

CHAPTER 1

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR
RESIDENTIAL & LIGHT COMMERCIAL APPLICATION

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FROM 5,6 KW TO 14 KW.

CHA/IK/WP 15÷61

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH EC INVERTER AXIAL FANS, INVERTER ROTARY/SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.



CHA/IK/WP 15÷61 reversible Heat Pumps with A CLASS energy efficiency are designed for small domestic or service sector environments. Equipped with R410A refrigerant, INVERTER Rotary/Scroll compressors and EC INVERTER axial fans, they are extremely functional and reliable units. The Inverter device controls and continuously modulates the compressor speed, keeping the temperature of the water delivered to the system stable and constant and adapting it perfectly to the thermal load of the places where terminal units it feeds are installed. This obtains high energy efficiencies and ESEER/IPLV values higher than conventional unit, and a reduction of compressor starting peak currents, thus considerably reducing the risk of malfunctioning or breakages. The EC Inverter axial fans vary their speed according to the required thermal load, with consequent benefits in terms of energy efficiency and silent operation. Moreover, CHA/IK/WP 15÷61 does not require inertial storage tanks, since the refrigerating capacity delivered is constantly equal to that required while guaranteeing very quiet operation because the fans adjust their speed to the real load of the system, with benefits above all during the night. It also prevents shutdown due to unexpected overloads, by means of an innovative control system which, on being activated, reduces the refrigerating capacity delivered while keeping the unit running.

COMPACT
Line

INVERTER ROTARY

INVERTER SCROLL

VERSION

CHA/IK/WP

Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Rotary / Twin Rotary / Scroll compressor, complete with overload protection and crankcase heater.
- EC INVERTER axial fans with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan and protection guards.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water flow switch and antifreeze heater.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: modulating circulating pump with high efficiency DC Brushless motor, flow switch, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.
- Communication with Modbus RTU protocol through RS485 serial interface.

ACCESSORIES

FACTORY FITTED ACCESSORIES

KDS Dual set-point kit

LOOSE ACCESSORIES

CR Remote control panel
AG Rubber shock absorbers

CHA/IK/WP 15÷61

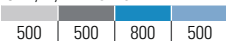


MODEL			15	25	41	61
Heating	Heating capacity (1)	kW	5.6	8.9	11.8	13.9
	Absorbed power (1)	kW	1.7	2.8	3.5	4.4
	COP (1)		3.23	3.22	3.33	3.17
	Heating capacity (2)	kW	5.9	9.2	12.5	14.3
	Absorbed power (2)	kW	1.5	2.3	3.1	3.6
Heating (EN14511)	COP (2)		3.99	4.01	4.09	4.01
	Heating capacity (1)	kW	5.5	8.8	11.7	13.8
	Absorbed power (1)	kW	1.6	2.7	3.4	4.3
	COP (1)		3.35	3.30	3.42	3.24
	EUROVENT Class (1)		A	A	A	A
	Heating capacity (2)	kW	5.8	9.1	12.4	14.2
	Absorbed power (2)	kW	1.4	2.2	3.0	3.5
	COP (2)		4.15	4.10	4.20	4.10
	SCOP (3)		2.83	2.63	2.60	2.58
	Energy Efficiency (3)	%	110	102	101	100
Cooling	Energy Class (3)		A+	A+	A+	A+
	Cooling capacity (4)	kW	3.9	6.1	7.7	9.8
	Absorbed power (4)	kW	1.4	2.1	2.7	3.5
	EER (4)		2.85	2.93	2.85	2.83
	Cooling capacity (5)	kW	5.0	8.2	11.4	13.0
	Absorbed power (5)	kW	1.3	2.2	3.0	3.6
	EER (5)		3.73	3.69	3.84	3.67
Cooling (EN14511)	Cooling capacity (4)	kW	3.9	6.1	7.8	9.9
	Absorbed power (4)	kW	1.3	2.0	2.6	3.4
	EER (4)		3.06	3.07	2.98	2.94
	ESEER		4.45	4.08	4.04	4.29
	EUROVENT Class (4)		B	B	B	B
	Cooling capacity (5)	kW	5.1	8.3	11.6	13.2
	Absorbed power (5)	kW	1.3	2.2	2.9	3.4
	EER (5)		4.01	3.87	4.02	3.83
Compressor	Quantity	n°	1	1	1	1
	Type		Rotary		Twin Rotary	Scroll
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50			400/3+N/50
	Max. running current	A	12	20	25	11
	Max. starting current	A	8	10	16	10
Water circuit	Water flow	l/s	0.28	0.44	0.60	0.68
	Pump available static pressure	kPa	57	32	45	38
	Water connections	"G	1"M	1"M	1"M	1"M
Sound pressure	STD version (6)	dB(A)	50	53	54	54
Weights	Transport weight	Kg	70	87	140	145
	Operating weight	Kg	73	92	147	152

DIMENSIONS			15	25	41	61
L	STD	mm	1100	1200	1220	1220
W	STD	mm	370	370	445	445
H	STD	mm	720	860	1400	1400

CLEARANCE AREA

CHA/IK/WP 15÷25



CHA/IK/WP 41÷61



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

FROM 4,2 KW TO 21 KW.

CHA/CLK 15÷81

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, ROTARY/SCROLL COMPRESSOR, PLATE EXCHANGER AND PUMP KIT.



The **COMPACT LINE** series is the winning choice for ideal comfort in residential and commercial environments. The range, in A CLASS energy efficiency, excels for its compact sizes, quietness and optimised water circuit, on a peraluman structure. The COMPACT LINE series features R410A refrigerant, ensuring high efficiency with reduced heat exchange surfaces and environment respect thanks to the low quantities of refrigerant used. Particular design features enable immediate and effective use, easy installation and lasting reliability. These extremely compact and high-tech units offer you ideal comfort in all seasons.

Particular design features enable immediate and effective use, easy installation and lasting reliability.

COMPACT —Line—

VERSION

CHA/CLK

Cooling only with tank and pump

CHA/CLK/WP

Reversible Heat Pump with tank and pump

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- Rotary / Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, built-in the storage tank.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor contact and pump contact (41÷71).
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: water differential pressure switch, insulated tank, circulating pump, safety valve, gauge and expansion vessel inserted in the storage tank.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

- BT Low water temperature Kit
- TX Coil with pre-coated fins

LOOSE ACCESSORIES

- CR Remote control panel
- IS Modbus RTU protocol, RS485 serial interface
- RP Coil protection metallic guards

