RAHTKa

AIR COOLED CHILLERS WITH SCREW COMPRESSORS AND AXIAL FANS

COOLING CAPACITY FROM 155 TO 747 kW 1 AND 2 COOLING CIRCUITS

RAH 2502 T Ka





The air cooled chillers of **RAHT Ka series** are designed for outdoor installation and are particularly suitable for industrial applications. They can also be used for medium and big air conditioning systems and to be matched to fancoils or terminal units. These units are standard provided by a technical housing, always protected by panels. They are all available with 2 independent refrigerant circuits, with free-cooling coil (version F) and, when required, provided with buffer tanks of remarkable capacity, with no change in the overall dimensions. Thanks to the several options available, these units are particularly flexible and can be easily adapted to all installation sites. They 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.

The available versions with R134a (Ka) refrigerants are the following:

- Ka standard version
- S.Ka silenced version: Oversized coil, reduced air flow, fans with a lower rotation speed, technical partition insulated by means of soundproofing material.
- U.Ka ultra-silenced version: Oversized coil, reduced air flow, fans with a very low rotation speed, technical partition 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.

- \cdot $\,$ F.Ka standard version with free-cooling coil
- FS.Ka silenced version with free-cooling coil: Oversized coil, reduced air flow, fans with a lower rotation speed, technical partition insulated by means of soundproofing material.
- FU.Ka ultra-silenced version with free-cooling coil: Oversized coil, reduced air flow, fans with a very low rotation speed, technical partition 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.

Operation limits (standard units):

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

MAIN COMPONETS

Strong and compact **frame** made of pressed and bended galvanized steel profiles, panels and base-frame of high thickness galvanized and painted steel and coated by rust-proof paint, suitable to resist to external agents.

The technical housing, completely closed and suitably isolated from the air flow, is containing the compressors and the main components. The external panels, easily to be dismantled, allow the complete access in case of service, without compromising the operation of the unit itself. When required, the hydraulic kit (buffer tank and pump group) are installed inside the unit, with no change in overall dimensions.

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 is 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).

Heat-exchange external coil with copper tube and turbo aluminum fins for a better efficiency. It is suitably sized with a wide exchange surface, so to the allow the unit operation also at very high external air temperatures. On request, in case of installation in aggressive environments, several coil protection treatments are available.

For free-cooling version (F) only, **additional free-cooling water coil** with copper tube and aluminum fins, complete with mixing valve, for production of chilled water by means of the very low external air temperatures. This allow a remarkable reduction of the compressors working hours with a consequent energy saving, also considering that each circuit is completely independent.

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. On request, it is available the modulating fans speed regulation.

Dry expansion **shell and tube evaporator** with two refrigerant circuits and one water circuit, with very low pressure drops. Shell and tubes plate made in carbon steel and copper tubes. 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 vibrationfree, also in case of very high water flows.

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.

ACCESSORIES

- A Amperometer: Electrical device for measuring the intensity of electrical current absorbed by the unit.
- **BT Low temperature operation** (down to -8°C): Electronic device for the continuous modulating voltage control of the condensing pressure through the variation of the fan rotation speed (Alternative to BF).
- **BF Low ambient temperature operation** (down to -20°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).
- CE UV protection on water insulation: Particular coat of the evaporator and of water insulations with UV ray proof material.
- **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.
- **FA Condensing coil protection filters:** Washable metal filters with very low pressure drop, protecting the condensing coils from dirt, with aluminum mesh against dust and leaves.
- **GP Condensing coil protection grid:** Metal protection grid against accidental impacts, made of 50x50 4-mesh wire.
- I1 Victaulic insulation on pump side: Insulation of the joints by close-cell polyurethane material, to prevent condense, pump side.
- 12 Victaulic insulation on buffer tank side: Insulation of the joints by close-cell polyurethane material, to prevent condense, buffer tank side.

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- I3 Victaulic insulation for the free-cooling version: Insulation of the joints by close-cell polyurethane material, to prevent condense, free-cooling side.
- **IG Watch card:** Electronic card to program the switch-over and rotation between 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.
- **M12** Modulating capacity control for 2-circuit units: By means of some valves installed on compressors, the capacity is modulated from 12,5 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.
- P1 Single pump group: Chilled water pump group composed of single pump, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, electrical control of the pump. The pump is of 2 pole centrifugal packaged type.
- P1H Higher available pressure pump group: Chilled water higher available pressure pump group composed of single pump, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, electrical control of the pump. The pump is of 2

pole centrifugal packaged type.

- **PA Rubber-type vibration dampers:** Bell-shaped vibration dampers supports for insulating the unit (supplied in kit), made of base and bell in galvanized steel and natural rubber mixture (not available when option MV is required).
- **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 display:** 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.
- **PT Twin pump group:** Chilled water pump group composed of twin pump, expansion vessel, safety valve, water gauge, water charge and discharge valves, air purging valves, electrical control of the pump, automatic switch in case of failure of the working pump. The pump is of 2 pole centrifugal packaged type.
- **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 \ge 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 compressor's overload with displayed alarm.
- **RM Condensing coil with pre-painted fins:** Superficial treatment of the condensing coils with epoxy coating.
- **RP Partial heat recovery** (about 20%) of the condensing heat, by means of a refrigerant/water plate exchanger (desuperheater), always in series to the compressors. It is requested when you need to produce sanitary water, by recovering condensing heat capacity.
- **RR Copper/copper condensing coils:** Special execution of the condensing coils with copper pipe and fins.
- **RT Total heat recovery** (100%) of the condensing heat, by means of a refrigerant/water plate exchanger, always in series to the compressors. It is requested when you need to produce sanitary water, by recovering condensing heat capacity, and /or for dehumidification. It is necessary to consider option BT and it is not available on free cooling.
- **RV** Personalized frame painting in RAL color.
- **SC Insulated compressors housing** with sound proofing material (included on silenced version).
- SU Insulated compressors housing with bituminous rubber sound proofing material, muffler on discharge pipe and vibration dampers for compressors (included on ultra-silenced version).
- **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 cut off the liquid line at compressors switch-off.

