

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS



RAH 913 K

### RAH... Series

1 or more refrigerant circuits - Cooling capacities from 307 to 2070 kW

Water chillers suitable for water cooling in air-conditioning and industrial systems

Designed for external installation

Modular structure realized with frame on galvanized painted sections

Operating temperatures from +15 °C to +45 °C in the standard version

Available versions:

**RAH...K** with ecological refrigerant R407C charge

**RAH...Ka** with ecological refrigerant R134a charge

**RAH...** standard version

**RAH...SK** silenced version with ecological refrigerant R407C charge

**RAH...SKa** silenced version with ecological refrigerant R134a charge

**RAH...S** silenced version

**RAH...UK** ultra silenced version with ecological refrigerant R407C charge

**RAH...UKa** ultra silenced version with ecological refrigerant R134a charge

**RAH...U** ultra silenced version

#### Made up of:

Screw Compressors equipped with capacity steps, motor thermal protection, oil crankcase heater and phase monitor.

Shell & tube evaporator with ruled copper pipes for high efficient heat exchange.

Heat-exchange external coil with high-efficiency aluminium fins and copper pipe designed for cooling fluids; independent circuits.

Low rpm axial fans directly coupled, provided with heat protection, low sound level blades with wing profile, and safety protection grid.

Electric panel, in compliance with CE norms, supplied with a main switch with protection fuses.

The cooling circuit is composed of: thermostatic expansion valve, sight glass, dehydrating filter, anti-freeze protection device, high pressure safety device, high and low pressure switches, high and low pressure gauges, non return valve on discharge, shut off valve on liquid line, shut off valve on compressors discharge.

Unit management microprocessor with the following functions: chilled water temperature regulation, check of the running parameters, auto-detection failure system, remote management and supervision.

Compressors hour counter.

### Accessories

A	Amperometer
AE	Electrical supply different from standard
BT	Low temperature operation (-20°C) with modulating fan speed regulation
CE	UV protection on water insulation
CF	Soundproofed compressors cabinet with standard material (already included on silenced version)
CFU	Soundproofed compressors cabinet with lead material (already included on ultra silenced version)
CS	Compressors inrush counter
DS	Star/delta
GP	Condensing coil protection grid
IG	Watch card
IH	RS 485 serial interface
KS	Lifting kit
LI	Liquid injection (standard for R22 and R407C)
M6	Modulating capacity control for units with 4 circuits
M8	Modulating capacity control for units with 3 circuits
M12	Modulating capacity control for units with 2 circuits
M25	Modulating capacity control for units with 1 circuit
MV	Buffer tank
OS	Safety oil flow switch
PF	Safety water flow switch on evaporator
PM	Spring-type vibration dampers
PQ	Remote microprocessor
PW	Part-winding
RA	Antifreeze heater on evaporator
RF	Power factor correction system cosφ > 0.9
RH	Shut-off valve on suction side
RL	Compressor overload relays
RM	Epoxy coating of condensing coil for sea environment
RR	Condensing coil with copper/copper fins
TE	Electronic thermostatic valve
V	Voltmeter
VB	Brine version (water temperature < 0 °C)
VS	Solenoid valve

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### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...K	301	391	451
Cooling capacity 1)	kW	306,6	397,9	459,0
Absorbed power	kW	122,5	153,2	181,9
C.O.P.	kW/kW	2,50	2,60	2,52
<b>Screw compressors</b>				
Quantity	n	1	1	1
Standard steps capacity	n	3	3	3
Continuous control capacity (option)	%		0 - 25 ÷ 100	
Circuits	n	1	1	1
Nominal absorbed current	A	183	224	268
Maximum absorbed current	A	271	355	408
Inrush current	A	1.048	1.467	1.891
Part-Winding inrush current (opt.)	A	690	–	–
Delta-Star inrush current (opt.)	A	–	490	624
<b>Axial fans</b>				
Quantity	n	4	4	6
Rotation speed	rpm	850	850	850
Motors power	kW	13,2	13,2	19,8
Total air flow	l/s	31.111	28.889	46.667
Total air flow	m <sup>3</sup> /h	112.000	104.000	168.000
Nominal absorbed current	A	25,2	25,2	37,8
<b>Shell and tube evaporator</b>				
Quantity	n	1	1	1
Water flow rate	l/s	14,6	18,9	21,9
Water flow rate	m <sup>3</sup> /h	52,6	68,0	78,8
Pressure drop	kPa	48	38	35
Water volume	l	93	80	133
<b>Electrical data</b>				
Absorbed power	kW	136	166	202
Nominal absorbed current	A	208	249	306
Maximum absorbed current	A	296	380	446
Sound pressure level 2)	dB(A)	84	84	84
<b>Dimensions</b>				
Length	mm	3.350	3.350	4.850
Width	mm	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700
Transport weight 3)	kg	2.993	3.626	4.236
Refrigerant charge for each circuit	kg	68	90	102
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>		

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...K	272	312	372	462	522	592	782	892	1042	1162
Cooling capacity 1)	kW	286,3	330,6	368,7	442,9	532,5	600,9	800,0	911,7	1069,1	1187,1
Absorbed power	kW	115	133	156	191	211,7	247,9	306,6	366	408,2	468,4
C.O.P	kW/kW	2,5	2,5	2,4	2,3	2,5	2,4	2,6	2,5	2,6	2,5
<b>Screw compressors</b>											
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	189	219	249	311	323	371	448	543	605	667
Maximum absorbed current	A	281	313	349	398	470	530	710	803	916	976
Inrush current	A	638	754	873	1.019	1.197	1.307	1.822	2.286	2.525	3.046
Part-Winding inrush current (opt.)	A	443	519	610	738	866	949	–	–	–	–
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	845	1.019	1.146	1.331
<b>Axial fans</b>											
Quantity	n	4	4	4	6	6	6	8	10	12	12
Rotation speed	rpm	850	850	850	850	850	850	850	850	850	850
Motors power	kW	13,2	13,2	13,2	19,8	19,8	19,8	26,4	33	39,6	39,6
Total air flow	l/s	31.111	28.889	28.889	46.667	43.333	43.333	57.778	72.222	86.667	86.667
Total air flow	m <sup>3</sup> /h	112.000	104.000	104.000	168.000	156.000	156.000	208.000	260.000	312.000	312.000
Nominal absorbed current	A	25,2	25,2	25,2	37,8	37,8	37,8	50,4	63	75,6	75,6
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	13,7	15,8	17,6	21,1	25,3	28,6	38,1	43,5	50,9	56,5
Water flow rate	m <sup>3</sup> /h	49,3	56,9	63,4	76,0	91,1	103,0	137,2	156,6	183,2	203,4
Pressure drop	kPa	38	50	41	29	47	52	51	66	97	104
Water volume	l	93	93	88	133	125	114	207	184	444	435
<b>Electrical data</b>											
Absorbed power	kW	128	146	169	211	232	268	333	399	448	508
Nominal absorbed current	A	214	244	274	349	361	409	499	606	680	743
Maximum absorbed current	A	306	338	374	436	508	568	760	866	992	1052
Sound pressure level 2)	dB(A)	84	84	84	85	85	85	87	88	89	89
<b>Dimensions</b>											
Length	mm	3.350	3.350	3.350	4.850	4.850	4.850	6.350	7.850	9.350	9.350
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 3)	kg	3.303	3.432	3.468	4.800	5.020	5.070	6.868	7.632	8.442	8.589
Refrigerant charge for each circuit	kg	34	43	44	51	66	68	90,5	112	128	129
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...K	913	1193	1184	1544
Cooling capacity 1)	kW	905,4	1.180,8	1.245,5	1.634,8
Absorbed power	kW	383,0	476,0	496,2	612,4
C.O.P	kW/kW	2,4	2,5	2,5	2,7
<b>Screw compressors</b>					
Quantity	n	3	3	4	4
Standard steps capacity	n	9	9	12	12
Continuous control capacity (option)	%	0 - 8 ÷ 100		0 - 6 ÷ 100	
Circuits	n	3	3	4	4
Nominal absorbed current	A	620	749	746	891
Maximum absorbed current	A	814	1.066	1.060	1.421
Inrush current	A	1.591	2.178	1.837	2.533
Part-Winding inrush current (opt.)	A	1.233	1.201	1.479	—
Delta-Star inrush current (opt.)	A	—	—	—	1.556
<b>Axial fans</b>					
Quantity	n	12	12	12	16
Rotation speed	rpm	850	850	850	850
Motors power	kW	39,6	39,6	39,6	52,8
Total air flow	l/s	93.333	86.667	86.667	115.556
Total air flow	m <sup>3</sup> /h	336.000	312.000	312.000	416.000
Nominal absorbed current	A	75,6	75,6	75,6	100,8
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	43,2	56,4	59,4	77,8
Water flow rate	m <sup>3</sup> /h	155,5	203,0	213,8	280,1
Pressure drop	kPa	55	60	87	120
Water volume	l	184	252	295	423
<b>Electrical data</b>					
Absorbed power	kW	423	516	536	665
Nominal absorbed current	A	696	825	822	992
Maximum absorbed current	A	890	1.142	1.136	1.522
Sound pressure level 2)	dB(A)	89	89	89	90
<b>Dimensions</b>					
Length	mm	9.350	9.350	9.350	12.350
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	7.988	10.141	9.830	13.343
Refrigerant charge for each circuit	kg	69	92	72	192
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

— = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...SK	301	391	451
Cooling capacity 1)	kW	309,8	403,0	417,7
Absorbed power	kW	121,1	151,6	179,8
C.O.P	kW/kW	2,56	2,66	2,32
<b>Screw compressors</b>				
Quantity	n	1	1	1
Standard steps capacity	n	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100		
Circuits	n	1	1	1
Nominal absorbed current	A	184	221	269
Maximum absorbed current	A	262	354	394
Inrush current	A	1.039	1.466	1.877
Part-Winding inrush current (opt.)	A	681	—	—
Delta-Star inrush current (opt.)	A	—	489	610
<b>Axial fans</b>				
Quantity	n	4	6	6
Rotation speed	rpm	880	880	880
Motors power	kW	8	12	12
Total air flow	l/s	22.778	36.667	34.167
Total air flow	m <sup>3</sup> /h	82.000	132.000	123.000
Nominal absorbed current	A	16	24	24
<b>Shell and tube evaporator</b>				
Quantity	n	1	1	1
Water flow rate	l/s	14,8	19,2	19,9
Water flow rate	m <sup>3</sup> /h	53,2	69,1	71,8
Pressure drop	kPa	49	39	35
Water volume	l	93	80	133
<b>Electrical data</b>				
Absorbed power	kW	129	164	192
Nominal absorbed current	A	200	245	293
Maximum absorbed current	A	278	378	418
Sound pressure level 2)	dB(A)	77	77	78
<b>Dimensions</b>				
Length	mm	3.350	4.850	4.850
Width	mm	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700
Transport weight 3)	kg	3.041	4.009	4.309
Refrigerant charge for each circuit	kg	86	99	129
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>		

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## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...S K	272	312	372	462	522	592	782	892	1042	1162	913	1184
Cooling capacity 1)	kW	291,5	318,3	373,9	451,0	530,5	615,4	795,7	928,3	1.073,3	1.191,8	896,1	1.234,9
Absorbed power	kW	113	139	154	187	212,2	242	307,9	359,6	406,4	466,3	375	483,9
C.O.P	kW/kW	2,58	2,29	2,43	2,41	2,50	2,54	2,58	2,58	2,64	2,56	2,39	2,55
<b>Screw compressors</b>													
Quantity	n	2	2	2	2	2	2	2	2	2	2	3	4
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6	9	12
Continuous control capacity (option)	%	0 - 12 ÷ 100										0 - 8 ÷ 100	0 - 6 ÷ 100
Circuits	n	2	2	2	2	2	2	2	2	2	2	3	4
Nominal absorbed current	A	186	227	246	306	322	365	449	539	604	691	610	734
Maximum absorbed current	A	272	304	348	384	464	524	700	788	896	956	786	1.048
Inrush current	A	629	745	872	1.005	1.191	1.301	1.812	2.271	2.505	3.026	1.563	1.825
Part-Winding inrush current (opt.)	A	434	510	609	724	860	943	–	–	–	–	1.205	1.467
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	835	1.004	1.126	1.311	–	–
<b>Axial fans</b>													
Quantity	n	4	4	6	6	8	8	10	12	14	14	12	16
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	880	880	880
Motors power	kW	8	8	12	12	16	16	20	24	28	28	24	32
Total air flow	l/s	22.778	22.778	36.667	34.167	48.889	45.556	56.944	68.333	79.722	79.722	68.333	91.111
Total air flow	m <sup>3</sup> /h	82.000	82.000	132.000	123.000	176.000	164.000	205.000	246.000	287.000	287.000	246.000	328.000
Nominal absorbed current	A	16	16	24	24	32	32	40	48	56	56	48	64
<b>Shell and tube evaporator</b>													
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	13,9	15,2	17,9	21,5	25,3	29,3	37,9	44,2	51,2	56,7	42,8	58,8
Water flow rate	m <sup>3</sup> /h	50,0	54,7	64,4	77,4	91,1	105,5	136,4	159,1	184,3	204,1	154,1	211,7
Pressure drop	kPa	39	47	43	30	47	55	50	68	97	71	58	91
Water volume	l	93	93	88	133	125	114	207	184	444	435	184	295
<b>Electrical data</b>													
Absorbed power	kW	121	147	166	199	228	258	328	384	434	494	399	516
Nominal absorbed current	A	202	243	270	330	354	397	489	587	660	747	658	798
Maximum absorbed current	A	288	320	372	408	496	556	740	836	952	1.012	834	1.112
Sound pressure level 2)	dB(A)	78	78	78	79	79	79	80	82	83	83	83	83
<b>Dimensions</b>													
Length	mm	3.350	3.350	4.580	4.850	6.350	6.350	7.850	9.350	10.850	1.085	9.350	12.350
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	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 3)	kg	3.352	3.363	3.851	4.872	5.252	5.539	7.358	8.030	8.805	8.952	8.133	10.822
Refrigerant charge for each circuit	kg	43	43	48	65	33	43	55	65	90	74	87	23
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>											

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...U K	301	391	451
Cooling capacity 1)	kW	319,6	408,2	481,7
Absorbed power	kW	116,4	149,5	173,2
C.O.P	kW/kW	2,75	2,73	2,78
<b>Screw compressors</b>				
Quantity	n	1	1	1
Standard steps capacity	n	3	3	3
Continuous control capacity (option)	%		0 - 25 ÷ 100	
Circuits	n	1	1	1
Nominal absorbed current	A	179	227	263
Maximum absorbed current	A	260	344	388
Inrush current	A	1.037	1.456	1.871
Part-Winding inrush current (opt.)	A	679	–	–
Delta-Star inrush current (opt.)	A	–	479	604
<b>Axial fans</b>				
Quantity	n	6	6	8
Rotation speed	rpm	660	660	660
Motors power	kW	7,5	7,5	10
Total air flow	l/s	27.500	25.833	34.444
Total air flow	m <sup>3</sup> /h	99.000	93.000	124.000
Nominal absorbed current	A	13,8	13,8	18,4
<b>Shell and tube evaporator</b>				
Quantity	n	1	1	1
Water flow rate	l/s	15,2	19,5	23,0
Water flow rate	m <sup>3</sup> /h	54,8	70,2	82,8
Pressure drop	kPa	51	40	38
Water volume	l	93	80	133
<b>Electrical data</b>				
Absorbed power	kW	124	157	183
Nominal absorbed current	A	193	241	282
Maximum absorbed current	A	274	358	406
Sound pressure level 2)	dB(A)	70	70	71
<b>Dimensions</b>				
Length	mm	4.850	4.850	6.350
Width	mm	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700
Transport weight 3)	kg	3.493	4.185	4.879
Refrigerant charge for each circuit	kg	95	126	165
<b>Power supply</b>			<b>400 V / 50 Hz / 3 Ph + T</b>	