CHA/CLK 15÷81



MODEL			15	18	21	25	31	41	51	61	71	81
Cooling	Cooling capacity (1)	kW	4.2	5.1	6.4	7.5	8.6	10.4	12.2	15.3	18.6	20.5
	Absorbed power (1)	kW	1.4	1.7	2.1	2.5	2.9	3.5	4.0	5.0	6.0	6.6
	EER (1)		3.00	3.00	3.05	3.00	2.97	2.97	3.05	3.06	3.10	3.11
Cooling (EN14511)	Cooling capacity (1)	kW	4.3	5.2	6.5	7.6	8.7	10.5	12.5	15.6	18.9	20.8
	Absorbed power (1)	kW	1.3	1.6	2.0	2.4	2.8	3.4	3.7	4.7	5.7	6.4
	EER (1)		3.23	3.19	3.20	3.15	3.11	3.10	3.36	3.32	3.29	3.27
	ESEER		3.10	3.25	3.37	3.41	3.37	3.32	3.34	3.38	3.42	3.44
Heating	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	Heating capacity (2)	kW	5.0	6.0	8.0	8.7	10.3	12.4	14.8	18.8	21.9	24.4
	Absorbed power (2)	kW	1.7	2.0	2.6	2.9	3.5	4.2	4.8	6.2	7.1	8.0
	COP (2)		2.94	3.00	3.08	3.00	2.94	2.95	3.08	3.03	3.08	3.05
	Heating capacity (2)	kW	4.9	5.9	7.9	8.6	10.2	12.3	14.5	18.5	21.7	24.2
Heating (EN14511)	Absorbed power (2)	kW	1.6	2.0	2.5	2.8	3.4	4.1	4.5	5.9	6.9	7.8
	COP (2)		2.99	2.98	3.11	3.06	3.01	3.01	3.21	3.12	3.16	3.11
	EUROVENT Class		C	C	B	B	B	B	A	B	B	A
	SCOP (3)		2.95	3.06	3.17	2.95	3.00	2.99	3.06	3.16	3.18	3.17
	Energy Efficiency (3)	%	115	119	124	115	117	117	119	123	124	124
Compressor	Energy Class (3)		A	A	A+	A	A	A	A	A	A+	A+
	Quantity	n°	1	1	1	1	1	1	1	1	1	1
Electrical characteristics	Type		Rotary					Scroll				
	Power supply	V/Ph/Hz	230/1/50					400/3+N/50				
	Max. running current	A	9	11	14	15	18	23	13	15	17	18
	Max. starting current	A	38	44	63	64	77	88	54	75	78	78
Water circuit	Water flow	l/s	0.20	0.24	0.31	0.36	0.41	0.50	0.58	0.73	0.89	0.98
	Pump available static pressure	kPa	52	48	35	45	41	42	140	123	90	80
	Tank water volume	l	25	25	25	25	25	25	50	50	50	50
	Water connections	"G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
Sound pressure	STD version (4)	dB(A)	49	49	49	49	51	52	52	52	52	52
	Transport weight	Kg	96	98	106	110	118	120	192	194	196	198
Weights	Operating weight	Kg	121	123	131	135	143	145	242	244	246	248

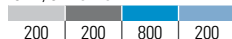
DIMENSIONS			15	18	21	25	31	41	51	61	71	81
L	STD	mm	870	870	870	870	870	870	1160	1160	1160	1160
W	STD	mm	320	320	320	320	320	320	500	500	500	500
H	STD	mm	1100	1100	1100	1100	1100	1100	1270	1270	1270	1270

CLEARANCE AREA

CHA/CLK 15-41



CHA/CLK 51-81



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP version are specified on technical brochure.

FROM 11 KW TO 23 KW.

CHA/ML/ST 41÷71

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.



MIDYLINE is the line of Heat Pumps dedicated to hot water production up to 60 °C and operations up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic kit. The unit, featuring A CLASS energy efficiency, is designed to singly handle winter heating, summer air conditioning and the production of high temperature hot water, making use of the electrical energy and heat accumulated in the clean air source, free and infinite, which can also transfer heat to homes. Flexibility is the main feature of the MIDYLINE series, which is also combined with heating units and managed by the innovative, intelligent AQUALOGIK control system, optimizing the water setpoint and regulating power supply voltage to the pump and fans, making use of an inertial tank unnecessary. This results in performance with elevated energy efficiency, silent functioning, optimized dimensions and costs. MIDYLINE is also able to operate in extreme conditions where the external air temperature is very low, as well as intelligently managing integrated elements such as furnaces and electrical coils. Based on the external air sensor, the microprocessor activates the single integration elements in the system.

MIDYLINE

AQUALOGIK

VERSION

CHA/ML/ST

Heat Pump with AQUALOGIK technology

CHA/ML/WP/ST

Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman, galvanized sheet and with rubber shock absorbers on the frame.
- Scroll compressor with internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil, complete with drain pan.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards

CHA/ML/ST 41÷71



MODEL			41*	51*	41**	51**	71
Heating	Heating capacity (1)	kW	11.5	16.0	11.5	16.0	22.5
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.59	3.48	3.59	3.48	3.46
	Heating capacity (2)	kW	11.3	15.8	11.3	15.8	22.4
	Absorbed power (2)	kW	2.7	3.8	2.7	3.8	5.4
Heating (EN14511)	COP (2)		4.19	4.16	4.19	4.16	4.15
	Heating capacity (1)	kW	11.9	16.4	11.9	16.4	23.0
	Absorbed power (1)	kW	3.2	4.6	3.2	4.6	6.5
	COP (1)		3.72	3.57	3.72	3.57	3.54
	EUROVENT Class		A	A	A	A	A
Cooling	SCOP (3)		3.93	4.04	3.93	4.04	3.82
	Energy Efficiency (3)	%	151	155	151	155	148
	Energy Class (3)		A++	A++	A++	A++	A+
	Cooling capacity (4)	kW	7.3	10.5	7.3	10.5	16.0
	Absorbed power (4)	kW	2.5	3.6	2.5	3.6	5.2
Cooling (EN14511)	EER (4)		2.92	2.92	2.92	2.92	3.08
	Cooling capacity (5)	kW	10.8	15.5	10.8	15.5	21.2
	Absorbed power (5)	kW	2.7	4.0	2.7	4.0	6.1
	EER (5)		4.00	3.88	4.00	3.88	3.48
	Cooling capacity (4)	kW	7.0	10.2	7.0	10.2	15.6
Compressor	Absorbed power (4)	kW	2.8	3.9	2.8	3.9	5.6
	ESEER		2.50	2.62	2.50	2.62	2.79
	ESEER		2.80	3.12	2.80	3.12	3.11
	EUROVENT Class		E	D	E	D	C
Integrated electrical coils	Quantity	n°	1	1	1	1	1
	Power supply	V/Ph/Hz	230/1/50				
	Heating capacity	kW	4/6	4/6	4/6	4/6	4/6
	Absorbed current	A	18/26	18/26	18/26	18/26	18/26
Electrical characteristics	Steps	n°	2	2	2	2	2
	Power supply	V/Ph/Hz	230/1/50		400/3+N/50		
	Max. running current	A	26	35	13	15	19
	Max. starting current	A	102	165	45	69	106
Water circuit	Water flow	l/s	0.54	0.75	0.54	0.75	1.07
	Pump available static pressure	kPa	231	185	231	185	156
	Water connections	"G	1"	1"	1"	1"	1"
Sound pressure	STD version (6)	dB(A)	52	52	52	52	52
	Transport weight	Kg	205	208	205	208	210
Weights	Operating weight	Kg	209	212	209	212	214

DIMENSIONS			41*	51*	41**	51**	71
L	STD	mm	1160	1160	1160	1160	1160
W	STD	mm	500	500	500	500	500
H	STD	mm	1270	1270	1270	1270	1270

CLEARANCE AREA

CHA/ML/ST 41÷71

200	200	800	200
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Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
 6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP version are specified on technical brochure.
 N.B. * = Single phase
 N.B. ** = Three phase



CHA/ML/ST 91÷151

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER AND HYDRONIC KIT.



