

Air cooled chillers with screw compressors and axial fans

RAH... K/Ka Series - 1 or more refrigerant circuits
Cooling capacities from 307 to 1879 kW



- External installation
- High cooling capacities
- Compact dimensions



Air cooled water chillers



screw compressors



air cooled unit



only cooling units



units available in low noise versions



Air cooled chillers with screw compressors and axial fans

The air cooled chillers of **RAH series** are extremely compact units so to reduce the installation spaces and weights. They are designed for outdoor installation and are particularly suitable for industrial applications. Thanks to the several options available, these units are particularly flexible and can be easily adapted to all installation sites. These units are completely assembled and tested in the factory and supplied with refrigerant and non-freezing oil charge. Therefore, once on site, the units only need to be positioned and electrically and hydraulically connected.

Operation limits (standard unit)

- AIR : from 15 to 45°C
- WATER (out from evaporator): from 5 to 15°C

Available versions

- K/Ka - standard version
- S.K/ Ka - silenced version: oversized coil, reduced air flow, fans with a lower rotation speed, cabinet on compressors, insulated by means of soundproofing material
- U.K/Ka - ultra-silenced version: oversized coil, reduced air flow, fans with a very low rotation speed, cabinet on compressors insulated by means of soundproofing material with bituminous rubber coating, vibration dampers on compressors suction and discharge pipes, mufflers on discharge pipes, compressors fixed on spring-type vibration dampers

Main components

Modular **frame** made of galvanized and RAL 7035 painted steel profiles and base-frame in painted steel, suitably treated to resist to external agents. The compressors and the main components are suitably placed in the technical partition, completely at sight.

Semi-hermetic **screw compressors** equipped with capacity steps, motor thermal protection, oil crankcase heater and phase monitor. The compressors lubrication is of forced type, with no pump and in order to prevent many oil migrations to the cooling circuit, the compressors are provided with an oil separator, in-built to the discharge side. The electrical motor is foreseen for lower inrush current and, in this case, the unit is equipped with an automatic partial load inrush device and mechanical interlock of the inrush control switches, to prevent accidental short circuits (options DS and PW).

Dry expansion **shell & tube evaporator**, 100% counter-current type with two refrigerant circuits and one water circuit, with very low pressure drops. Shell and tubes plate made in carbon steel and copper tubes, insulated by close-cell polyurethane foam material. Some plastic and corrosion-proof baffles are suitably placed inside the shell, allowing a correct water distribution and making the tube bundle particularly strong and vibration-free, also in case of very high water flows.

Heat-exchange **external coil** with copper tube and specially corrugated aluminium fins for a better efficiency. It is suitably sized with a wide exchange surface, so to allow the unit operation also at very high external air temperatures.

Thanks to their "V" positioning, also increasing the total efficiency, the overall dimensions are particularly compact. On request, in case of installation in aggressive environments, several coil protection treatments are available.

Low rpm **axial fans**, of directly coupled type, with 6-8 pole electrical motor complete with in-built overload protection, electronic balance, low sound level blades with wing profile and safety protection grid.

Cooling circuit composed of thermostatic expansion valve, dehydrating filter, sight glass, high pressure safety device, antifreeze thermostat, high and low pressure switches, high and low pressure gauges, non-return valve on discharge side, shut-off valve on liquid line, shut-off valve on compressor discharge side.

Electric board in compliance with CE norms, contained in a suitable partition protected by the internal safety panel, provided with a lock-door main switch. Inside, it is complete with all control and protection switches, the terminal board and auxiliaries. The electrical board also includes the control device for power supply phases, to prevent the compressor to turn in the wrong sense. The microprocessor, complete with display, is also placed inside the electrical board.

Unit management **microprocessor** installed on the internal safety panel of the electrical board, controlling the chilled water temperature regulation, the working parameters, auto-detection failure system, remote management and supervision, complete with compressors hour counter.