Technical data sheet - RAH 2502-8002 T Ka

RAH		2502 Ka	2802 Ka	3202 Ka	3602 Ka	4602 Ka	5202 Ka	6002 Ka	6802 Ka	8002 K
Cooling capacity										
Cooling capacity 1)	kW	260,0	290,0	320,0	348,0	432,0	465,0	568,0	608,0	737,0
Absorbed power	kW	73,0	88,0	103,0	126,0	166,0	188,0	198,0	244,0	282,0
EER		3,56	3,30	3,11	2,76	2,60	2,47	2,87	2,49	2,61
Screw compressors		: -/	/	/	: -/	_,,	/	/	/	: -/- :
Quantity	n	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%					0 - 12 ÷ 100				
Circuits	n	2	2	2	2	2	2	2	2	2
Nominal absorbed current	A	133,2	150,3	177,9	195,3	276,1	305,8	319,6	370,8	433,2
Maximum absorbed current	A	196,0	248,0	288,0	324,0	364,0	430,0	462,0	560,0	620,0
nrush current	A	547,0	609,0	729,0	848,0	983,0	1158,0	1254,0	1644,0	1752,0
nrush current with opt. PW/DS	A	365,0	414,0	494,0	585,0	702,0	827,0	895,0	1235,0	1319,0
Axial fans	A		414,0	494,0		702,0	027,0	095,0	1233,0	1319,0
Quantity		6	6	6	6	6	6	8	8	10
- /	n	-		1						1
Rotation speed	rpm	880	880	880	880	880	880	880	880	880
Aotors power	kW	12,0	12,0	12,0	12,0	12,0	12,0	16,0	16,0	20,0
otal air flow	m³/h	126.000	126.000	126.000	126.000	117.000	117.000	156.000	156.000	195.000
otal air flow	l/s	35.000	35.000	35.000	35.000	32.500	32.500	43.333	43.333	54.167
lominal absorbed current	A	24,0	24,0	24,0	24,0	24,0	24,0	32,0	32,0	40,0
hall and tube evaporator				:					:	;
Juantity	n	1	1	1	1	1	1	1	1	1
Nater flow rate	m³/h	44,7	49,9	55,0	59,9	74,3	80,0	97,7	104,6	126,8
Vater flow rate	l/s	12,4	13,9	15,3	16,6	20,6	22,2	27,1	29,0	35,2
Pressure drop	kPa	61	66	79	48	59	33	47	46	36
Vater volume	I	63	80	80	90	114	162	162	184	452
Pump Group P1		·	•					•	·	
wailable pressure	kPa	121	114	98	127	108	131	102	196	190
lotor power	kW	5,5	5,5	5,5	5,5	5,5	5,5	5,5	15,0	15,0
bsorbed current	A	11,1	11,1	11,1	11,1	11,1	11,1	11,1	26,5	26,5
nrush current	A	70,0	70,0	70,0	70,0	70,0	70,0	70,0	194,0	194,0
Veight	kg	91	91	91	91	91	91	91	160	160
Pump group P1H	ĸġ		21			51	21		100	100
Available pressure	kPa	171	165	148	178	160	183	154	305	297
•	kPd kW	7,5		7,5	7,5				22,0	297
Aotor power			7,5			7,5	7,5	7,5		
Absorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	39,0	39,0
nrush current	A	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0	273,0
Veight	kg	99	99	99	99	99	99	99	192	192
Pump group PT							-	:		
wailable pressure	kPa	167	160	142	170	148	170	135	298	288
Notor power	kW	7,5	7,5	7,5	7,5	7,5	7,5	7,5	22,0	22,0
bsorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	39,0	39,0
nrush current	A	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0	273,0
Veight	Kg	196	196	196	196	196	196	196	379	379
lydraulic kit										
xpansion vessel	1	25	25	25	25	25	25	25	25	25
Juantity	n	2	2	2	2	2	2	2	2	2
Suffer tanks 900 l		•	•	•	•	•	•	•	•	•
Buffer tanks 1500 l								•	•	•
Buffer tanks 1800 l										
Buffer tanks 2400 l										
lectrical data				:			1	1	1	:
otal absorbed power	kW	85,0	100,0	115,0	138,0	178,0	200,0	214,0	260,0	302,0
otal nominal absorbed current	A	157,2	174,3	201,9	219,3	300,1	329,8	351,6	402,8	473,2
Aaximum absorbed current		220,0	272,0	312,0	348,0	388,0	454,0	494,0	592,0	660,0
otal inrush current	A	÷			÷				÷	
		571,0	633,0	753,0	872,0	1.007,0	1.182,0	1.286,0	1.676,0	1.792,0
otal inrush current with opt. PW/DS	A	389,0	438,0	518,0	609,0	726,0	851,0	927,0	1.267,0	1.359,0
ound pressure level	15/4)	70	70	70	70	70	70	0.0	00	
ound pressure level 2)	dB(A)	78	78	78	78	79	79	80	80	82
limensions										1
enght	mm	5.082	5.082	5.082	5.082	5.082	5.082	6.120	6.960	7.997
Vidth	mm	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244
leight	mm	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370
ransport weight 3)	kg	3.535	3.554	3.576	3.648	4.492	4.689	5.140	6.109	6.713
Veight in operation	kg	3.598	3.634	3.656	3.737	4.606	4.850	5.302	6.293	7.165
efrigerant charge for each circuit	kg	38	40	40	41	55	61	75	78	88
ower supply										
ower supply	V / ph / Hz				Δ	00 V / 50 Hz / 3 I	Ph + T			
					T	JU114/ JI				

Nominal condition referred to: air 35 °C - chilled water 12/7 °C.
 Neasured at 1 m in open field (ISO 3746).
 Oil and refrigerant charge included.

