

# WATER CHILLERS R410A

AIR COOLED WATER CHILLERS

WITH SCROLL COMPRESSORS AND AXIAL FANS



RAE 41.Kc



RAE 182.Kc + MV

## RAE... Kc Series

1-2 refrigerant circuits - cooling capacities from 5 to 24 kW

Water chillers with a better efficiency suitable for small and medium size air conditioning systems and for water cooling plants  
Designed for external installation

Axial fans

Coated with pre-painted zinc steel plates

1 and 2 cooling circuits

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

The following versions are available:

**RAE...PS Kc** with water kit (up to model 111)

Horizontal air flow for models from 41 to 111

Vertical air flow for models from 182 to 222

### 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 pipe designed for cooling fluids.

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 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 fan speed regulation
GP	Condensing coil protection grid
IH	RS 485 serial interface
IM	Seawood packing
MF	Phase monitor
MT	High and low pressure gauges (from model 182)
MV	Buffer tank/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valves (from model 182)
P1	Pump group/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valve (from model 182)
P1H	High head pump group/expansion vessel/safety valve/water gauge/water charge and discharge valves/air discharge valve (from model 182)
PA	Rubber-type vibration dampers
PF	Safety water flow switch
PQ	Remote microprocessor
RA	Anti-freeze heater on evaporator
RL	Compressors overload relays
RM	Epoxy coating of condensing coil for sea environment
RR	Condensing coils with copper/copper fins
RV	Personalized RAL paint
VB	Brine version (water temperature < 0 °C)
VS	Solenoid valve

# WATER CHILLERS R410A

## AIR COOLED WATER CHILLERS

### WITH SCROLL COMPRESSORS AND AXIAL FANS

#### RAE... Kc Technical data

MODEL	RAE...	41	51	61	81	101	111	182	202	222	182 (+MV)	202 (+MV)	222(+MV)
Cooling capacity	kW	5,5	5,8	7,0	8,9	11,1	11,5	17,3	21,7	22,4	19,4	23,1	24,0
Absorbed power	kW	1,7	1,9	2,6	3,3	4,1	4,3	6,3	8,0	9,0	5,3	7,2	8,1
<b>Axial fans</b>													
Quantity	n	1	1	1	1	1	1	2	2	2	2	2	2
Rotation speed	rpm	900	900	900	900	900	900	900	900	900	900	900	900
Motors power	kW	0,15	0,15	0,15	0,15	0,15	0,15	0,29	0,29	0,29	0,74	0,74	0,74
Total air flow	l/s	964	964	964	1.069	1.000	1.000	2.106	1.963	1.963	3.331	3.331	3.331
Total air flow	m <sup>3</sup> /h	3.470	3.470	3.470	3.850	3.600	3.600	7.580	7.068	7.068	11.990	11.990	11.990
Nominal absorbed current	A	0,64	0,64	0,64	0,64	0,64	0,64	1,28	1,28	1,28	3,4	3,4	3,4
Sound pressure level 2)	dB(A)	54	54	55	55	56	56	58	59	59	65	65	65
<b>Brazed plate evaporator</b>													
Quantity	n	1	1	1	1	1	1	2	2	2	2	2	2
Water flow rate	l/s	0,26	0,28	0,33	0,42	0,53	0,55	0,83	1,04	1,07	0,93	1,10	1,15
Water flow rate	m <sup>3</sup> /h	0,94	1,01	1,19	1,51	1,91	1,98	2,99	3,74	3,85	3,35	3,96	4,14
Pressure drop	kPa	39	45	36	38	42	39	36	40	37	45	45	43
<b>Compressors 1)</b>													
Quantity	n	1	1	1	1	1	1	2	2	2	2	2	2
Circuits	n	1	1	1	1	1	1	2	2	2	2	2	2
Standard steps capacity	%	0 - 100						0 - 50 - 100					
Nominal absorbed current	A	8,1	8,7	12,3	16,1	23,5	27	5,8	7,1	8,0	5,2	6,6	7,5
Maximum absorbed current	A	17	17	20	24	28	32	17	21	21	19	23	23
Inrush current	A	59	62	83	98	131	65	106	140	140	109	143	143
<b>Dimensions</b>													
Length	mm	980	980	980	980	980	980	1.100	1.100	1.100	1.600	1.600	1.600
Width	mm	325	325	325	325	325	325	750	750	750	750	750	750
Height	mm	715	715	715	715	715	715	1.100	1.100	1.100	1.250	1.250	1.250
Transport weight 3)	kg	114	114	115	121	138	138	278	319	320	318	342	343
Functioning weight 3)	kg	114	114	116	122	139	139	278	320	321	319	343	344
Refrigerant charge	kg	1,5	1,8	2,1	2,2	3,3	3,3	4,4	6,6	6,6	4,4	6,6	6,6
<b>Electrical data</b>													
Total absorbed power	kW	2	2	3	3	4	4	7	8	9	6	8	9
Total nominal absorbed current	A	9	9	13	17	24	28	7	8	9	9	10	11
Maximum absorbed current	A	18	18	21	25	29	33	18	22	22	22	26	26
Total inrush current	A	60	63	84	99	132	66	107	141	141	112	146	146
<b>[ RAE... Kc.PS ]</b>													
Water pump motor power	kW	0,08	0,08	0,08	0,08	0,08	0,08	---	---	---	0,55	0,55	0,55
Available pressure	kPa	31	24	33	29	21	24	---	---	---	145	88	88
Absorbed current	A	0,92	0,92	0,92	0,92	0,92	0,92	---	---	---	4	4	4
Water pump motor power - P1H	kW	---	---	---	---	---	---	---	---	---	0,55	0,75	0,75
Available pressure	kPa	---	---	---	---	---	---	---	---	---	195	126	95
Absorbed current	A	---	---	---	---	---	---	---	---	---	2	2	2
Buffer tank water volume	l	30	30	30	30	30	30	---	---	---	80	80	80
Expansion vessel	l	2	2	2	2	2	2	---	---	---	5	5	5
<b>Dimensions [RAE...Kc.PS]</b>													
Length with water kit included	mm	980	980	980	980	980	980	---	---	---	1.600	1.600	1.600
Width with water kit included	mm	325	325	325	325	325	325	---	---	---	750	750	750
Height with water kit included	mm	1.000	1.000	1.000	1.000	1.000	1.000	---	---	---	1.250	1.250	1.250
Transport weight	kg	156	156	158	164	181	181	---	---	---	376	400	400
Functioning weight	kg	186	186	188	194	211	211	---	---	---	456	480	480
Refrigerant charge	kg	1,5	1,8	2,1	2,2	3,3	3,3	---	---	---	4,4	6,6	6,6
<b>Power supply</b>													
<b>230 V/50 Hz / 1Ph + N + T</b>								<b>400 V/50 Hz / 3Ph + N + T</b>					

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

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

3) Standard unit