

WATER CHILLERS R407C

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS



RAE 1482 K + MV

RAE... Series

2 refrigerant circuits - cooling capacities from 75 to 295 kW

Water chillers suitable for various environments: blocks of flats, offices, shops and factories, etc. etc.

Designed for external installation realized in a strong and compact housing coated with treated and painted zinc steel plate

Axial fans

2 cooling circuits

Operating conditions from +15 °C to +45 °C for standard models

The following versions are also available

RAE...K version with axial fans and ecological gas R407C

RAE...S K silenced version with ecological gas R407C

RAE...U K ultra-silenced version with ecological gas R407C

RAE...F.K standard free-cooling version with ecological gas R407C

RAE...FS.K silenced free-cooling version with ecological gas R407C

RAE...FU.K ultra-silenced free-cooling with version ecological gas R407C

Made up of:

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.

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

Weld-brazed plate evaporator with heat insulation.

Electric panel, in compliance with CE norms, supplied with a main switch and both overload and short circuit protections at each electrical components.

The cooling circuit is composed of: thermostatic expansion valve, dehydrating filter, sight glass, safety device, antifreeze thermostat, high and low pressure switches.

Unit management microprocessor for all models.

The available water accessories, like pump and buffer tank, are installed inside the unit including electric control device of the pump.

Compressors hour counter.

Accessories

A	Amperometer
AE	Electrical power supply different from standard
BT	Low temperature operation (-20 °C) with modulating fan speed regulation
CF	Soundproofed compressors cabinet with standard material
CFU	Soundproofed compressors cabinet with lead material
CI	Soundproofing jackets on compressors
CS	Compressors inrush counter
GP	Condensing coil protection grid
I1	Victaulic insulation on pump side
I2	Victaulic insulation on buffer tank side
I3	Victaulic insulation for the free-cooling version
IG	Watch card
IH	RS 485 serial interface
IM	Seawood packing
MF	Phase monitor
MP	Oversized microprocessor
MT	Low and high pressure gauges
MV	Buffer tank/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valves
P1	Pump group/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valve
P1H	High head pump group/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valve
PT	Twin-pump group/expansion vessel/safety valve /water gauge/water charge and discharge valves/air discharge valve
PA	Rubber-type vibration dampers
PF	Safety water flow switch on evaporator
PM	Spring-type vibration dampers
PQ	Remote microprocessor
RA	Anti-freeze heater on evaporator
RF	Power factor correction system cosφ > 0,9
RL	Compressors overload relays
RM	Epoxy coating of condensing coil for sea environment
RP	Partial heat recovery
RR	Condensing coil with copper/copper fins
RT	Total heat recovery (it is necessary to order option BT)
RV	Personalized RAL paint
V	Voltmeter
VB	Brine version (water temperature < 0 °C)
VS	Solenoid valve

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WITH SCROLL COMPRESSORS AND AXIAL FANS