Technical data sheet - RAH 2202-8002 T S Ka

RAH S		220 <u>2 Ka</u>	250 <u>2 Ka</u>	280 <u>2 Ka</u>	320 <u>2 Ka</u>	360 <u>2 Ka</u>	460 <u>2 Ka</u>	520 <u>2 Ka</u>	600 <u>2 Ka</u>	6802 Ka	800 <u>2 Ka</u>
Cooling capacity											
Cooling capacity 1)	kW	218,0	252,0	279,0	306,0	329,0	431,0	464,0	534,0	633,0	747,0
Absorbed power	kW	63,0		1 / /	110,0	134,0	166,0	188,0	212,0	1 / /	277,0
	KVV	÷	77,0	92,0				÷		234,0	
EER	l	3,46	3,27	3,03	2,78	2,46	2,60	2,47	2,52	2,71	2,70
Screw compressors			:	:	;	:			:	:	
Quantity	n	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%					0 - 12	÷ 100				
Circuits	n	2	2	2	2	2	2	2	2	2	2
Nominal absorbed current	A	115,7	136,7	154,6	176,5	205,4	263,6	283,0	329,5	373,4	440,5
Maximum absorbed current	А	158,0	196,0	248,0	288,0	324,0	364,0	430,0	462,0	560,0	620,0
Inrush current	A	434,2	547,2	609,2	729,2	847,6	983,0	1.158,0	1.254,0	1.644,4	1.752,0
	A	285,2	365,2	414,2	494,2		702,0	827,0	895,0	1.235,0	1.319,0
Inrush current with opt. PW/DS	i A	203,2	505,2	414,2	494,2	584,6	702,0	027,0	095,0	1.255,0	1.519,0
Axial fans											40
Quantity	n	6	6	6	6	6	8	8	8	10	12
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660
Motors power	kW	7,5	7,5	7,5	7,5	7,5	10	10	10	12,5	15
Total air flow	m³/h	96.000	96.000	96.000	96.000	96.000	128.000	128.000	120.000	150.000	180.000
Total air flow	l/s	26.667	26.667	26.667	26.667	26.667	35.556	35.556	33.333	41.667	50.000
Nominal absorbed current	A	13,8	13,8	13,8	13,8	13,8	18,4	18,4	18,4	23	27,6
Shall and tube evaporator	1 1	13,0	15,0	13,0	15,0	13,0	10,1	10,1	10,1		27,0
I		1	1	1	1	1	1	1	1	1	1
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	m³/h	37,5	43,3	48,0	52,6	56,6	74,1	79,8	91,8	108,9	128,5
Water flow rate	l/s	10,4	12,0	13,3	14,6	15,7	20,6	22,2	25,5	30,2	35,7
Pressure drop	kPa	44	57	62	73	44	58	33	42	50	37
Water volume		63	63	80	80	90	114	162	162	184	452
Pump Group P1											
Available pressure	kPa	141	125	120	106	133	109	131	112	191	188
Motor power	kW	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	15,0	15,0
Absorbed current	A	11,1	11,1	11,1	11,1	11,1	11,1	11,1	11,1	26,5	26,5
Inrush current	A	70,0	70,0	70,0	70,0	70,0	70,0	70,0	70,0	194,0	194,0
		1	1		1				1	1	
Weight	kg	91	91	91	91	91	91	91	91	160	160
Pump group P1H											
Available pressure	kPa	192	175	170	156	184	160	183	164	299	296
Motor power	kW	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	22,0	22,0
Absorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	14,7	39,0	39,0
Inrush current	А	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0	273,0
Weight	kg	99	99	99	99	99	99	99	99	192	192
Pump group PT	i ng						: 22			172	172
Available pressure	kPa	189	172	166	151	178	149	170	147	292	286
•		1	1	1		1	1		1	1	1
Motor power	kW	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	22,0	22,0
Absorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	15,0	39,0	39,0
Inrush current	A	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0	273,0
Weight	Kg	196	196	196	196	196	196	196	196	379	379
Hydraulic kit											
Expansion vessel	1	25	25	25	25	25	25	25	25	25	25
Quantity	n	2	2	2	2	2	2	2	2	2	2
Buffer tanks 900 l			•	•	•	•	•		•	•	
Buffer tanks 1500 l											
Buffer tanks 1800 l											_
										•	•
Buffer tanks 2400 l	1										•
Electrical data	1	1			1			1	1		
Total absorbed power	kW	70,5	84,5	99,5	117,5	141,5	176,0	198,0	222,0	246,5	292,0
Total nominal absorbed current	A	129,5	150,5	168,4	190,3	219,2	282,0	301,4	347,9	396,4	468,1
Maximum absorbed current	A	171,8	209,8	261,8	301,8	337,8	382,4	448,4	480,4	583,0	647,6
Total inrush current	A	448,0	561,0	623,0	743,0	861,4	1001,4	1176,4	1272,4	1667,4	1779,6
Total inrush current with opt. PW/DS	A	299,0	379,0	428,0	508,0	598,4	720,4	845,4	913,4	1258,0	1346,6
Sound pressure level	4		: 37770	:					,	:	
Sound pressure level 2)	dB(A)	73	73	73	74	75	76	77	77	78	79
	UD(A)	70	()	/)	. /4	10	/0	11	. //	/0	19
Dimensions	-	F 997	F 007	F 007	F 007	F 007	(10 T		6 4 9 1	= 00=	0.007
Lenght	mm	5.082	5.082	5.082	5.082	5.082	6.120	6.120	6.120	7.997	9.035
Width	mm	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244
Height	mm	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370
Transport weight 3)	kg	3.513	3.535	3.554	3.576	3.648	4.800	4.997	5.140	6.534	7.139
Weight in operation	kg	3.576	3.598	3.634	3.656	3.737	4.914	5.158	5.302	6.718	7.591
Refrigerant charge for each circuit	kg	38	38	40	40	41	55	61	75	92	101
Power supply	: NY	50	: 50	10	. TV	: -11			. ,,,	: 72	101
,	V/rh/U-	1				4001/101					
Power supply	V / ph / Hz					400 v / 50 H	lz / 3 Ph + T				
NOTES											

Nominal condition referred to: air 35 °C - chilled water 12/7 °C.
 Measured at 1 m in open field (ISO 3746).
 Oil and refrigerant charge included.

