



ALPENTA

SAC

Efficient cooling units

- Air cooled units
- Free cooling option
- Air cooled heat pumps
- Air cooled condensing units

R410A



ACS
control

Fan
inside

ETO
ready

Capacity range
from 9 to 90 kW

SAC

Efficient cooling units



High industrial quality chillers with free-cooling option, reversible heat pumps or condensing units to meet wide variety of applications. High variability of configurations, wide range of standard features and broad selection of additional options.

State of the art design of the unit external casing.

Fan inside – best in the class fan performance. Fully built-in fans were developed using CFD (advanced flow simulations) and provide an optimal air flow on suction and discharge side of the impeller together with noise reduction.

ACS inside: Alpentia Control System – Advanced control of the cooling unit via main programmable microprocessor controller. Dynamic high pressure setpoint and few limitation functions maximize working efficiency on partial loads and when outside conditions are close to the working limits.

ETO ready: Engineer-to Order ready – unit engineering and manufacturing process managed to meet individual requirements of energy efficiency or other project specific technical characteristics. Individual configurations are designed in Alpentia Selection Software (ASS).

STANDARD FEATURES

Selected features of standard execution of the unit includes:

- **Compressors** – hermetic high efficiency scroll with axial and radial compliance, crankcase heaters, internal overheat protection and discharge temperature control.
- **Fans** – highest efficiency with optimized full bell mouth with guide vane and diffusor (meets requirements of the current ErP Directive).
- **Evaporator** – efficient braze welded stainless steel plate exchanger.
- **Condenser** – reliable aluminium fins and copper pipes exchanger.
- **Cooling circuit** – condensation controlled by high pressure transducer.
- **Hydronic circuit** – differential pressure switch and water IN/OUT pressure gauge.
- **Casing** – galvanized steel sheet metal painted RAL7035 provide long lasting resistance against corrosion.
- **Electric panel** – made in accordance with standards of EN 60204-1, phase failure protection relay.
- **Communication** – RS485 Insulated interface for ModBUS® Master/Slave, BacNET® MS/TP.
- Automatic writing of parameters to microSD card.

ACCESSORIES ON REQUEST

Accessories available on request includes:

- Softstarters
- Remote control panel (HMI)
- Control panel electric heating
- Epoxy coated condensing coils
- Refrigerant gauges
- Electronic expansion valve
- Desuperheater or full recovery
- Fan speed control – EC fans or cut phase speed control
- **Low noise execution** – compressor jackets
- **Low temperature execution** – electrical box heaters, fan speed control and refrigerant circuit adaptation
- **Hydronic circuit accessories** – water pump, reserve water pump, expansion vessel, accumulation vessel, relief valve, shut-off valves, check valves
- Rubber or spring anti vibration mounts