MIDYLINE, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to production of hot water up to 60 °C and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The MIDYLINE series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the MIDYLINE series, which is indeed combined with terminal units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which renders the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.

MIDYLINE

AQUALOGIK

VERSION

CHA/ML/ST

Heat Pump with AQUALOGIK technology

CHA/ML/WP/ST

Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, completed with water differential pressure switch and antifreeze heater.
- R407C refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

EH	Supplementary electrical heater
KC	Gas burner integration Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

CHA/ML/ST 91÷151



MODEL			91	101	151
Heating	Heating capacity (1)	kW	30.7	40.2	52.6
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.84	3.69	3.87
	Heating capacity (2)	kW	29.8	40.0	50.2
	Absorbed power (2)	kW	6.7	9.2	11.4
	COP (2)		4.45	4.35	4.40
Heating (EN14511)	Heating capacity (1)	kW	31.4	41.1	53.5
	Absorbed power (1)	kW	8.0	10.9	13.6
	COP (1)		3.93	3.77	3.93
	EUROVENT Class		A	A	A
	SCOP (3)		3.93	3.74	3.74
	Energy Efficiency (3)	%	153	145	145
Cooling	Energy Class (3)		A++	A+	A+
	Cooling capacity (4)	kW	20.4	28.9	37.3
	Absorbed power (4)	kW	6.6	9.3	11.7
	EER (4)		3.09	3.11	3.19
	Cooling capacity (5)	kW	27.6	39.3	47.8
	Absorbed power (5)	kW	7.7	10.7	12.8
Cooling (EN14511)	EER (5)		3.58	3.67	3.73
	Cooling capacity (4)	kW	19.8	28.2	36.5
	Absorbed power (4)	kW	7.2	10.0	12.5
	EER (4)		2.75	2.82	2.92
	ESEER		3.11	3.16	3.27
	EUROVENT Class		C	C	B
Compressor	Quantity	n°	1	1	1
	Power supply	V/Ph/Hz		400/3/50	
Integrated electrical coils	Heating capacity	kW	6/10	6/10	6/10
	Absorbed current	A	26/43	26/43	26/43
	Steps	n°	2	2	2
	Power supply	V/Ph/Hz		400/3+N/50	
Electrical characteristics	Max. running current	A	28	36	42
	Max. starting current	A	109	139	179
	Water flow	l/s	1.47	1.92	2.51
Water circuit	Pump available static pressure	kPa	230	227	195
	Water connections	"G	1"	1"	1"
	STD version (6)	dB(A)	61	62	64
Weights	Transport weight	Kg	220	235	265
	Operating weight	Kg	224	239	269

DIMENSIONS			91	101	151
L	STD	mm	1850	1850	1850
W	STD	mm	1000	1000	1000
H	STD	mm	1300	1300	1300

CLEARANCE AREA

CHA/ML/ST 91÷151

500	800	800	800
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Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
 6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP version are specified on technical brochure.

FROM 57 KW TO 114 KW.

CHA/ML/ST 182-P÷302-P

A CLASS ENERGY EFFICIENCY AIRCOOLED DEDICATED HEAT PUMPS WITH DOMESTIC HOT WATER PRODUCTION, AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER AND HYDRONIC KIT.



MIDYLINE, featuring A CLASS energy efficiency, is the innovative series of Heat Pumps dedicated to production of hot water up to 60 °C and operation up to -20 °C external air temperature, with Scroll compressors, axial fans and integrated hydronic unit. The unit, designed to originate and control – throughout the year – the best comfort conditions in rooms with a high rate of daily attendance, such as enclosed areas destined to the activities of the service sector, autonomously handles winter heating, summer air conditioning and the production of high temperature sanitary hot water. The MIDYLINE series, designed with an extremely compact structure for simple installation operations, uses only the electric energy and the heat accumulated in the air, to transfer heat to the rooms, thus allowing considerable energy savings, a high rate of reliability and the shortest start-up times. Flexibility is the main feature of the MIDYLINE series, which is indeed combined with terminal units and managed by the innovative, intelligent AQUALOGIK control and optimization system, which renders the use of an inertial tank unnecessary and guarantees performances with elevated energy efficiency and silent functioning.

MIDYLINE

AQUALOGIK

VERSION

CHA/ML/ST

Heat Pump with AQUALOGIK technology

CHA/ML/SSL/ST

Super silenced Heat Pump with AQUALOGIK technology

CHA/ML/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CHA/ML/WP/SSL/ST

Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with flow switch and antifreeze heater.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and pump, thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
DS	Desuperheater
KC	Gas burner integration Kit

SS	Soft start
TX	Coil with pre-coated fins
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

HW	Storage tank for domestic hot water production
MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/ML/ST 182-P÷302-P

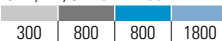


MODEL			182-P	202-P	262-P	302-P
Heating	Heating capacity (1)	kW	57.2	78.3	92.7	114
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.51	3.76	3.61	3.38
	Heating capacity (2)	kW	55.7	74.4	91.1	112
	Absorbed power (2)	kW	13.7	17.4	21.5	27.1
Heating (EN14511)	COP (2)		4.07	4.28	4.24	4.13
	Heating capacity (1)	kW	58.0	79.2	93.6	116
	Absorbed power (1)	kW	16.3	20.8	25.7	33.7
	COP (1)		3.56	3.81	3.64	3.43
	EUROVENT Class		A	A	A	A
Cooling	SCOP (3)		4.36	3.93	3.87	3.72
	Energy Efficiency (3)	%	170	153	151	145
	Energy Class (3)		A++	A++	A++	A+
	Cooling capacity (4)	kW	44.3	60.4	78.6	101
	Absorbed power (4)	kW	16.4	23.6	34.8	39.1
Cooling (EN14511)	EER (4)		2.70	2.56	2.26	2.58
	Cooling capacity (5)	kW	60.3	81.8	101	130
	Absorbed power (5)	kW	18.7	27.5	37.6	42.2
	EER (5)		3.22	2.97	2.69	3.08
	Cooling capacity (4)	kW	43.6	59.6	77.7	99.7
Compressor	Absorbed power (4)	kW	17.1	24.4	35.7	40.4
	EER (4)		2.55	2.44	2.18	2.47
	ESEER		3.08	2.99	2.81	2.96
	EUROVENT Class		D	E	F	E
	Quantity	n°	2	2	2	2
Electrical characteristics	Refrigerant circuits	n°	2	2	2	2
	Capacity steps	n°	2			
	Power supply	V/Ph/Hz	400/3/50			
	Max. running current	A	44	56	68	84
Water circuit	Max. starting current	A	125	159	205	246
	Water flow	l/s	2.73	3.74	4.43	5.46
	Pump available static pressure	kPa	150	130	110	135
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (6)	dB(A)	60	61	62	64
	With SL accessory (6)	dB(A)	58	59	60	62
	SSL version (6)	dB(A)	56	57	58	60
Weights	Transport weight	Kg	746	837	856	913
	Operating weight	Kg	755	855	875	935

DIMENSIONS			182-P	202-P	262-P	302-P
L	STD	mm	2350	2350	2350	2350
	SSL	mm	2350	2350	2350	3550
W	STD/SSL	mm	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220
	SSL	mm	2220	2220	2220	2220

CLEARANCE AREA

CHA/ML/ST 182-P ÷ 302-P



Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
 6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL and WP versions are specified on technical brochure.