References

- Edificio Tintoretto – Rome (Italy)
- Saga Buildings – London (U.K)
- Hotel "Les Ambassadeurs" – Tunis (Tunisia)
- Ospedale "M. Marini" – Magliano Sabina – Rieti (Italy)
- Ospedale "S. Martino" – Genova (Italy)
- Ospedale "Wojewodzky" – Elk (Poland)
- City Hospital – Lewisham (U.K.)
- Ospedale Civile – Pad. Bizzozzero - Busto Arsizio (Italy)
- Presidio Sanitario – Ospedale Gardenigo – Torino (Italy)
- Ospedale Civile di Lodi (Italy)
- Ospedale "S. Matteo" – Pavia (Italy)
- Museo dell'Auto – Torino (Italy)
- Fruchthandel AG – Münchenstein (Switzerland)
- BM-Factory Housing Plastics Material – Kwidzyn (Germany)
- Factory Dampers "Delphi" – Krosno (Poland)
- Cultural Centre – Budapest (Hungary)

Available options

A - Amperometer: Electrical device for measuring the intensity of electrical current absorbed by the unit.

AE - Electrical power supply different from standard: mainly, 230V triphase, 460V triphase. Frequency 50/60 Hz.

BT - Low temperature operation (-20°C): electronic device for the continuous voltage control of the condensing pressure through the variation of the fan rotation speed.

CE - UV protection on water insulation: particular coat of the evaporator and of water insulations with UV ray proof material.

CF - Soundproofed compressors cabinet: Insulation of compressors by a cabinet coated with soundproofing material and vibration dampers under compressors (already included in S version).

CFU - Soundproofed compressors cabinet with bituminous rubber coating: Insulation of compressors by a suitably coated cabinet, vibration dampers under compressors, mufflers on compressors discharge pipes (already included in U version).

CS - Compressors inrush counter: Electromechanical device positioned inside the electrical board, recording the total inrush starts of compressors.

DS - Star/delta: electric device of close transition type to reduce the inrush current, complete with short circuit safety by mechanical interlock.

GP - Condensing coil protection grid: metal protection grid against accidental impacts, made of 50x50 4-mesh wire.

GP1 - Protection grid for compressors section: metal protection grid against accidental impacts.

IG - Watch card: Electronic card to program the switch-over and rotation between to units, after a pre-set time.

IH - RS 485 serial interface: electronic card to be connected to microprocessor, to allow communication between the units and a CAREL supervision system. It is possible to fully control the unit from remote. For connection to other supervision systems, the protocol of the controlled parameters is available on request.

IM - Seawood packing: fumigated seawood case and protection bag with hygroscopic salts, suitable for long sea transports.

LI - Liquid injection: mechanical device allowing a better cooling of compressors at very high compression level (standard for R407C).

M6-M25 - Modulating capacity control: by means of some valves installed on compressors, depending on their quantity, the capacity is modulated from 6 to 100%.

MV - Buffer tank of suitable capacity complete with expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves.

OS - Oil flow safety switch: in-built in the compressor oil separator, it indicates the eventual decrease of the oil level.

PF - Safety water flow switch: installed on evaporator, it switches off the unit in case of lack of water flow rate through the evaporator.

PM - Spring-type vibration dampers: spring-type vibration dampers support, for insulating 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 microprocessor: remote terminal, allowing to display the temperature and humidity 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 sound signal and the display of the present alarms.

PW - Part-winding: equipment for step compressors starting, reducing of about 35% the inrush current of each compressor.

RA - Anti-freeze heater on evaporator: electrical heater installed on the evaporator, in order to prevent freezing and provided with thermostat.

RF - Power factor correction system cosfi > 0,9: Electrical device made of suitable condensers for compressors rephasing, ensuring a cosfi value $\geq 0,9$, so to reduce the power absorption from the electrical network.

RH - Shut-off valve on suction side: they are used to isolate compressors during service operations.

RL - Compressors overload relays: electromechanical protection devices against compressors overload.

RM - Condensing coil with pre-painted fins: superficial treatment of the condensing coils with epoxy coating.

RR - Copper/copper condensing coils: special execution of the condensing coils with copper pipe and fins.