RAE... Technical data

MODEL	RAE...K	752	892	982	1062	1332	1352	1482	1622	1922	1972	2292	2542	2702	2962
Cooling capacity	kW	77,9	90,9	100,9	108,8	136,8	138,2	152,1	166,8	197,7	198,5	235,7	261,7	271,9	294,6
Absorbed power	kW	27,5	29,8	36,9	36,4	45,1	42,8	55,7	55,8	67,8	74,2	82,8	91	100,4	116,4
Axial fans															
Quantity	n	2	2	2	2	3	3	3	3	4	4	4	5	5	5
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	880	880	880	880	880
Motors power	kW	4	4	4	4	6	6	6	6	8	8	8	10	10	10
Total air flow	l/s	11900	10800	10800	10000	16400	16400	16400	15000	22200	22200	20600	27600	25700	25700
Total air flow	m ³ /h	42840	38880	38880	36000	59040	59040	59040	54000	79920	79920	74160	99360	92520	92520
Nominal absorbed current	A	8	8	8	8	12	12	12	12	16	16	16	20	20	20
Sound pressure level 2)	dB(A)	72	73	73	75	77	77	77	78	79	79	80	80	80	80
Evaporator 3)															
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,7	4,3	4,8	5,2	6,5	6,6	7,3	8,0	9,4	9,5	11,3	12,5	13,0	14,1
Water flow rate	m ³ /h	13,4	15,6	17,4	18,7	23,5	23,8	26,2	28,7	34,0	34,1	40,5	45,0	46,8	50,7
Pressure drop	kPa	38	38	36	41	40	40	36	43	48	39	48	58	61	65
Water volume	l	5	6	7	7	9	9	11	11	12	15	16	16	49	56
Pumps															
Available pressure with P1	kPa	143	131	116	95	147	153	137	110	140	145	130	113	103	95
Motor power with P1	kW	1,1	1,1	1,1	1,1	1,9	1,9	1,9	1,9	3,0	3,0	3,0	4,0	4,0	4,0
Available pressure with P1H	kPa	188	186	176	165	198	197	192	180	185	195	180	198	193	187
Motor power with P1H	kW	1,9	1,9	1,9	1,9	3,0	3,0	3,0	3,0	4,0	4,0	4,0	7,5	7,5	7,5
Available pressure with PT	kPa	148	146	141	130	118	117	112	95	129	135	115	98	93	84
Motor power with PT	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	3,0	3,0	3,0	4,0	4,0	4,0
Buffer tank water volume	l	300	300	300	300	300	300	300	300	750	750	750	750	750	750
Scroll compressors															
Quantity	n	2	4	4	2	4	2	4	2	6	4	4	4	4	4
Circuits	n	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4	4	4	4	4	4
Optional steps capacity	n	-	-	-	-	-	-	-	-	6	-	-	-	-	-
Nominal absorbed current	A	49	55	67	62	78	73	98	95	115	125	139	153	171	198
Maximum absorbed current	A	70	80	116	100	116	138	140	180	162	200	238	276	228	248
Inrush current	A	210	190	217	265	237	339	280	490	302	365	439	477	486	506
Electrical data															
Total absorbed power	kW	31,5	33,8	40,9	40,4	51,1	48,8	61,7	61,8	75,8	82,2	90,8	101,0	110,4	126,4
Total nominal absorbed current	A	57	63	75	70	90	85	110	107	131	141	155	173	191	218
Total maximum absorbed current	A	78	88	124	108	128	150	152	192	178	216	254	296	248	268
Total inrush current	A	218	198	225	273	249	351	292	502	318	381	455	497	506	526
Dimensions															
Length	mm	2715	2715	2715	2715	3740	3740	3740	3740	4765	4765	4765	5790	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1121	1309	1315	1343	1706	1620	1761	1774	2438	2366	2437	2668	3064	3141
Weight with empty MV included	kg	1231	1419	1425	1453	1816	1730	1871	1884	2548	2586	2657	2888	3284	3361
Weight in operation	kg	1126	1315	1322	1350	1715	1629	1772	1785	2451	2381	2453	2684	3113	3197
Weight in operation with MV	kg	1536	1725	1732	1760	2125	2039	2182	2195	2861	3351	3423	3654	4083	4167
Refrigerant charge for each circuit	kg	8	12	12	15	17	17	18	23	23	24	31	30	40	40
Power supply		400V / 50Hz / 3 Ph + T + N													

