

# WATER CHILLERS R22 - R407C

AIR COOLED WATER CHILLERS  
WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - ONE CIRCUIT

## RAE...C

*One circuit unit*

*Cooling capacities from 11 to 42 kW*



RAE 421 C

- Water chillers suitable for various environments: blocks of flats, offices, shops factories
- Strong and compact housing coated with treated and painted zinc steel plate
- One refrigerant circuit
- Operating conditions: from +15 to +42 °C in the standard version
- The following version are also available:  
RAE...C.U ultrasilenced version  
RAE...C.K version with ecological gas R407C

### Provided with:

- High-efficiency scroll compressor (COP 3.37 under ARI conditions), with low sound level (on average 6dB (A) less than the hermetic compressors), internal heat protection, installed on rubber vibration dampers, supplied with oil sump heater when necessary
- Heat-exchange external coil with high-efficiency aluminium fins and copper pipe designed for cooling fluids
- Centrifugal fans with magnetothermic protection (short circuit and overload) and external protection grid
- Weld-brazed plate evaporator with heat insulation
- Electric panel, in compliance with CE norms, supplied with a main switch with magnetothermic protection
- The cooling circuit is composed of: thermostatic expansion valve, dehydrating filter, sight glass, safety device, anti-freeze thermostat, high and low pressure switches, high and low pressure gauges
- Unit management microprocessor for all models
- Safety water flow switch
- Antifreeze heating coil on evaporator
- Compressors hour counter

### Options:

- AE Electrical supply different from the standard
- BT Running at low temperature, condensing pressure control with constant fan speed regulation down to -20 °C, from model 201
- CS Compressor pickup counter from 201
- GP Protection grid for the condensing coil
- HG Hot gas by-pass
- IH Serial interface RS485
- IM Seawood packing
- MF Phase monitor
- MV Buffer tank from 201
- P1 Pump group/Expansion vessel/safety valve/water gauge/water feeding valve from 201
- P1H High head pump group/Expansion vessel/safety valve/water gauge/water feeding valve from 201
- PA Rubber-type vibration dampers
- PQ Remote microprocessor
- RR-RM 2 different treatments for condensing coil from 201
- RL Compressor overload relays
- RV Personalized RAL paint
- SC Sound-insulation of compressors room from 201
- VB Brine version
- VS Solenoid valve

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - ONE CIRCUIT

### RAE...C Technical data

RAE...C		121	141	171	191
Cooling capacity with R22	kW	11.1	13.1	16.5	18.2
Absorbed capacity with R22	kW	3.1	4.1	4.6	5.3
Cooling capacity with R407C	kW	10.6	12.5	15.7	17.3
Absorbed capacity with R407C	kW	3.3	4.4	4.9	5.6
<b>[Fans]</b>					
Number of fans	n	2	2	2	2
Motor capacity	kW	0.5	0.5	1.1	1.1
Total air flow rate	l/s	1400	1400	1780	1780
Available pressure	Pa	95	95	200	200
Sound pressure level	dB(A)	51	51	51	51
<b>[Weld-brazed plate evaporator]</b>					
Quantity	n	1	1	1	1
Water flow with R22	l/s	0.53	0.63	0.79	0.87
Pressure drop with R22	kPa	33	33	33	39
Water flow with R407C	l/s	0.51	0.60	0.75	0.83
Pressure drop with R407C	kPa	30	30	30	35
<b>[Scroll compressors]</b>					
Number of compressors	n	1	1	1	1
Circuits	n	1	1	1	1
Capacity steps	%	0/100			
Nominal input current	A	6.1	7.9	8.2	10.2
Max input current	A	8	10	11	13
Inrush current	A	43	56	63	80
Total absorbed capacity with R22	kW	3.6	4.6	5.7	6.4
Total absorbed capacity with R407C	kW	3.8	4.9	6.0	6.7
<b>[Dimensions]</b>					
Length	mm	1100	1100	1100	1100
Width	mm	750	750	750	750
Height	mm	1100	1100	1100	1100
Weight	kg	177	180	198	206
<b>[RAE...C.PS]</b>					
Water pump	kW	0.35	0.35	0.35	0.35
Buffer tank water volume	l	30	30	30	30
Available pressure	kPa	58	56	52	54
<b>[Dimensions RAE...C. PS]</b>					
Length	mm	1100	1100	1100	1100
Width	mm	750	750	750	750
Height with water kit	mm	1100	1100	1100	1100
Weight with water kit	kg	230	233	250	258
Power supply		400 V/ 50Hz / 3Ph + N + T			