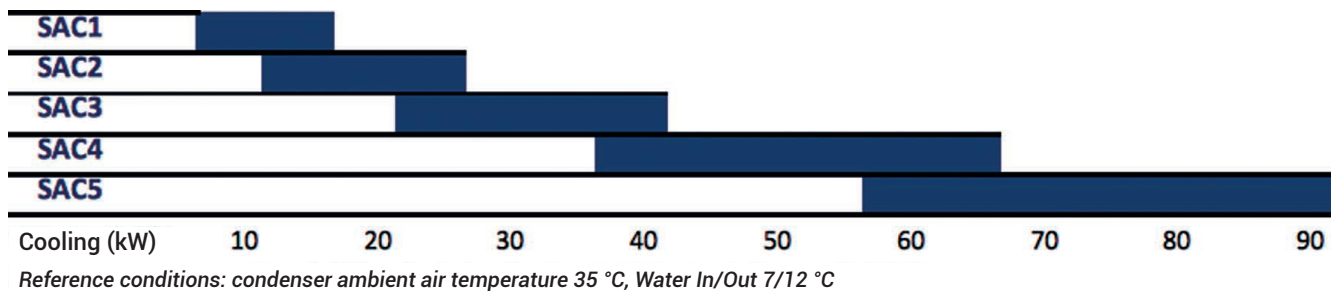
CONFIGURATION

SAC2 - 19HC - 1PP4E

① ② ③ ④ ⑤

- ① **SAC** - Model range
- ② **2** - Model size
- ③ **19** - Nominal size: Nominal compressor capacity[kW]
- ④ **HC** - Device version: C – cooling; HC – heat pump with cooling mode; R – heat recovery; F – free cooling
- ⑤ **1PP4E - Unit configuration:**
1P – specification of compressor unit (1 – number of compressors/steps); P – evaporator type (P – brazed plate); 4E – condenser specification (A – fixed fan speed, E – variable fan speed)

SAC units – range covers cooling capacity:



UNIT DESCRIPTION

Operating limits

Standard execution **cooling** works at full load down to 0 °C, with fan speed control (EC fans) and Low temperature option works down to -20 °C. In summer season the unit works up to 45 °C. Protection during extreme temperatures is supervised by ACS limitations functions. Cold water setpoint depend on fluid type used, for water the minimal setpoint is 4 °C (for more details refer to the technical documentation ACS).

Heating mode is effective up to -15°C and the water

temperature is controlled by override function during very low temperatures. Maximal hot water production setpoint is 55 °C.

Condensing unit control

CU unit version is externally controlled via digital or analog signals to the unit main controller. There are one or two steps of digital control, depending on compressor quantity or 0-10V analog control with pre-defined switching levels (more details see ACS technical documentation).

Control panel

Control panel, components and wiring made in accordance with standards EN 60204-1 electrical directive. Single point of power connection, IP 54 protection class, power phase sequence protection and optionally heated control box. Main on/off switch mounted on front panel, numbered, and signed electrical wires to facilitate maintenance and service. All power components (compressors, fans, pumps) are thermally protected.

HMI interface panel with protective cover mounted or supplied for remote installation on request

Controller

Main microprocessor controller pre-configured during factory test with default settings helps fast commissioning on site. Intuitive user interface with 3 level of access – user, skilled user and technician.

RS485 serial communication port allows remote management through control protocols ModBUS® or BacNET®. Optionally Ethernet port available.

Compressors

Recognized brand hermetic scroll compressors with axial and radial compliance for superior reliability and efficiency, equipped with crankcase heaters. Low sound and vibration level compressors installed on anti-vibration mountings, optionally equipped with sound jackets.

Electronic control of discharge temperature and motor protection device against high temperature. Discharge check-valve. Compressor operating time and number of starts helps optimize sequencing and service diagnostics.

Water heat exchanger

Stainless steel AISI 316 plate copper brazed heat exchanger externally insulated with thermal foam and located inside of the chiller casing. Threaded type of water hydraulic connection is located outside of the unit casing.

3 step antifreeze protection by water pressure differential switch, leaving water temperature NTC sensor and refrigerant low pressure transducer with limitation function of control system.

Air heat exchanger with fans

Reliable copper tubes / aluminium fins heat exchanger optionally protected with metallic grid protection.

Highest efficiency fans with optimized full bell mouth with guide vane and diffusor (meets requirements of directive ErP 2015). Safety fan guard fitted on air flow discharge. Fans are fully installed inside of the unit casing – flat top, reducing noise distribution and increasing condenser effectiveness. With flat top installation the suction point of the fan is closer

to the condenser's central point.

Fan motor protection class F and internal temperature sensor guarantees reliability during high ambient temperatures. Fix speed and optionally variable speed via EC fans or cut phase controller.

External control

Every unit could be controlled by external On/Off signal to the main controller and also sends alarm signal to the external controls

Alpenta Control System (ACS)

Sophisticated control system ensures data collection and subsequent control in real time to ensure maximum operating efficiency with respect to energy savings and service life of technological components of the unit. Main functions of the application take care of:

- Cooling / heating power control based on measured parameters while simultaneously dynamically adapting the unit's power to maximize energy efficiency.
- Limitation of cooling / heating capacity in situations leading to operation at the limit of technological possibilities of the unit equipment.
- 3-level alarm system protection against damage caused by operation beyond the technological capabilities of the unit equipment.