Technical data sheet - RAH 1802-6802 T U Ka

RAH U		1802 Ka	2202 Ka	2502 Ka	2802 Ka	3202 Ka	3602 Ka	4602 Ka	5202 Ka	6002 Ka	6802 Ka
Cooling capacity											
Cooling capacity 1)	kW	199,0	211,0	242,0	267,0	289,0	326,0	427,0	483,0	547,0	633,0
Absorbed power	kW	53,0	66,0	81,0	98,0	117,0	136,0	168,0	180,0	207,0	234,0
EER		3,75	3,20	2,99	2,72	2,47	2,40	2,54	2,68	2,64	2,71
Screw compressors											
Quantity	n	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%					0 - 12	÷ 100				
Circuits	n	2	2	2	2	2	2	2	2	2	2
Nominal absorbed current	А	79,7	118,2	141,0	153,9	185,3	209,6	269,3	279,9	342,4	379,7
Maximum absorbed current	А	112,0	158,0	196,0	248,0	288,0	324,0	364,0	430,0	462,0	560,0
Inrush current	А	361,0	434,0	547,0	609,0	729,0	848,0	983,0	1.158,0	1.254,0	1.644,4
Inrush current with opt. PW/DS	A	209,0	285,0	365,0	414,0	494,0	585,0	702,0	827,0	895,0	1.235,0
Axial fans						. ,	. ,			. ,	. ,
Quantity	n	6	6	6	6	6	6	8	10	10	12
Rotation speed	rpm	530	530	530	530	530	530	530	530	530	530
Notors power	kW	4,6	4,6	4,6	4,6	4,6	4,6	6,2	7,7	7,7	9,2
lotal air flow	m ³ /h	75.000	75.000	75.000	75.000	75.000	69.000	92.000	125.000	115.000	138.000
lotal air flow	l/s	20.833	20.833	20.833	20.833	20.833	19.167	25.556	34.722	31.944	38.333
Nominal absorbed current	A	9,0	9,0	9,0	9,0	9,0	9,0	12,0	15,0	15,0	18,0
Shall and tube evaporator		2,0	2,0	. ,0	2,0	2,0	5,0	12,0	13,0	13,0	10,0
Quantity	n	1	1	1	1	1	1	1	1	1	1
Nater flow rate	m ³ /h	34,2	36,3	41,6	45,9	49,7	56,1	73,4	83,1	94,1	108,9
Water flow rate	l/s	34,2 9,5	30,3	41,6	45,9	49,7 13,8	15,6	20,4	23,1	94,1 26,1	30,2
	-		÷								
Pressure drop	kPa	38	42	54	57	66	43	57	35	44	50
Vater volume		63	63	63	80	80	90	114	162	162	184
Pump Group P1											
vailable pressure	kPa	149	144	130	126	115	135	110	126	109	191
lotor power	kW	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	15,0
lbsorbed current	A	11,1	11,1	11,1	11,1	11,1	11,1	11,1	11,1	11,1	26,5
nrush current	A	70,0	70,0	70,0	70,0	70,0	70,0	70,0	70,0	70,0	194,0
Veight	kg	91	91	91	91	91	91	91	91	91	160
Pump group P1H											
Available pressure	kPa	199	194	180	177	165	185	161	178	160	299
Notor power	kW	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	22,0
Absorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	14,7	14,7	39,0
nrush current	A	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0
Veight	kg	99	99	99	99	99	99	99	99	99	192
Pump group PT											
Available pressure	kPa	197	192	177	172	160	179	150	164	142	292
Notor power	kW	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	22,0
Absorbed current	A	14,7	14,7	14,7	14,7	14,7	14,7	14,7	14,7	14,7	39,0
nrush current	А	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	105,0	273,0
Weight	Kg	196	196	196	196	196	196	196	196	196	379
Hydraulic kit	: Ng	150	100	. 170	170	170	170	. 170	170	170	. 575
Expansion vessel	1 I	25	25	25	25	25	25	25	25	25	25
Quantity	n 1	2	2	25	2	2	25	25	2	2	2
Buffer tanks 900 l	n	2	2	2	•	2	2	2	2	2	2
Buffer tanks 1500 l		•	•	•	•	•	•	•	•	•	•
								•	•	•	•
Buffer tanks 1800 l									•	•	•
Buffer tanks 2400 l	1										•
Electrical data	1.3.47	57.4	70.4	05.6	102.1	101.4	140 -	174.2	107.7	2147	242.2
fotal absorbed power	kW	57,6	70,6	85,6	102,6	121,6	140,6	174,2	187,7	214,7	243,2
fotal nominal absorbed current	A	88,7	127,2	150,0	162,9	194,3	218,6	281,3	294,9	357,4	397,7
Aaximum absorbed current	A	121,0	167,0	205,0	257,0	297,0	333,0	376,0	445,0	477,0	578,0
otal inrush current	A	370,0	443,0	556,0	618,0	738,0	857,0	995,0	1.173,0	1.269,0	1.662,4
otal inrush current with opt. PW/DS	A	218,0	294,0	374,0	423,0	503,0	594,0	714,0	842,0	910,0	1.253,0
ound pressure level											
ound pressure level 2)	dB(A)	70	70	70	70	71	72	73	74	74	75
Dimensions											
enght	mm	5082	5082	5082	5082	5082	5082	6120	7158	7158	9035
Vidth	mm	2244	2244	2244	2244	2244	2244	2244	2244	2244	2244
leight	mm	2370	2370	2370	2370	2370	2370	2370	2370	2370	2370
ransport weight 3)	kg	3085	3488	3509	3529	3550	3714	4888	5350	5522	7524
Veight in operation	kg	3148	3551	3572	3609	3630	3803	5002	5512	5684	7709
Refrigerant charge for each circuit	kg	38	38	38	40	40	52	69	71	89	105
	: NY	50	. 50	. 50	UT	UT	JZ	. 09	/ 1	02	: 105
ower supply											
Power supply Power supply	V / ph / Hz					400 V / 50 H	7/3 Dh I T				

Nominal condition referred to: air 35 °C - chilled water 12/7 °C.
 Measured at 1 m in open field (ISO 3746).
 Oil and refrigerant charge included.