\*: double inlet centrifugal fan with 2 wheels and 1 motor

Nominal conditions: air temperature 32 °C - water temperature 7/12 °C

Sound pressure level measured at 1 m from the unit on the electric panel side and with ducted air discharge.

Notes:

- Operating limits and correction factors tables on page 11

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - ONE CIRCUIT

### RAE...C Technical data

RAE...C		201	241	281	361	421
Cooling capacity with R22	kW	20.2	24.6	28.5	35.3	42.4
Absorbed capacity with R22	kW	5.9	7.1	8	10.1	12.8
Cooling capacity with R407C	kW	19.2	23.4	27.1	33.6	40.4
Absorbed capacity with R407C	kW	6.3	7.5	8.5	10.7	13.6
<b>[Fans]</b>						
Number of fans	n	2*	2*	2*	2*	2*
Total air flow rate	l/s	3330	3330	3060	4720	4720
<b>[Version: STD]</b>						
Available pressure	Pa	50	50	50	55	55
Rotation speed	rpm	700	700	680	900	900
Motor capacity	kW	1.5	1.5	1.5	4	4
Nominal absorbed current	A	3.7	3.7	3.7	9.4	9.4
Sound pressure level	dB(A)	64	64	65	71	71
<b>[Version: 1M]</b>						
Available pressure	Pa	105	105	100	105	105
Rotation speed	rpm	790	790	770	950	950
Motor capacity	kW	1.8	1.8	1.5	4	4
Nominal absorbed current	A	4.3	4.3	3.7	9.4	9.4
Sound pressure level	dB(A)	66	66	65	72	72
<b>[Version: 2M]</b>						
Available pressure	Pa	185	185	160	na	na
Rotation speed	rpm	910	910	870	na	na
Motor capacity	kW	2.2	2.2	1.8	na	na
Nominal absorbed current	A	5.3	5.3	4.3	na	na
Sound pressure level	dB(A)	67	67	65	na	na
<b>[Weld-brazed plate evaporator]</b>						
Quantity	n	1	1	1	1	1
Water flow with R22	l/s	0.97	1.18	1.36	1.69	2.03
Pressure drop with R22	kPa	44	51	50	50	50
Water flow with R407C	l/s	0.92	1.12	1.30	1.61	1.93
Pressure drop with R407C	kPa	40	46	45	45	45
<b>[Pumps]</b>						
Available pressure with P1	kPa	126	106	99	127	77
Motor capacity with P1	kW	0.55	0.55	0.55	0.55	0.55
Available pressure with P1H	kPa	221	186	219	187	107
Motor capacity with P1H	kW	0.75	0.75	0.75	0.75	0.75
Buffer tank water volume	l	80	80	80	180	180
<b>[Scroll compressors]</b>						
Number of compressors	n	1	1	1	1	1
Circuits	n	1	1	1	1	1
Capacity steps	%	0/100				
Nominal input current	A	12.0	13.2	14.6	18.2	22.1
Max input current	A	20	23	24	29	33
Inrush current	A	94	116	127	159	175
Compressors' max absorbed capacity	kW	10.2	11.8	12.8	15.1	17.5
Total absorbed capacity with R22	kW	8.0	9.2	10.1	14.7	17.4
Total absorbed capacity with R407C	kW	8.3	9.6	10.5	15.3	18.1
<b>[Dimensions]</b>						
Length	mm	1600	1600	1600	2000	2000
Width	mm	750	750	750	857	857
Height	mm	1710	1710	1710	2000	2000
Weight	kg	280	285	325	450	465
Power supply		400 V/ 50Hz / 3Ph + N + T				

\*: double inlet centrifugal fan with 2 wheels and 1 motor

Nominal conditions: air temperature 32 °C - water temperature 7/12 °C

Sound pressure level measured at 1 m from the unit on the electric panel side and with ducted air discharge.