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R407C

MODEL	RAH...U K	272	312	372	462	522	592	782	892	1042
Cooling capacity 1)	kW	306,9	318,3	362,6	481,0	538,8	621,6	820,6	911,7	1.081,5
Absorbed power	kW	106,0	139,0	159,0	174,0	209,4	238,1	299,2	366,0	402,8
C.O.P	kW/kW	2,9	2,3	2,3	2,8	2,6	2,6	2,7	2,5	2,7
<b>Screw compressors</b>										
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	176	227	253	288	331	362	454	544	619
Maximum absorbed current	A	270	302	338	378	450	515	688	772	877
Inrush current	A	627	743	862	999	1.177	1.292	1.800	2.255	2.486
Part-Winding inrush current (opt.)	A	432	508	599	718	846	934	–	–	–
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	823	988	1.107
<b>Axial fans</b>										
Quantity	n	6	6	6	8	8	10	12	14	16
Rotation speed	rpm	660	660	660	660	660	660	660	660	660
Motors power	kW	7,5	7,5	7,5	10	10	12,5	15	17,5	20
Total air flow	l/s	27.500	27.500	25.833	34.444	34.444	43.056	51.667	60.278	68.889
Total air flow	m <sup>3</sup> /h	99.000	99.000	93.000	124.000	124.000	155.000	186.000	217.000	248.000
Nominal absorbed current	A	13,8	13,8	13,8	18,4	18,4	23	27,6	32,2	36,8
<b>Shell and tube evaporator</b>										
Quantity	n	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,6	15,2	17,3	23,0	25,7	29,6	39,1	43,6	51,5
Water flow rate	m <sup>3</sup> /h	52,7	54,6	62,4	82,7	92,4	106,7	140,8	156,8	185,4
Pressure drop	kPa	43	46	40	34	48	56	53	66	99
Water volume	l	93,0	93,0	88,0	133,0	125,0	114,0	207,0	184,0	444,0
<b>Electrical data</b>										
Absorbed power	kW	114	147	167	184	219	251	314	384	423
Nominal absorbed current	A	190	241	267	306	349	385	481	577	656
Maximum absorbed current	A	284	316	352	397	469	538	715	804	914
Sound pressure level 2)	dB(A)	70	70	70	72	72	72	72	73	74
<b>Dimensions</b>										
Length	mm	4.850	4.850	4.850	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	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 3)	kg	3.804	3.815	4.027	5.443	5.487	6.167	7.928	8.600	9.433
Refrigerant charge for each circuit	kg	48	48	62	83	42	52	64	74	82
<b>Power supply</b>										
<b>400 V / 50 Hz / 3 Ph + T</b>										

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...Ka	341	381	431	491
Cooling capacity 1)	kW	308,0	383,0	403,0	472,0
Absorbed power	kW	122	139	158	178
C.O.P.	kW/kW	2,52	2,76	2,55	2,65
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	199	222	260	292
Maximum absorbed current	A	280	310	320	360
Inrush current	A	1.364	1.442	1.853	2.029
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	436	465	586	650
<b>Axial fans</b>					
Quantity	n	4	4	4	4
Rotation speed	rpm	850	850	850	850
Motors power	kW	13,2	13,2	13,2	13,2
Total air flow	l/s	33.056	31.111	31.111	28.889
Total air flow	m <sup>3</sup> /h	119.000	112.000	112.000	104.000
Nominal absorbed current	A	25,2	25,2	25,2	25,2
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	14,7	18,3	19,3	22,6
Water flow rate	m <sup>3</sup> /h	53,0	65,9	69,3	81,2
Pressure drop	kPa	33	47	45	28
Water volume	l	90	130	114	162
<b>Electrical data</b>					
Absorbed power	kW	135,2	152,2	171,2	191,2
Nominal absorbed current	A	224	247	285	317
Maximum absorbed current	A	305	335	345	385
Sound pressure level 2)	dB(A)	84	84	84	84
<b>Dimensions</b>					
Length	mm	3.350	3.350	3.350	3.350
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	3.445	3.595	3.727	4.055
Refrigerant charge for each circuit	kg	56	78	82	111
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...Ka	312	342	372	452	502	582	652	772	862	982
Cooling capacity 1)	kW	299	360	393	447	523	580	614	746	809	930
Absorbed power	kW	116	125	128	166	165	200	246	287	317	356
C.O.P	kW/kW	2,6	2,9	3,1	2,7	3,2	3,0	2,9	2,8	2,9	2,6
<b>Screw compressors</b>											
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	194	204	208	275	279	334	401	459	520	583
Maximum absorbed current	A	288	324	310	364	392	428	560	620	640	694
Inrush current	A	729	848	830	983	1.139	1.237	1.644	1.752	2.173	2.389
Part-Winding inrush current (opt.)	A	494	585	594	702	808	879	–	–	–	1.010
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	716	775	906	–
<b>Axial fans</b>											
Quantity	n	4	4	6	6	6	6	6	6	8	8
Rotation speed	rpm	850	850	850	850	850	850	850	850	850	850
Motors power	kW	13,2	13,2	19,8	19,8	19,8	19,8	19,8	19,8	26,4	26,4
Total air flow	l/s	33.056	31.111	49.583	49.583	46.667	46.667	46.667	43.333	62.222	57.778
Total air flow	m <sup>3</sup> /h	119.000	112.000	178.500	178.500	168.000	168.000	168.000	156.000	224.000	208.000
Nominal absorbed current	A	25,2	25,2	37,8	37,8	37,8	37,8	37,8	37,8	50,4	75,6
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,3	17,2	18,8	21,4	25,0	27,7	29,3	35,7	38,7	44,4
Water flow rate	m <sup>3</sup> /h	51,5	61,9	67,7	77,0	90,0	99,7	105,5	128,5	139,3	159,8
Pressure drop	kPa	31	41	49	25	35	36	48	46	60	39
Water volume	l	90	130	130	162	162	184	452	435	426	417
<b>Electrical data</b>											
Absorbed power	kW	129,2	138,2	147,8	185,8	184,8	212,4	245,3	294,4	317,7	382,4
Nominal absorbed current	A	219,2	229,2	245,8	312,8	316,8	229,6	262,5	317,3	340,6	658,6
Maximum absorbed current	A	313	349	348	402	430	466	598	658	690	770
Sound pressure level 2)	dB(A)	84	84	85	85	85	85	85	86	87	87
<b>Dimensions</b>											
Length	mm	3.350	3.350	4.850	4.850	4.850	4.850	4.850	4.850	6.350	6.350
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 3)	kg	3.307	3.457	4.856	4.860	5.059	5.179	6.292	6.509	7.026	7.356
Refrigerant charge for each circuit	kg	28	39	39	46	60	63	59	75	77	96
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...Ka	753	863	1023	1183	1313	1154	1304	1494	1624	1884
Cooling capacity 1)	kW	782	863	927	1.155	1.280	1.157	1.228	1.493	1.618	1.879
Absorbed power	kW	246	298	367	416	444	400	492	574	634	713
C.O.P.	kW/kW	3,2	2,9	2,5	2,8	2,9	2,9	2,5	2,6	2,6	2,6
<b>Screw compressors</b>											
Quantity	n	3	3	3	3	3	4	4	4	4	4
Standard steps capacity	n	9	9	9	9	9	12	12	12	12	12
Continuous control capacity (option)	%	0 - 8 ÷ 100					0 - 6 ÷ 100				
Circuits	n	3	3	3	3	3	4	4	4	4	4
Nominal absorbed current	A	416	498	598	668	733	668	802	918	1.040	1.167
Maximum absorbed current	A	588	642	840	930	960	856	1.120	1.240	1.280	1.440
Inrush current	A	1.335	1.451	1.924	2.062	2.493	1.665	2.204	2.372	2.813	3.109
Part-Winding inrush current (opt.)	A	1.004	1.093	–	1.085	1.226	1.307	–	–	–	–
Delta-Star inrush current (opt.)	A	–	–	996	–	–	–	1.276	1.395	1.556	1.730
<b>Axial fans</b>											
Quantity	n	12	12	12	12	12	12	12	12	16	16
Rotation speed	rpm	850	850	850	850	850	850	850	850	850	850
Motors power	kW	39,6	39,6	39,6	39,6	39,6	39,6	39,6	39,6	52,8	52,8
Total air flow	l/s	99.167	99.167	99.167	93.333	86.667	93.333	93.333	86.667	124.444	115.556
Total air flow	m <sup>3</sup> /h	357.000	357.000	357.000	336.000	312.000	336.000	336.000	312.000	448.000	416.000
Nominal absorbed current	A	75,6	75,6	75,6	75,6	75,6	75,6	75,6	75,6	100,8	100,8
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	2	2	2	2	2
Water flow rate	l/s	37,4	41,2	44,3	55,2	61,2	55,3	58,7	71,3	77,3	89,8
Water flow rate	m <sup>3</sup> /h	134,6	148,3	159,5	198,7	220,3	199,1	211,3	256,7	278,3	323,3
Pressure drop	kPa	46	62	53	66	82	51	48	46	60	55
Water volume	l	444	431	421	599	599	923	905	869	852	423
<b>Electrical data</b>											
Absorbed power	kW	286	338	407	456	484	440	532	614	687	766
Nominal absorbed current	A	492	574	674	744	809	744	878	994	1.141	1.268
Maximum absorbed current	A	664	718	916	1.006	1.036	932	1.196	1.316	1.381	1.541
Sound pressure level 2)	dB(A)	89	89	89	89	89	89	89	90	91	91
<b>Dimensions</b>											
Length	mm	9.350	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 3)	kq	7.783	7.828	9.738	10.231	10.790	10.221	12.125	12.558	13.650	15.091
Refrigerant charge for each circuit	kq	49	51	68	83	101	57	59	75	77	96
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...S Ka	341	381	431	491
Cooling capacity 1)	kW	328	384	405	500
Absorbed power	kW	114	138	158	167
C.O.P	kW/kW	2,88	2,78	2,56	2,99
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	186	222	259	274
Maximum absorbed current	A	280	310	320	368
Inrush current	A	1.364	1.442	1.853	2.037
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	436	465	586	658
<b>Axial fans</b>					
Quantity	n	4	4	4	6
Rotation speed	rpm	880	880	880	880
Motors power	kW	8	8	8	12
Total air flow	l/s	24.444	22.778	22.778	36.667
Total air flow	m <sup>3</sup> /h	88.000	82.000	82.000	132.000
Nominal absorbed current	A	16	16	16	16
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	15,7	18,4	19,3	23,9
Water flow rate	m <sup>3</sup> /h	56,5	66,2	69,5	86,0
Pressure drop	kPa	38	47	45	32
Water volume	l	90	130	114	162
<b>Electrical data</b>					
Absorbed power	kW	122	146	166	179
Nominal absorbed current	A	202	238	275	290
Maximum absorbed current	A	296	326	336	384
Sound pressure level 2)	dB(A)	79	79	79	81
<b>Dimensions</b>					
Length	mm	3.350	3.350	3.350	4.850
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	3.494	3.643	3.776	4.438
Refrigerant charge for each circuit	kg	74	96	100	120
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...S Ka	312	342	372	452	502	582	652	772	862	982
Cooling capacity 1)	kW	318	344	380	473	502	551	617	771	813	966
Absorbed power	kW	108	132	134	155	174	212	245	276	316	341
C.O.P.	kW/kW	2,9	2,6	2,8	3,1	2,9	3,0	2,8	2,9	2,8	2,8
<b>Screw compressors</b>											
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	181	215	217	258	293	353	399	443	518	560
Maximum absorbed current	A	288	324	310	364	392	428	560	620	640	720
Inrush current	A	729	848	830	983	1.139	1.237	1.644	1.752	2.173	2.389
Part-Winding inrush current (opt.)	A	494	585	594	702	808	879	—	—	—	—
Delta-Star inrush current (opt.)	A	—	—	—	—	—	—	716	775	906	1.010
<b>Axial fans</b>											
Quantity	n	4	4	6	6	6	6	6	8	8	10
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	880
Motors power	kW	8	8	12	12	12	12	12	16	16	20
Total air flow	l/s	24.444	22.778	39.167	36.667	36.667	36.667	34.167	45.556	45.556	56.944
Total air flow	m <sup>3</sup> /h	88.000	82.000	141.000	132.000	132.000	132.000	123.000	164.000	164.000	205.000
Nominal absorbed current	A	16	16	24	24	24	24	24	32	32	40
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	15,2	16,4	18,1	22,6	24,0	26,3	29,5	36,9	38,8	46,2
Water flow rate	m <sup>3</sup> /h	54,7	59,0	65,2	81,4	86,4	94,7	106,2	132,8	139,7	166,3
Pressure drop	kPa	35	38	46	29	32	33	49	49	61	42
Water volume	l	90	130	130	162	162	184	452	435	426	417
<b>Electrical data</b>											
Absorbed power	kW	116	140	146	167	186	224	257	292	332	361
Nominal absorbed current	A	197	231	241	282	317	377	423	475	550	600
Maximum absorbed current	A	304	340	334	388	416	452	584	652	672	760
Sound pressure level 2)	dB(A)	79	79	81	81	82	82	82	83	84	84
<b>Dimensions</b>											
Length	mm	3.350	3.350	4.850	4.850	4.850	4.850	4.850	6.350	6.350	7.850
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 3)	kq	3.356	3.388	4.483	4.932	4.955	5.076	6.365	6.976	7.123	7.846
Refrigerant charge for each circuit	kq	37	39	39	60	60	63	72	93	95	114
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