LIQUID CHILLERS - AIR COOLED

Technical data sheet - RAH 2202-8002 T F Ka

colong capacity colong cap	RAH F		2202 Ka	25 <u>02 Ka</u>	28 <u>02 Ka</u>	32 <u>02 Ka</u>	3602 Ka	46 <u>02 Ka</u>	52 <u>02 Ka</u>	60 <u>02 Ka</u>	6802 Ka	80 <u>02 Ka</u>
Control space (r) KW 215,0 284,0 275,0 310,0 430,0 492,0 492,0 492,0 292,0 223,0 223,5 123,5 123,5 223,5												
		1.144	215.0	240.0	275.0	201.0	224.0	422.0	402.0	520.0	(20.0	720.0
Eff Add 3.25 2.99 2.06 2.14 2.55 2.85 2.81 2.93 2.98 Colleg opacity inter calling the property forced in 2												
Colling capity in fee colling 4 FW 193.7 193.7 193.7 293.7 293.8 293.7 281.5 393.9 493.7 Cantary spreading spreading capity (prim) n 2 <		KVV										
Steve Compression Image: Control of the c												
Guarding n 2<		kW	193,3	198,7	199,9	203,7	213,9	267,8	279,1	281,5	349,3	404,1
Standard spectral process of the second spectral spectra spectral spectral spectral spectral spectra spec	Screw compressors											
Centralizacionardi apostry (option) 99 7 2 3 3 4	Quantity	n		2	2		2			2	2	2
Chruits n 2 </td <td></td> <td>n</td> <td>6</td>		n	6	6	6	6	6	6	6	6	6	6
Chruits n 2 </td <td>Continuous control capacity (option)</td> <td>%</td> <td></td> <td></td> <td></td> <td></td> <td>0 - 12</td> <td>÷100</td> <td></td> <td></td> <td></td> <td></td>	Continuous control capacity (option)	%					0 - 12	÷100				
Maximum Jackenbel current A 138,0 198,0 288,0 232,0 932,0 194,0 492,0 555,0 126,0 145,0 145,0 145,0 145,0 145,0 125,0 126,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0<		n	2	2	2	2	2	2	2	2	2	2
Maximum Jackenbel current A 138,0 198,0 288,0 232,0 932,0 194,0 492,0 555,0 126,0 145,0 145,0 145,0 145,0 145,0 125,0 126,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0 145,0<	Nominal absorbed current	А	115.0	135,4	153.0	174,5	202,8	256.0	292,4	329,5	367,3	432,0
Insub. current A 943.0 57.0 983.0 983.0 97.3.0 87.5.0 87.5.0 17.5 Axia fars -		1	· · · · · ·								÷	620,0
Insub-currer win opt, PW/DS A 282.0 95.0 14.0 94.0 55.0 70.20 82.70 85.70 12.20 13.7 Quantity n 6 6 6 6 8 8 8 8 8 88 880												1.752,0
Asial fans: or or or or or or or Rataton speed rpm 880 800 800 <t< td=""><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.319,0</td></t<>		-										1.319,0
Opantify n 6 6 6 6 8 8 8 8 10 110 101 101 101 101 101 101 101 101 101 101 101 101 101 101 101 101 101 101 101 1 <th< td=""><td></td><td>A</td><td>203,0</td><td></td><td>414,0</td><td>494,0</td><td>,0,00</td><td>702,0</td><td>027,0</td><td>093,0</td><td>1.233,0</td><td>1.319,0</td></th<>		A	203,0		414,0	494,0	,0,00	702,0	027,0	093,0	1.233,0	1.319,0
Potatingspect pron 880								0	0	0	10	10
Motes power WW 12.0 12.0 12.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.0 16.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 172.00 <th170.0< th=""> 170.0 <th170.0<< td=""><td></td><td>1</td><td>1</td><td></td><td>3</td><td></td><td>-</td><td></td><td></td><td>÷</td><td>2</td><td></td></th170.0<<></th170.0<>		1	1		3		-			÷	2	
Total air flow m ² h 105.000 105.000 105.000 105.000 140.000 132.000					1							
Total airfow Us 29.167 29.167 29.167 29.167 29.87 32.89 32.66 36.667 36.667 45.83 55.05 Shall and tube caparate n n 1										1 · · · · · · · · · · · · · · · · · · ·		24,0
Neminal absorbed current A 24,0 24,0 24,0 24,0 32,0 32,0 40,0 48,0 Quantity n 1				-	1		-		132.000		+	198.000
Shall and tube exponder Image of the second se			29.167	29.167	29.167	29.167	29.167	38.889		36.667	45.833	55.000
Quantity n 1<	Nominal absorbed current	А	24,0	24,0	24,0	24,0	24,0	32,0	32,0	32,0	40,0	48,0
Quantity n 1<	Shall and tube evaporator											
Water flow are 1) m ² /h 36.9 47.2 51.6 55.6 72.6 84.4 90.7 107.8 125 Pressure dop kPa 43 56 60 71 43 56 36 41 49 33 Pressure dop kPa 10 144 96 114 101 90 199 23 344 49 33 Pressore dop pressure dop LPa 187 204 204 214 280 328 332 370 Pamp Goap P1 - - - - 10.0 11.0		n	1	1	1	1	1	1	1	1	1	1
Water flow rate 1) [Vis] [10,3] 11,8] 11,3,1 [14,3] [15,4] 20,2] 23,4 25,2 29,9 [15,6] Pressure drop KPa 143 56 60 71 43 56 61 14 101 109 123 144 149 36 Water diricut volume 1 1187 187 204 204 214 280 328 328 322 70 Available pressure 1) KPa 159 1127 148 126 157 168 175 189 143 10 Aborde pore KW 110 113 114 134 134 134 134 134 <	- /		36.9	42.6	1	1	55.6	72.6	84,4	90.7	107.8	126,5
Pressure dop KPa 43 56 60 71 43 56 36 41 49 33 Prescoling pressure dop KPa 110 114 96 114 101 90 109 123 140 144 Water drait volume 1 187 187 204 204 214 280 328 32												35,1
free conlight pressure drop lePa 110 144 96 114 101 90 109 123 140 143 Vater circuit volume 1 187 187 204 204 214 280 328 328 322 70 Available pressure 1) kPa 159 127 148 126 157 188 175 189 143 10 Assided current A 20,0					÷							36
Water criain volume I 187 187 204 214 240 328 328 328 322 70 Available pressue 1) kPa 159 127 148 126 157 168 175 189 143 10 Available pressue 1) kPa 200 <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td></td> <td>-</td> <td></td> <td>1</td> <td></td> <td>÷</td> <td></td>				-	-		-		1		÷	
Pump Group P1 Idea 159 127 148 126 157 168 175 189 143 10 Available pressure 1) kW 11,0	5.	KFd	-	-	÷	-	1	-	*		-	
Available pressure 1) kba 159 157 189 143 100 Motor power kW 11,0 <td></td> <td>1</td> <td>107</td> <td>107</td> <td>204</td> <td>204</td> <td>Z 14</td> <td>200</td> <td>520</td> <td>520</td> <td>592</td> <td>702</td>		1	107	107	204	204	Z 14	200	520	520	592	702
Motor power WW 11.0		1.0	450	407	4.40	124	457	1.00	475	100	142	400
Absorbed current A 20,0 10,0 170					1						-	
Innuk nurent A 170,0												11,0
Weight kg 134 Moraphy Mat												20,0
Pump group P1H View		-		-						170,0		170,0
Available pressure 1) KPa 245 212 233 212 243 255 263 277 232 150 Motor power KW 15,0	Weight	kg	134	134	134	134	134	134	134	134	134	134
Moto power kW 15.0	Pump group P1H											
Absorbed current A 26,5	Available pressure 1)	kPa	245	212	233	212	243	255	263	277	232	193
Absorbed current A 26,5	Motor power	kW	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Inrush current A 194,0							t			1	1	26,5
Weight kg 147 More power KW 1												194,0