Heat recovery

Partial (desuperheater) or full heat recovery stainless steel brazed plate type exchangers located inside of the unit casing. The unit is equipped with an additional water heat exchanger fitted to the compressor discharge line in series or parallel to the air condenser coil. This solution allows to get energy recovery up to 25% with desuperheater or 100% of condensing heat with full recovery option. The heated water could be used for sanitary or other applications.

Refrigerant circuit

Brazing of refrigerant circuits made under nitrogen by certified personnel. Each unit refrigerant circuit is factory pressure and leak tested and thereafter vacuumed before being charged with R410A refrigerant.

Each chiller unit is subjected to a complete functional run test to guarantee operational quality.

Cooling circuit is standardly equipped with hermetic or replaceable cartridge type of drier filter, solenoid valve, thermostatic or optionally electronic expansion valve, sight glass with moisture indicator, low pressure switch, high pressure switch with manual reset, discharge temperature sensor, high pressure and optionally low pressure transducer, pressure relief valves where required (EN 378-2) and suction line insulation.

Additionally, depending on execution of the unit, there are suction line temperature sensor, 4-way reverse valve, check valves, liquid receiver and accumulator on suction line.

Hydronic circuit

All parts of hydraulic module are located completely inside of the chiller.

Standard parts of hydraulic circuit of a chiller consists of water entering and leaving NTC temperature sensors, water antifreeze protective differential pressure switch, water gauge with shut-off valves enabling of measurement pressure difference on the evaporator.

Optionally the chiller could be equipped with centrifugal pump (available static pressure about 200 kPa), reserve centrifugal pump with operating balancing and automatic changeover,

check valves, shut-off ball valves, membrane expansion vessel with shut-off valve for maintenance, pressure relief valve, automatic air valve, water strainer and drain valve. All piping and vessels are thermally insulated with close-cell foam.

Casing

State of the art design of the external construction of the unit. Flat top fan installation decrease unit height and increase efficiency.

Unit casing made of galvanized steel sheet metal painted RAL 7035 powdered polyester paint. Optional rubber or spring anti vibration mounts reduce transfer of vibrations to the supporting structure.

TECHNICAL SPECIFICATION

Model			SAC1	SAC2	SAC3	SAC4	SAC5
Fans		n°	1	1	1	2	2
Accumulation vessel - volume	V	dm ³	50	80	130	200	250
Accumulation vessel - weight	m	kg	20	25	31	48	68
Expansion vessel - volume	V	dm ³	8	8	12	18	25
Expansion vessel - weight	m	kg	3	3	6	9	12
Length	L	mm	1150	1550	2000	2000	2200
Width	W	mm	1000	1100	1100	1100	1100
Height	H	mm	1100	1100	1400	1750	2180
Electrical feed		V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50

TECHNICAL DATA OF SELECTED CONFIGURATIONS

Unit model	Cool. cap.	El. power	EER	SEER (12/7)	Eta _{s,c} (12/7)	SEER (18/23)	Eta _{s,c} (18/23)	SEPR _{HT}	Max. current	Sound press	Water flow	Press drop	Hydr. conn.	Weight
	kW	kW			%		%		A	dB(A)	m ³ /h	kPa		kg
SAC1														
SAC1-10C-1PP4E	9,8	2,9	3,38	4,78	188,3	5,71	225,3	6,46	8,8	50,7	1,7	19,2	DN25	240,0
SAC1-10C-1PP3E	9,5	3,0	3,13	4,44	174,6	5,25	207,1	6,21	8,8	50,7	1,6	19,1	DN25	230,0
SAC1-10C-1PP2E	9,2	3,2	2,88	4,11	161,5	4,82	190,0	5,96	8,8	50,7	1,6	19,0	DN25	220,0
SAC1-12C-1PP4E	11,8	3,9	3,01	4,28	168,2	5,04	198,7	6,09	11,1	50,7	2,0	19,9	DN25	240,0
SAC1-12C-1PP2E	11,4	4,1	2,77	-	-	4,64	182,4	5,85	11,1	50,7	2,0	19,8	DN25	220,0
SAC1-14C-1PP4E	13,8	4,5	3,06	4,35	170,9	5,13	202,3	6,14	11,8	50,7	2,4	20,5	DN25	240,0
SAC1-14C-1PP3E	13,4	4,7	2,82	-	-	4,71	185,5	5,90	11,8	50,7	2,3	20,4	DN25	230,0
SAC1-14C-1PP2E	12,9	5,0	2,60	-	-	4,33	170,3	5,68	11,8	50,7	2,2	20,3	DN25	220,0
SAC1-16C-1PP4E	15,3	5,4	2,83	-	-	4,73	186,1	5,91	15,8	52,7	2,6	21,0	DN25	250,0
SAC1-16C-1PP3E	14,8	5,6	2,62	-	-	4,38	172,1	5,70	15,8	52,7	2,5	20,8	DN25	250,0
SAC1-18C-1PP4E	17,1	6,4	2,69	-	-	4,50	176,9	5,77	15,8	54,7	2,9	21,5	DN25	250,0

