

WATER CHILLERS R407C – R22

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND CENTRIFUGAL FANS



RAE 131 C

RAE...C Series

1 refrigerant circuit - cooling capacities from 11 to 18 kW

Water chillers suitable for small and medium size air conditioning systems and for water cooling plants

Designed for internal installation

Centrifugal fans

Coated with pre-painted zinc steel plates

1 cooling circuit

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

The following versions are available:

RAE...C with centrifugal fans at vertical air flow

RAE...C K version with R407C ecological gas

RAE...C PS with water kit

RAE...C PS K with water kit and R407C ecological gas

Made up of:

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 directly coupled electrical motor, provided with thermal protection (short circuit and overload) and external safety protection grid.

Weld-brazed plate evaporator with heat insulation.

Electric panel, in compliance with CE norms, supplied with a main switch with magneto-thermic protection.

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

For the PS version, water kit is installed in an housing under the unit and is composed of circulating pump, buffer tank, safety valve, pressure gauge, water charge and discharge valves, air discharge valve, expansion vessel, electric control device of the pump.

Compressors hour counter.

Accessories

AE	Electrical power supply different from standard
BT	Low temperature operation (-20°C) with modulating fans speed regulation
GP	Condensing coil protection grid
HG	Hot gas by-pass
IH	RS 485 serial interface
IM	Seawood packing
MF	Phase monitor
MT	High and low pressure gauges
PA	Rubber-type vibration dampers
PF	Safety water flow switch on evaporator
PQ	Remote microprocessor
RA	Anti-freeze heater on evaporator
RL	Compressors overload relays
RM	Epoxy coating of condensing coil for sea environment
RR	Condensing coil with copper/copper fins
RV	Personalized RAL paint
VB	Brine version (water temperature < 0 °C)
VS	Solenoid valve

RAE...C Technical data

MODEL	RAE...C	131	151	161	181
Cooling capacity with R407C	kW	10,7	12,6	16,3	17,2
Absorbed power with R407C	kW	3,4	4,4	5,3	5,9
Cooling capacity with R22	kW	11,3	13,2	17,4	18,2
Absorbed power with R22	kW	5,2	6,1	7,0	7,6
Centrifugal fans					
Quantity	n	2	2	2	2
Rotation speed	rpm	1.250	1.250	1.250	1.250
Motors power	kW	1	1	2	2
Total air flow	l/s	2.083	2.083	1.861	1.861
Total air flow	m ³ /h	7.500	7.500	6.700	6.700
Available pressure	Pa	40	40	165	165
Nominal absorbed current	A	13,6	13,6	13,6	13,6
Sound pressure level 2)	dB(A)	63	63	63	63
Brazed plate evaporator					
Quantity	n	1	1	1	1
Water flow rate with R407C	l/s	0,50	0,61	0,78	0,83
Water flow rate with R407C	m ³ /h	1,80	2,20	2,80	3,00
Pressure drop with R407C	kPa	32	43	34	38
Water flow rate with R22	l/s	0,53	0,64	0,83	0,89
Water flow rate with R22	m ³ /h	1,90	2,30	3,00	3,20
Pressure drop with R22	kPa	33,4	45,8	37,4	40,7
Scroll compressors					
Quantity	n	1	1	1	1
Circuits	n	1	1	1	1
Standard steps capacity	%	1	1	1	1
Nominal absorbed current	A	5,4	6,3	9,0	10,4
Maximum absorbed current	A	6	8	9	11
Inrush current	A	14	17	22	24
Total absorbed power with R407C	kW	3,4	4,4	5,3	5,9
Total absorbed power with R22	kW	5,2	6,1	7,0	7,8
Dimensions					
Length	mm	1.100	1.100	1.100	1.100
Width	mm	750	750	750	750
Height	mm	1.100	1.100	1.100	1.100
Weight	kg	217	221	238	240
Refrigerant charge	kg	3,3	3,3	5,1	5,1
[RAE C...PS]					
Water pump motor power	kW	0,18	0,18	0,18	0,18
Available pressure	kPa	65	48	52	47
Buffer tank water volume	l	30	30	30	30
Dimensions [RAE C...PS]					
Length with water kit included	mm	1.100	1.100	1.100	1.100
Width with water kit included	mm	750	750	750	750
Height with water kit included	mm	1.100	1.100	1.100	1.100
Weight with empty water kit included	kg	238	241	259	260
Refrigerant charge	kg	3,3	3,3	5,1	5,1
Power supply					
400 V/ 50Hz / 3Ph + N + T					

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

2) Measured at 1 m in open field (ISO 3746) with air suction and air discharge in ducts