- = not available

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

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

3) P = Brazed plate; FT = Shell & tube

WATER CHILLERS R407C

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS

RAE...S Technical data

MODEL	RAE...SK	752	892	982	1062	1332	1352	1482	1622	1922	1972	2292	2542
Cooling capacity	kW	74,5	86,7	99,9	103,8	130,4	132,5	150,6	159,3	188,5	207,0	229,3	261,7
Absorbed power	kW	29,2	31,9	37,5	38,8	48,1	45,6	60,2	63,0	73,2	80,8	92,7	97,3
Axial fans													
Quantity	n	2	2	2	2	3	3	3	3	4	4	5	5
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660	660	660
Motors power	kW	2,5	2,5	2,5	2,5	3,75	3,75	3,75	3,75	5	5	6,25	6,25
Total air flow	l/s	9100	8200	7600	7600	12300	12300	11300	11300	16400	15200	20600	19000
Total air flow	m ³ /h	32760	29520	27360	27360	44280	44280	40680	40680	59040	54720	74160	68400
Nominal absorbed current	A	4,6	4,6	4,6	4,6	6,9	6,9	6,9	6,9	9,2	9,2	11,5	11,5
Sound pressure level 2)	dB(A)	69	69	69	72	73	73	73	74	74	76	76	76
Evaporator 3)													
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,56	4,14	4,77	4,96	6,23	6,33	7,20	7,61	9,01	9,89	10,96	12,50
Water flow rate	m ³ /h	12,81	14,91	17,18	17,85	22,43	22,79	25,90	27,40	32,42	35,60	39,44	45,01
Pressure drop	kPa	35	35	36	38	36	37	36	40	44	38	46	58
Water volume	l	5	6	7	7	9	9	11	11	12	15	16	16
Pumps													
Available pressure with P1	kPa	152	140	122	109	157	151	133	119	147	151	132	113
Motor power with P1	kW	1,1	1,1	1,1	1,1	1,85	1,85	1,85	1,85	3,00	3,0	3,0	4,0
Available pressure with P1H	kPa	192	195	180	174	212	206	198	189	197	201	182	203
Motor power with P1H	kW	1,85	1,85	1,85	1,85	3,0	3,0	3,0	3,0	4,0	4,0	4,0	7,5
Available pressure with PT	kPa	152	150	142	134	132	126	118	109	142	141	117	103
Motor power with PT	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	3,0	3,0	3,0	4,0
Buffer tank water volume	l	300	300	300	300	300	300	300	300	750	750	750	750
Scroll compressors													
Quantity	n	2	4	4	2	4	2	4	2	6	4	4	4
Circuits	n	2	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4	4	4	4
Optional steps capacity	n	–	–	–	–	–	–	–	–	6	–	–	–
Nominal absorbed current	A	51	58	68	65	83	77	99	99	121	127	144	153
Maximum absorbed current	A	70	80	116	100	116	138	140	180	162	200	239	276
Inrush current	A	210	190	217	265	237	339	280	490	302	365	440	478
Electrical data													
Total absorbed power	kW	31,7	34,4	40,0	41,3	51,9	49,4	64,0	66,8	78,2	85,8	99,0	103,6
Total nominal absorbed current	A	56	63	73	69	89	84	106	106	130	136	156	165
Total maximum absorbed current	A	75	85	121	105	123	145	147	187	171	209	250	288
Total inrush current	A	215	195	222	270	244	346	287	497	311	374	451	489
Dimensions													
Length	mm	2715	2715	2715	2715	3740	3740	3740	3740	4765	4765	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1121	1309	1361	1343	1706	1620	1811	1774	2438	2431	2668	2750
Weight with empty MV included	kg	1231	1419	1471	1453	1816	1730	1921	1884	2548	2651	2778	2860
Weight in operation	kg	1126	1315	1368	1350	1715	1629	1823	1785	2451	2446	2684	2766
Weight in operation with MV	kg	1536	1725	1778	1760	2125	2039	2233	2195	2861	3416	3654	3736
Refrigerant charge for each circuit	kg	8	12	15	15	17	17	23	23	23	31	30	38
Power supply		400V / 50Hz / 3 Ph + T + N											

