

HEAT PUMPS R410A

AIR COOLED HEAT PUMPS

WITH SCROLL COMPRESSORS AND AXIAL FANS



PAE 41.Kc



PAE 182.Kc + MV

PAE... Kc Series

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

Heat pumps 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

Winter operation down to -4°C

The following versions are available:

PAE...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: 4-way valve for refrigerant circuit reverse, thermostatic expansion valve, dehydrating filter, sight glass, safety device, antifreeze thermostat, high and low pressure switches

Unit management microprocessor for all models

Defrost system completely controlled by microprocessor according to time/temperature logic.

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 (for summer operation only)
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)
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

PAE... Kc Technical data

MODEL	PAE...	41	51	61	81	101	111	182	202	222	182 (+MV)	202 (+MV)	222(+MV)
Cooling capacity 1)	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	3,2	4,0	4,5	2,7	3,6	4,1
Heating capacity 4)	kW	7,1	7,7	9,4	12,0	15,0	15,6	23,3	29,2	39,9	24,3	29,8	31,6
Absorbed power in heating	kW	2,0	2,3	2,6	3,3	4,1	4,0	5,9	7,4	8,3	5,0	6,7	7,5
Axial fans													
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	1069	1000	1000	2106	1963	1963	3331	3331	3331
Total air flow	m ³ /h	3470	3470	3470	3850	3600	3600	7580	7068	7068	11990	11990	11990
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
Brazed plate evaporator													
Quantity	n	1	1	1	1	1	1	2	2	2	2	2	2
Water flow rate 1)	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 1)	m ³ /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 1)	kPa	39	45	36	38	42	39	36	40	37	45	45	43
Water flow rate 4)	l/s	0,34	0,37	0,45	0,57	0,71	0,75	0,56	0,70	0,74	0,58	0,71	0,76
Water flow rate 4)	m ³ /h	1,22	1,33	1,62	2,05	2,56	2,70	2,02	2,52	2,66	2,09	2,56	2,74
Pressure drop 4)	kPa	65	78	65	68	76	72	64	72	70	70	75	74
Compressors 1)													
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 1)	A	8	9	12	16	24	27	6	7	8	5	7	7
Nominal absorbed current 4)	A	10	10	12	16	23	28	6	7	8	5	6	7
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
Dimensions													
Length	mm	980	980	980	980	980	980	1100	1100	1100	1600	1600	1600
Width	mm	325	325	325	325	325	325	750	750	750	750	750	750
Height	mm	715	715	715	715	715	715	1100	1100	1100	1250	1250	1250
Transport weight 3)	kg	117	117	119	124	142	142	288	329	330	329	353	354
Functioning weight 3)	kg	117	117	120	125	143	143	288	330	331	330	354	355
Refrigerant charge	kg	2,9	2,9	2,9	3,4	4,3	4,3	4,2	5	5,1	4,6	4,6	4,7
Electrical data													
Total absorbed power	kW	2	2	3	3	4	4	6	8	9	6	7	8
Total nominal absorbed current	A	10	11	13	17	24	28	7	8	9	8	10	10
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
[PAE... Kc.PS]													
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 - PIH	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
Dimensions [PAE...Kc.PS]													
Length with water kit included	mm	980	980	980	980	980	980	---	---	---	1600	1600	1600
Width with water kit included	mm	325	325	325	325	325	325	---	---	---	750	750	750
Height with water kit included	mm	1000	1000	1000	1000	1000	1000	---	---	---	1250	1250	1250
Transport weight	kg	159	159	162	167	185	185	---	---	---	387	411	412
Functioning weight	kg	189	189	192	197	215	215	---	---	---	467	491	492
Refrigerant charge	kg	1,5	1,8	2,1	2,2	3,3	3,3	---	---	---	4,4	6,6	6,6
Power supply													
230 V/50 Hz / 1Ph + N + T								400 V/50 Hz / 3Ph + N + T					

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

4) Winter work mode: air 10 °C - warmed water 40/45 °C