TE - Electronic thermostatic valve: it is requested to make a very accurate regulation of the refrigerant flow and to limit variations of cooling capacity and evaporator leaving temperature water during operation in transitions and for a better performance with fixed superheating.

V - Voltmeter: Electrical device measuring the electrical tension in the power supply of the unit.

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 prevent refrigerant migrations and consequent flooding of compressors.

R407C - RAH K - Standard Version

MODEL	RAH...K	301	391	451	272	312	372	462	522	592
Cooling capacity	kW	306,6	397,9	459,0	286,3	330,6	368,7	442,9	532,5	600,9
Absorbed power	kW	122,5	153,2	181,9	115,0	133,0	156,0	191,0	211,7	247,9
EER		2,50	2,60	2,52	2,50	2,50	2,40	2,30	2,50	2,40
Screw compressors										
Quantity	n.	1	1	1	2	2	2	2	2	2
Standard steps capacity	n.	3	3	3	6	6	6	6	6	6
Circuits	n.	1	1	1	2	2	2	2	2	2
Axial fans										
Quantity	n.	4	4	6	4	4	4	6	6	6
Sound pressure level	dB(A)	81	81	81	81	81	81	82	82	82
Shell and tube evaporator	n.	1								
Water flow rate	m³/h	52,6	68,0	78,8	49,3	56,9	63,4	76,0	91,1	103,0
Pressure drop	kPa	48	38	35	38	50	41	29	47	52
Electrical data										
Absorbed power	kW	136	166	202	128	146	169	211	232	268
Nominal absorbed current	A	208	249	306	214	244	274	349	361	409
Maximum absorbed current	A	271	355	408	281	313	349	398	470	530
Dimensions										
Length	mm	3.350	3.350	4.850	3.350	3.350	3.350	4.850	4.850	4.850
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight	kg	2.993	3.626	4.236	3.303	3.432	3.468	4.800	5.020	5.070
Power supply		400 V / 50 Hz / 3 Ph + T								

R407C - RAH K - Standard Version

MODEL	RAH...K	782	892	1042	1162	913	1193	1184	1544	
Cooling capacity	kW	800,0	911,7	1069,1	1187,1	905,4	1.180,8	1.245,5	1.634,8	
Absorbed power	kW	306,6	366	408,2	468,4	383,0	476,0	496,2	612,4	
EER		2,60	2,50	2,60	2,50	2,40	2,50	2,50	2,70	
Screw compressors										
Quantity	n.	2	2	2	2	3	3	4	4	
Standard steps capacity	n.	6	6	6	6	9	9	12	12	
Circuits	n.	2	2	2	2	3	3	4	4	
Axial fans										
Quantity	n.	8	10	12	12	12	12	12	16	
Sound pressure level	dB(A)	84	85	86	86	86	86	86	87	
Shell and tube evaporator	n.	1								
Water flow rate	m³/h	137,2	156,6	183,2	203,4	155,5	203,0	213,8	280,1	
Pressure drop	kPa	51	66	97	104	55	60	87	120	
Electrical data										
Absorbed power	kW	333	399	448	508	423	516	536	665	
Nominal absorbed current	A	499	606	680	743	696	825	822	992	
Maximum absorbed current	A	710	803	916	976	814	1.066	1.060	1.421	
Dimensions										
Length	mm	6.350	7.850	9.350	9.350	9.350	9.350	9.350	12.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	6.868	7.632	8.442	8.589	7.988	10.141	9.830	13.343	
Power supply		400 V / 50 Hz / 3 Ph + T								

