	2402	2702
Cooling capacity	kW	82,6	105,0	135,0	148,0	169,0	165,0	210,0	239,0	268,0
Total input power	kW	24,3	32,4	42,0	46,7	55,1	48,9	65,6	73,5	88,6
Nominal input current	A	46,7	58,5	72,5	80,4	93,7	89,0	117,9	127,5	151,3
EER	W/W	3,40	3,24	3,21	3,17	3,07	3,37	3,20	3,25	3,02
SEER (EN14825)	W/W	4,72	4,80	4,91	4,70	4,76	4,77	4,89	4,83	4,83
Circuits	n°	1	1	1	1	1	1	2	2	2
Compressors	n°	2	2	2	2	2	2	4	4	4
Refrigerant data R410A										
Refrigerant charge	kg	12	13	16,7	17	18	26	31	35	38
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088	2088	2088	2088
Equivalent CO_2 charge	t	25,8	26,6	34,9	35,8	36,8	54,3	64,7	73,1	79,3
Axial fans (1)										
Quantity	n°	2	2	3	3	3	2	4	4	4
Total air flow	m^3/h	38140	41750	59900	62080	65870	73210	89020	93240	97880
Total power input	kW	1,9	2,5	3,5	3,9	4,6	4,9	5,6	6,3	7,2
Total input current	A	1,9	2,5	3,5	3,9	4,5	12,6	8,9	9,8	11,0
Evaporator (2)										
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	m^3/h	14,2	18,2	23,3	25,5	29,1	28,4	36,2	41,1	46,2
Pressure drop	kPa	35,7	31,6	58,1	42,2	38,1	14,9	29,8	25,1	31,1
Weight										
Transport weight	kg	1000	1090	1538	1696	1809	1598	1871	1977	1988
Operating weight	kg	1008	1100	1550	1710	1825	1609	1894	2004	2027
Dimensions										
Length	mm	2590	2590	3630	3630	3630	2680	2680	2680	2680
Width	mm	1370	1370	1370	1370	1370	2260	2260	2260	2260
Height	mm	2570	2570	2570	2570	2570	2470	2470	2470	2470
Sound data										
Total LWA (3)	dB(A)	86,5	88,5	90,8	92,0	91,8	91,0	91,0	93,0	94,0
Total SPL 10m (4)	dB(A)	56,0	58,0	60,1	61,4	61,1	58,9	58,9	61,0	61,9
Power supply										
Voltage/phase/frequency	V/ph/Hz	3/400/50	3/400/50	3/400/50	3/400/50	3/400/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data										
Maximum input power	[kW]	39,9	48,8	65,8	71,0	79,9	73,5	97,6	105	126
Maximum input current	[A]	75,4	90,0	114,7	125,1	142,3	136,4	183,2	191,6	225,2
Inrush current	[A]	215,4	328,9	359,3	369,7	467,7	461,8	422,1	430,5	469,8

RAE N MC HE Kc		3102	3502	4002	4402	5102	5602	6302	6602
Cooling capacity	kW	303,0	319,0	393,0	431,0	500,0	539,0	591,0	636,0
Total input power	kW	94,2	101,0	124,0	135,0	162,0	179,0	191,0	209,0
Nominal input current	A	167,4	177,0	217,2	243,3	288,2	313,3	338,1	363,9
EER	W/W	3,22	3,16	3,17	3,19	3,09	3,01	3,09	3,04
SEER (EN14825)	W/W	4,79	4,87	4,68	4,59	4,77	4,75	4,67	4,63
Circuits	n°	2	2	2	2	2	2	2	2
Compressors	n°	4	4	4	4	6	6	6	6
Refrigerant data R410A									
Refrigerant charge	kg	44	49	56	63	74	80	89	94
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088	2088	2089
Equivalent CO_2 charge	t	91,9	102,3	116,9	131,5	154,5	167,0	185,8	196,4
Axial fans (1)									
Quantity	n°	6	6	6	8	8	8	10	10
Total air flow	m^3/h	124400	127300	162300	201700	214900	217800	262800	271700
Total power input	kW	8,0	8,5	11,8	13,1	15,3	15,9	18,1	20,0