— = not available

1) Normal condition referred to: air 35 °C - chilled water 7/12 °C

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...S Ka	753	863	1023	1183	1313	1154	1304	1494	1624	
Cooling capacity 1)	kW	756	828	988	1.159	1.211	1.099	1.234	1.543	1.625	
Absorbed power	kW	257	312	341	415	473	424	490	553	631	
C.O.P	kW/kW	2,9	2,7	2,9	2,8	2,6	2,6	2,5	2,8	2,6	
<b>Screw compressors</b>											
Quantity	n	3	3	3	3	3	4	4	4	4	
Standard steps capacity	n	9	9	9	9	9	12	12	12	12	
Continuous control capacity (option)	%	0 - 8 ÷ 100					0 - 6 ÷ 100				
Circuits	n	3	3	3	3	3	4	4	4	4	
Nominal absorbed current	A	434	520	559	665	777	705	799	887	1.036	
Maximum absorbed current	A	588	642	840	930	960	856	1.120	1.240	1.280	
Inrush current	A	1.335	1.451	1.924	2.062	2.493	1.665	2.204	2.372	2.813	
Part-Winding inrush current (opt.)	A	1.004	1.093	–	–	–	1.307	–	–	–	
Delta-Star inrush current (opt.)	A	–	–	996	1.085	1.226	–	1.276	1.395	1.546	
<b>Axial fans</b>											
Quantity	n	12	12	12	12	12	12	12	16	16	
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	
Motors power	kW	24	24	24	24	24	24	24	32	32	
Total air flow	l/s	78.333	78.333	73.333	68.333	68.333	73.333	68.333	91.111	91.111	
Total air flow	m <sup>3</sup> /h	282.000	282.000	264.000	246.000	246.000	264.000	246.000	328.000	328.000	
Nominal absorbed current	A	48	48	48	48	48	48	48	64	64	
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	2	2	2	2	
Water flow rate	l/s	36,1	39,5	47,2	55,4	57,9	52,5	58,9	73,7	77,6	
Water flow rate	m <sup>3</sup> /h	130,0	142,2	169,9	199,4	208,4	189,0	212,0	265,3	279,4	
Pressure drop	kPa	43	57	61	67	73	46	49	49	61	
Water volume	l	444	431	423	599	599	923	905	869	852	
<b>Electrical data</b>											
Absorbed power	kW	281	336	365	439	497	448	514	585	663	
Nominal absorbed current	A	482	568	607	713	825	753	847	951	1.100	
Maximum absorbed current	A	636	690	888	978	1.008	904	1.168	1.304	1.344	
Sound pressure level 2)	dB(A)	84	85	85	85	85	85	85	86	87	
<b>Dimensions</b>											
Length	mm	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	
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	
Transport weight 3)	kg	7.576	7.621	9.883	10.376	10.583	10.014	12.270	13.550	13.843	
Refrigerant charge for each circuit	kg	49	51	86	101	101	57	72	93	95	
<b>Power supply</b> 400 V / 50 Hz / 3 Ph + T											