R407C - RAH S.K - Silenced Version

MODEL	RAH...S K	301	391	451	272	312	372	462	522	
Cooling capacity	kW	309,8	403,0	417,7	291,5	318,3	373,9	451,0	530,5	
Absorbed power	kW	121,1	151,6	179,8	113,0	139,0	154,0	187,0	212,2	
EER		2,56	2,66	2,32	2,58	2,29	2,43	2,41	2,50	
Screw compressors										
Quantity	n.	1	1	1	2	2	2	2	2	
Standard steps capacity	n.	3	3	3	6	6	6	6	6	
Circuits	n.	1	1	1	2	2	2	2	2	
Axial fans										
Quantity	n.	4	6	6	4	4	6	6	8	
Sound pressure level	dB(A)	74	74	75	75	75	75	76	76	
Shell and tube evaporator	n.	1								
Water flow rate	m³/h	53,2	69,1	71,8	50,0	54,7	64,4	77,4	91,1	
Pressure drop	kPa	49	39	35	39	47	43	30	47	
Electrical data										
Absorbed power	kW	129	164	192	121	147	166	199	228	
Nominal absorbed current	A	200	245	293	202	243	270	330	354	
Maximum absorbed current	A	262	354	394	272	304	348	384	464	
Dimensions										
Length	mm	3.350	4.850	4.850	3.350	3.350	4.580	4.850	6.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	3.041	4.009	4.309	3.352	3.363	3.851	4.872	5.252	
Power supply		400 V / 50 Hz / 3 Ph + T								

Nominal condition referred to: air 35 °C - chilled water 7/12 °C - Sound pressure level referred to 1 m in open field (ISO 3744)

R407C - RAH S.K - Silenced Version

MODEL	RAH...S K	592	782	892	1042	1162	913	1184
Cooling capacity	kW	615,4	795,7	928,3	1.073,3	1.191,8	896,1	1.234,9
Absorbed power	kW	242,0	307,9	359,6	406,4	466,3	375	483,9
EER		2,54	2,58	2,58	2,64	2,56	2,39	2,55
Screw compressors								
Quantity	n.	2	2	2	2	2	3	4
Standard steps capacity	n.	6	6	6	6	6	9	12
Circuits	n.	2	2	2	2	2	3	4
Axial fans								
Quantity	n.	8	10	12	14	14	12	16
Sound pressure level	dB(A)	76	77	79	80	80	80	80
Shell and tube evaporator	n.			1				1
Water flow rate	m³/h	105,5	136,4	159,1	184,3	204,1	154,1	211,7
Pressure drop	kPa	55	50	68	97	71	58	91
Electrical data								
Absorbed power	kW	258	328	384	434	494	399	516
Nominal absorbed current	A	397	489	587	660	747	658	798
Maximum absorbed current	A	524	700	788	896	956	786	1.048
Dimensions								
Length	mm	6.350	7.850	9.350	10.850	10.850	9.350	12.350
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight	kg	5.539	7.358	8.030	8.805	8.952	8.133	10.822
Power supply		400 V / 50 Hz / 3 Ph + T						

R407C - RAH U.K - Ultra-Silenced Version

MODEL	RAH...U K	301	391	451	272	312	372	
Cooling capacity	kW	319,6	408,2	481,7	306,9	318,3	362,6	
Absorbed power	kW	116,4	149,5	173,2	106,0	139,0	159,0	
EER		2,75	2,73	2,78	2,90	2,30	2,30	
Screw compressors								
Quantity	n.	1	1	1	2	2	2	
Standard steps capacity	n.	3	3	3	6	6	6	
Circuits	n.	1	1	1	2	2	2	
Axial fans								
Quantity	n.	6	6	8	6	6	6	
Sound pressure level	dB(A)	67	67	68	67	67	67	
Shell and tube evaporator	n.		1			1		
Water flow rate	m³/h	54,8	70,2	82,8	52,7	54,6	62,4	
Pressure drop	kPa	51	40	38	43	46	40	
Electrical data								
Absorbed power	kW	124	157	183	114	147	167	
Nominal absorbed current	A	193	241	282	190	241	267	
Maximum absorbed current	A	260	344	388	270	302	338	
Dimensions								
Length	mm	4.850	4.850	6.350	4.850	4.850	4.850	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	3.493	4.185	4.879	3.804	3.815	4.027	
Power supply		400 V / 50 Hz / 3 Ph + T						