Total input current	A	18,8	18,8	26,5	35,5	35,3	35,3	44,2	44,2
Evaporator (2)									
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	m^3/h	52,1	54,9	67,6	74,1	86,1	92,8	102,0	109,0
Pressure drop	kPa	36,8	40,3	44,0	54,8	46,3	50,4	59,5	57,4
Weight									
Transport weight	kg	2473	2478	2579	2988	3422	3488	3941	3952
Operating weight	kg	2519	2526	2639	3054	3502	3579	4037	4054
Dimensions									
Length	mm	4020	4020	4020	5360	5360	5360	6700	6700
Width	mm	2260	2260	2260	2260	2260	2260	2260	2260
Height	mm	2470	2470	2470	2470	2470	2470	2470	2470
Sound data									
Total LWA (3)	dB(A)	94,0	94,0	96,0	98,0	96,0	98,0	98,0	100,0
Total SPL 10m (4)	dB(A)	62,2	61,7	63,3	65,6	63,4	65,7	65,6	67,2
Power supply									
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data									
Maximum input power	[kW]	136	143	177	200	236	254	277	295
Maximum input current	[A]	251,4	265,0	326,9	371,6	433,6	468,0	512,7	547,1
Inrush current	[A]	496,0	590,4	652,3	697,0	678,2	793,4	838,1	872,5

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC S Kc		801	1001	1301	1501	1651	1701	2001	2402	2702
Cooling capacity	kW	78,3	97,9	120,0	141,0	159,0	181,4	190,0	225,8	273,3
Total input power	kW	25,3	34,1	46,7	47,9	56,7	53,4	72,0	75,4	90,0
Nominal input current	A	48,0	60,6	79,2	82,3	96,22	92,9	120,2	130,7	154,8
EER	W/W	3,09	2,87	2,57	2,94	2,80	3,40	2,64	3,00	3,04
SEER (EN14825)	W/W	4,29	4,27	4,24	4,37	4,36	4,53	4,10	4,41	4,30
Circuits	n°	1	1	1	1	1	1	1	2	2
Compressors	n°	2	2	2	2	2	2	2	4	4
Refrigerant data R410A										
Refrigerant charge	kg	12	12	13	17	18	12	18	22	22
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088	2088	2088	2088
Equivalent CO_2 charge	t	25,2	25,8	26,6	35,8	36,8	25,1	38,1	45,9	45,9
Axial fans (1)										
Quantity	n°	2	2	2	3	3	4	3	4	4
Total air flow	m^3/h	31420	31440	31470	44760	44760	68440	50410	68520	84590
Total power input	kW	1,79	1,78	1,76	2,71	2,70	4,20	2,11	4,20	5,4
Total input current	A	3,4	3,3	3,3	5,1	5,0	7,9	3,9	7,9	10,2
Evaporator (2)										
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	m^3/h	13,5	16,9	20,6	24,3	27,5	31,2	32,7	38,8	47,0
Pressure drop	kPa	37,7	48,6	39,7	39	34,4	16,7	56,4	37,7	32,5
Weight										
Transport weight	kg	1000	1090	1170	1538	1696	1598	1809	2089	2114
Operating weight	kg	1008	1100	1182	1550	1710	1609	1825	2101	2127
Dimensions										
Length	mm	2590	2590	2590	3630	3630	2680	3630	2680	2680
Width	mm	1370	1370	1370	1370	1370	2260	1370	2260	2260
Height	mm	2570	2570	2570	2570	2570	2470	2570	2470	2470
Sound data										
Total LWA (3)	dB(A)	80,6	84,2	85,8	87,5	88,4	86,0	91,0	86,0	87,0
Total SPL 10m (4)	dB(A)	50,1	53,7	55,3	56,9	57,7	53,9	60,4	53,9	54,9
Power supply										
Voltage/phase/frequency	V/ph/Hz	3/400/50	3/400/50	3/400/50	3/400/50	3/400/50	400/3/50	3/400/50	400/3/50	400/3/50
General electrical data										