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

#### RAH... Technical data with refrigerant R134a

MODEL	RAH... U Ka	341	381	431	491
Cooling capacity 1)	kW	321	364	423	489
Absorbed power	kW	117	147	150	171
C.O.P.	kW/kW	2,74	2,48	2,82	2,86
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	191	234	247	281
Maximum absorbed current	A	280	310	320	360
Inrush current	A	1.364	1.442	1.853	2.029
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	436	465	586	650
<b>Axial fans</b>					
Quantity	n	4	4	6	6
Rotation speed	rpm	660	660	660	660
Motors power	kW	5	5	7,5	7,5
Total air flow	l/s	17.222	17.222	27.500	25.833
Total air flow	m <sup>3</sup> /h	62.000	62.000	99.000	93.000
Nominal absorbed current	A	9,2	13,8	13,8	13,8
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	15,3	17,4	20,2	23,3
Water flow rate	m <sup>3</sup> /h	55,1	62,6	72,7	83,9
Pressure drop	kPa	36	42	49	30
Water volume	l	90	130	114	162
<b>Electrical data</b>					
Absorbed power	kW	122	152	158	179
Nominal absorbed current	A	200	248	261	295
Maximum absorbed current	A	289	324	334	374
Sound pressure level 2)	dB(A)	74	74	75	75
<b>Dimensions</b>					
Length	mm	3.350	3.350	4.850	4.850
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	3.611	3.643	4.228	4.614
Refrigerant charge for each circuit	kg	92	86	109	147
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...U Ka	312	342	372	452	502	582	652	772	862	982
Cooling capacity 1)	kW	297	335	356	444	490	552	644	731	825	914
Absorbed power	kW	117	136	144	167	179	211	234	294	310	362
C.O.P	kW/kW	2,5	2,5	2,5	2,7	2,7	2,6	2,8	2,5	2,7	2,5
<b>Screw compressors</b>											
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	195	220	232	277	301	352	382	469	510	593
Maximum absorbed current	A	288	329	310	364	397	433	560	625	640	725
Inrush current	A	729	853	830	983	1.143	1.247	1.650	1.766	2.182	2.394
Part-Winding inrush current (opt.)	A	494	590	594	702	812	883	–	–	–	–
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	716	780	906	1.010
<b>Axial fans</b>											
Quantity	n	4	4	6	6	6	6	8	8	10	10
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660
Motors power	kW	5	5	7,5	7,5	7,5	7,5	10	10	12,5	12,5
Total air flow	l/s	18.333	17.222	28.333	27.500	25.833	25.833	34.444	34.444	43.056	43.056
Total air flow	m <sup>3</sup> /h	66.000	62.000	102.000	99.000	93.000	93.000	124.000	124.000	155.000	155.000
Nominal absorbed current	A	9,2	9,2	13,8	13,8	13,8	13,8	18,4	18,4	23	23
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,2	16,0	17,0	21,2	23,4	26,4	30,8	34,9	39,4	43,7
Water flow rate	m <sup>3</sup> /h	51,1	57,6	61,2	76,3	84,2	95,0	110,9	125,6	141,8	157,3
Pressure drop	kPa	31	36	41	25	31	33	53	44	63	38
Water volume	l	90	130	130	162	162	184	452	435	426	417
<b>Electrical data</b>											
Absorbed power	kW	122	141	152	175	187	219	244	304	323	375
Nominal absorbed current	A	204	229	246	291	315	366	400	487	533	616
Maximum absorbed current	A	297	338	324	378	410	446	578	643	663	748
Sound pressure level 2)	dB(A)	74	74	75	76	76	77	78	78	79	79
<b>Dimensions</b>											
Length	mm	3.350	3.350	4.850	4.850	4.850	4.850	6.350	6.350	7.850	7.850
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 3)	kg	3.356	3.505	4.483	4.932	5.131	5.252	6.935	6.976	7.751	7.846
Refrigerant charge for each circuit	kg	37	48	39	60	73	76	90	93	113	114
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

#### RAH... Technical data with refrigerant R134a

MODEL	RAH...U Ka	753	863	1023	1154	1304
Cooling capacity 1)	kW	709	858	966	1.101	1.288
Absorbed power	kW	277	300	351	423	467
C.O.P.	kW/kW	2,56	2,86	2,75	2,60	2,76
<b>Screw compressors</b>						
Quantity	n	3	3	3	4	4
Standard steps capacity	n	9	9	9	12	12
Continuous control capacity (option)	%	0 - 8 ÷ 100			0 - 6 ÷ 100	
Circuits	n	3	3	3	4	4
Nominal absorbed current	A	464	501	573	704	764
Maximum absorbed current	A	588	642	840	865	1.120
Inrush current	A	1.335	1.451	1.944	1.685	2.215
Part-Winding inrush current (opt.)	A	1.004	1.093	–	1.316	1.276
Delta-Star inrush current (opt.)	A	–	–	996	–	–
<b>Axial fans</b>						
Quantity	n	12	12	12	12	16
Rotation speed	rpm	660	660	660	660	660
Motors power	kW	15	15	15	15	20
Total air flow	l/s	56.667	55.000	51.667	51.667	68.889
Total air flow	m <sup>3</sup> /h	204.000	198.000	186.000	186.000	248.000
Nominal absorbed current	A	27,6	27,6	27,6	27,6	36,8
<b>Shell and tube evaporator</b>						
Quantity	n	1	1	1	2	2
Water flow rate	l/s	33,9	41,0	46,2	52,6	61,5
Water flow rate	m <sup>3</sup> /h	122,0	147,6	166,3	189,4	221,4
Pressure drop	kPa	38	61	58	46	53
Water volume	l	444	431	423	923	905
<b>Electrical data</b>						
Absorbed power	kW	292	315	366	438	487
Nominal absorbed current	A	492	529	601	732	801
Maximum absorbed current	A	616	670	868	893	1.157
Sound pressure level 2)	dB(A)	79	79	79	80	81
<b>Dimensions</b>						
Length	mm	9.350	9.350	9.350	9.350	12.350
Width	mm	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700
Transport weight 3)	kg	7.576	7.973	10.235	10.366	13.468
Refrigerant charge for each circuit	kg	49	69	104	71	90
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>				

– = not available

1) Normal condition referred to: air 35 °C - chilled water 7/12 °C

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH	421	491	561	641
Cooling capacity 1)	kW	426,4	451,9	575,0	632,1
Absorbed power	kW	150,0	178,0	213,9	234,1
C.O.P	kW / kW	2,84	2,54	2,69	2,70
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	244	300	346	368
Maximum absorbed current	A	355	395	445	488
Inrush current	A	1.467	1.878	2.054	2.558
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	490	611	675	843
<b>Axial fans</b>					
Quantity	n	4	4	4	6
Rotation speed	rpm	850	850	850	850
Motors power	kW	13,2	13,2	13,2	19,8
Total air flow	l/s	31.111	28.890	28.890	46.667
Total air flow	m <sup>3</sup> /h	112.000	104.000	104.000	168.000
Nominal absorbed current	A	25,2	25,2	25,2	37,8
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	20,6	23,7	27,4	30,2
Water flow rate	m <sup>3</sup> /h	74,2	85,3	98,6	108,7
Pressure drop	kPa	34	27	34	24
Water volume	l	133	125	222	222
<b>Electrical data</b>					
Absorbed power	kW	163	191	227	254
Nominal absorbed current	A	269	325	371	405
Maximum absorbed current	A	380	420	470	526
Sound pressure level 2)	dB(A)	84	84	84	85
<b>Dimensions</b>					
Length	mm	3.350	3.350	3.350	4.850
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	3.609	3.771	3.997	4.553
Refrigerant charge for each circuit	kg	75	96	104	113
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH	292	342	402	482	562	662	822	982	1112	1252
Cooling capacity 1)	kW	307,9	382,1	420,2	488,0	610,7	673,4	837,1	1.004,9	1.137,6	1.286,7
Absorbed power	kW	110,0	126,0	151,0	179,0	202,0	249,2	313,5	365,2	427,7	474,5
C.O.P.	kW / kW	2,80	3,03	2,78	2,73	3,02	2,70	2,67	2,75	2,66	2,71
<b>Screw compressors</b>											
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	182	209	242	295	334	403	507	600	692	749
Maximum absorbed current	A	281	313	349	398	470	530	698	790	890	963
Inrush current	A	638	754	873	1.019	1.197	1.307	1.810	2.273	2.499	3.033
Part-Winding inrush current (opt.)	A	443	519	610	738	866	949	–	–	–	–
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	833	1.006	1.120	1.318
<b>Axial fans</b>											
Quantity	n	4	4	4	6	6	6	6	8	8	10
Rotation speed	rpm	850	850	850	850	850	850	850	850	850	850
Motors power	kW	13,2	13,2	13,2	19,8	19,8	19,8	19,8	26,4	26,4	33
Total air flow	l/s	33.056	31.111	31.111	49.583	46.667	46.667	43.333	57.778	57.778	72.222
Total air flow	m³/h	119.000	112.000	112.000	178.500	168.000	168.000	156.000	208.000	208.000	260.000
Nominal absorbed current	A	25,2	25,2	25,2	37,8	37,8	37,8	37,8	50,4	50,4	63
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,7	18,2	20,1	23,4	29,2	32,2	39,9	47,9	54,1	61,4
Water flow rate	m³/h	52,9	65,5	72,4	84,2	105,1	115,9	143,6	172,4	194,8	221,0
Pressure drop	kPa	44	32	26	36	33	27	34	25	31	29
Water volume	l	93	80	133	125	222	207	184	252	295	462
<b>Electrical data</b>											
Absorbed power	kW	123	139	164	199	222	269	333	392	454	508
Nominal absorbed current	A	207	234	267	333	372	441	545	651	743	812
Maximum absorbed current	A	306	338	374	436	508	568	736	840	940	1.026
Sound pressure level 2)	dB(A)	84	84	84	85	86	86	87	88	88	89
<b>Dimensions</b>											
Length	mm	3.350	3.350	3.350	4.850	4.850	4.850	4.850	6.350	6.350	7.850
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 3)	kq	3.186	3.347	3.471	4.645	5.059	5.120	6.318	7.189	7.367	8.352
Refrigerant charge for each circuit	kq	25	36	38	39	57	59	76	102	107,5	131,5
<b>Power supply</b>	<b>400 V / 50 Hz / 3 Ph + T</b>										