CHAPTER 2

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS FOR
COMMERCIAL & INDUSTRIAL APPLICATION

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FROM 22 KW TO 50 KW.

CHA/IK/A/WP 91÷152

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS AND PLATE EXCHANGER.

NEW



The reversible Heat Pumps of the CHA/IK/A/WP 91÷152 series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.

They are used, combined with terminal units, for the heating or air conditioning of the rooms and can be supplied with Modbus RTU protocol through RS485 serial interface. Units are equipped with axial fans, Inverter Scroll compressors and plate-type exchangers. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



INVERTER SCROLL

VERSION

CHA/IK/A/WP

Reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water flow switch and antifreeze heater.
- Electronic thermostatic valve.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.
- Communication with Modbus RTU protocol through RS485 serial interface.

ACCESSORIES

FACTORY FITTED ACCESSORIES

SL	Unit silencement
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump

LOOSE ACCESSORIES

CR	Remote control panel
AG	Rubber shock absorbers

CHA/IK/A/WP 91÷152



MODEL			91	102	132	152
Heating	Heating capacity (1)	kW	22.2	33.4	41.7	49.7
	Absorbed power (1)	kW	6.5	10.1	12.7	15.5
	COP (1)		3.42	3.31	3.28	3.21
	Heating capacity (2)	kW	24.9	34.1	49.1	52.4
	Absorbed power (2)	kW	5.7	8.6	12.2	12.9
Heating (EN14511)	COP (2)		4.37	3.97	4.02	4.06
	Heating capacity (1)	kW	22.1	33.2	41.4	49.3
	Absorbed power (1)	kW	6.4	9.9	12.4	15.1
	COP (1)		3.45	3.35	3.34	3.26
	EUROVENT Class (1)		A	A	A	A
	Heating capacity (2)	kW	24.7	33.9	48.7	52.0
	Absorbed power (2)	kW	5.6	8.4	11.9	12.6
	COP (2)		4.41	4.04	4.09	4.13
	SCOP (3)		2.58	2.58	2.58	2.58
	Energy Efficiency (3)	%	100	100	100	100
Cooling	Energy Class (3)		A+	A+	A+	A+
	Cooling capacity (4)	kW	20.9	27.3	36.0	42.6
	Absorbed power (4)	kW	6.5	9.1	12.7	14.2
	EER (4)		3.22	3.00	2.83	3.00
	Cooling capacity (5)	kW	30.2	36.2	48.4	56.7
	Absorbed power (5)	kW	7.0	9.1	12.8	14.3
	EER (5)		4.31	3.98	3.78	3.97
Cooling (EN14511)	Cooling capacity (4)	kW	21.0	27.5	36.3	43.0
	Absorbed power (4)	kW	6.4	8.9	12.4	13.8
	EER (4)		3.28	3.09	2.93	3.12
	ESEER		3.93	4.05	3.61	4.73
	EUROVENT Class (4)		A	B	B	A
	Cooling capacity (5)	kW	30.4	36.4	48.8	57.2
	Absorbed power (5)	kW	6.8	8.9	12.5	13.9
	EER (5)		4.47	4.09	3.90	4.12
Compressor	Quantity	n°	1	2	2	2
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Evaporator	Water flow	l/s	1.01	1.32	1.74	2.06
	Pressure drops	kPa	30	34	48	60
	Water connections	"G	2"	2"	2"	2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	22	28	42	45
	Max. starting current	A	14	18	27	32
Unit with pump	Pump available static pressure	kPa	85	75	70	85
	Water connections	"G	2"	2"	2"	2"
Sound pressure	STD version (6)	dB(A)	55	57	60	62
	With SL accessory (6)	dB(A)	53	55	58	60
Weights	Transport weight	Kg	365	420	440	460
	Operating weight	Kg	355	415	420	440

DIMENSIONS			91	102	132	152
L	STD	mm	1200	1200	1200	1200
W	STD	mm	1200	1200	1200	1200
H	STD	mm	1670	1670	1740	1740

CLEARANCE AREA

CHA/IK/A/WP 91-152

850 | 1000 | 1500 | 500



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
2. Heated water from 30 to 35 °C, ambient air temperature 7 °C d.b./6 °C w.b.
3. Seasonal energy efficiency of ambient heating at medium temperature with average climatic conditions. According to EU Regulation n. 811/2013.
4. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
5. Chilled water from 23 to 18 °C, ambient air temperature 35 °C.
6. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side

CHA/K 91÷151

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSOR AND PLATE EXCHANGER.



The liquid Chillers and Heat Pumps of the CHA/K 91÷151 series, with R410A refrigerant, are designed to satisfy the needs of small and medium domestic and service sector environments.

With a peraluman structure corrosion-resistant over time, these units can be combined with terminal units or with intermediate heat exchangers for process cooling applications. Available in the versions with or without pumping kit, these units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation.

A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA/K	CHA/K/SP
Cooling only	Cooling only with tank and pump
CHA/K/WP	CHA/K/WP/SP
Reversible Heat Pump	Reversible Heat Pump with tank and pump

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

CHA/K 91÷151

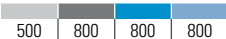


MODEL			91	101	131	151
Cooling	Cooling capacity (1)	kW	24.8	28.6	33.4	42.2
	Absorbed power (1)	kW	8.3	10.7	11.7	14.5
	EER (1)		2.99	2.67	2.85	2.91
Cooling (EN14511)	Cooling capacity (1)	kW	24.6	28.3	33.2	41.9
	Absorbed power (1)	kW	8.5	11.0	11.9	14.8
	EER (1)		2.90	2.58	2.78	2.84
	ESEER		3.37	3.04	3.22	3.28
Heating	Heating capacity (2)	kW	30.6	36.7	41.6	55.3
	Absorbed power (2)	kW	9.7	11.8	12.8	17.3
	COP (2)		3.15	3.11	3.25	3.20
Heating (EN14511)	Heating capacity (2)	kW	30.6	36.7	41.6	55.3
	Absorbed power (2)	kW	9.8	11.8	12.9	17.4
	COP (2)		3.12	3.11	3.22	3.18
	SCOP (3)		3.11	3.08	3.18	3.21
	Energy Efficiency (3)	%	121	120	124	125
Compressor	Quantity	n°	1	1	1	1
	Water flow	l/s	1.18	1.37	1.60	2.02
Evaporator	Pressure drops	kPa	39	51	37	39
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	21	24	27	33
	Max. starting current	A	144	146	151	201
Unit with tank and pump	Pump available static pressure	kPa	212	169	178	161
	Tank water volume	l	300	300	300	300
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	51	52	52	52
Weights	Transport weight (5)	Kg	220	235	265	279
	Operating weight (5)	Kg	223	238	268	282

DIMENSIONS			91	101	131	151
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	1000	1000	1000	1000
H	STD/SP	mm	1300	1300	1300	1300

CLEARANCE AREA

CHA/K 91÷151



NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 5. Unit without tank and pump.
- N.B. Weights of WP versions are specified on technical brochure.

Electrical board side

FROM 25 KW TO 42 KW.

CHA/K/ST 91÷151

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSOR, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



CHA/K/ST 91÷151 series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed to meet the needs of small and medium-sized domestic or service sector ambients.