Maximum input power	[kW]	36,1	45,0	59,0	65,3	74,2	75,9	99,0	98,2	119,9
Maximum input current	[A]	72,0	86,6	107,6	120,0	137,2	141,2	176,3	183,6	218,8
Inrush current	[A]	212,0	325,5	352,2	364,6	462,6	466,6	501,7	422,5	463,4

RAE N MC S Kc		3102	3502	3802	4002	5002	5402	6002	6502
Cooling capacity	kW	293,8	327,9	376,5	399,5	502,9	547,5	608,8	635,5
Total input power	kW	101,0	102,8	129,4	144,1	166,4	183,9	194,8	212,3
Nominal input current	A	172,3	176,2	218,5	242,9	283,9	312,2	331,4	359,2
EER	W/W	2,91	3,19	2,91	2,77	3,02	2,98	3,13	2,99
SEER (EN14825)	W/W	4,32	4,45	4,31	4,17	4,57	4,60	4,70	4,58
Circuits	n°	2	2	2	2	2	2	2	2
Compressors	n°	4	4	4	4	6	6	6	6
Refrigerant data R410A									
Refrigerant charge	kg	24	32	32	34	42	46	54	56
Global warming potential (GWP)	-	2088	2088	2088	2088	2088	2088	2088	2088
Equivalent CO_2 charge	t	50,1	66,8	66,8	71,0	87,8	96,1	112,8	116,9
Axial fans (1)									
Quantity	n°	4	6	6	6	8	8	10	10
Total air flow	m^3/h	84640	102750	102840	126930	169150	169200	211420	211460
Total power input	kW	5,3	6,3	6,2	8,0	10,8	10,7	13,5	13,5
Total input current	A	10,1	11,8	11,7	15,2	20,4	20,3	25,6	25,5
Evaporator (2)									
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	m^3/h	50,5	56,4	64,8	68,7	86,5	94,2	104,7	109,3
Pressure drop	kPa	32,9	38,0	41,8	47,4	64,0	48,4	55,7	53,7
Weight									
Transport weight	kg	2204	2615	2672	2724	3557	3649	4048	4109
Operating weight	kg	2223	2637	2696	2754	3590	3685	4091	4156
Dimensions									
Length	mm	2680	4020	4020	4020	5360	5360	6700	6700
Width	mm	2260	2260	2260	2260	2260	2260	2260	2260
Height	mm	2470	2470	2470	2470	2470	2470	2470	2470
Sound data									
Total LWA (3)	dB(A)	88,0	87,0	88,0	91,0	89,0	91,0	91,0	93,0
Total SPL 10m (4)	dB(A)	55,9	54,7	55,7	58,7	56,6	58,6	58,4	60,4
Power supply									
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data									
Maximum input power	[kW]	130,3	138,9	169,7	189,4	229,2	247,0	267,9	285,7
Maximum input current	[A]	239,6	256,6	311,0	347,8	415,6	450,0	490,2	524,6
Inrush current	[A]	484,2	582,0	636,4	673,2	660,2	775,4	815,6	850,0

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC HE S Kc		801	1001	1301	1501	1651
Cooling capacity	kW	80,4	102,0	132,0	144,0	165,0
Total input power	kW	24,5	33,1	41,8	46,4	54,9
Nominal input current	A	46,7	59,4	72,0	79,8	93,3
EER	W/W	3,28	3,08	3,16	3,10	3,01
SEER (EN14825)	W/W	4,54	4,62	4,82	4,58	4,66
Circuits	n°	1	1	1	1	1
Compressors	n°	2	2	2	2	2
Refrigerant data R410A						
Refrigerant charge	kg	12	13	16,7	17	18
Global warming potential (GWP)	-	2088	2088	2088	2088	2088
Equivalent CO_2 charge	t	25,8	26,6	34,9	35,8	36,8
Axial fans (1)						
Quantity	n°	2	2	3	3	3
Total air flow	m^3/h	32770	36870	49480	50950	53920
Total power input	kW	1,2	1,7	2,0	2,2	2,6
Total input current	A	2,3	3,0	3,8	4,1	4,6
Evaporator (2)						
Quantity	n°	1	1	1	1	1
Water flow	m^3/h	13,8	17,5	22,8	24,8	28,4