Notes:

- Operating limits and correction factors tables on page 11

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - ONE CIRCUIT

### RAE...C.U Technical data

RAE...C.U		201	241	281	361	421
Cooling capacity with R22	kW	19.4	23.3	28.4	34.0	42.8
Absorbed capacity with R22	kW	6.0	7.1	7.3	9.9	12.6
Cooling capacity with R407C	kW	18.5	22.2	27.0	32.4	40.8
Absorbed capacity with R407C	kW	6.4	7.5	7.7	10.5	13.4
[Fans]						
Number of fans	n	2*	2*	2*	2*	2
Total air flow rate	l/s	2360	2190	3470	3470	5420
[Version: STD]						
Available pressure	Pa	90	55	50	50	60
Rotation speed	rpm	640	550	690	690	620
Motor capacity	kW	0.95	0.55	1.8	1.8	3
Nominal absorbed current	A	2.6	1.6	4.3	4.3	7.4
Sound pressure level	dB(A)	60	60	65	65	66
[Version: 1M]						
Available pressure	Pa	140	100	130	130	160
Rotation speed	rpm	740	660	820	820	740
Motor capacity	kW	0.95	0.75	2.2	2.2	4.4
Nominal absorbed current	A	2.6	2	5.3	5.3	10.6
Sound pressure level	dB(A)	62	62	66	66	68
[Version: 2M]						
Available pressure	Pa	175	160	170	170	260
Rotation speed	rpm	810	800	870	870	850
Motor capacity	kW	1.1	0.95	2.2	2.2	4.4
Nominal absorbed current	A	2.8	2.6	5.3	5.3	10.6
Sound pressure level	dB(A)	63	62	67	67	68
[Weld-brazed plate evaporator]						
Quantity	n	1	1	1	1	1
Water flow with R22	l/s	0.93	1.11	1.36	1.62	2.04
Pressure drop with R22	kPa	41	46	50	46	51
Water flow with R407C	l/s	0.88	1.06	1.29	1.55	1.95
Pressure drop with R407C	kPa	37	42	45	42	46
[Pumps]						
Available pressure with P1	kPa	130	114	99	143	77
Motor capacity with P1	kW	0.55	0.55	0.55	0.75	0.75
Available pressure with P1H	kPa	225	204	169	193	162
Motor capacity with P1H	kW	0.75	0.75	0.75	0.75	0.75
Buffer tank water volume	l	80	80	180	180	180
[Scroll compressors]						
Number of compressors	n	1	1	1	1	1
Circuits	n	1	1	1	1	1
Capacity steps	%	0/100				
Nominal input current	A	12.1	13.2	13.9	18.5	21.8
Max input current	A	20	23	24	29	33
Inrush current	A	94	116	127	159	175
Compressors' max absorbed capacity	kW	9.3	10.6	11.0	13.9	17.9
Total absorbed capacity with R22	kW	7.5	8.2	9.7	12.5	16.4
Total absorbed capacity with R407C	kW	7.9	8.6	10.1	13.0	17.1
[Dimensions]						
Length	mm	1600	1600	2000	2000	2130
Width	mm	750	750	857	857	1100
Height	mm	1710	1710	2000	2000	2180
Weight	kg	290	295	410	440	620
Power supply		400 V/ 50Hz / 3Ph + N + T				

\*: double inlet centrifugal fan with 2 wheels and 1 motor

Nominal conditions: air temperature 32 °C - water temperature 7/12 °C

Sound pressure level measured at 1 m from the unit on the electric panel side and with ducted air discharge.