– = not available

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

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

3) P = Brazed plate; FT = Shell & tube

WATER CHILLERS R407C

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS

RAE...U Technical data

MODEL	RAE...UK	752	892	982	1062	1332	1352	1482	1622	1922	1972	2292
Cooling capacity	kW	76,9	85,4	97,7	109,7	128,6	133,7	153,2	164,8	193,6	204,6	229,3
Absorbed power	kW	28,0	32,5	38,6	37,6	48,9	50,0	55,2	61,8	70,2	81,0	93,2
Axial fans												
Quantity	n	2	2	3	3	3	3	4	4	5	5	5
Rotation speed	rpm	530	530	530	530	530	530	530	530	530	530	530
Motors power	kW	1,54	1,54	2,31	2,31	2,31	2,31	3,08	3,08	3,9	3,85	3,85
Total air flow	l/s	6670	6110	10800	10000	9170	9170	13300	13300	16700	16700	15300
Total air flow	m ³ /h	24000	22000	38880	36000	33000	33000	47880	47880	60120	60120	55080
Nominal absorbed current	A	3,0	3,0	4,5	4,5	4,5	4,5	6,0	6,0	7,5	7,5	7,5
Sound pressure level 2)	dB(A)	66	66	66	68	68	68	69	70	70	72	72
Evaporator 3)												
Quantity	n	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,7	4,1	4,7	5,2	6,1	6,4	7,3	7,9	9,2	9,8	11,0
Water flow rate	m ³ /h	13,2	14,7	16,8	18,9	22,1	23,0	26,4	28,3	33,3	35,2	39,4
Pressure drop	kPa	37	34	34	42	35	38	37	42	46	40	46
Water volume	l	5	6	7	7	9	9	11	11	12	15	16
Pumps												
Available pressure with P1	kPa	149	149	130	115	162	158	133	121	145	132	113
Motor power with P1	kW	1,10	1,10	1,10	1,10	1,85	1,85	1,85	1,85	3,00	3,0	3,0
Available pressure with P1H	kPa	189	194	185	180	209	208	193	184	190	182	203
Motor power with P1H	kW	1,85	1,85	1,85	1,85	3,0	3,0	3,0	3,0	4,0	4,0	4,0
Available pressure with PT	kPa	149	154	145	138	134	133	118	109	135	117	103
Motor power with PT	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	3,0	3,0	3,0
Buffer tank water volume	l	300	300	300	300	300	300	750	750	750	750	750
Scroll compressors												
Quantity	n	2	4	4	2	4	2	4	2	6	4	4
Circuits	n	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4	4	4
Optional steps capacity	n	–	–	–	–	–	–	–	–	6	–	–
Nominal absorbed current	A	49	59	69	67	84	88	97	109	118	141	162
Maximum absorbed current	A	70	80	117	101	117	139	140	180	163	201	239
Inrush current	A	210	190	218	266	238	340	280	490	303	366	440
Electrical data												
Total absorbed power	kW	29,5	34,0	40,9	39,9	51,2	52,3	58,3	64,9	74,1	84,9	97,1
Total nominal absorbed current	A	52	62	74	72	88	92	103	115	126	149	170
Total maximum absorbed current	A	73	83	121	105	121	143	146	186	170	208	246
Total inrush current	A	213	193	222	270	242	344	286	496	310	373	447
Dimensions												
Length	mm	2715	2715	3740	3740	3740	3740	4765	4765	5790	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1144	1346	1554	1592	1742	1656	2046	2009	2712	2639	2727
Weight with empty MV included	kg	1254	1456	1664	1702	1962	1876	2266	2229	2932	2859	2947
Weight in operation	kg	1150	1352	1561	1599	1752	1666	2057	2020	2724	2655	2743
Weight in operation with MV	kg	1560	1762	1971	2009	2722	2636	3027	2990	3694	3625	3713
Refrigerant charge for each circuit	kg	11	15	12	17	23	23	23	23	29	29	38
Power supply		400V / 50Hz / 3 Ph + T + N										