Pressure drop	kPa	34,0	29,7	55,8	40,3	36,5
Weight						
Transport weight	kg	1000	1090	1538	1696	1809
Operating weight	kg	1008	1100	1550	1710	1825
Dimensions						
Length	mm	2590	2590	3630	3630	3630
Width	mm	1370	1370	1370	1370	1370
Height	mm	2570	2570	2570	2570	2570
Sound data						
Total LWA (3)	dB(A)	82,5	85,4	87,1	87,8	88,6
Total SPL 10m (4)	dB(A)	52,0	54,9	56,5	57,1	58,0
Power supply						
Voltage/phase/frequency	V/ph/Hz	3/400/50	3/400/50	3/400/50	3/400/50	3/400/50
General electrical data						
Maximum input power	[kW]	39,9	48,8	65,8	71,0	79,9
Maximum input current	[A]	75,4	90,0	114,7	125,1	142,3
Inrush current	[A]	215,4	328,9	359,3	369,7	467,7

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC Kr		801	1001	1301	1501	1651	2001
Cooling capacity	kW	80,6	103,0	129,0	147,0	167,0	205,0
Total input power	kW	23,8	32,2	43,8	46,0	53,4	66,6
Nominal input current	A	47,0	59,5	74,0	79,9	94,7	115,0
EER	W/W	3,39	3,20	2,95	3,20	3,13	3,08
SEER (EN14825)	W/W	4,24	4,54	4,39	4,33	4,43	4,42
Circuits	n°	1	1	1	1	1	1
Compressors	n°	2	2	2	2	2	2
Refrigerant data R454B							
Refrigerant charge	kg	12	12	13	17	18	18
Global warming potential (GWP)	-	466	466	466	466	466	466
Equivalent CO_2 charge	t	5,6	5,6	6,1	7,9	8,4	8,4
Axial fans (1)							
Quantity	n°	2	2	2	3	3	3
Total air flow	m^3/h	38718	38479	38177	58225	57986	68915
Total power input	kW	3,02	3,00	2,97	4,48	4,46	5,59
Total input current	A	6,50	6,45	6,39	9,66	9,62	8,85
Evaporator (2)							
Quantity	n°	1	1	1	1	1	1
Water flow	m^3/h	13,89	17,83	22,23	25,25	28,83	35,27
Pressure drop	kPa	41,9	49,5	54,3	53,9	55,1	26,3
Weight							
Transport weight	kg	1000	1090	1170	1538	1696	1809
Operating weight	kg	1008	1100	1182	1550	1710	1825
Dimensions							
Length	mm	2590	2590	2590	3630	3630	3630
Width	mm	1370	1370	1370	1370	1370	1370
Height	mm	2570	2570	2570	2570	2570	2570
Sound data							
Total LWA (3)	dB(A)	85	88	90	91	92	94
Total SPL 10m (4)	dB(A)	53	56	58	59	59	62
Power supply							
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data							
Maximum input power	[kW]	36,4	50,1	58,3	70,2	80,7	99,0
Maximum input current	[A]	64,2	98,0	115,0	130,0	180,0	223,0
Inrush current	[A]	233	296	353	368	418	461

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC S Kr		801	1001	1301	1501	1651	1701	2001	2402	2702
Cooling capacity	kW	79,0	101,0	125,0	143,0	161,0	171,0	198,0	22,3	264,0
Total input power	kW	23,4	32,2	44,9	46,4	54,5	50,9	67,1	75,1	86,9
Nominal input current	A	44,9	58,0	74,3	78,4	94,1	89,6	116,0	130,0	146,0
EER	W/W	3,38	3,14	2,78	3,08	2,95	3,36	2,95	2,97	3,04
SEER (EN14825)	W/W	4,59	4,66	4,44	4,51	4,57	4,83	4,28	4,72	4,75
Circuits	n°	1	1	1	1	1	1	1	2	2
Compressors	n°	2	2	2	2	2	2	2	4	4
Refrigerant data R454B										
Refrigerant charge	kg	12	12	13	17	18	16	18	26	28
Global warming potential (GWP)	-	466	466	466	466	466	466	466	466	466