Notes:

- Operating limits and correction factors tables on page 11

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - TWO CIRCUITS

### RAE...C

Two circuits units

Cooling capacities from 50 to 165 kW



### RAE 562.C

- Water chillers suitable for various environments: blocks of flats, offices, shops factories
- Strong and compact housing coated with treated and painted zinc steel plate
- Two cooling circuits
- Operating conditions: from +15 to +42 °C in the standard version
- Mod. from 482 to 842 two scroll compressors
- Mod. from 962 to 1602 two scroll tandem compressors
- The following versions are also available:  
RAE...C.U ultrasilenced version  
RAE...C.K version with ecological gas R407C

#### Provided with:

- High-efficiency scroll compressors (COP 3.37 under ARI conditions), with low sound level (on average 6dB (A) less than the hermetic compressors), internal heat protection, installed on rubber vibration dampers, supplied with oil sump heater when necessary
- Heat-exchange external coil with high-efficiency aluminium fins and copper pipes designed for cooling fluids; independent circuits
- Centrifugal fans, magnetothermic protection (short circuit and overload) and external protection grid
- Weld-brazed plate evaporators, or shell&tube evaporators, with heat insulation
- Electric panel, in compliance with CE norms, supplied with a main switch with magnetothermic protection
- The cooling circuit is composed of: thermostatic expansion valve, dehydrating filter, sight glass, safety device, antifreeze thermostat, high and low pressure switches, high and low pressure gauges
- Unit management microprocessor for all models
- Safety water flow switch
- Antifreeze heating coil on evaporator
- Compressors hour counter

#### Options:

- AE Electrical supply different from the standard
- BT Running at low temperature, condensing pressure control with constant fan speed regulation
- BTa Low temperature operation with 1M/2M
- CS Compressor pickup counter
- EA Extractable tube evaporator from 842
- G4 4 control capacity steps (available for models from 962)
- GP Protection grid for the external coil
- IH/IB Serial interface RS485/RS422
- IM Seawood packing
- MF Phase monitor
- MP Oversized microprocessor from 842
- MV Buffer tank
- P1 Pump group/Expansion vessel/safety valve/water gauge/water feeding valve
- P1H High head pump group/Expansion vessel/safety valve/water gauge/water feeding valve
- PA/PM Rubber or spring-type vibration dampers (PM only from 842)
- PQ Remote microprocessor
- PT Twin pump group from 842
- QR Electrical board on opposite side from 842
- RL Compressor overload relays
- RR-RM 2 different treatments for condensing coil
- RP Partial heat recovery
- RV Personalized RAL paint
- SC Sound-insulation of compressors room
- VB Brine version
- VS Solenoid valve - pump down
- 1M/2M Higher available pressure to the fans discharge available from model 1402