Pump group PT kPa 242 208 229 206 237 244 248 259 208 18 Available pressure 1) kPa 242 208 229 206 237 244 248 259 208 18 Motor power kW 15,0 <t< td=""><td></td><td></td><td>1</td><td></td><td></td><td></td><td>t</td><td></td><td></td><td></td><td></td><td>147</td></t<>			1				t					147
Available pressure 1) kPa 242 208 229 206 237 244 248 259 208 18 Motor power kW 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 15,0 25,5 26,5 </td <td></td> <td>: Kg</td> <td>1 177</td> <td>; 117</td> <td>1 1 17</td> <td>117</td> <td>: 117</td> <td>1.17</td> <td>. 177</td> <td>1 177</td> <td>: 117</td> <td>117</td>		: Kg	1 177	; 117	1 1 17	117	: 117	1.17	. 177	1 177	: 117	117
Motor power kW 15,0		kDa.	242	200	220	206	227	244	240	250	200	10/
Absorbed current A 26,5 </td <td></td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td></td>			1	1	1	1	1	1	1	1	1	
Inrush current A 194,0										1		
Weight Kg 294 </td <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1 · · · · ·</td> <td></td> <td></td> <td></td>		1							1 · · · · ·			
Hydraulic kit L 25 <th25< th=""> 26 26</th25<>		1		*	1						-	273,0
Expansion vessel I 25 26 26 26	Weight	Kg	294	294	294	294	294	294	294	294	294	294
Quantity n 2<												
Quantity n 2<	Expansion vessel									25		25
Buffer tanks 15001 Total nominal absorbed current </td <td></td> <td>n</td> <td>2</td>		n	2	2	2	2	2	2	2	2	2	2
Buffer tanks 1500 l			•	•	1	•		•	•			•
Buffer tanks 18001 Image: Second								•	•	•	•	•
Buffer tanks 24001											•	•
Electrical data KW 74,7 88,4 103,9 120,9 145,6 181,8 188,6 225,2 250,2 297 Total absorbed current A 139,0 159,4 177,0 198,5 226,8 288,0 324,4 361,5 407,3 480 Maximum absorbed current A 182,0 220,0 272,0 312,0 348,0 396,0 462,0 494,0 600,0 668 Total inrush current A 458,0 571,0 633,0 753,0 872,0 1015,0 1190,0 1286,0 1684,0 1800 Total inrush current with opt. PW/DS A 309,0 389,0 438,0 518,0 609,0 734,0 859,0 927,0 1275,0 1367 Sound pressure level 2) dB(A) 78 78 78 79 79 80 80 82 82 Dimensions Lenght mm 2.244 2.244 2.244 2.244 2.244 2.244 2.244 </td <td></td>												
Total absorbed power kW 74,7 88,4 103,9 120,9 145,6 181,8 188,6 225,2 250,2 297 Total nominal absorbed current A 139,0 159,4 177,0 198,5 226,8 288,0 324,4 361,5 407,3 480 Maximum absorbed current A 182,0 220,0 272,0 312,0 348,0 396,0 462,0 494,0 600,0 668 Total inrush current A 458,0 571,0 633,0 753,0 872,0 1015,0 1190,0 1286,0 1684,0 1800 Total inrush current with opt. PW/DS A 309,0 389,0 438,0 518,0 609,0 734,0 859,0 927,0 1275,0 1360 Sound pressure level 2 dB(A) 78 78 78 79 79 80 80 82 82 Dimensions Unident pressure level 2 dB(A) 7.158 5.082 5.082 5.082 <td></td> <td>1</td> <td></td> <td>:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		1		:								
Total nominal absorbed current A 139,0 159,4 177,0 198,5 226,8 288,0 324,4 361,5 407,3 480 Maximum absorbed current A 182,0 220,0 272,0 312,0 348,0 396,0 462,0 494,0 600,0 668 Total inrush current A 458,0 571,0 633,0 753,0 872,0 1015,0 1190,0 1286,0 1684,0 1800 Total inrush current with opt. PW/DS A 309,0 389,0 438,0 518,0 609,0 734,0 859,0 927,0 1275,0 1367 Sound pressure level		LAN	747	00 /	102.0	120.0	145 (101.0	100 /	225.2	250.2	207.0
Maximum absorbed current A 182,0 220,0 272,0 312,0 348,0 396,0 462,0 494,0 600,0 6688 Total inrush current A 458,0 571,0 633,0 753,0 872,0 1015,0 1190,0 1286,0 1684,0 1800 Total inrush current with opt. PW/DS A 309,0 389,0 438,0 518,0 609,0 734,0 859,0 927,0 1275,0 1367 Sound pressure level 78 78 79 79 80 80 82 82 Dimensions 5.082 5.082 5.082 6.120 6.120 7.158 9.00 Width mm 2.244												
Total inrush current Total inrush current with opt. PW/DS A 458,0 309,0 571,0 389,0 633,0 438,0 753,0 518,0 872,0 609,0 1015,0 734,0 1190,0 859,0 1286,0 927,0 1684,0 1275,0 1800 Sound pressure level												480,0
Total inrush current with opt. PW/DS A 309,0 389,0 438,0 518,0 609,0 734,0 859,0 927,0 1275,0 1367 Sound pressure level Sound pressure level 2) dB(A) 78 78 78 79 79 80 80 82 82 Dimensions Enght mm 5.082 5.082 5.082 6.120 6.120 7.158 9.00 Width mm 2.244 2.245 2.370 2.370 2.370 2.3		1										668,0
Sound pressure level dB(A) 78 78 78 78 79 79 80 80 82 82 Dimensions		1	1				1		1	1	1	1800,0
Sound pressure level 2) dB(A) 78 78 78 79 79 80 80 82 82 Dimensions Lenght mm 5.082 5.082 5.082 5.082 6.120 6.120 6.120 7.158 9.02 Width mm 2.244 2.370 2.370 2.370 2.370 2.370		A	309,0	389,0	438,0	518,0	609,0	734,0	859,0	927,0	1275,0	1367,0
Dimensions Lenght mm 5.082 5.082 5.082 5.082 6.120 6.120 7.158 9.03 Width mm 2.244 2.245 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 <td></td>												
Dimensions Lenght mm 5.082 5.082 5.082 5.082 6.120 6.120 7.158 9.03 Width mm 2.244 2.245 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 <td>Sound pressure level 2)</td> <td>dB(A)</td> <td>78</td> <td>78</td> <td>78</td> <td>78</td> <td>79</td> <td>79</td> <td>80</td> <td>80</td> <td>82</td> <td>82</td>	Sound pressure level 2)	dB(A)	78	78	78	78	79	79	80	80	82	82
Lenght mm 5.082 5.082 5.082 5.082 5.082 6.120 6.120 6.120 7.158 9.03 Width mm 2.244 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 2.370 <td></td>												
Width mm 2.244 2.370 2.		mm	5,082	5,082	5,082	5,082	5.082	6,120	6,120	6,120	7,158	9.035
Height mm 2.370 7.370 7.37 7.38 7.38 7.39 7.39 7.35 9.20 100 Power supply The super supply The super super supply		1		1								2.244
Transport weight 3) kg 3.826 3.847 3.867 3.888 3.960 5.258 5.577 5.598 7.103 7.83 Weight in operation kg 4.013 4.034 4.071 4.092 4.174 5.538 5.905 5.926 7.495 8.52 Refrigerant charge for each circuit kg 38 38 40 40 41 55 75 75 92 10		1										2.244
Weight in operation kg 4.013 4.034 4.071 4.092 4.174 5.538 5.905 5.926 7.495 8.52 Refrigerant charge for each circuit kg 38 38 40 40 41 55 75 75 92 10 Power supply			-	÷		1	÷			÷		
Refrigerant charge for each circuit kg 38 40 40 41 55 75 75 92 10 Power supply 10 10			1									7.817
Power supply			1	-	2	2	-		1		2	8.520
		kg	38	38	40	40	41	55	75	75	92	101
Power supply V / ph / Hz 400 V / 50 Hz / 3 Ph + T												
	Power supply	V / ph / Hz					400 V / 50 H	z / 3 Ph + T				