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH	993	1243	1463	1634	1964	2214
Cooling capacity 1)	kW	1.002,1	1.279,0	1.481,1	1.674,2	2.009,9	2.069,3
Absorbed power	kW	364,0	449,0	535,0	626,9	730,3	855,5
C.O.P	kW / kW	2,75	2,85	2,77	2,67	2,75	2,42
<b>Screw compressors</b>							
Quantity	n	3	3	3	4	4	4
Standard steps capacity	n	9	9	9	12	12	12
Continuous control capacity (option)	%	0-8 ÷ 100			0-6 ÷ 100		
Circuits	n	3	3	3	4	4	4
Nominal absorbed current	A	595	714	867	1.014	1.200	1.391
Maximum absorbed current	A	814	1.066	1.186	1.396	1.581	1.781
Inrush current	A	1.591	2.178	2.669	2.508	3.064	3.390
Part-Winding inrush current (opt.)	A	1.233	–	1.402	–	–	–
Delta-Star inrush current (opt.)	A	–	1.201	–	1.531	1.797	2.011
<b>Axial fans</b>							
Quantity	n	12	12	12	12	16	16
Rotation speed	rpm	850	850	850	850	850	850
Motors power	kW	39,6	39,6	39,6	39,6	52,8	52,8
Total air flow	l/s	99.167	93.333	86.667	86.667	115.556	115.556
Total air flow	m <sup>3</sup> /h	357.000	336.000	312.000	312.000	416.000	416.000
Nominal absorbed current	A	75,6	75,6	90	75,6	100,8	100,8
<b>Shell and tube evaporator</b>							
Quantity	n	1	1	1	2	2	2
Water flow rate	l/s	47,9	61,0	70,7	79,8	95,8	108,4
Water flow rate	m <sup>3</sup> /h	172,4	219,6	254,5	287,3	344,9	390,2
Pressure drop	kPa	43	74	55	34	25	23
Water volume	l	252	462	423	184	252	295
<b>Electrical data</b>							
Absorbed power	kW	404	489	575	667	783	908
Nominal absorbed current	A	671	790	957	1.090	1.301	1.492
Maximum absorbed current	A	890	1.142	1.276	1.472	1.682	1.882
Sound pressure level 2)	dB(A)	89	90	90	90	91	91
<b>Dimensions</b>							
Length	mm	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
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight 3)	kg	7.856	9.996	10.546	12.132	13.916	14.260
Refrigerant charge for each circuit	kg	56	82	104	65	87	90
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>					

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

AIR COOLED WATER CHILLERS

WITH SCREW COMPRESSORS AND AXIAL FANS

## RAH... Technical data with refrigerant R22

MODEL	RAH...S	421	491	561	641
Cooling capacity 1)	kW	429,2	485,9	585,3	652,7
Absorbed power	kW	152,5	187,2	209,6	233,0
C.O.P.	kW / kW	2,81	2,60	2,79	2,80
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	249	310	336	373
Maximum absorbed current	A	346	386	444	474
Inrush current	A	1.458	1.869	2.053	2.544
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	490	611	675	843
<b>Axial fans</b>					
Quantity	n	4	4	6	6
Rotation speed	rpm	880	880	880	880
Motors power	kW	8	8	12	12
Total air flow	l/s	22.778	22.778	36.667	34.167
Total air flow	m <sup>3</sup> /h	82.000	82.000	132.000	123.000
Nominal absorbed current	A	16	16	24	24
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	21	24	28	31
Water flow rate	m <sup>3</sup> /h	76,2	87,7	102,9	114,3
Pressure drop	kPa	35	25	36	25
Water volume	l	133	125	222	222
<b>Electrical data</b>					
Absorbed power	kW	161	195	222	245
Nominal absorbed current	A	265	326	360	397
Maximum absorbed current	A	362	402	468	498
Sound pressure level 2)	dB(A)	80	81	82	82
<b>Dimensions</b>					
Length	mm	3.350	3.350	4.850	4.850
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	3.658	3.702	4.380	4.625
Refrigerant charge for each circuit	kg	93	96	113	140
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH...S	292	342	402	482	562	662	822	982	1112	1252
Cooling capacity 1)	kW	293,5	362,5	421,3	521,1	575,7	675,5	862,0	978,0	1166,6	1305,4
Absorbed power	kW	115,0	132,0	151,0	169,0	212,0	248,8	305,2	374,7	414,5	466,0
C.O.P	kW / kW	2,6	2,7	2,8	3,1	2,7	2,7	2,8	2,6	2,8	2,8
<b>Screw compressors</b>											
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	189	218	242	281	349	410	497	621	680	155
Maximum absorbed current	A	272	304	340	384	456	516	692	772	880	948
Inrush current	A	629	745	864	1.005	1.183	1.293	1.804	2.255	2.489	3.018
Part-Winding inrush current (opt.)	A	434	510	601	724	852	949	–	–	–	–
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	833	1.006	1.120	1.318
<b>Axial fans</b>											
Quantity	n	4	4	4	6	6	6	8	8	10	12
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	880
Motors power	kW	8	8	8	12	12	12	16	16	20	24
Total air flow	l/s	26.111	24.444	22.778	36.667	36.667	34.167	45.556	45.556	56.944	68.333
Total air flow	m <sup>3</sup> /h	94.000	88.000	82.000	132.000	132.000	123.000	164.000	164.000	205.000	246.000
Nominal absorbed current	A	16	16	16	24	24	24	32	32	40	48
<b>Shell and tube evaporator</b>											
Quantity	n	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,0	17,3	20,1	24,9	27,5	32	41	46	56	62
Water flow rate	m <sup>3</sup> /h	50,4	62,3	72,4	89,6	99,0	114,8	148,3	166,7	200,2	222,5
Pressure drop	kPa	40	29	27	41	30	27	36	24	33	30
Water volume	l	93	80	133	125	222	207	184	252	295	462
<b>Electrical data</b>											
Absorbed power	kW	123	140	159	181	224	261	321	391	435	490
Nominal absorbed current	A	205	234	258	305	373	434	529	653	720	203
Maximum absorbed current	A	288	320	356	408	480	540	724	804	920	996
Sound pressure level 2)	dB(A)	79	79	79	81	82	82	83	84	85	85
<b>Dimensions</b>											
Length	mm	3.350	3.350	3.350	4.850	4.850	4.850	6.350	6.350	7.850	9.350
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 3)	kg	3.117	3.278	3.520	4.717	4.955	5.193	6.785	7.051	7.857	8.750
Refrigerant charge for each circuit	kg	25	36	47	53	57	72,5	94	102	126	150
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>									

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH...S	993	1243	1463	1634	1964
Cooling capacity 1)	kW	1.070,0	1.283,4	1.427,6	1.724,0	1.956,0
Absorbed power	kW	344,0	447,0	551,0	610,3	749,5
C.O.P.	kW / kW	3,1	2,9	2,6	2,8	2,6
<b>Screw compressors</b>						
Quantity	n	3	3	3	4	4
Standard steps capacity	n	9	9	9	12	12
Continuous control capacity (option)	%	0 - 8 ÷ 100				
Circuits	n	3	3	3	4	4
Nominal absorbed current	A	566	712	890	994	1.242
Maximum absorbed current	A	786	1.038	1.158	1.384	1.544
Inrush current	A	1.563	2.150	2.641	2.496	3.027
Part-Winding inrush current (opt.)	A	1.205	1.173	1.374	–	–
Delta-Star inrush current (opt.)	A	–	–	–	1.531	1.797
<b>Axial fans</b>						
Quantity	n	12	12	12	16	16
Rotation speed	rpm	880	880	880	880	880
Motors power	kW	24	24	24	32	32
Total air flow	l/s	73.333	68.333	68.333	91.111	91.111
Total air flow	m <sup>3</sup> /h	264.000	246.000	246.000	328.000	328.000
Nominal absorbed current	A	48	48	48	64	64
<b>Shell and tube evaporator</b>						
Quantity	n	1	1	1	2	2
Water flow rate	l/s	51,0	61,3	68,2	82	94
Water flow rate	m <sup>3</sup> /h	183,6	220,7	245,5	296,6	337,3
Pressure drop	kPa	53	62	90	36	24
Water volume	l	252	462	423	184	252
<b>Electrical data</b>						
Absorbed power	kW	368	471	575	642	782
Nominal absorbed current	A	614	760	938	1.058	1.306
Maximum absorbed current	A	834	1.086	1.206	1.448	1.608
Sound pressure level 2)	dB(A)	85	85	85	86	87
<b>Dimensions</b>						
Length	mm	9.350	9.350	9.350	12.350	12.350
Width	mm	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700
Transport weight 3)	kq	8.001	10.141	10.339	13.123	13.640
Refrigerant charge for each circuit	kq	74	100	104	83	87
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>				