Unit model	Cool. cap.	El. power	EER	SEER (12/7)	Eta _{s,e} (12/7)	SEER (18/23)	Eta _{s,e} (18/23)	SEPR _{HT}	Max. current	Sound press	Water flow	Press drop	Hydr. conn.	Weight
	kW	kW			%		%		A	dB(A)	m ³ /h	kPa		kg
SAC2														
SAC2-12C-1PP3E	12,6	3,6	3,53	4,98	196,2	5,97	235,9	6,61	11,1	50,7	2,2	20,2	DN25	280,0
SAC2-12C-1PP2E	12,2	3,7	3,26	4,61	181,5	5,48	216,3	6,34	11,1	50,7	2,1	20,0	DN25	270,0
SAC2-14C-1PP4E	14,6	4,1	3,59	5,06	199,4	6,08	240,2	6,67	11,8	50,7	2,5	20,8	DN25	290,0
SAC2-14C-1PP3E	14,2	4,3	3,31	4,69	184,6	5,59	220,4	6,39	11,8	50,7	2,4	20,7	DN25	280,0
SAC2-14C-1PP2E	13,8	4,5	3,06	4,35	170,9	5,13	202,3	6,14	11,8	50,7	2,4	20,5	DN25	270,0
SAC2-16C-1PP4E	16,2	4,9	3,28	4,65	183,0	5,53	218,3	6,36	15,8	52,7	2,8	21,3	DN25	300,0
SAC2-16C-1PP3E	15,8	5,2	3,05	4,34	170,4	5,12	201,6	6,13	15,8	52,7	2,7	21,1	DN25	290,0
SAC2-16C-1PP2E	15,3	5,4	2,83	-	-	4,73	186,1	5,91	15,8	52,7	2,6	21,0	DN25	280,0
SAC2-18C-1PP4E	18,2	5,8	3,14	4,45	175,1	5,27	207,8	6,22	15,8	54,7	3,1	21,8	DN25	290,0
SAC2-18C-1PP3E	17,7	6,1	2,91	4,15	163,0	4,87	192,0	5,99	15,8	54,7	3,0	21,7	DN25	290,0
SAC2-18C-1PP2E	17,1	6,4	2,69	-	-	4,50	176,9	5,77	15,8	54,7	2,9	21,5	DN25	280,0
SAC2-20C-1PP4E	20,1	6,2	3,24	4,59	180,7	5,46	215,2	6,32	17,0	54,7	3,5	22,3	DN25	300,0
SAC2-20C-1PP3E	19,6	6,5	3,03	4,32	169,6	5,09	200,6	6,11	17,0	54,7	3,4	22,2	DN25	290,0
SAC2-20C-1PP2E	19,1	6,7	2,84	-	-	4,75	186,8	5,92	17,0	54,7	3,3	22,0	DN25	280,0
SAC2-24C-1PP4E	22,8	7,4	3,08	4,37	171,9	5,16	203,5	6,16	19,0	55,7	3,9	23,0	DN25	310,0
SAC2-24C-1PP3E	22,1	7,7	2,86	-	-	4,79	188,5	5,94	19,0	55,7	3,8	22,8	DN25	300,0
SAC2-27C-1PP4E	25,3	8,9	2,83	-	-	4,74	186,5	5,91	22,4	56,7	4,4	23,6	DN40	310,0
SAC2-19C-2PP4E	18,4	6,1	3,02	4,30	169,1	5,07	199,9	6,08	16,8	51,2	3,2	21,9	DN25	320,0
SAC2-19C-2PP3E	17,7	6,4	2,79	-	-	4,66	183,3	5,85	16,8	51,2	3,1	21,7	DN25	310,0
SAC2-19C-2PP2E	17,1	6,7	2,55	-	-	4,26	167,4	5,61	16,8	51,2	3,0	21,5	DN25	300,0