NOTES

RAHTKa 58

Nominal condition referred to: air 35 °C - chilled water 12/7 °C.
 Neasured at 1 m in open field (ISO 3746).
 Oil and refrigerant charge included.
 Free-cooling work mode : air 5 °C - unit's inlet water 15 °C - glycol 20 %.

Technical data sheet - RAH 1802-6802 T FS Ka

RAH FS		1802 Ka	2202 Ka	2502 Ka	2802 Ka	3202 Ka	3602 Ka	4602 Ka	5202 Ka	6002 Ka	6802 Ka
Cooling capacity											
Cooling capacity 1)	kW	197,0	208,0	237,0	261,0	282,0	326,0	428,0	462,0	549,0	633,0
Absorbed power	kW	53,0	66,2	81,3	98,2	117,0	132,7	163,5	185,3	201,2	228,0
EER	KVV	3,72	3,14	2,92	2,66	2,41	2,46	2,62	2,49	2,73	2,78
	kW	158,9	160,5			170,2		2,02		2,75	308,0
Cooling capacity in free cooling 4)	<u>K</u> K VV	150,9	100,5	162,1	164,7	170,2	169,2	223,7	227,7	201,5	506,0
Screw compressors					2	2	2				2
Quantity	n	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%	_	-		_	0 - 12	-	-			_
Circuits	n	2	2	2	2	2	2	2	2	2	2
Nominal absorbed current	A	96,5	117,7	140,1	153,9	184,2	206,3	264,4	294,4	326,5	320,8
Maximum absorbed current	A	130,2	158,0	196,0	248,0	288,0	324,0	364,0	430,0	462,0	560,0
Inrush current	A	403,2	434,0	547,0	609,0	729,0	848,0	983,0	1158,0	1254,0	1644,0
Inrush current with opt. PW/DS	A	234,2	285,0	365,0	414,0	494,0	585,0	702,0	827,0	895,0	1235,0
Axial fans											
Quantity	n	6	6	6	6	6	6	8	8	10	12
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660
Motors power	kW	8,0	8,0	8,0	8,0	8,0	8,0	10,0	10,0	13,0	15,0
Total air flow	m³/h	78.000	78.000	78.000	78.000	78.000	75.000	100.000	100.000	125.000	150.000
Total air flow	l/s	21.667	21.667	21.667	21.667	21.667	20.833	27.778	27.778	34.722	41.667
Nominal absorbed current	A	13,8	13,8	13,8	13,8	13,8	13,8	18,4	18,4	23,0	27,6
	A	13,0	13,0	0,01	0,01	13,0	0,01	10,4	10,4	23,0	27,0
Shall and tube evaporator		4	4	4	4	4	4	4	4	4	4
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate 1)	m³/h	33,8	35,7	40,7	44,8	48,4	56,0	73,4	79,3	94,2	108,6
Water flow rate 1)	l/s	9,4	9,9	11,3	12,4	13,4	15,6	20,4	22,0	26,2	30,2
Pressure drop	kPa	37	41	52	55	63	43	57	32	44	50
Free cooling pressure drop	kPa	95	104	85	94	110	103	112	97	115	111
Water circuit volume		187	187	187	204	204	214	280	328	370	434
Pump Group P1											
Available pressure 1)	kPa	195	185	157	177	161	176	171	195	177	138
Motor power	kW	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0
Absorbed current	А	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0
Inrush current	А	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0
Weight	kg	134	134	134	134	134	134	134	134	134	134
Pump group P1H	: Kg	: 154	: 154	: 154	151	154	154	. 154	: 154	: 154	154
Available pressure 1)	kPa	280	270	242	263	247	262	258	282	265	227
	-	-	-	1				-	-	-	
Motor power	kW	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Absorbed current	A	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5
Inrush current	A	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0
Weight	kg	147	147	147	147	147	147	147	147	147	147
Pump group PT		;						;			
Available pressure 1)	kPa	278	268	239	259	242	256	247	269	247	202
Motor power	kW	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Absorbed current	A	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5
Inrush current	А	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0
Weight	Kq	294	294	294	294	294	294	294	294	294	294
Hydraulic kit											
Expansion vessel		25	25	25	25	25	25	25	25	25	25
Quantity	n	2	2	2	2	2	2	2	23	2	23
Buffer tanks 900 l								•	•		•
Buffer tanks 1500 l		-	-								
Buffer tanks 1800 l										•	•
Buffer tanks 2400 l											•
Electrical data				00.5	404-	4000					
Total absorbed power	kW	61,0	74,2	89,3	106,2	125,0	140,7	173,5	195,3	214,2	243,0
Total nominal absorbed current	A	110,3	131,5	153,9	167,7	198,0	220,1	282,8	312,8	349,5	348,4
Maximum absorbed current	A	144,0	171,8	209,8	261,8	301,8	337,8	382,4	448,4	485,0	587,6
Total inrush current	A	417,0	447,8	560,8	622,8	742,8	861,8	1.001,4	1.176,4	1.277,0	1.671,6
Total inrush current with opt. PW/DS	Α	248,0	298,8	378,8	427,8	507,8	598,8	720,4	845,4	918,0	1.262,6
Sound pressure level											
Sound pressure level 2)	dB(A)	73	73	73	74	75	75	76	76	78	78
Dimensions											
Lenght	mm	5.082	5.082	5.082	5.082	5.082	5.082	6.120	6.120	7.158	9.035
Width	mm	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244
Height		2.370	2.370	2.244	2.370	2.370	2.244	2.244	2.244	2.244	2.370
	mm		÷	+			-	1	-	1	
Transport weight 3)	kg	3.423	3.826	3.847	3.867	3.888	4.052	5.381	5.577	6.134	7.638
Weight in operation	kg	3.610	4.013	4.034	4.071	4.092	4.266	5.660	5.905	6.504	8.073
Refrigerant charge for each circuit	kg	38	38	38	40	40	52	69	75	89	105
Power supply	ture -	;					1				
Power supply	V / ph / Hz					400 V / 50 H	z / 3 Ph + T				
NOTES											

NOTES
2) Measured at 1 m in open field (ISO 3746).
3) Oil and refrigerant charge included.
4) Free-cooling work mode : air 5 °C - unit's inlet water 15 °C - glycol 20 %.