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - TWO CIRCUITS

### RAE...C Technical data

RAE...C		482	562	702	842	962	1102	1402	1502	1602
Cooling capacity with R22	kW	49.2	56.8	70.6	84.8	97.9	110.2	140.5	149.3	163.7
Absorbed capacity with R22	kW	14.2	16.7	20.2	25.6	28.7	33	42.7	46.7	50.0
Cooling capacity with R407C	kW	46.9	54.1	67.2	80.8	93.2	105	133.8	142.2	155.9
Absorbed capacity with R407C	kW	15.1	17.7	21.4	27.1	30.4	35.0	45.3	49.5	53.0
<b>[Fans]</b>										
Number of fans	n	2	2	2	3	3	3	4	4	4
Total air flow rate	l/s	7300	7300	6460	11110	10420	10420	12200	12200	12200
<b>[Version: STD]</b>										
Available pressure	Pa	50	50	50	50	50	50	90	90	90
Rotation speed	rpm	750	750	740	850	820	820	870	870	870
Motor capacity	nxkW	2x3,0	2x3,0	2x2,2	3x4,0	3x3,0	3x3,0	4x3,0	4x3,0	4x3,0
Nominal absorbed current	A	2x6,7	2x6,7	2x5,3	3x9,4	3x6,7	3x6,7	4x6,7	4x6,7	4x6,7
Sound pressure level	dB(A)	72	72	70	75	74	74	74	74	74
<b>[Version: 1M]</b>										
Available pressure	Pa	130	130	150	150	150	150	280	280	280
Rotation speed	rpm	850	850	830	930	910	910	1030	1030	1030
Motor capacity	nxkW	2x4	2x4	2x3	3x4	3x4	3x4	4x4	4x4	4x4
Nominal absorbed current	A	2x9,4	2x9,4	2x6,7	3x12	3x9,4	3x9,4	4x9,4	4x9,4	4x9,4
Sound pressure level	dB(A)	73	73	71	76	75	75	75	75	75
<b>[Version: 2M]</b>										
Available pressure	Pa	200	200	230	250	250	250	450	450	450
Rotation speed	rpm	910	910	910	1010	1000	1000	1170	1170	1170
Motor capacity	nxkW	2x4	2x4	2x3	3x5,5	3x4	3x4	4x5,5	4x5,5	4x5,5
Nominal absorbed current	A	2x9,4	2x9,4	2x6,7	3x12	3x9,4	3x9,4	4x12	4x12	4x12
Sound pressure level	dB(A)	73	73	72	77	76	76	76	76	76
<b>[Evaporator]</b>										
		Weld-brazed plate					Shell and Tube			
Quantity	n	2	2	2	1	1	1	1	1	1
Water flow with R22	l/s	2.35	2.71	3.37	4.05	4.68	5.27	6.71	7.13	7.82
Pressure drop with R22	kPa	50	49	50	27	36	39	36	40	48
Water flow with R407C	l/s	2.24	2.58	3.21	3.86	4.45	5.01	6.39	6.79	7.45
Pressure drop with R407C	kPa	45	44	45	24	33	35	33	36	44
<b>[Pumps]</b>										
Available pressure with P1	kPa	112	110	98	111	97	87	109	93	73
Motor capacity with P1	kW	0.75	0.75	0.75	1.10	1.10	1.10	1.50	1.50	1.50
Available pressure with P1H	kPa	162	140	148	146	133	122	154	143	123
Motor capacity with P1H	kW	1.1	1.1	1.1	1.5	1.5	1.5	2.2	2.2	2.2
Available pressure with PT	kPa	117	120	113	136	116	102	114	100	76
Motor capacity with PT	kW	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2
Buffer tank water volume	l	180	180	180	720	720	720	720	720	720
<b>[Scroll compressors]</b>										
Number of compressors	n	2	2	2	2	4	4	4	4	4
Circuits	n	2	2	2	2	2	2	2	2	2
Capacity steps	n	2	2	2	2	2-4	2-4	2-4	2-4	2-4
Compressors' max absorbed capacity	kW	21	24	28	32	36	43	58	63	67
Nominal input current	A	25	30	36	45	52	62	82	85	91
Max input current	A	39	45	52	61	69	81	112	115	123
Inrush current	A	129	142	177	198	258	285	236	239	244
Total absorbed capacity with R22	kW	21.0	23.5	25.4	38.7	38.8	43.1	56.2	60.2	63.5
Total absorbed capacity with R407C	kW	21.8	24.5	28.2	40.2	40.5	45.1	58.8	63.0	66.5
<b>[Dimensions]</b>										
Length	mm	2130	2130	2130	2610	2610	2610	3460	3460	3460
Width	mm	1100	1100	1100	1245	1245	1245	1245	1245	1245
Height	mm	2180	2180	2180	1995	1995	1995	1995	1995	1995
Weight	kg	650	670	730	1334	1449	1456	1800	1840	1840
Power supply		400V / 50Hz / 3 Ph + T + N								

Nominal conditions: air temperature 32 °C - water temperature 7/12 °C.

Notes:

- Operating limits and correction factors table are on page 19
- Sound pressure level measured at 1 m from the unit on the electric panel side and with ducted air discharge