Equivalent CO_2 charge	t	5,6	5,6	6,1	7,9	8,4	7,5	8,4	12,1	13,0
Axial fans (1)										
Quantity	n°	2	2	2	3	3	4	3	4	4
Total air flow	m^3/h	29491	29256	28975	43036	42800	58859	51587	58142	77348
Total power input	kW	1,81	1,80	1,78	2,71	2,70	3,62	2,57	3,56	5,45
Total input current	A	3,39	3,36	3,32	5,08	5,05	6,67	4,62	6,67	10,3
Evaporator (2)										
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	m^3/h	13,61	17,34	21,52	24,54	27,76	29,38	34,01	38,45	45,46
Pressure drop	kPa	40,4	47,1	51,0	51,0	51,5	57,0	24,6	39,9	31,8
Weight										
Transport weight	kg	1000	1090	1170	1538	1696	1598	1809	2089	2114
Operating weight	kg	1008	1100	1182	1550	1710	1690	1825	2101	2127
Dimensions										
Length	mm	2590	2590	2590	3630	3630	2680	3630	2680	2680
Width	mm	1370	1370	1370	1370	1370	2260	1370	2260	2260
Height	mm	2570	2570	2570	2570	2570	2470	2570	2470	2470
Sound data										
Total LWA (3)	dB(A)	81	84	86	87	88	86	91	86	87
Total SPL 10m (4)	dB(A)	49	52	54	55	56	54	59	54	55
Power supply										
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data										
Maximum input power	[kW]	34,8	48,5	56,7	67,8	78,3	79,4	99,0	104,0	115,0
Maximum input current	[A]	60,4	94,2	111,0	124,0	174,0	176,0	223,0	234,0	226,0
Inrush current	[A]	229	292	349	362	412	414	461	432	464

RAE N MC S Kr		3102	3502	3802	4002	5002	5402	6002	6502
Cooling capacity	kW	286,0	303,0	364,0	410,0	481,0	528,0	586,0	626,0
Total input power	kW	95,2	98,2	121,0	132,0	155,0	171,0	180,0	196,0
Nominal input current	A	161,0	170,0	204,0	230,0	257,0	289,0	311,0	343,0
EER	-	3,00	3,09	3,01	3,11	3,10	3,09	3,26	3,19
SEER (EN14825)	-	4,84	5,18	5,02	4,83	4,88	5,00	5,00	5,10
Circuits	n°	2	2	2	2	2	2	2	2
Compressors	n°	4	4	4	4	6	6	6	6
Refrigerant data R454B									
Refrigerant charge	kg	30	40	42	44	54	58	70	72
Global warming potential (GWP)	-	466	466	466	466	466	466	466	466
Equivalent CO_2 charge	t	14,0	18,6	19,6	20,5	25,2	27,0	32,6	33,6
Axial fans (1)									
Quantity	n°	4	6	6	6	8	8	10	10
Total air flow	m^3/h	77050	87655	87105	115897	155023	154731	194003	193551
Total power input	kW	5,42	5,38	5,34	8,16	10,9	10,9	13,7	13,7
Total input current	A	10,2	10,1	9,99	15,4	20,7	20,6	25,9	25,9
Evaporator (2)									
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	m^3/h	44,19	52,05	62,63	70,50	82,84	90,88	100,8	107,8
Pressure drop	kPa	33,0	38,0	44,3	43,6	58,3	48,5	53,5	50,8
Weight				2672					
Transport weight	kg	2204	2615	2696	2724	3557	3649	4048	4109
Operating weight	kg	2223	2637		2754	3590	3685	4091	4156
Dimensions									
Length	mm	2680	4020	4020	4020	5360	5360	6700	6700
Width	mm	2260	2260	2260	2260	2260	2260	2260	2260
Height	mm	2470	2470	2470	2470	2470	2470	2470	2470
Sound data									
Total LWA (3)	dB(A)	88	87	88	91	89	91	91	93
Total SPL 10m (4)	dB(A)	56	55	56	59	56	59	59	60
Power supply									