– = not available

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

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

3) P = Brazed plate; FT = Shell & tube

WATER CHILLERS R407C

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS

RAE...F K Technical data

MODEL	RAE...F K	752	892	982	1062	1332	1352	1482	1622	1922	1972	2292	2542	2702
Cooling capacity	kW	76,9	87,8	100,4	107,0	137,0	133,0	154,0	164,0	197,0	211,0	235,0	259,0	289,0
Absorbed power	kW	28,2	31,1	37,3	37,2	47,4	45,1	54,7	57,0	69,2	74,2	83,4	91,8	102
Cooling capacity in free cooling 4)	kW	60,9	61,7	64,2	63,8	92,2	91,2	93,0	94,7	129,0	128,0	132,0	165,0	166,0
Axial fans														
Quantity	n	2	2	2	2	3	3	3	3	4	4	4	5	5
Rotation speed	rpm	880	880	880	880	880	880	880	880	880	880	880	880	880
Motors power	kW	4	4	4	4	6	6	6	6	8	8	8	10	10
Total air flow	l/s	10000	9400	9400	8900	14200	14200	13300	13300	18900	17800	17800	23600	22200
Total air flow	m³/h	36000	33840	33840	32040	51120	51120	47880	47880	68040	64080	64080	84960	79920
Nominal absorbed current	A	8,0	8,0	8,0	8,0	12,0	12,0	12,0	12,0	16,0	16,0	16,0	20	20
Sound pressure level 2)	dB(A)	72	73	73	75	77	77	77	78	79	79	80	80	80
Evaporator 3)														
Quantity	n	1	1	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,7	4,2	4,8	5,1	6,5	6,4	7,4	7,8	9,4	10,1	11,2	12,4	13,8
Water flow rate	m³/h	13,2	15,1	17,3	18,4	23,6	22,9	26,5	28,2	33,9	36,3	40,4	44,5	49,7
Pressure drop	kPa	80	98	99	112	89	83	89	100	115	116	118	145	130
Free cooling pressure drop	kPa	94	116	123	139	98	92	100	113	136	141	149	186	182
Water volume	l	33	33	34	34	50	50	51	51	67	68	71	85	119
Pumps														
Available pressure with P1	kPa	136	108	131	113	137	147	125	106	138	129	111	63	122
Motor power with P1	kW	1,9	1,9	3,0	3,0	3,0	3,0	3,0	3,0	3,0	5,5	5,5	5,5	11
Available pressure with P1H	kPa	221	198	191	175	214	221	211	198	259	254	244	206	208
Motor power with P1H	kW	1,85	1,85	1,85	1,85	3,0	3,0	3,0	3,0	15,0	15,0	15,0	15	15
Available pressure with PT	kPa	161	135	122	103	124	134	109	89	96	90	80	124	118
Motor power with PT	kW	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	7,5	7,5	7,5	7,5	7,5
Buffer tank water volume	l	300	300	300	300	300	300	300	300	750	750	750	750	750
Scroll compressors														
Quantity	n	2	4	4	2	4	2	4	2	6	4	4	4	4
Circuits	n	2	2	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4	4	4	4	4
Optional steps capacity	n	-	-	-	-	-	-	-	-	6	-	-	-	-
Nominal absorbed current	A	49	57	68	63	81	76	97	96	117	125	140	154	173
Maximum absorbed current	A	70	80	116	100	116	138	140	180	162	200	238	276	228
Inrush current	A	210	190	217	265	237	339	280	490	302	365	439	477	486
Electrical data														
Total absorbed power	kW	32,2	35,1	41,3	41,2	53,4	51,1	60,7	63,0	77,2	82,2	91,4	101,8	112,0
Total nominal absorbed current	A	57	65	76	71	93	88	109	108	133	141	156	174	193
Total maximum absorbed current	A	78	88	124	108	128	150	152	192	178	216	254	296	248
Total inrush current	A	218	198	225	273	249	351	292	502	318	381	455	497	506
Dimensions														
Length	mm	2715	2715	2715	2715	3740	3740	3740	3740	4765	4765	4765	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1322	1522	1528	1549	1981	1891	2087	2048	2795	2777	2795	3114	3532
Weight with empty MV included	kg	1432	1632	1638	1659	2201	2111	2307	2268	3015	2997	3015	3334	3752
Weight in operation	kg	1355	1555	1562	1584	2031	1941	2138	2099	2862	2846	2867	3199	3651
Weight in operation with MV	kg	1765	1965	1972	1994	3001	2911	3108	3069	3832	3816	3837	4169	4621
Refrigerant charge for each circuit	kg	8	11	12	15	17	17	23	23	30	30	31	29	40
Power supply														
400V / 50Hz / 3 Ph + T + N														