# WATER CHILLERS R22 - R407C

## AIR COOLED WATER CHILLERS WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS - TWO CIRCUITS

### RAE...C.U Technical data

RAE...C.U		482	562	702	842	962	1102	1402	1502	1602	
Cooling capacity with R22	kW	47.6	55.0	68.4	82.2	97.1	107.2	138.8	152.8	163.7	
Absorbed capacity with R22	kW	13.6	15.5	20.8	27.2	28.6	32.6	43.5	44.9	50.1	
Cooling capacity with R407C	kW	45.3	52.4	65.1	78.3	92.5	102.1	132.2	145.5	155.9	
Absorbed capacity with R407C	kW	14.4	16.4	22.0	28.8	30.3	34.6	46.1	47.6	53.1	
<b>[Fans]</b>											
Number of fans	n	2	2	2	3	4	4	6	6	6	
Total air flow rate	l/s	5420	4580	4580	8330	8110	8110	13830	13830	13830	
<b>[Version: STD]</b>											
Available pressure	Pa	60	55	55	60	50	50	35	35	35	
Rotation speed	rpm	620	580	580	690	540	540	720	720	720	
Motor capacity	kW	3	2.2	2.2	6.6	3	3	9	9	9	
Nominal absorbed current	A	2x3,7	2x2,8	2x2,8	3x5,3	4x2	4x2	3x6	3x6	3x6	
Sound pressure level	dB(A)	66	64	64	69	65	65	67	67	67	
<b>[Version: 1M]</b>											
Available pressure	Pa	160	160	160	166	150	150	200	200	200	
Rotation speed	rpm	740	720	720	800	680	680	900	900	900	
Motor capacity	nrxkW	2x2,2	2x2,2	2x2,2	3x2,2	4x1,1	4x1,1	6x2,2	6x2,2	6x2,2	
Nominal absorbed current	A	2x5,3	2x5,3	2x5,3	3x5,3	4x2,8	4x2,8	6x5,3	6x5,3	6x5,3	
Sound pressure level	dB(A)	68	66	66	70	66	66	68	68	68	
<b>[Version: 2M]</b>											
Available pressure	Pa	240	240	240	310	250	250	370	370	370	
Rotation speed	rpm	850	820	820	950	810	810	1170	1170	1170	
Motor capacity	nrxkW	2x2,2	2x2,2	2x2,2	3x3	4x1,5	4x1,5	6x3	6x3	6x3	
Nominal absorbed current	A	2x5,3	2x5,3	2x5,3	3x6,7	4x3,7	4x3,7	6x6,7	6x6,7	6x6,7	
Sound pressure level	dB(A)	68	68	68	72	68	68	70	70	70	
<b>[Evaporator]</b>											
		*Weld-brazed plate					Shell and Tube				
Quantity	n	2	2	2	1	1	1	1	1	1	
Water flow with R22	L/s	2.27	2.63	3.27	3.93	4.64	5.12	6.63	7.30	7.82	
Pressure drop with R22	kPa	47	46	46	25	35	38	35	42	48	
Water flow with R407C	L/s	2.17	2.50	3.11	3.74	4.42	4.88	6.32	6.95	7.45	
Pressure drop with R407C	kPa	43	42	42	23	32	34	32	38	44	
<b>[Pumps]</b>											
Available pressure with P1	kPa	117	113	107	102	92	89	109	93	73	
Motor capacity with P1	kW	0.75	0.75	0.75	1.10	1.10	1.10	1.50	1.50	1.50	
Available pressure with P1H	kPa	167	163	152	137	126	120	154	143	123	
Motor capacity with P1H	kW	1.1	1.1	1.1	1.5	1.5	1.5	2.2	2.2	2.2	
Available pressure with PT	kPa	122	123	119	123	108	93	114	100	76	
Motor capacity with PT	kW	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	2.2	
Buffer tank water volume	l	180	180	180	720	720	720	720	720	720	
<b>[Scroll compressors]</b>											
Number of compressors	n	2	2	2	2	4	4	4	4	4	
Circuits	n	2	2	2	2	2	2	2	2	2	
Capacity steps	%	0/50/100									
Compressors' max absorbed capacity	kW	20	22	27	31	34	40	56	60	66	
Nominal input current	A	26	29	38	47	51	60	83	82	91	
Max input current	A	39	45	52	61	69	81	112	115	123	
Inrush current	A	129	142	177	198	258	285	236	239	244	
Total absorbed capacity with R22	kW	17.4	18.5	23.8	34.9	32.7	36.7	54.0	55.4	60.6	
Total absorbed capacity with R407C	kW	18.2	19.4	25.0	36.5	34.4	38.7	56.6	58.1	63.6	
<b>[Dimensions]</b>											
Length	mm	2130	2130	2130	2610	2610	3460	5150	5150	5150	
Width	mm	1100	1100	1100	1245	1245	1245	1245	1245	1245	
Height	mm	2180	2180	2180	2085	2085	2085	1995	1995	1995	
Weight	kg	670	675	740	1018	1459	1472	2485	2525	2535	
Power supply		400V / 50Hz / 3 Ph + T + N									

Nominal conditions: air temperature 32 °C - water temperature 7/12 °C.