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data									
Maximum input power	[kW]	135,0	137,0	166,0	189,0	220,0	241,0	265,0	286,0
Maximum input current	[A]	248,0	326,0	337,0	441,0	362,0	461,0	566,0	665,0
Inrush current	[A]	486	564	575	679	599	699	804	903

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC HE Kr		801	1001	1301	1501	1651	1701	2102	2402	2702
Cooling capacity	kW	81,9	106,0	134,0	146,0	167,0	163,0	214,0	244,0	271,0
Total input power	kW	23,3	32,1	42,2	46,1	53,7	48,0	63,8	74,5	87,2
Nominal input current	A	44,8	57,9	73,9	80,6	95,2	87,7	116,0	129,0	145,0
EER	W/W	3,52	3,30	3,18	3,17	3,11	3,40	3,35	3,28	3,11
SEER (EN14825)	W/W	5,19	5,26	4,99	4,86	4,91	4,93	5,46	5,13	5,01
Circuits	n°	1	1	1	1	1	1	2	2	2
Compressors	n°	2	2	2	2	2	2	4	4	4
Refrigerant data R454B										
Refrigerant charge	kg	12	13	17	17	18	26	31	35	38
Global warming potential (GWP)	-	466	466	466	466	466	466	466	466	466
Equivalent CO_2 charge	t	5,6	6,1	7,9	7,9	8,4	12,1	14,4	16,3	17,7
Axial fans (1)										
Quantity	n°	2	2	3	3	3	4	4	4	4
Total air flow	m^3/h	38594	42420	55105	56934	58196	69350	84713	89684	90543
Total power input	kW	2,37	3,15	3,92	4,32	4,60	5,39	6,26	7,33	7,55
Total input current	A	4,05	5,13	9,99	9,97	9,92	12,9	10,2	11,6	11,9
Evaporator (2)										
Quantity	n°	1	1	1	1	1	1	1	1	1
Water flow	m^3/h	14,11	18,28	23,07	25,20	28,74	28,02	36,88	42,02	46,61
Pressure drop	kPa	33,1	39,1	59,2	54,4	55,9	53,4	29,2	25,2	30,6
Weight										
Transport weight	kg	1000	1090	1538	1696	1809	1598	1871	1977	1988
Operating weight	kg	1008	1100	1550	1710	1825	1609	1894	2004	2027
Dimensions										
Length	mm	2590	2590	3630	3630	3630	2680	2680	2680	2680
Width	mm	1370	1370	1370	1370	1370	2260	2260	2260	2260
Height	mm	2570	2570	2570	2570	2570	2470	2470	2470	2470
Sound data										
Total LWA (3)	dB(A)	86	88	91	92	92	91	91	93	94
Total SPL 10m (4)	dB(A)	54	56	59	60	60	59	59	61	62
Power supply										
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data										
Maximum input power	[kW]	38,6	52,3	60,2	70,2	80,7	72,6	105,0	112,0	121,0
Maximum input current	[A]	63,8	97,6	119,0	130,0	180,0	173,0	195,0	241,0	230,0
Inrush current	[A]	233	296	357	368	418	411	393	439	467

RAE N MC HE Kr		3102	3502	4002	4402	5102	5602	6302	6602
Cooling capacity	kW	303,0	323,0	380,0	433,0	497,0	540,0	593,0	641,0
Total input power	kW	90,5	97,9	116,0	128,0	155,0	170,0	181,0	195,0
Nominal input current	A	160,0	175,0	205,0	235,0	265,0	294,0	323,0	351,0
EER	W/W	3,35	3,30	3,28	3,38	3,21	3,18	3,28	3,29
SEER (EN14825)	W/W	5,21	5,39	5,12	4,86	4,93	4,94	4,95	4,89
Circuits	n°	2	2	2	2	2	2	2	2
Compressors	n°	4	4	4	4	6	6	6	6
Refrigerant data R454B									
Refrigerant charge	kg	44	49	56	63	74	80	89	94
Global warming potential (GWP)	-	466	466	466	466	466	466	466	466
Equivalent CO_2 charge	t	20,5	22,8	26,1	29,4	34,5	37,3	41,5	43,8