- = not available

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

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

3) P = Brazed plate; FT = Shell & tube mod. 2702

4) For free-cooling work mode: air 5 °C - unit's inlet water 15 °C - glycol 20%

RAE...FS K Technical data

MODEL	RAE...FS K	752	892	982	1062	1332	1352	1482	1622	1922	1972	2292
Cooling capacity	kW	77,7	86,8	100,5	107,0	137,0	132,0	154,0	163,0	197,0	210,0	234,0
Absorbed power	kW	27,6	31,8	37,3	36,6	48,0	45,7	54,9	57,2	69,0	75,0	83,6
Cooling capacity in free cooling 4)	kW	51,8	51,4	75,7	74,6	77,2	76,4	103,9	105,8	131,9	134,4	133,7
Axial fans												
Quantity	n	2	2	3	3	3	3	4	4	5	5	5
Rotation speed	rpm	660	660	660	660	660	660	660	660	660	660	660
Motors power	kW	2,5	2,5	3,8	3,8	3,8	3,8	5	5	6,3	6,3	6,3
Total air flow	l/s	6900	6400	11300	10400	9600	9600	13900	13900	17400	17400	16000
Total air flow	m ³ /h	24840	23040	40680	37440	34560	34560	50040	50040	62640	62640	57600
Nominal absorbed current	A	4,6	4,6	6,9	6,9	6,9	6,9	9,2	9,2	11,5	11,5	11,5
Sound pressure level 2)	dB(A)	69	69	70	73	73	73	74	74	75	76	76
Evaporator 3)												
Quantity	n	1	1	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,7	4,1	4,8	5,1	6,5	6,3	7,4	7,8	9,4	10,0	11,2
Water flow rate	m ³ /h	13,4	14,9	17,3	18,4	23,6	22,7	26,5	28,0	33,9	36,1	40,2
Pressure drop	kPa	82	96	97	111	88	82	89	100	116	115	119
Free cooling pressure drop	kPa	96	114	102	117	98	91	102	115	141	143	154
Water volume	l	33	33	48	48	50	50	65	65	81	82	85
Pumps												
Available pressure with P1	kPa	133	110	152	134	138	148	124	104	134	127	106
Motor power with P1	kW	1,9	1,9	3,0	3,0	3,0	3,0	3,0	3,0	5,5	5,5	5,5
Available pressure with P1H	kPa	218	200	212	197	215	222	210	196	255	252	239
Motor power with P1H	kW	11	11	11	11	11	11	11	11	15	15	15
Available pressure with PT	kPa	158	137	143	124	125	135	108	87	92	88	75
Motor power with PT	kW	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	7,5	7,5	7,5
Buffer tank water volume	l	300	300	300	300	300	300	750	750	750	750	750
Scroll compressors												
Quantity	n	2	4	4	2	4	2	4	2	6	4	4
Circuits	n	2	2	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4	4	4
Optional steps capacity	n	-	-	-	-	-	-	-	-	6	-	-
Nominal absorbed current	A	49	58	68	62	81	77	97	96	116	126	140
Maximum absorbed current	A	70	80	116	100	116	138	140	180	163	201	239
Inrush current	A	210	190	217	265	237	339	280	490	303	366	440
Electrical data												
Total absorbed power	kW	30,1	34,3	41,1	40,4	51,8	49,5	59,9	62,2	75,3	81,3	89,9
Total nominal absorbed current	A	53	62	75	69	88	84	106	105	128	138	152
Total maximum absorbed current	A	75	85	123	107	123	145	149	189	174	212	250
Total inrush current	A	215	195	224	272	244	346	289	499	314	377	451
Dimensions												
Length	mm	2715	2715	3740	3740	3740	3740	4765	4765	5790	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1363	1563	1850	1879	2033	1943	2402	2362	3180	3096	3198
Weight with empty MV included	kg	1473	1673	1960	1989	2143	2053	2622	2582	3400	3316	3418
Weight in operation	kg	1396	1596	1898	1927	2083	1993	2467	2428	3261	3178	3283
Weight in operation with MV	kg	1806	2006	2308	2337	2493	2403	3437	3398	4231	4148	4253
Refrigerant charge for each circuit	kg	11	15	12	17	23	23	23	23	29	29	38
Power supply 400V / 50Hz / 3 Ph + T + N												