With a corrosion-resistant peraluman structure, they are combined with terminal units and managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Particular design features enable immediate and effective use, easy installation and lasting reliability.

A wide range of accessories, factory fitted or supplied separately, completes the outstanding versatility and functionality of the series.



AQUALOGIK

VERSION

CHA/K/ST

Cooling only with AQUALOGIK technology

CHA/K/WP/ST

Reversible Heat Pump with AQUALOGIK technology

FEATURES

- Structure with supporting frame, in peraluman and galvanized sheet.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: variable speed circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

CHA/K/ST 91÷151



MODEL			91	101	131	151
Cooling	Cooling capacity (1)	kW	24.8	28.6	33.4	42.2
	Absorbed power (1)	kW	8.3	10.7	11.7	14.5
	EER (1)		2.99	2.67	2.85	2.91
Cooling (EN14511)	Cooling capacity (1)	kW	24.6	28.3	33.2	41.9
	Absorbed power (1)	kW	8.5	11.0	11.9	14.8
	EER (1)		2.90	2.58	2.78	2.84
	ESEER		3.37	3.04	3.22	3.28
Heating	Heating capacity (2)	kW	30.6	36.7	41.6	55.3
	Absorbed power (2)	kW	9.7	11.8	12.8	17.3
	COP (2)		3.15	3.11	3.25	3.20
Heating (EN14511)	Heating capacity (2)	kW	30.6	36.7	41.6	55.3
	Absorbed power (2)	kW	9.8	11.8	12.9	17.4
	COP (2)		3.12	3.11	3.22	3.18
	SCOP (3)		3.11	3.08	3.18	3.21
	Energy Efficiency (3)	%	121	120	124	125
Compressor	Quantity	n°	1	1	1	1
	Energy Class (3)		A	A	A+	A+
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	25	28	32	38
	Max. starting current	A	148	150	156	206
Water circuit	Water flow	l/s	1.18	1.37	1.60	2.02
	Pump available static pressure	kPa	221	181	250	181
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD version (4)	dB(A)	51	52	52	52
Weights	Transport weight	Kg	230	245	280	294
	Operating weight	Kg	233	248	283	297

DIMENSIONS			91	101	131	151
L	STD	mm	1850	1850	1850	1850
W	STD	mm	1000	1000	1000	1000
H	STD	mm	1300	1300	1300	1300

CLEARANCE AREA

CHA/K/ST 91÷151

500	800	800	800
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Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP version are specified on technical brochure.

FROM 28 KW TO 43 KW.

CHA/K/FC 91÷151

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSOR AND PLATE EXCHANGER.



The liquid Chillers of the CHA/K/FC 91 ÷ 151 series, with R410A refrigerant, offer innovative technology to meet the needs of systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.

During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.



FREE COOLING

VERSION

CHA/K/FC

Cooling only

CHA/K/FC/SP

Cooling only with tank and pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fan type with low ventilation and special wing profile, directly coupled to external rotor motors.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

PS	Single circulating pump
BT	Low water temperature Kit
TX	Coil with pre-coated fins

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

MODEL			91	101	131	151
Cooling	Cooling capacity (1)	kW	27.9	31.4	37.3	42.8
	Absorbed power (1)	kW	9.5	11.0	13.9	15.6
	EER (1)		2.51	2.60	2.45	2.30
Free-Cooling cycle	Air temperature (2)	°C	-1.7	-2.7	0.5	-1.2
	Absorbed power (2)	kW	0.98	0.98	1.96	1.96
Compressor	Quantity	n°	1	1	1	1
	Water flow	l/s	1.55	1.74	2.07	2.37
Water circuit	Pressure drops	kPa	117	142	132	141
	Water connections	"G	1"	1"	1"	1"
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50			
	Max. running current	A	20	22	29	32
	Max. starting current	A	144	144	162	201
Unit with tank and pump	Pump available static pressure	kPa	109	152	150	129
	Tank water volume	l	150	150	150	150
	Water connections	"G	1"	1"	1"	1"
Sound pressure	STD/SP version (3)	dB(A)	51	52	52	52
Weights	Transport weight (4)	Kg	415	430	470	485
	Operating weight (4)	Kg	437	452	499	515

DIMENSIONS			91	101	131	151
L	STD/SP	mm	1850	1850	1850	1850
W	STD/SP	mm	900	900	900	900
H	STD/SP	mm	1840	1840	1840	1840

CLEARANCE AREA

CHA/K/FC 91÷151

500 | 800 | 800 | 800



NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

CHA/IK/A 172-P÷574-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.



The A CLASS energy efficiency liquid Chillers of the CHA/IK/A 172-P÷574-P series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients.

They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with axial fans, Inverter Scroll compressors, Microchannel condensing coils and plate-type exchanger, even in the super silent version. The Microchannel condensing coils ensure an high efficiency (high EER), having a better heat exchange than traditional coils. A better efficiency at partial loads (ESEER/IPLV) is guaranteed by the Inverter control on Scroll compressor. Furthermore, Inverter control is also available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



INVERTER SCROLL

MICROCHANNEL

VERSION

CHA/IK/A

Cooling only

CHA/IK/A/SSL

Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 192-P÷472-P models; with two independent circuits on the refrigerant side and one on the water side in 534-P÷634-P models, complete with water differential pressure switch.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans

DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/IK/A 172-P÷574-P



MODEL			172-P	192-P	212-P	232-P	272-P	302-P	352-P	372-P	484-P	574-P
Cooling	Cooling capacity (1)	kW	49.9	57.7	65.7	74.8	85.9	97.7	112	130	152	179
	Absorbed power (1)	kW	15.4	17.9	20.2	23.4	26.7	30.0	34.7	40.1	46.7	55.0
	EER (1)		3.24	3.22	3.25	3.20	3.22	3.26	3.23	3.24	3.25	3.25
Cooling (EN14511)	Cooling capacity (1)	kW	49.6	57.4	65.4	74.4	85.4	97.2	112	129	151	178
	Absorbed power (1)	kW	15.7	18.2	20.5	23.8	27.2	30.5	35.2	40.7	47.3	55.6
	EER (1)		3.16	3.15	3.19	3.13	3.14	3.19	3.18	3.17	3.19	3.20
	ESEER		4.11	4.17	4.07	4.03	3.97	4.13	4.05	4.06	4.01	4.04
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.38	2.76	3.14	3.57	4.10	4.67	5.35	6.21	7.26	8.55
	Pressure drops	kPa	41	40	32	39	47	40	35	44	33	30
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	45	45	54	54	63	69	89	89	112	129
	Max. starting current	A	128	128	176	176	187	237	230	230	245	297
Unit with pump	Pump available static pressure	kPa	130	120	120	105	125	160	150	125	105	115
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (2)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (2)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (2)	dB(A)	53	53	57	57	56	56	57	57	---	---
Weights	Transport weight	Kg	584	653	712	721	730	817	1036	1045	1379	1424
	Operating weight	Kg	590	660	720	730	740	830	1050	1060	1400	1450

DIMENSIONS			172-P	192-P	212-P	232-P	272-P	302-P	352-P	372-P	484-P	574-P
L	STD	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

CHA/IK/A 172-P÷574-P

300 | 800 | 800 | 1800



NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

CHA/TK/A 182-P÷604-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, DIGITAL SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.