R407C - RAH U.K - Ultra-Silenced Version

MODEL	RAH...U K	462	522	592	782	892	1042	
Cooling capacity	kW	481,0	538,8	621,6	820,6	911,7	1.081,5	
Absorbed power	kW	174,0	209,4	238,1	299,2	366,0	402,8	
EER		2,80	2,60	2,60	2,70	2,50	2,70	
Screw compressors								
Quantity	n.	2	2	2	2	2	2	
Standard steps capacity	n.	6	6	6	6	6	6	
Circuits	n.	2	2	2	2	2	2	
Axial fans								
Quantity	n.	8	8	10	12	14	16	
Sound pressure level	dB(A)	69	69	69	69	70	71	
Shell and tube evaporator	n.				1			
Water flow rate	m³/h	82,7	92,4	106,7	140,8	156,8	185,4	
Pressure drop	kPa	34	48	56	53	66	99	
Electrical data								
Absorbed power	kW	184	219	251	314	384	423	
Nominal absorbed current	A	306	349	385	481	577	656	
Maximum absorbed current	A	378	450	515	688	772	877	
Dimensions								
Length	mm	6.350	6.350	7.850	9.350	10.850	12.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	5.443	5.487	6.167	7.928	8.600	9.433	
Power supply		400 V / 50 Hz / 3 Ph + T						

Nominal condition referred to: air 35 °C - chilled water 7/12 °C - Sound pressure level referred to 1 m in open field (ISO 3744)

R134a - RAH Ka - Standard Version

MODEL	RAH...Ka	341	381	431	491	312	342	372	452	502	582	652	772	862	
Cooling capacity	kW	308,0	383,0	403,0	472,0	299	360	393	447	523	580	614	746	809	
Absorbed power	kW	122	139	158	178	116	125	128	166	165	200	246	287	317	
EER		2,52	2,76	2,55	2,65	2,60	2,90	3,10	2,70	3,20	3,00	2,90	2,80	2,90	
Screw compressors															
Quantity	n.	1	1	1	1	2	2	2	2	2	2	2	2	2	
Standard steps capacity	n.	3	3	3	3	6	6	6	6	6	6	6	6	6	
Circuits	n.	1	1	1	1	2	2	2	2	2	2	2	2	2	
Axial fans															
Quantity	n.	4	4	4	4	4	4	6	6	6	6	6	6	8	
Sound pressure level	dB(A)	81	81	81	81	81	81	82	82	82	82	82	83	84	
Shell and tube evaporator	n.	1				1				1				1	
Water flow rate	m³/h	53,0	65,9	69,3	81,2	51,5	61,9	67,7	77,0	90,0	99,7	105,5	128,5	139,3	
Pressure drop	kPa	33	47	45	28	31	41	49	25	35	36	48	46	60	
Electrical data															
Absorbed power	kW	135,2	152,2	171,2	191,2	129,2	138,2	147,8	185,8	184,8	219,8	266,0	307,0	343,0	
Nominal absorbed current	A	224	247	285	317	219	229	246	313	317	372	439	497	570	
Maximum absorbed current	A	305	335	345	385	313	349	348	402	468	500	598	658	690	
Dimensions															
Length	mm	3.350	3.350	3.350	3.350	3.350	3.350	4.850	4.850	4.850	4.850	4.850	4.850	6.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	3.445	3.595	3.727	4.055	3.307	3.457	4.856	4.860	5.059	5.179	6.292	6.509	7.026	
Power supply		400 V / 50 Hz / 3 Ph + T													