Axial fans (1)									
Quantity	n°	6	6	6	8	8	8	10	10
Total air flow	m^3/h	111063	113902	147692	185522	196170	201742	241042	247922
Total power input	kW	8,17	8,86	11,4	15,3	16,0	16,4	19,7	20,2
Total input current	A	19,9	19,9	26,8	36,1	35,8	35,8	44,8	44,7
Evaporator (2)									
Quantity	n°	1	1	1	1	1	1	1	1
Water flow	m^3/h	52,10	55,64	65,39	74,43	85,58	92,84	102,1	110,2
Pressure drop	kPa	36,1	40,6	38,6	48,8	44,3	47,0	55,6	53,8
Weight									
Transport weight	kg	2473	2478	2579	2988	3422	3488	3941	3952
Operating weight	kg	2519	2526	2639	3054	3502	3579	4037	4054
Dimensions									
Length	mm	4020	4020	4020	5360	5360	5360	6700	6700
Width	mm	2260	2260	2260	2260	2260	2260	2260	2260
Height	mm	2470	2470	2470	2470	2470	2470	2470	2470
Sound data									
Total LWA (3)	dB(A)	94	94	96	98	96	98	98	100
Total SPL 10m (4)	dB(A)	62	62	63	66	63	66	66	67
Power supply									
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data									
Maximum input power	[kW]	140,0	141,0	174,0	200,0	227,0	248,0	574,0	295,0
Maximum input current	[A]	260,0	337,0	356,0	465,0	380,0	479,0	588,0	688,0
Inrush current	[A]	498	575	594	703	617	717	826	926

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744

RAE N MC HE S Kr		801	1001	1301	1501	1651
Cooling capacity	kW	80,7	103,0	134,0	146,0	166,0
Total input power	kW	23,6	32,6	41,1	45,0	52,6
Nominal input current	A	45,3	58,6	68,9	76,2	91,3
EER	W/W	3,42	3,16	3,26	3,24	3,16
SEER (EN14825)	W/W	4,74	4,86	5,07	4,93	4,95
Circuits	n°	1	1	1	1	1
Compressors	n°	2	2	2	2	2
Refrigerant data R454B						
Refrigerant charge	kg	12	13	17	17	18
Global warming potential (GWP)	-	466	466	466	466	466
Equivalent CO_2 charge	t	5,6	6,1	7,9	7,9	8,4
Axial fans (1)						
Quantity	n°	2	2	3	3	3
Total air flow	m^3/h	28048	29230	50778	52187	51964
Total power input	kW	1,73	1,79	2,40	2,60	2,59
Total input current	A	3,38	3,36	4,38	4,68	4,65
Evaporator (2)						
Quantity	n°	1	1	1	1	1
Water flow	m^3/h	13,90	17,83	23,12	25,08	28,65
Pressure drop	kPa	31,6	36,4	58,5	53,6	54,6
Weight						
Transport weight	kg	1000	1090	1538	1696	1809
Operating weight	kg	1008	1100	1550	1710	1825
Dimensions						
Length	mm	2590	2590	3630	3630	3630
Width	mm	1370	1370	1370	1370	1370
Height	mm	2570	2570	2570	2570	2570
Sound data						
Total LWA (3)	dB(A)	83	85	57	88	89
Total SPL 10m (4)	dB(A)	51	53	55	56	56
Power supply						
Voltage/phase/frequency	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
General electrical data						
Maximum input power	[kW]	34,8	48,5	63,5	73,5	84,0
Maximum input current	[A]	60,4	94,2	118,0	130,0	179,0
Inrush current	[A]	229	292	356	367	417

(1) Ambient air temperature 35°C
(2) Fluid: Water - In/out Temperature: 12/7°C
(3) Sound power level in accordance with ISO 3744.
(4) Sound pressure level at 10m from the unit in free field conditions, in accordance with ISO 3744