The A CLASS energy efficiency liquid Chillers of the CHA/TK/A 182-P÷604-P series, with R410A refrigerant, are designed to satisfy the needs of medium-sized service sector or industrial ambients.

They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with axial fans, Digital Scroll compressors, Microchannel condensing coils and plate-type exchanger, even in the super silent version. The Microchannel condensing coils ensure an high efficiency (high EER), having a better heat exchange than traditional coils. A better efficiency at partial loads (ESEER/IPLV) is guaranteed by the Digital Scroll technology on compressor. Furthermore, Inverter control is available on circulating pump and fans (EC Inverter) for a further efficiency improvement. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



DIGITAL SCROLL

MICROCHANNEL

VERSION

CHA/TK/A

Cooling only

CHA/TK/A/SSL

Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DIGITAL Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans

DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/TK/A 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	51.4	59.4	68.9	79.2	90.6	103	120	137	157	185
	Absorbed power (1)	kW	16.1	18.6	21.7	24.9	28.3	32.2	37.7	43.1	49.7	58.5
	EER (1)		3.19	3.19	3.18	3.18	3.20	3.20	3.18	3.18	3.16	3.16
Cooling (EN14511)	Cooling capacity (1)	kW	51.1	59.0	68.6	78.8	90.1	102	119	136	156	184
	Absorbed power (1)	kW	16.4	19.0	22.0	25.3	28.8	32.7	38.2	43.8	50.3	59.1
	EER (1)		3.12	3.11	3.12	3.11	3.13	3.12	3.12	3.11	3.10	3.11
	ESEER		3.89	3.90	3.92	3.83	3.89	3.79	3.76	3.89	3.77	3.99
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	2.46	2.84	3.29	3.78	4.33	4.92	5.73	6.55	7.50	8.84
	Pressure drops	kPa	42	41	33	40	48	42	36	45	34	31
	Water connections	"G	1 ½"	1 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	38	44	51	57	68	73	85	102	113	136
	Max. starting current	A	132	142	148	172	212	169	200	246	229	280
Unit with pump	Pump available static pressure	kPa	130	120	115	105	130	160	155	135	115	125
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"
Sound pressure	STD version (2)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (2)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (2)	dB(A)	53	53	57	57	56	56	57	57	---	---
Weights	Transport weight	Kg	564	643	692	701	710	837	976	985	1359	1394
	Operating weight	Kg	570	650	700	710	720	850	990	1000	1380	1420

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	3550	3550	3550	4700	4700
	SSL	mm	2350	2350	2350	3550	3550	3550	4700	4700	---	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	1920	2220	2220	2220	2220	1920	2220	2220	2220	2220
	SSL	mm	1920	2220	2220	1920	1920	2220	2220	2220	---	---

CLEARANCE AREA

CHA/TK/A 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

CHA/K/A/WP 182-P÷604-P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The reversible Heat Pumps of the CHA/K/A/WP 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients and feature A CLASS energy efficiency.

They are used, combined with terminal units, for the heating or air conditioning of the rooms and can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA/K/A/WP

Reversible Heat Pump

CHA/K/A/WP/SSL

Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P ÷ 604-P models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank

PS	Single circulating pump
PD	Double circulating pump
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/A/WP 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Heating	Heating capacity (1)	kW	55.7	63.6	71.4	81.6	94.2	109	124	142	163	197
	Absorbed power (1)	kW	16.9	19.5	21.8	24.4	28.2	33.3	37.2	43.2	49.9	59.0
	COP (1)		3.30	3.26	3.28	3.34	3.34	3.27	3.33	3.29	3.27	3.34
Heating (EN14511)	Heating capacity (1)	kW	56.0	63.9	71.7	81.9	94.6	109	124	143	164	198
	Absorbed power (1)	kW	17.1	19.8	22.2	24.8	28.6	33.7	37.8	44.1	50.9	60.2
	COP (1)		3.27	3.23	3.23	3.30	3.31	3.23	3.28	3.24	3.22	3.29
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	SCOP (2)		3.47	3.38	3.40	3.58	3.68	3.56	3.75	3.65	3.71	3.72
	Energy Efficiency (2)	%	135	132	133	140	144	139	147	143	145	146
Cooling	Energy Class (2)		A+	A+	A+	A+	-	-	-	-	-	-
	Cooling capacity (3)	kW	48.2	54.9	62.5	71.9	82.3	94.5	108	125	139	161
	Absorbed power (3)	kW	15.8	18.7	20.7	23.7	28.5	32.0	35.6	41.8	48.0	56.7
Cooling (EN14511)	EER (3)		3.05	2.94	3.02	3.03	2.89	2.95	3.03	2.99	2.90	2.84
	Cooling capacity (3)	kW	48.0	54.6	62.2	71.6	82.0	94.2	108	124	138	160
	Absorbed power (3)	kW	16.0	19.0	21.0	24.0	28.8	32.3	36.0	42.4	48.6	57.4
	EER (3)		3.00	2.87	2.96	2.98	2.85	2.92	3.00	2.92	2.84	2.79
	ESEER		3.71	3.70	3.71	3.81	3.90	3.85	3.66	3.63	3.78	3.67
	EUROVENT Class		B	C	B	B	C	B	B	B	C	C
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2					3			4	
Evaporator	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pressure drops	kPa	28	30	31	28	28	23	29	39	38	37
	Water connections	"G	1 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	72	81	102	109	132
	Max. starting current	A	130	140	144	169	209	169	197	246	225	276
Unit with tank and pump	Pump available static pressure	kPa	140	135	130	125	160	175	160	140	130	140
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	56	56	57	57	57	58
Weights	Transport weight (5)	Kg	635	644	693	760	807	926	1076	1126	1235	1414
	Operating weight (5)	Kg	640	650	700	770	820	940	1090	1140	1250	1430

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/A/WP 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 5. Unit without tank and pump.
- N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

CHA/K/A/WP/ST 182-P÷604-P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



CHA/K/A/WP/ST 182-P÷604-P series reversible Heat Pumps, with R410A refrigerant, AQUALOGIK technology and A CLASS energy efficiency, are designed for medium-sized service sector or industrial-type ambients.

They are used, together with terminal units, for the heating or air conditioning of rooms and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.



AQUALOGIK

VERSION

CHA/K/A/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CHA/K/A/WP/SSL/ST

Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system with AQUALOGIK technology.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins

SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/A/WP/ST 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Heating	Heating capacity (1)	kW	55.7	63.6	71.4	81.6	94.2	109	124	142	163	197
	Absorbed power (1)	kW	16.9	19.5	21.8	24.4	28.2	33.3	37.2	43.2	49.9	59.0
	COP (1)		3.30	3.26	3.28	3.34	3.34	3.27	3.33	3.29	3.27	3.34
Heating (EN14511)	Heating capacity (1)	kW	56.0	63.9	71.7	81.9	94.6	109	124	143	164	198
	Absorbed power (1)	kW	17.1	19.8	22.2	24.8	28.6	33.7	37.8	44.1	50.9	60.2
	COP (1)		3.27	3.23	3.23	3.30	3.31	3.23	3.28	3.24	3.22	3.29
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	SCOP (2)		3.47	3.38	3.40	3.58	3.68	3.56	3.75	3.65	3.71	3.72
	Energy Efficiency (2)	%	135	132	133	140	144	139	147	143	145	146
Cooling	Energy Class (2)		A+	A+	A+	A+	-	-	-	-	-	-
	Cooling capacity (3)	kW	48.2	54.9	62.5	71.9	82.3	94.5	108	125	139	161
	Absorbed power (3)	kW	15.8	18.7	20.7	23.7	28.5	32.0	35.6	41.8	48.0	56.7
	EER (3)		3.05	2.94	3.02	3.03	2.89	2.95	3.03	2.99	2.90	2.84
Cooling (EN14511)	Cooling capacity (3)	kW	48.0	54.6	62.2	71.6	82.0	94.2	108	124	138	160
	Absorbed power (3)	kW	16.0	19.0	21.0	24.0	28.8	32.3	36.0	42.4	48.6	57.4
	EER (3)		3.00	2.87	2.96	2.98	2.85	2.92	3.00	2.92	2.84	2.79
	ESEER		3.71	3.70	3.71	3.81	3.90	3.85	3.66	3.63	3.78	3.67
	EUROVENT Class		B	C	B	B	C	B	B	B	C	C
Compressors	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2			3			4			
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	77	86	106	114	136
	Max. starting current	A	133	143	148	173	212	173	201	250	229	280
Water circuit	Water flow	l/s	2.30	2.62	2.99	3.44	3.93	4.52	5.16	5.97	6.64	7.69
	Pump available static pressure	kPa	140	135	130	125	160	150	145	130	120	105
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sound pressure	STD version (4)	dB(A)	57	57	61	61	61	61	62	62	62	62
	With SL accessory (4)	dB(A)	55	55	59	59	59	59	60	60	60	60
	SSL version (4)	dB(A)	53	53	57	57	56	56	57	57	57	58
Weights	Transport weight	Kg	650	659	708	775	822	946	1096	1146	1255	1434
	Operating weight	Kg	655	665	715	785	830	960	1110	1160	1270	1450

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	4700	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/A/WP/ST 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

FROM 48 KW TO 178 KW.

CHA/K 182-P÷604-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The liquid Chillers and Heat Pumps of the CHA/K 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.

They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA/K	CHA/K/SSL
Cooling only	Super silenced cooling only
CHA/K/WP	CHA/K/WP/SSL
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank

PS	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178
	Absorbed power (1)	kW	16.1	18.8	21.8	25.0	28.3	31.6	37.9	43.3	50.1	58.2
	EER (1)		2.96	2.92	2.91	2.92	2.95	3.03	2.90	2.93	2.93	3.06
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	95.3	110	126	147	177
	Absorbed power (1)	kW	16.4	19.2	22.2	25.4	28.7	32.3	38.5	43.9	50.9	59.2
	EER (1)		2.88	2.84	2.84	2.85	2.89	2.95	2.85	2.87	2.88	2.99
Heating	ESEER		3.64	3.52	3.50	3.64	3.85	3.62	3.40	3.51	3.52	3.64
	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (2)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4
Heating (EN14511)	COP (2)		3.13	3.15	3.09	3.16	3.14	3.17	3.12	3.08	3.05	3.10
	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (2)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4
Heating (EN14511)	COP (2)		3.13	3.15	3.09	3.16	3.14	3.16	3.12	3.08	3.06	3.10
	SCOP (3)		3.33	3.29	3.22	3.38	3.46	3.48	3.51	3.41	3.50	3.48
	Energy Efficiency (3)	%	130	128	125	132	135	136	137	133	137	136
Compressor	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Evaporator	Capacity steps	n°	2			3			4			
	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pressure drops	kPa	45	48	43	48	43	58	46	53	48	48
Electrical characteristics	Water connections	"G	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
Unit with tank and pump	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
	Pump available static pressure	kPa	120	110	110	110	140	150	140	120	110	100
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
Sound pressure	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version (4)	dB(A)	56	56	60	60	60	60	61	61	61	61
	With SL accessory (4)	dB(A)	54	54	58	58	58	58	59	59	59	59
Weights	SSL version (4)	dB(A)	52	52	56	56	56	55	55	55	56	---
	Transport weight (5)	Kg	595	624	663	682	791	878	927	1036	1135	1374
	Operating weight (5)	Kg	600	630	670	690	800	890	940	1050	1150	1390

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K 182-P÷604-P

300	800	800	1800
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NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Unit without tank and pump.
- N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

CHA/K/ST 182-P÷604-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



CHA/K/ST 182-P÷604-P series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial-type ambients.

They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes.

They are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Equipped with axial fans, Scroll compressors and plate-type exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.



AQUALOGIK

VERSION

CHA/K/ST

Cooling only with AQUALOGIK technology

CHA/K/SSL/ST

Super silenced cooling only with AQUALOGIK technology

CHA/K/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CHA/K/WP/SSL/ST

Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater

RT	Total heat recovery
FE	Antifreeze heater for evaporator
TX	Coil with pre-coated fins
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/ST 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P	
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178	
	Absorbed power (1)	kW	16.1	18.8	21.8	25.0	28.3	31.6	37.9	43.3	50.1	58.2	
	EER (1)		2.96	2.92	2.91	2.92	2.95	3.03	2.91	2.93	2.94	3.05	
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	95.3	110	126	147	177	
	Absorbed power (1)	kW	16.4	19.2	22.2	25.4	28.7	32.3	38.5	43.9	50.9	59.2	
	EER (1)		2.88	2.84	2.84	2.85	2.89	2.95	2.85	2.87	2.88	2.99	
Heating	ESEER		3.64	3.52	3.50	3.64	3.85	3.62	3.40	3.51	3.52	3.64	
	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187	
	Absorbed power (2)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4	
Heating (EN14511)	COP (2)		3.13	3.15	3.09	3.16	3.14	3.16	3.12	3.08	3.06	3.10	
	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187	
	Absorbed power (2)	kW	17.3	19.6	23.1	25.4	28.8	33.4	38.5	43.8	50.5	60.4	
Compressors	COP (2)		3.13	3.15	3.09	3.16	3.14	3.16	3.12	3.08	3.06	3.10	
	SCOP (3)		3.33	3.29	3.22	3.38	3.46	3.48	3.51	3.41	3.50	3.48	
	Energy Efficiency (3)	%	130	128	125	132	135	136	137	133	137	136	
Electrical characteristics	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-	
	Quantity	n°	2	2	2	2	2	3	3	3	4	4	
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2	
Water circuit	Capacity steps	n°				2			3			4	
	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	39	45	51	57	68	73	86	102	110	136	
Sound pressure	Max. starting current	A	133	143	148	173	212	170	201	246	226	280	
	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49	
	Pump available static pressure	kPa	120	110	110	100	140	130	125	110	95	65	
Weights	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	
	STD version (4)	dB(A)	56	56	60	60	60	60	61	61	61	61	
	With SL accessory (4)	dB(A)	54	54	58	58	58	58	59	59	59	59	
Weights	SSL version (4)	dB(A)	52	52	56	56	56	55	55	55	56	---	
	Transport weight	Kg	610	639	678	697	806	898	947	1056	1155	1394	
	Operating weight	Kg	615	645	685	705	815	910	960	1070	1170	1410	

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/ST 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B.** Weights of SSL and WP versions are specified on technical brochure.

FROM 53 KW TO 174 KW.