- = not available

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

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

3) P = Brazed plate

4) For free-cooling work mode: air 5 °C - unit's inlet water 15 °C - glycol 20 %

WATER CHILLERS R407C

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS

RAE...FU K Technical data

MODEL	RAE...FU K	752	892	982	1062	1332	1352	1482	1622	1922
Cooling capacity	kW	77	86,4	101	106	137	132	153	164	196
Absorbed power	kW	28,0	32,1	36,9	37,9	47,7	45,4	55,4	56,8	69,6
Cooling capacity in free cooling 4)	kW	45,3	65,9	66,0	66,9	90,2	89,3	91,0	112,3	116,0
Axial fans										
Quantity	n	2	3	3	3	4	4	4	5	5
Rotation speed	rpm	530	530	530	530	530	530	530	530	530
Motors power	kW	1,5	2,3	2,3	2,3	3,1	3,1	3,1	3,9	3,9
Total air flow	l/s	5300	9200	8300	8300	11100	11100	10600	13900	13200
Total air flow	m ³ /h	19080	33120	29880	29880	39960	39960	38160	50040	47520
Nominal absorbed current	A	3,0	4,5	4,5	4,5	6,0	6,0	6,0	7,5	7,5
Sound pressure level 2)	dB(A)	66	66	66	68	69	69	69	71	71
Evaporator 3)										
Quantity	n	1	1	1	1	1	1	1	1	1
Water flow rate	l/s	3,68	4,13	4,83	5,06	6,55	6,31	7,31	7,84	9,36
Water flow rate	m ³ /h	13,2	14,9	17,4	18,2	23,6	22,7	26,3	28,2	33,7
Pressure drop	kPa	81	93	98	107	89	83	88	101	115
Free cooling pressure drop	kPa	95	97	103	113	100	93	102	119	141
Water volume	l	33	47	48	48	64	64	65	79	81
Pumps										
Available pressure with P1	kPa	134	128	151	139	136	145	125	101	134
Motor power with P1	kW	1,9	1,9	3,0	3,0	3,0	3,0	3,0	3,0	5,5
Available pressure with P1H	kPa	219	217	210	201	212	219	210	193	255
Motor power with P1H	kW	11	11	11	11	11	11	11	11	15
Available pressure with PT	kPa	159	154	141	129	122	133	109	83	92
Motor power with PT	kW	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	7,5
Buffer tank water volume	l	300	300	300	300	750	750	750	750	750
Scroll compressors										
Quantity	n	2	4	4	2	4	2	4	2	6
Circuits	n	2	2	2	2	2	2	2	2	2
Standard steps capacity	n	2	4	4	2	4	2	4	2	4
Optional steps capacity	n	-	-	-	-	-	-	-	-	6
Nominal absorbed current	A	49	58	67	63	81	77	98	96	117
Maximum absorbed current	A	70	81	117	101	116	138	140	181	163
Inrush current	A	210	191	218	266	237	339	280	491	303
Electrical data										
Total absorbed power	kW	29,5	34,4	39,2	40,2	50,8	48,5	58,5	60,7	73,5
Total nominal absorbed current	A	52	63	72	68	87	83	104	103	125
Total maximum absorbed current	A	73	85	121	105	122	144	146	188	170
Total inrush current	A	213	195	222	270	243	345	286	498	310
Dimensions										
Length	mm	2715	3740	3740	3740	4765	4765	4765	5790	5790
Width	mm	1370	1370	1370	1370	1370	1370	1370	1370	1370
Height	mm	2140	2140	2140	2140	2140	2140	2140	2140	2140
Weight	kg	1394	1829	1884	1864	2328	2238	2449	2724	3240
Weight with empty MV included	kg	1504	1939	1994	1974	2548	2458	2669	2944	3460
Weight in operation	kg	1427	1876	1932	1913	2392	2302	2514	2803	3321
Weight in operation with MV	kg	1837	2286	2342	2323	3362	3272	3484	3773	4291
Refrigerant charge for each circuit	kg	15	11	17	17	23	23	30	28	37
Power supply										
400V / 50Hz / 3 Ph + T + N										