#### Notes:

- Operating limits and correction factors table are on page 19
- Sound pressure level measured at 1 m from the unit on the electric panel side and with ducted air discharge

# AIRCOOLED WATER CHILLER RAE... - RAS...

## OPERATION LIMITS - ABSORPTION AND CAPACITY CORRECTION FACTORS

**AIR:** The operation limits are listed in the descriptions of each series.

**WATER:** The operation temperature ranges from a minimum of +4 to a maximum of +20°C. By adding glycole in the hydraulic circuit it is possible to reach a minimum temperature of -8°C (to be required when ordering).

### CORRECTION FACTORS FOR COOLING CAPACITY

Outlet water temp. °C	EXTERNAL AIR TEMPERATURE °C								Outlet water temp. °C
	25	28	30	32	35	38	40	42	
5	1.027	0.991	0.962	0.940	0.918	0.896	0.861	0.819	5
6	1.046	1.024	1.007	0.967	0.941	0.916	0.876	0.854	6
7	1.091	1.050	1.032	1.000	0.974	0.942	0.915	0.893	7
8	1.121	1.075	1.058	1.041	0.996	0.963	0.949	0.928	8
9	1.159	1.112	1.100	1.079	1.040	1.009	0.972	0.956	9
10	1.191	1.161	1.129	1.112	1.068	1.036	1.002	—	10
11	1.228	1.190	1.162	1.130	1.101	1.058	1.049	—	11
12	1.262	1.220	1.207	1.175	1.136	1.096	1.061	—	12
13	1.308	1.250	1.226	1.200	1.158	1.122	—	—	13
14	1.335	1.300	1.278	1.251	1.195	1.160	—	—	14
15	1.365	1.345	1.307	1.272	1.232	1.196	—	—	15

### CORRECTION FACTORS FOR COMPRESSOR ABSORPTION

Outlet water temp. °C	EXTERNAL AIR TEMPERATURE °C								Outlet water temp. °C
	25	28	30	32	35	38	40	42	
5	0.870	0.909	0.943	0.963	0.995	1.021	1.047	1.065	5
6	0.900	0.927	0.962	0.981	1.010	1.045	1.068	1.092	6
7	0.910	0.946	0.980	1.000	1.032	1.071	1.096	1.116	7
8	0.930	0.972	0.996	1.021	1.051	1.089	1.112	1.135	8
9	0.948	0.990	1.008	1.036	1.075	1.111	1.141	1.162	9
10	0.965	1.005	1.035	1.061	1.098	1.138	1.158	—	10
11	0.968	1.017	1.046	1.082	1.120	1.158	1.180	—	11
12	0.996	1.031	1.072	1.095	1.140	1.170	1.207	—	12
13	1.015	1.048	1.082	1.116	1.160	1.199	—	—	13
14	1.030	1.070	1.100	1.132	1.171	1.226	—	—	14
15	1.045	1.096	1.120	1.146	1.200	1.250	—	—	15

### WATER-GLYCOL OPERATION

Ethylenic glycol percentage	5%	10%	15%	20%	25%	30%	35%	40%
Freezing point	-2.1	-4.5	-7	-10	-13	-17	-21	-25
<b>Nominal performances correction factors</b>								
Cooling drop	0.993	0.988	0.982	0.978	0.973	0.968	0.958	0.948
Increase on water flow	1.006	1.015	1.025	1.040	1.060	1.080	1.113	1.142
Increase on pressure drop	1.040	1.090	1.125	1.187	1.25	1.312	1.375	1.460

If the machine runs with an external air temperature below 0°C, it is advisable to use water added with glycol in the percentages listed in the above table.

Emicon S.p.a. disclaims all responsibilities in case of damages deriving from violation of this suggestion.

The correction factors listed above are not to be taken into consideration for the free-cooling units.

Please, ask for further information to our Eng. Dept.