SAC2-24C-2PP4E	22,8	7,9	2,88	4,11	161,2	4,82	189,7	5,94	21,4	51,2	3,9	23,0	DN25	330,0
SAC2-24C-2PP3E	22,1	8,4	2,64	-	-	4,41	173,3	5,70	21,4	51,2	3,8	22,8	DN25	320,0
SAC2-28C-2PP4E	25,9	9,7	2,68	-	-	4,47	175,8	5,74	22,8	51,2	4,5	23,7	DN40	330,0
SAC3														
SAC3-18C-1PP3E	19,4	5,8	3,32	4,70	185,1	5,60	221,1	6,40	16,3	54,7	3,3	22,1	DN25	380,0
SAC3-18C-1PP2E	18,8	6,1	3,10	4,40	173,1	5,21	205,2	6,18	16,3	54,7	3,2	22,0	DN25	370,0
SAC3-19C-2PP3E	19,6	6,0	3,27	4,63	182,2	5,51	217,2	6,33	17,3	51,2	3,4	22,2	DN25	410,0
SAC3-19C-2PP2E	19,0	6,3	3,03	4,31	169,2	5,08	200,1	6,09	17,3	51,2	3,3	22,0	DN25	390,0
SAC3-20C-1PP3E	21,2	6,2	3,40	4,80	189,2	5,74	226,5	6,48	17,5	54,7	3,6	22,6	DN25	380,0
SAC3-20C-1PP2E	20,6	6,5	3,20	4,53	178,3	5,38	212,0	6,28	17,5	54,7	3,6	22,4	DN25	370,0
SAC3-24C-1PP4E	24,8	7,0	3,53	4,97	196,0	5,97	235,6	6,61	19,5	55,7	4,3	23,5	DN25	410,0
SAC3-24C-1PP3E	24,1	6,5	3,71	5,22	205,6	6,29	248,7	6,79	19,5	55,7	4,2	23,3	DN25	390,0
SAC3-24C-1PP2E	23,5	7,6	3,09	4,39	172,4	5,18	204,3	6,17	19,5	55,7	4,0	23,1	DN25	380,0
SAC3-24C-2PP4E	25,2	7,3	3,43	4,85	191,0	5,80	228,9	6,49	21,9	51,2	4,3	23,5	DN40	430,0
SAC3-24C-2PP3E	24,4	7,7	3,17	4,50	177,0	5,33	210,3	6,23	21,9	51,2	4,2	23,4	DN25	410,0
SAC3-24C-2PP2E	23,6	8,1	2,93	4,18	164,2	4,91	193,5	5,99	21,9	51,2	4,1	23,2	DN25	400,0
SAC3-27C-1PP4E	27,9	8,3	3,38	4,77	188,0	5,70	224,9	6,46	22,9	56,7	4,8	24,2	DN40	410,0
SAC3-27C-1PP3E	27,0	8,6	3,13	4,45	174,9	5,26	207,5	6,21	22,9	56,7	4,7	24,0	DN40	400,0
SAC3-27C-1PP2E	26,2	9,0	2,90	4,14	162,5	4,86	191,3	5,98	22,9	56,7	4,5	23,8	DN40	380,0
SAC3-28C-2PP4E	28,4	8,8	3,24	4,59	180,6	5,45	215,0	6,30	23,3	51,2	4,9	24,3	DN40	430,0
SAC3-28C-2PP3E	27,6	9,2	2,99	4,26	167,3	5,02	197,6	6,05	23,3	51,2	4,7	24,1	DN40	420,0
SAC3-28C-2PP2E	26,7	9,7	2,76	-	-	4,61	181,5	5,82	23,3	51,2	4,6	23,9	DN40	410,0
SAC3-30C-1PP4E	30,9	9,2	3,36	4,75	186,9	5,66	223,5	6,44	26,3	57,7	5,3	24,8	DN40	430,0
SAC3-30C-1PP3E	30,0	9,6	3,12	4,44	174,4	5,25	206,9	6,20	26,3	57,7	5,2	24,6	DN40	410,0