R134a - RAH Ka - Standard Version

MODEL	RAH...Ka	982	753	863	1183	1313	1154	1304	1494	1624	1884	
Cooling capacity	kW	930	782	863	1.155	1.280	1.157	1.228	1.493	1.618	1.879	
Absorbed power	kW	356	246	298	416	444	400	492	574	634	713	
EER		2,60	3,20	2,90	2,80	2,90	2,90	2,50	2,60	2,60	2,60	
Screw compressors												
Quantity	n.	2	3	3	3	3	4	4	4	4	4	
Standard steps capacity	n.	6	9	9	9	9	12	12	12	12	12	
Circuits	n.	2	3	3	3	3	4	4	4	4	4	
Axial fans												
Quantity	n.	8	12	12	12	12	12	12	12	16	16	
Sound pressure level	dB(A)	84	86	86	86	86	86	86	87	88	88	
Shell and tube evaporator	n.	1			1			2			2	
Water flow rate	m³/h	159,8	134,6	148,3	198,7	220,3	199,1	211,3	256,7	278,3	323,3	
Pressure drop	kPa	39	46	62	66	82	51	48	46	60	55	
Electrical data												
Absorbed power	kW	382,4	286	338	456	484	440	532	614	687	766	
Nominal absorbed current	A	633	492	574	744	809	744	878	994	1.141	1.268	
Maximum absorbed current	A	770	664	718	1.006	1.036	932	1.196	1.316	1.381	1.541	
Dimensions												
Length	mm	6.350	9.350	9.350	9.350	9.350	9.350	9.350	9.350	12.350	12.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	7.356	7.783	7.828	10.231	10.790	10.221	12.125	12.558	13.650	15.091	
Power supply		400 V / 50 Hz / 3 Ph + T										

R134a - RAH S.Ka - Silenced Version

MODEL	RAH...S Ka	341	381	431	491	312	342	372	452	502	582	652	772
Cooling capacity	kW	328,0	384,0	405,0	500,0	318	344	380	473	502	551	617	771
Absorbed power	kW	114,0	138,0	158,0	167,0	108	132	134	155	174	212	245	276
EER		2,88	2,78	2,56	2,99	2,9	2,6	2,8	3,1	2,9	3,0	2,8	2,9
Screw compressors													
Quantity	n.	1	1	1	1	2	2	2	2	2	2	2	2
Standard steps capacity	n.	3	3	3	3	6	6	6	6	6	6	6	6
Circuits	n.	1	1	1	1	2	2	2	2	2	2	2	2
Axial fans													
Quantity	n.	4	4	4	6	4	4	6	6	6	6	6	8
Sound pressure level	dB(A)	76	76	76	78	76	76	78	78	79	79	79	80
Shell and tube evaporator	n.	1				1				1			
Water flow rate	m³/h	56,5	66,2	69,5	86,0	54,7	59,0	65,2	81,4	86,4	94,7	106,2	132,8
Pressure drop	kPa	38	47	45	32	35	38	46	29	32	33	49	49
Electrical data													
Absorbed power	kW	122	146	166	179	116	140	146	167	186	224	257	292
Nominal absorbed current	A	202	238	275	298	197	231	241	282	317	377	423	475
Maximum absorbed current	A	296	326	336	384	304	340	348	388	454	486	584	652
Dimensions													
Length	mm	3.350	3.350	3.350	4.850	3.350	3.350	4.850	4.850	4.850	4.850	4.850	6.350
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight	kg	3.494	3.643	3.776	4.438	3.356	3.388	4.483	4.932	4.955	5.076	6.365	6.976
Power supply		400 V / 50 Hz / 3 Ph + T											

Nominal condition referred to: air 35 °C - chilled water 7/12 °C - Sound pressure level referred to 1 m in open field (ISO 3744)

R134a - RAH S.Ka - Silenced Version

MODEL	RAH...S Ka	862	982	753	1023	1183	1313	1154	1304	1494	1624
Cooling capacity	kW	813	966	756	988	1.159	1.211	1.099	1.234	1.543	1.625
Absorbed power	kW	316	341	257	341	415	473	424	490	553	631
EER		2,80	2,80	2,90	2,90	2,79	2,56	2,59	2,52	2,79	2,58
Screw compressors											
Quantity	n.	2	2	3	3	3	3	4	4	4	4
Standard steps capacity	n.	6	6	9	9	9	9	12	12	12	12
Circuits	n.	2	2	3	3	3	3	4	4	4	4
Axial fans											
Quantity	n.	8	10	12	12	12	12	12	12	16	16
Sound pressure level	dB(A)	81	81	81	82	82	82	82	82	83	84
Shell and tube evaporator	n.	1			1			2			
Water flow rate	m³/h	139,7	166,3	130,0	169,9	199,4	208,4	189,0	212,0	265,3	279,4
Pressure drop	kPa	61	42	43	61	67	73	46	49	49	61
Electrical data											
Absorbed power	kW	332	361	281	365	439	497	448	514	585	663
Nominal absorbed current	A	550	600	482	607	713	825	753	847	951	1.100
Maximum absorbed current	A	652	760	636	888	978	1.008	904	1.168	1.304	1.344
Dimensions											
Length	mm	6.350	7.850	9.350	9.350	9.350	9.350	9.350	9.350	12.350	12.350
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight	kg	7.123	7.846	7.576	9.883	10.376	10.583	10.014	12.270	13.550	13.843
Power supply		400 V / 50 Hz / 3 Ph + T									