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH...U	421	491	561	641
Cooling capacity 1)	kW	443,4	490,0	585,0	647,6
Absorbed power	kW	147,6	185,6	209,6	235,1
C.O.P	kW / kW	3,00	2,64	2,79	2,75
<b>Screw compressors</b>					
Quantity	n	1	1	1	1
Standard steps capacity	n	3	3	3	3
Continuous control capacity (option)	%	0 - 25 ÷ 100			
Circuits	n	1	1	1	1
Nominal absorbed current	A	239	303	349	373
Maximum absorbed current	A	344	384	434	468
Inrush current	A	1.456	1.867	2.043	2.538
Part-Winding inrush current (opt.)	A	–	–	–	–
Delta-Star inrush current (opt.)	A	490	611	675	843
<b>Axial fans</b>					
Quantity	n	6	6	6	8
Rotation speed	rpm	660	660	660	660
Motors power	kW	7,5	7,5	7,5	10
Total air flow	l/s	27.500	27.500	25.833	36.667
Total air flow	m <sup>3</sup> /h	99.000	99.000	93.000	132.000
Nominal absorbed current	A	13,8	13,8	13,8	18,4
<b>Shell and tube evaporator</b>					
Quantity	n	1	1	1	1
Water flow rate	l/s	21,6	23,7	27,8	30,9
Water flow rate	m <sup>3</sup> /h	77,8	85,3	100,1	111,2
Pressure drop	kPa	37	26	36	25
Water volume	l	133	125	222	222
<b>Electrical data</b>					
Absorbed power	kW	155	193	217	245
Nominal absorbed current	A	253	317	363	391
Maximum absorbed current	A	358	398	448	486
Sound pressure level 2)	dB(A)	71	71	71	71
<b>Dimensions</b>					
Length	mm	4.850	4.850	4.850	6.350
Width	mm	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700
Transport weight 3)	kg	4.110	4.154	4.556	2.195
Refrigerant charge for each circuit	kg	102	105	140	140
<b>Power supply</b>		<b>400 V / 50 Hz / 3 Ph + T</b>			

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# WATER CHILLERS R407C – R134A – R22

## AIR COOLED WATER CHILLERS

### WITH SCREW COMPRESSORS AND AXIAL FANS

#### RAH... Technical data with refrigerant R22

MODEL	RAH...U	292	342	402	482	562	662	822	982	1112	1252	993
Cooling capacity 1)	kW	303,8	353,3	438,8	482,0	575,7	671,3	830,0	984,3	1158,4	1286,7	987,7
Absorbed power	kW	111,0	135,0	145,0	181,0	212,0	250,7	315,2	372,8	418,6	474,5	368,0
C.O.P.	kW / kW	2,7	2,6	3,0	2,7	2,7	2,7	2,6	2,6	2,8	2,7	2,7
<b>Screw compressors</b>												
Quantity	n	2	2	2	2	2	2	2	2	2	2	3
Standard steps capacity	n	6	6	6	6	6	6	6	6	6	6	9
Continuous control capacity (option)	%	0 - 12 ÷ 100										0 - 8 ÷ 100
Circuits	n	2	2	2	2	2	2	2	2	2	2	3
Nominal absorbed current	A	184	222	234	297	349	408	506	273	687	755	601
Maximum absorbed current	A	265	297	338	374	446	510	683	763	868	932	766
Inrush current	A	622	738	862	995	1.173	1.287	1.795	2.246	2.477	3.002	1.543
Part-Winding inrush current (opt.)	A	427	503	599	714	842	949	–	–	–	–	1.185
Delta-Star inrush current (opt.)	A	–	–	–	–	–	–	833	1.006	1.120	1.318	–
<b>Axial fans</b>												
Quantity	n	4	4	6	6	6	8	10	10	12	14	12
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660	660
Motors power	kW	5	5	7,5	7,5	7,5	10	12,5	12,5	15	17,5	15
Total air flow	l/s	18.333	17.222	27.500	27.500	25.833	36.667	45.833	43.056	51.667	60.278	55.000
Total air flow	m <sup>3</sup> /h	66.000	62.000	99.000	99.000	93.000	132.000	165.000	155.000	186.000	217.000	198.000
Nominal absorbed current	A	9,2	9,2	13,8	13,8	13,8	18,4	23	23	27,6	32,2	27,6
<b>Shell and tube evaporator</b>												
Quantity	n	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	14,5	16,8	21,0	23,0	27,5	31,6	39,1	47,3	55,6	61,8	47,2
Water flow rate	m <sup>3</sup> /h	52,2	60,5	75,6	82,8	99,0	113,8	140,9	170,3	200,2	222,5	169,9
Pressure drop	kPa	43	28	29	35	30	27	34	24	33	29	45
Water volume	l	93	80	133	125	222	207	184	252	295	462	252
<b>Electrical data</b>												
Absorbed power	kW	116	140	153	189	220	261	328	385	434	492	383
Nominal absorbed current	A	193	231	248	311	363	426	529	296	715	788	629
Maximum absorbed current	A	274	306	352	388	460	528	706	786	896	964	794
Sound pressure level 2)	dB(A)	71	71	71	71	72	72	72	72	72	72	73
<b>Dimensions</b>												
Length	mm	3.350	3.350	4.850	4.850	4.850	6.350	7.850	7.850	9.350	10.850	9.350
Width	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Height	mm	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Transport weight 3)	kq	3.234	3.396	3.972	4.717	5.131	5.529	7.120	7.696	8.527	9.320	8.001
Refrigerant charge for each circuit	kq	34	45	51	53	70	73	90	120	144	168	74
<b>Power supply</b>	<b>400 V / 50 Hz / 3 Ph + T</b>											

– = not available

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

2) Measured at 1 m in open field (ISO 3746)

3) Oil and refrigerant charge included

# RAH... SERIES

## OPERATION LIMITS AND CORRECTION FACTORS

### CORRECTION FACTOR FOR COOLING CAPACITY R22 - R407C

		External air temperature °C								
		28	30	32	35	38	40	42	45	48
Water evaporator outlet °C	17	1,401	1,371	1,347	1,306	1,265	1,241	1,217	1,185	1,138
	16	1,366	1,336	1,313	1,272	1,231	1,208	1,185	1,154	1,107
	15	1,330	1,301	1,279	1,238	1,198	1,176	1,154	1,123	1,077
	14	1,295	1,266	1,245	1,205	1,167	1,146	1,125	1,094	1,047
	13	1,260	1,232	1,212	1,171	1,136	1,116	1,096	1,065	1,019
	12	1,221	1,195	1,177	1,138	1,104	1,070	1,052	1,021	0,975
	11	1,183	1,158	1,143	1,106	1,072	1,042	1,027	0,997	0,951
	10	1,145	1,121	1,109	1,073	1,040	1,014	1,002	0,965	0,927
	9	1,113	1,090	1,076	1,049	1,009	0,988	0,966	0,935	0,890
	8	1,081	1,060	1,044	1,024	0,979	0,961	0,942	0,912	0,867
	7	1,050	1,030	1,011	1	0,948	0,934	0,918	0,888	0,843
	6	1,017	0,997	0,979	0,964	0,917	0,903	0,885	0,855	0,809
	5	0,984	0,965	0,946	0,928	0,886	0,871	0,851	0,820	0,774
	4	0,951	0,932	0,914	0,892	0,854	0,840	0,818	0,778	0,736
	3	0,919	0,898	0,882	0,855	0,823	0,808	0,785	0,758	0,718
	2	0,889	0,870	0,850	0,827	0,797	0,781	0,760	0,734	0,696
	1	0,859	0,842	0,819	0,799	0,770	0,754	0,735	0,711	0,659
	0	0,829	0,813	0,788	0,771	0,744	0,726	0,711	0,689	0,656
	-1	0,800	0,784	0,757	0,743	0,717	0,699	0,686	0,666	0,636
	-2	0,771	0,756	0,731	0,717	0,692	0,673	0,660	0,641	0,612
-3	0,743	0,728	0,706	0,691	0,666	0,647	0,633	0,626	0,600	
-4	0,715	0,700	0,680	0,665	0,640	0,621	0,607	0,592	0,568	
-5	0,687	0,672	0,654	0,639	0,614	0,596	0,581	0,567	0,547	

If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table showed at the relevant section of the present catalogue.