Unit model	Cool. cap.	El. power	EER	SEER (12/7)	Eta _{s,c} (12/7)	SEER (18/23)	Eta _{s,c} (18/23)	SEPR _{HT}	Max. current	Sound press	Water flow	Press drop	Hydr. conn.	Weight
	kW	kW			%		%		A	dB(A)	m ³ /h	kPa		kg
SAC3														
SAC3-30C-1PP2E	28,1	10,4	2,69	-	-	4,50	177,1	5,77	26,3	57,7	4,8	24,2	DN40	400,0
SAC3-32C-2PP4E	31,5	10,5	2,99	4,26	167,3	5,01	197,6	6,05	31,3	53,2	5,4	24,9	DN40	450,0
SAC3-32C-2PP3E	30,5	11,0	2,77	-	-	4,64	182,6	5,83	31,3	53,2	5,3	24,7	DN40	440,0
SAC3-32C-2PP2E	29,5	11,5	2,58	-	-	4,30	169,0	5,64	31,3	53,2	5,1	24,5	DN40	430,0
SAC3-34C-1PP4E	34,2	10,8	3,16	4,49	176,5	5,32	209,6	6,24	32,3	58,7	5,9	25,5	DN40	430,0
SAC3-34C-1PP3E	33,2	11,2	2,95	4,21	165,2	4,95	194,9	6,03	32,3	58,7	5,7	25,2	DN40	420,0
SAC3-36C-2PP4E	36,5	11,8	3,08	4,38	172,3	5,18	204,1	6,14	31,3	55,2	6,3	25,9	DN40	450,0
SAC3-36C-2PP3E	35,4	12,3	2,86	-	-	4,79	188,7	5,92	31,3	55,2	6,1	25,7	DN40	430,0
SAC3-40C-1PP4E	39,1	13,0	3,00	4,27	167,7	5,03	198,0	6,08	35,3	59,7	6,7	26,4	DN40	430,0
SAC3-40C-2PP4E	39,2	13,1	2,99	4,25	167,1	5,01	197,3	6,05	33,7	55,2	6,7	26,4	DN40	450,0
SAC3-47C-2PP4E	44,1	15,6	2,82	-	-	4,73	186,0	5,88	37,7	56,2	7,6	27,3	DN50	470,0
SAC4														
SAC4-34C-1PP4E	36,4	10,8	3,37	4,76	187,5	5,68	224,2	6,45	33,6	58,7	6,3	25,9	DN40	510,0
SAC4-34C-1PP3E	35,3	11,2	3,15	4,48	176,1	5,30	209,1	6,23	33,6	58,7	6,1	25,7	DN40	490,0
SAC4-34C-1PP2E	34,2	11,6	2,94	4,20	164,8	4,93	194,4	6,02	33,6	58,7	5,9	25,5	DN40	470,0
SAC4-36C-2PP4E	38,7	11,6	3,32	4,70	185,1	5,60	221,1	6,38	32,6	55,2	6,7	26,3	DN40	520,0
SAC4-36C-2PP3E	37,6	12,1	3,10	4,40	173,1	5,21	205,2	6,16	32,6	55,2	6,5	26,1	DN40	510,0
SAC4-36C-2PP2E	36,5	12,6	2,89	4,12	161,8	4,84	190,4	5,95	32,6	55,2	6,3	25,9	DN40	490,0
SAC4-40C-1PP4E	41,5	12,9	3,22	4,56	179,5	5,42	213,7	6,30	36,6	59,7	7,1	26,8	DN50	510,0
SAC4-40C-1PP3E	40,3	13,3	3,02	4,30	168,9	5,07	199,6	6,10	36,6	59,7	6,9	26,6	DN50	490,0
SAC4-40C-1PP2E	39,1	13,8	2,82	-	-	4,72	186,0	5,90	36,6	59,7	6,7	26,4	DN40	480,0
SAC4-40C-2PP4E	41,3	12,9	3,20	4,53	178,3	5,38	212,0	6,26	35,0	55,2	7,1	26,8	DN50	530,0
SAC4-40C-2PP3E	40,2	13,4	3,00	4,27	167,8	5,03	198,2	6,06	35,0	55,2	6,9	26,6	DN50	510,0
SAC4-40C-2PP2E	39,2	13,9	2,82	-	-	4,71	185,4	5,88	35,0	55,2	6,7	26,4	DN40	490,0
SAC4-47C-2PP4E	48,3	13,0	3,71	5,22	205,6	6,29	248,7	6,77	39,0	56,2	8,3	28,0	DN50	550,0
SAC4-47C-2PP3E	46,9	15,2	3,09	4,39	172,4	5,18	204,3	6,15	39,0	56,2	8,1	27,8	DN50	530,0
SAC4-47C-2PP2E	44,1	16,4	2,69	-	-	4,49	176,5	5,75	39,0	56,2	7,6	27,3	DN50	510,0
SAC4-52C-1PP4E	52,3	16,8	3,12	4,43	174,0	5,23	206,4	6,20	39,3	66,7	9,0	28,6	DN50	540,0
SAC4-52C-1PP3E	50,7	17,4	2,91	4,15	162,8	4,87	191,7	5,99	39,3	66,7	8,7	28,4	DN50	520,0
SAC4-54C-2PP4E	54,1	17,3	3,13	4,45	174,9	5,26	207,5	6,19	45,8	57,2	9,3	28,9	DN50	550,0
SAC4-54C-2PP3E	52,3	18,0	2,90	4,14	162,5	4,86	191,3	5,96	45,8	57,2	9,0	28,6	DN50	530,0
SAC4-60C-2PP4E	58,1	20,0	2,90	4,14	162,5	4,86	191,4	5,96	52,6	58,2	10,0	29,5	DN50	580,0
SAC4-60C-2PP3E	56,2	20,9	2,69	-	-	4,50	177,1	5,75	52,6	58,2	9,7	29,2	DN50	560,0
SAC4-65C-1PP4E	63,6	21,6	2,95	4,20	165,0	4,94	194,6	6,03	51,3	67,7	11,0	30,3	DN50	550,0
SAC4-68C-2PP4E	66,4	22,5	2,95	4,21	165,2	4,95	194,9	6,01	64,6	59,2	11,4	30,7	DN50	590,0
SAC5														
SAC5-52C-1PP4E	55,5	17,0	3,26	4,62	181,9	5,49	216,8	6,34	42,5	66,7	9,6	29,1	DN50	650,0
SAC5-52C-1PP3E	53,9	17,6	3,07	4,36	171,5	5,15	203,1	6,15	42,5	66,7	9,3	28,9	DN50	620,0
SAC5-52C-1PP2E	52,3	18,2	2,88	4,10	161,1	4,81	189,6	5,96	42,5	66,7	9,0	28,6	DN50	600,0
SAC5-54C-2PP4E	57,6	17,3	3,34	4,72	186,0	5,63	222,2	6,40	49,0	57,2	9,9	29,5	DN50	660,0
SAC5-54C-2PP3E	55,9	17,9	3,11	4,42	173,8	5,23	206,1	6,17	49,0	57,2	9,6	29,2	DN50	630,0
SAC5-54C-2PP2E	54,1	18,7	2,90	4,13	162,3	4,85	191,0	5,96	49,0	57,2	9,3	28,9	DN50	310,0
SAC5-60C-2PP4E	61,8	19,8	3,12	4,43	174,2	5,24	206,6	6,18	55,8	58,2	10,7	30,1	DN50	690,0
SAC5-60C-2PP3E	60,0	20,6	2,91	4,15	163,0	4,88	192,0	5,97	55,8	58,2	10,3	29,8	DN50	660,0