R134a - RAH U.Ka - Ultra-Silenced Version

MODEL	RAH...U Ka	341	381	431	491	312	342	372	452	502	582
Cooling capacity	kW	321	364	423	489	297	335	356	444	490	552
Absorbed power	kW	117	147	150	171	117	136	144	167	179	211
EER		2,74	2,48	2,82	2,86	2,5	2,5	2,5	2,7	2,7	2,6
Screw compressors											
Quantity	n.	1	1	1	1	2	2	2	2	2	2
Standard steps capacity	n.	3	3	3	3	6	6	6	6	6	6
Circuits	n.	1	1	1	1	2	2	2	2	2	2
Axial fans											
Quantity	n.	4	4	6	6	4	4	6	6	6	6
Sound pressure level	dB(A)	71	71	72	72	71	71	72	73	73	74
Shell and tube evaporator	n.	1			1			2			
Water flow rate	m³/h	55,1	62,6	72,7	83,9	51,1	57,6	61,2	76,3	84,2	95,0
Pressure drop	kPa	36	42	49	30	31	36	41	25	31	33
Electrical data											
Absorbed power	kW	122	152	158	179	122	141	152	175	187	219
Nominal absorbed current	A	200	243	261	295	204	229	246	291	315	366
Maximum absorbed current	A	289	319	334	374	297	333	338	378	444	476
Dimensions											
Length	mm	3.350	3.350	4.850	4.850	3.350	3.350	4.850	4.850	4.850	4.850
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight	kg	3.611	3.643	4.228	4.614	3.356	3.505	4.483	4.932	5.131	5.252
Power supply		400 V / 50 Hz / 3 Ph + T									

R134a - RAH U.Ka - Ultra-Silenced Version

MODEL	RAH...U Ka	652	772	862	982	753	863	1023	1154	1304	
Cooling capacity	kW	644	731	825	914	709	858	966	1.101	1.288	
Absorbed power	kW	234	294	310	362	277	300	351	423	467	
EER		2,8	2,5	2,7	2,5	2,56	2,86	2,75	2,60	2,76	
Screw compressors											
Quantity	n.	2	2	2	2	3	3	3	4	4	
Standard steps capacity	n.	6	6	6	6	9	9	9	12	12	
Circuits	n.	2	2	2	2	3	3	3	4	4	
Axial fans											
Quantity	n.	8	8	10	10	12	12	12	12	16	
Sound pressure level	dB(A)	75	75	76	76	76	76	76	77	78	
Shell and tube evaporator	n.	1			1			2			
Water flow rate	m³/h	110,9	125,6	141,8	157,3	122,0	147,6	166,3	189,4	221,4	
Pressure drop	kPa	53	44	63	38	38	61	58	46	53	
Electrical data											
Absorbed power	kW	244	304	323	375	292	315	366	438	487	
Nominal absorbed current	A	400	487	533	618	492	529	601	732	801	
Maximum absorbed current	A	578	638	663	743	616	670	868	884	1.157	
Dimensions											
Length	mm	6.350	6.350	7.850	7.850	9.350	9.350	9.350	9.350	12.350	
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight	kg	6.935	6.976	7.751	7.846	7.576	7.973	10.235	10.366	13.468	
Power supply		400 V / 50 Hz / 3 Ph + T									

Nominal condition referred to: air 35 °C - chilled water 7/12 °C - Sound pressure level referred to 1 m in open field (ISO 3744)



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