- = not available

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

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

3) P = Brazed plate

4) For free-cooling work mode: air 5 °C - unit's inlet water 15 °C - glycol 20 %

CORRECTION FACTOR FOR COOLING CAPACITY R407C - R22

		External air temperature °C								
		28	30	32	35	38	40	42	45	48
Water evaporator outlet °C	17	1,522	1,492	1,463	1,416	1,370	1,339	1,304	1,252	1,212
	16	1,477	1,448	1,419	1,374	1,330	1,300	1,265	1,213	1,174
	15	1,433	1,404	1,376	1,333	1,289	1,260	1,226	1,175	1,137
	14	1,388	1,360	1,333	1,291	1,249	1,221	1,187	1,137	1,099
	13	1,343	1,317	1,290	1,250	1,209	1,182	1,148	1,099	1,062
	12	1,298	1,273	1,247	1,208	1,169	1,142	1,110	1,060	1,024
	11	1,253	1,229	1,204	1,166	1,128	1,103	1,071	1,022	0,987
	10	1,028	1,185	1,161	1,125	1,088	1,064	1,032	0,984	0,949
	9	1,163	1,141	1,118	1,087	1,048	1,025	0,993	0,946	0,912
	8	1,118	1,097	1,075	1,041	1,008	0,985	0,954	0,907	0,874
	7	1,073	1,053	1,032	1	0,968	0,946	0,915	0,869	0,837
	6	1,027	1,007	0,986	0,956	0,925	0,904	0,873	0,827	0,800
	5	0,981	0,961	0,941	0,911	0,882	0,862	0,831	0,785	0,763
	4	0,948	0,928	0,909	0,880	0,851	0,831	0,802	0,759	0,735
	3	0,915	0,896	0,877	0,848	0,820	0,801	0,773	0,732	0,708
	2	0,881	0,863	0,845	0,817	0,789	0,770	0,744	0,706	0,681
	1	0,848	0,830	0,813	0,785	0,757	0,739	0,715	0,680	0,654
	0	0,815	0,798	0,781	0,753	0,726	0,708	0,686	0,653	0,626
	-1	0,781	0,765	0,749	0,722	0,695	0,677	0,657	0,627	0,599
	-2	0,748	0,732	0,717	0,690	0,664	0,647	0,628	0,601	0,572
-3	0,715	0,700	0,685	0,659	0,633	0,616	0,599	0,575	0,544	
-4	0,681	0,667	0,653	0,627	0,602	0,585	0,570	0,548	0,517	
-5	0,648	0,634	0,621	0,596	0,571	0,554	0,541	0,522	0,490	

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.

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

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 R407C - R22

		External air temperature °C								
		28	30	32	35	38	40	42	45	48
Water evaporator outlet °C	17	1,007	1,039	1,071	1,126	1,180	1,217	1,257	1,316	1,366
	16	0,994	1,026	1,058	1,113	1,168	1,204	1,244	1,304	1,355
	15	0,981	1,013	1,046	1,100	1,155	1,192	1,232	1,292	1,345
	14	0,968	1,001	1,033	1,088	1,143	1,179	1,219	1,279	1,335
	13	0,955	0,988	1,020	1,075	1,130	1,167	1,207	1,267	1,324
	12	0,942	0,975	1,008	1,063	1,118	1,154	1,194	1,255	1,314
	11	0,929	0,962	0,995	1,050	1,105	1,142	1,182	1,242	1,304
	10	0,916	0,949	0,982	1,037	1,093	1,129	1,170	1,230	1,294
	9	0,903	0,936	0,970	1,025	1,080	1,117	1,157	1,218	1,283
	8	0,890	0,924	0,957	1,012	1,067	1,104	1,145	1,206	1,273
	7	0,877	0,911	0,944	1	1,055	1,092	1,132	1,193	1,263
	6	0,872	0,904	0,937	0,987	1,037	1,071	1,110	1,169	1,232
	5	0,866	0,898	0,929	0,974	1,020	1,050	1,088	1,145	1,201
	4	0,853	0,884	0,915	0,961	1,006	1,036	1,074	1,132	1,189
	3	0,839	0,870	0,901	0,947	0,992	1,023	1,061	1,119	1,177
	2	0,825	0,856	0,888	0,933	0,979	1,009	1,048	1,106	1,166
	1	0,812	0,843	0,874	0,919	0,965	0,996	1,034	1,093	1,154
	0	0,798	0,829	0,860	0,906	0,951	0,982	1,020	1,080	0,142
	-1	0,784	0,815	0,846	0,892	0,938	0,968	1,008	1,067	1,130
	-2	0,770	0,801	0,832	0,878	0,924	0,955	0,994	1,054	1,118
-3	0,757	0,787	0,818	0,864	0,911	0,941	0,981	1,041	1,060	
-4	0,743	0,774	0,804	0,850	0,897	0,928	0,968	1,028	1,094	
-5	0,729	0,760	0,790	0,837	0,883	0,914	0,954	1,015	1,082	

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.

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

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.