Unit model	Cool. cap.	El. power	EER	SEER (12/7)	Eta _{s,c} (12/7)	SEER (18/23)	Eta _{s,c} (18/23)	SEPR _{HT}	Max. current	Sound press	Water flow	Press drop	Hydr. conn.	Weight
	kW	kW			%		%		A	dB(A)	m ³ /h	kPa		kg
SAC5														
SAC5-60C-2PP2E	58,1	21,4	2,71	-	-	4,53	178,3	5,77	55,8	58,2	10,0	29,5	DN50	640,0
SAC5-65C-1PP4E	67,6	21,4	3,16	4,48	176,1	5,30	209,1	6,24	54,5	67,7	11,6	30,9	DN50	650,0
SAC5-65C-1PP3E	65,6	22,2	2,96	4,21	165,5	4,96	195,2	6,04	54,5	67,7	11,3	30,6	DN50	630,0
SAC5-65C-1PP2E	63,6	23,0	2,77	-	-	4,63	182,1	5,85	54,5	67,7	11,0	30,3	DN50	610,0
SAC5-68C-2PP4E	70,6	22,2	3,18	4,52	177,6	5,35	211,1	6,24	67,8	59,2	12,2	31,3	DN50	700,0
SAC5-68C-2PP3E	68,5	23,1	2,97	4,23	166,2	4,98	196,1	6,03	67,8	59,2	11,8	31,0	DN50	670,0
SAC5-68C-2PP2E	66,4	23,9	2,78	-	-	4,65	182,8	5,84	67,8	59,2	11,4	30,7	DN50	650,0
SAC5-80C-2PP4E	80,5	26,5	3,04	4,33	170,1	5,11	201,2	6,10	73,8	60,2	13,9	32,6	DN50	710,0
SAC5-80C-2PP3E	78,1	27,5	2,84	-	-	4,76	187,4	5,90	73,8	60,2	13,5	32,3	DN50	680,0
SAC5-80C-2PP2E	75,5	28,5	2,66	-	-	4,44	174,7	5,72	73,8	60,2	13,0	32,0	DN50	660,0