LIQUID CHILLERS - AIR COOLED

Technical data sheet - RAH 1502-6002 T FU Ka

RAH FU		1502 Ka	180 <u>2 Ka</u>	220 <u>2 Ka</u>	2502 Ka	2802 Ka	3202 Ka	360 <u>2 Ka</u>	460 <u>2 Ka</u>	5202 Ka	6002 Ka
Cooling capacity											
	kW	155.0	101.0	201.0	0 702	240.0	201.0	224.0	414.0	472.0	547,0
Cooling capacity 1)		155,0	191,0	201,0	227,0	248,0	281,0	324,0	414,0	472,0	
Absorbed power	kW	41,4	55,6	69,7	86,0	104,5	117,6	133,4	169,4	181,2	201,7
EER		3,74	3,44	2,88	2,64	2,37	2,39	2,43	2,44	2,60	2,71
Cooling capacity in free cooling 4)	kW	130,3	135,6	136,6	138,9	140,2	135,5	188,8	234,5	226,1	249,8
Screw compressors											
Quantity	n	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6
Continuous control capacity (option)	%					0 - 12	÷100				
Circuits	n	2	2	2	2	2	2	2	2	2	2
Nominal absorbed current	А	81,1	98,9	120,6	144,9	160,3	188,1	199,6	258,7	293,0	333,3
Maximum absorbed current	Α	112,0	130,2	158,0	196,0	248,0	288,0	324,0	364,0	430,0	462,0
Inrush current	A	361,0	403,2	434,0	547,0	609,0	729,0	848,0	983,0	1158,0	1254,0
Inrush current with opt. PW/DS	A	209,0	234,2	285,0	365,0	414,0	494,0	585,0	702,0	827,0	895,0
Axial fans		200,0	2,27,2	205,0	505,0	11,0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	505,0	702,0	027,0	075,0
		6	6	(6	6	6	0	10	10	12
Quantity	n	6	6	6	6	6	6	8	10	10	12
Rotation speed	rpm	530	530	530	530	530	530	530	530	530	530
Motors power	kW	4,5	4,5	4,5	4,5	4,5	4,5	6,0	7,5	7,5	9,0
Total air flow	m³/h	61.500	61.500	61.500	61.500	61.500	57.000	82.000	102.500	95.000	114.000
Total air flow	l/s	17.083	17.083	17.083	17.083	17.083	15.833	22.778	28.472	26.389	31.667
Nominal absorbed current	A	9,0	9,0	9,0	9,0	9,0	9,0	12,0	15,0	15,0	18,0
Shall and tube evaporator											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate 1)	m³/h	26,6	32,8	34,5	39,0	42,5	48,2	55,6	71,0	81,0	93,9
Water flow rate 1)	l/s	7,4	9,1	9,6	10,8	11,8	13,4	15,4	19,7	22,5	26,1
Pressure drop	kPa	63	35	38	48	50	63	43	54	34	44
		1	89	1	1				97	-	
Free cooling pressure drop	kPa	79	-	97	121	85	108	114	-	87	105
Water circuit volume		173	187	187	187	204	204	256	322	370	412
Pump Group P1				;	:						
Available pressure 1)	kPa	184	210	201	178	198	175	204	176	188	176
Motor power	kW	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0	11,0
Absorbed current	A	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0
Inrush current	A	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0	170,0
Weight	kg	134	134	134	134	134	134	134	134	134	134
Pump group P1H											
Available pressure 1)	kPa	269	295	287	263	284	261	290	263	276	264
Motor power	kW	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Absorbed current	A	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5
Inrush current	A	194,0			194,0			194,0	÷		194,0
Weight			194,0 147	194,0 147	194,0	194,0	194,0 147	194,0	194,0 147	194,0 147	194,0
	kg	147	14/	14/	147	147	147	14/	14/	147	147
Pump group PT							254				214
Available pressure 1)	kPa	267	293	284	260	280	256	284	252	262	246
Motor power	kW	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0
Absorbed current	A	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5	26,5
Inrush current	A	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0	194,0
Weight	Kg	294	294	294	294	294	294	294	294	294	294
Hydraulic kit											
Expansion vessel		25	25	25	25	25	25	25	25	25	25
Quantity	n	2	2	2	2	2	2	2	2	2	2
Buffer tanks 900 l			•	•			•	-	-		
Buffer tanks 1500 l	- 	-			-				-	-	-
Buffer tanks 1800 l								•	•		
									•	•	•
Buffer tanks 2400 l											•
Electrical data	1	1		1 -				1			
Total absorbed power	kW	46,4	60,6	74,7	91,0	109,5	122,6	139,4	177,4	189,2	210,7
Total nominal absorbed current	A	90,1	107,9	129,6	153,9	169,3	197,1	211,6	273,7	308,0	351,3
Maximum absorbed current	A	121,0	139,2	167,0	205,0	257,0	297,0	336,0	379,0	445,0	480,0
Total inrush current	Α	370,0	412,2	443,0	556,0	618,0	738,0	860,0	998,0	1173,0	1272,0
Total inrush current with opt. PW/DS	А	218,0	243,2	294,0	374,0	423,0	503,0	597,0	717,0	842,0	913,0
Sound pressure level		/-	,-	,-		/-			,-		
Sound pressure level 2)	dB(A)	69	70	70	70	71	72	72	73	73	74
Dimensions					70		14		. , , ,		71
		E 000	E 000	E 000	E 000	E 000	E 000	6 1 2 0	7 1 5 0	7 1 5 0	0.100
Lenght	mm	5.082	5.082	5.082	5.082	5.082	5.082	6.120	7.158	7.158	8.196
Width	mm	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244	2.244
Height	mm	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370	2.370
Transport weight 3)	kg	3.251	3.398	3.800	3.821	3.841	3.954	4.471	5.723	6.070	6.618
Weight in operation	kg	3.424	3.585	3.987	4.008	4.045	4.158	4.727	6.045	6.440	7.030
Refrigerant charge for each circuit	kg	36	38	38	38	40	51	52	66	89	102
Power supply	. 5										
Power supply	V / ph / Hz					400 V / 50 H	z / 3 Ph + T				
NOTEC	: · / P''' / 1/2	s									

NOTES

RAHTKa 60

Nominal condition referred to: air 35 °C - chilled water 12/7 °C.
 Neasured at 1 m in open field (ISO 3746).
 Oil and refrigerant charge included.
 Free-cooling work mode : air 5 °C - unit's inlet water 15 °C - glycol 20 %.