Emicon AC SpA disclaims all responsibilities in case of damages deriving from violation of this instructions.

For further clarifications or informations, you are kindly request to contact our sales department.

N.B.

The listed coefficients are mean values referred to different units, so the performances calculated by the tables could be different up to 5% from the data for a specific unit.

### CORRECTION FACTOR FOR ABSORBED CAPACITY R22 - R407C

		External air temperature °C								
		28	30	32	35	38	40	42	45	48
Water evaporator outlet °C	17	1,054	1,093	1,125	1,175	1,225	1,257	1,289	1,330	1,393
	16	1,036	1,082	1,104	1,155	1,206	1,228	1,250	1,292	1,354
	15	1,018	1,071	1,084	1,135	1,187	1,200	1,213	1,253	1,314
	14	0,999	1,059	1,063	1,115	1,164	1,188	1,201	1,241	1,302
	13	0,981	1,048	1,043	1,096	1,142	1,177	1,189	1,229	1,290
	12	0,965	1,020	1,024	1,077	1,122	1,166	1,178	1,219	1,281
	11	0,948	0,993	1,004	1,059	1,102	1,145	1,166	1,207	1,269
	10	0,932	0,966	0,985	1,041	1,082	1,124	1,154	1,195	1,257
	9	0,915	0,946	0,970	1,027	1,071	1,107	1,142	1,182	1,245
	8	0,898	0,927	0,955	1,014	1,060	1,090	1,126	1,167	1,229
	7	0,882	0,907	0,940	1	1,049	1,073	1,106	1,147	1,209
	6	0,868	0,895	0,926	0,980	1,030	1,054	1,087	1,127	1,186
	5	0,854	0,882	0,910	0,961	1,011	1,036	1,069	1,107	1,165
	4	0,840	0,870	0,895	0,941	0,992	1,017	1,051	1,090	1,148
	3	0,826	0,857	0,880	0,922	0,973	0,999	1,032	1,071	1,129
	2	0,813	0,844	0,866	0,910	0,958	0,986	1,015	1,054	1,112
	1	0,800	0,831	0,852	0,898	0,943	0,973	0,998	1,038	1,096
	0	0,788	0,818	0,837	0,885	0,929	0,960	0,981	1,020	1,079
	-1	0,775	0,805	0,823	0,873	0,914	0,947	0,964	1,002	1,059
	-2	0,763	0,792	0,813	0,858	0,900	0,933	0,952	0,991	1,050
-3	0,750	0,779	0,802	0,842	0,885	0,918	0,941	0,980	1,039	
-4	0,738	0,766	0,791	0,827	0,871	0,903	0,929	0,969	1,095	
-5	0,726	0,753	0,781	0,811	0,857	0,889	0,918	0,959	1,020	

If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table showed at the relevant section of the present catalogue.

Emicon AC SpA disclaims all responsibilities in case of damages deriving from violation of this instructions.

For further clarifications or informations, you are kindly request to contact our sales department.

N.B.

The listed coefficients are mean values referred to different units, so the performances calculated by the tables could be different up to 5% from the data for a specific unit.

### CORRECTION FACTOR FOR COOLING CAPACITY R134a

		External air temperature °C									
		28	30	32	35	38	40	42	45	48	
Water evaporator outlet °C	17	1,518	1,475	1,446	1,417	1,372	1,327	1,297	1,263	1,213	
	16	1,474	1,432	1,404	1,375	1,332	1,288	1,259	1,226	1,176	
	15	1,429	1,388	1,361	1,334	1,292	1,249	1,221	1,188	1,139	
	14	1,384	1,345	1,318	1,292	1,251	1,210	1,183	1,151	1,102	
	13	1,339	1,301	1,276	1,250	1,211	1,171	1,145	1,113	1,065	
	12	1,294	1,258	1,233	1,209	1,170	1,132	1,107	1,075	1,027	
	11	1,250	1,214	1,191	1,167	1,130	1,093	1,069	1,038	0,990	
	10	1,205	1,171	1,148	1,125	1,090	1,054	1,031	0,992	0,953	
	9	1,160	1,127	1,105	1,083	1,049	1,015	0,993	0,962	0,916	
	8	1,115	1,084	1,063	1,042	1,009	0,977	0,955	0,925	0,879	
	7	1,070	1,040	1,020	1	0,969	0,938	0,917	0,887	0,842	
	6	1,025	0,995	0,976	0,956	0,926	0,896	0,876	0,846	0,801	
	5	0,980	0,951	0,931	0,912	0,883	0,855	0,836	0,806	0,761	
	4	0,947	0,918	0,899	0,881	0,852	0,824	0,806	0,777	0,735	
	3	0,914	0,886	0,868	0,850	0,822	0,794	0,776	0,749	0,710	
	2	0,880	0,854	0,836	0,818	0,791	0,764	0,746	0,721	0,684	
	1	0,847	0,822	0,805	0,787	0,761	0,734	0,716	0,693	0,659	
0	0,814	0,789	0,773	0,756	0,730	0,704	0,686	0,665	0,633		
-1	0,781	0,757	0,741	0,725	0,700	0,674	0,656	0,637	0,608		
-2	0,748	0,725	0,710	0,694	0,669	0,643	0,627	0,609	0,582		
-3	0,715	0,693	0,678	0,663	0,638	0,613	0,597	0,581	0,557		
-4	0,681	0,660	0,646	0,632	0,608	0,583	0,567	0,553	0,531		
-5	0,648	0,628	0,615	0,601	0,577	0,553	0,537	0,524	0,506		

If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table shown at the relevant section of the present catalogue.

Emicon AC SpA disclaims all responsibilities in case of damages deriving from violation of these instructions.

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N.B.

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### CORRECTION FACTOR FOR ABSORBED CAPACITY R134a

		External air temperature °C									
		28	30	32	35	38	40	42	45	48	
Water evaporator outlet °C	17	1,02	1,067	1,100	1,134	1,192	1,250	1,289	1,331	1,394	
	16	1	1,053	1,087	1,121	1,179	1,237	1,275	1,318	1,381	
	15	0,99	1,039	1,073	1,107	1,165	1,223	1,262	1,304	1,368	
	14	0,97	1,025	1,060	1,094	1,152	1,210	1,249	1,291	1,355	
	13	0,960	1,012	1,046	1,080	1,139	1,197	1,236	1,278	1,342	
	12	0,95	0,998	1,032	1,067	1,125	1,184	1,222	1,265	1,329	
	11	0,93	0,984	1,019	1,054	1,112	1,170	1,209	1,252	1,316	
	10	0,92	0,970	1,005	1,040	1,099	1,157	1,196	1,239	1,303	
	9	0,9	0,957	0,992	1,027	1,085	1,144	1,183	1,225	1,290	
	8	0,890	0,943	0,978	1,013	1,072	1,130	1,169	1,212	1,277	
	7	0,88	0,929	0,965	1	1,059	1,117	1,156	1,199	1,264	
	6	0,87	0,923	0,958	0,992	1,045	1,098	1,134	1,176	1,238	
	5	0,87	0,917	0,951	0,984	1,032	1,080	1,112	1,152	1,212	
	4	0,85	0,903	0,936	0,969	1,017	1,065	1,097	1,138	1,199	
	3	0,84	0,888	0,922	0,955	1,003	1,051	1,083	1,124	1,185	
	2	0,82	0,874	0,907	0,940	0,988	1,036	1,069	1,110	1,171	
	1	0,810	0,859	0,892	0,925	0,974	1,022	1,054	1,096	1,157	
0	0,8	0,845	0,878	0,910	0,959	1,008	1,040	1,081	1,144		
-1	0,78	0,830	0,863	0,896	0,944	0,993	1,026	1,067	1,130		
-2	0,77	0,816	0,848	0,881	0,930	0,979	1,011	1,053	1,116		
-3	0,75	0,801	0,834	0,866	0,915	0,964	0,997	1,039	1,102		
-4	0,74	0,787	0,819	0,851	0,901	0,950	0,983	1,025	1,158		
-5	0,72	0,772	0,805	0,837	0,886	0,935	0,968	1,011	1,075		

If the machine runs with evaporator water outlet temperature below 5 °C it is absolutely necessary to use a mixture of water and glycol in the percentages listed in the table shown at the relevant section of the present catalogue.

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