Cool. cap.	kW	nominal cooling capacity: water 12/7 °C, ambient temperature 35 °C
Heat cap.	kW	nominal heating capacity: water 40/45 °C, ambient temperature 7 °C
El. power	kW	electrical power consumption (without pump)
EER / COP		coefficient of nominal energy efficiency
SEER (12/7)		efficiency performance (calculation based on EN 14825:2018) - comfort low temperature, (12/7 °C), fixed water flow
Eta _{s,c} (12/7)	%	fixed outlet temp.
SEER (18/23)		efficiency performance (calculation based on EN 14825:2018) - comfort medium temperature, (18/23 °C), fixed water flow
Eta _{s,c} (18/23)	%	fixed outlet temp.
SEPR _{HT}		efficiency performance (calculation based on EN 14825:2018) - process high temperature, fixed water flow
Max. current	A	maximal allowable current for dimensioning of power cable
Sound press.	dB(A)	sound pressure level at 10 m (in accordance ISO3744)
Water flow	m ³ /h	nominal water flow
Press. drop	kPa	hydraulic pressure drop of the unit
Hydr. conn.		hydraulic connection (threaded)
Weight	kg	weight without water and additional options



ALPENTA s.r.o. has established and applies a quality system for design and manufacture of refrigeration and air conditioning equipment according to ISO 9001:2015.
EAC units design and production have been certified according to Directive 2014/68/EU.

Alpenta reserves the right to change the technical information for improving the product at any time without prior notice.

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