CHA/K/FC 182-P÷604-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The liquid Chillers of the CHA/K/FC 182-P÷604-P series, with R410A refrigerant, offer innovative technology for both domestic as well as industrial applications requiring the production of cooled water continuously year-round.

During the cold months, in the **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Scroll compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.



FREE COOLING

VERSION

CHA/K/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch.
- R410A refrigerant.
- Digital high and low pressure gauges.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump

SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	52.7	59.5	68.1	76.7	85.7	99.1	114	130	151	174
	Absorbed power (1)	kW	18.1	20.3	23.3	26.1	29.3	36.8	42.2	48.4	54.4	64.9
	EER (1)		2.91	2.93	2.92	2.94	2.92	2.69	2.70	2.69	2.78	2.68
Free-Cooling cycle	Air temperature (2)	°C	2.1	1.3	0.0	-2.4	-3.5	1.0	0.0	-1.1	-3.0	-4.8
	Absorbed power (2)	kW	2	2	2	2	2	6	6	6	8	8
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2			3			4			
Water circuit	Water flow	l/s	2.72	3.07	3.52	3.96	4.43	5.09	5.88	6.70	7.78	8.93
	Pressure drops	kPa	115	105	120	100	100	100	135	145	102	106
	Water connections	"G	2"	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	76	85	102	113	136
	Max. starting current	A	130	140	144	169	209	173	201	246	229	280
Unit with tank and pump	Pump available static pressure	kPa	125	130	115	125	115	195	155	135	165	155
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sound pressure	STD version (3)	dB(A)	59	59	59	59	59	60	60	60	61	61
	With SL accessory (3)	dB(A)	57	57	57	57	57	58	58	58	59	59
Weights	Transport weight (4)	Kg	923	932	951	980	999	1308	1317	1350	1472	1510
	Operating weight (4)	Kg	970	980	1000	1030	1050	1390	1400	1435	1560	1600

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD	mm	3550	3550	3550	3550	3550	4700	4700	4700	4700	4700
W	STD	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD	mm	2220	2220	2220	2220	2220	2235	2235	2235	2235	2235

CLEARANCE AREA

CHA/K/FC 182-P÷604-P

300 | 800 | 800 | 1800



NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
4. Unit without tank and pump.

Electrical board side

CHA/K 182÷604

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The liquid Chillers and Heat Pumps of the CHA/K 182÷604 series, with R410A refrigerant, are designed for medium-sized service sector or industrial ambients.

They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA/K	CHA/K/SSL
Cooling only	Super silenced cooling only
CHA/K/WP	CHA/K/WP/SSL
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182 ÷ 453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank

PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/K 182÷604



MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	16.6	18.8	21.5	25.3	28.6	31.6	37.5	43.7	50.7	58.8
	EER (1)		2.95	2.93	2.90	2.90	2.95	3.01	2.91	2.95	2.94	3.04
Cooling (EN14511)	Cooling capacity (1)	kW	48.8	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	16.8	19.1	21.9	25.8	29.0	32.1	38.1	44.3	51.4	59.5
	EER (1)		2.90	2.86	2.83	2.82	2.89	2.95	2.83	2.89	2.88	2.99
Heating	ESEER		3.74	3.57	3.44	3.60	3.85	3.60	3.37	3.61	3.54	3.67
	Heating capacity (2)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (2)	kW	17.8	19.6	22.8	25.7	29.1	33.4	38.1	44.2	51.1	61.0
Heating (EN14511)	COP (2)		3.13	3.16	3.08	3.14	3.14	3.14	3.12	3.10	3.05	3.08
	Heating capacity (2)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (2)	kW	18.0	20.0	23.5	26.6	29.8	34.2	39.1	45.1	52.3	62.3
Compressor	COP (2)		3.11	3.11	3.01	3.06	3.08	3.10	3.07	3.06	3.00	3.03
	SCOP (3)		3.33	3.29	3.22	3.37	3.47	3.46	3.51	3.44	3.50	3.47
	Energy Efficiency (3)	%	130	128	125	131	135	135	137	134	137	136
Evaporator	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Unit with tank and pump	Capacity steps	n°			2			3			4	
	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pressure drops	kPa	22	29	50	55	40	39	45	36	43	38
Electrical characteristics	Water connections	"G	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	3"	3"	3"
	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	35	41	48	54	65	69	81	98	105	132
Sound pressure	Max. starting current	A	130	140	144	169	209	166	197	242	221	276
	Pump available static pressure	kPa	140	125	105	100	140	165	140	135	110	110
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
Weights	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version (4)	dB(A)	56	56	60	60	60	60	61	61	61	61
	With SL accessory (4)	dB(A)	54	54	58	58	58	58	59	59	59	59
Weights	SSL version (4)	dB(A)	52	52	56	56	56	55	55	55	56	---
	Transport weight (5)	Kg	641	661	701	719	844	931	971	1112	1192	1428
	Operating weight (5)	Kg	660	680	720	740	870	960	1000	1150	1230	1470

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K 182÷604

300	800	800	1800
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NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 5. Unit without tank and pump.
- N.B. Weights of SSL and WP versions are specified on technical brochure.

Electrical board side

CHA/K/ST 182÷604

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS, SHELL AND TUBE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



CHA/K/ST 182÷604 series liquid Chillers and Heat Pumps, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial-type ambients.

They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes.

They are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Equipped with axial fans, Scroll compressors and shell and tube exchanger, even in the super silent version, they are complete with a hydronic unit. A wide range of accessories, factory fitted or supplied separately, completes the extreme versatility and functionality of this range.



AQUALOGIK

VERSION

CHA/K/ST

Cooling only with AQUALOGIK technology

CHA/K/SSL/ST

Super silenced cooling only with AQUALOGIK technology

CHA/K/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CHA/K/WP/SSL/ST

Super silenced reversible Heat Pump with AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182 ÷ 453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater

HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/K/ST 182÷604



MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	16.6	18.8	21.5	25.3	28.6	31.6	37.5	43.7	50.7	58.8
	EER (1)		2.95	2.93	2.90	2.90	2.95	3.01	2.91	2.95	2.94	3.04
Cooling (EN14511)	Cooling capacity (1)	kW	48.8	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	16.8	19.1	21.9	25.8	29.0	32.1	38.1	44.3	51.4	59.5
	EER (1)		2.90	2.86	2.83	2.82	2.89	2.95	2.83	2.89	2.88	2.99
Heating	ESEER		3.74	3.57	3.44	3.60	3.85	3.60	3.37	3.61	3.54	3.67
	Heating capacity (2)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (2)	kW	17.8	19.6	22.8	25.7	29.1	33.4	38.1	44.2	51.1	61.0
Heating (EN14511)	COP (2)		3.13	3.16	3.08	3.14	3.14	3.14	3.12	3.10	3.05	3.08
	Heating capacity (2)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (2)	kW	18.0	20.0	23.5	26.6	29.8	34.2	39.1	45.1	52.3	62.3
	COP (2)		3.11	3.11	3.01	3.06	3.08	3.10	3.07	3.06	3.00	3.03
	SCOP (3)		3.33	3.29	3.22	3.37	3.47	3.46	3.51	3.44	3.50	3.47
	Energy Efficiency (3)	%	130	128	125	131	135	135	137	134	137	136
Compressors	Energy Class (3)		A+	A+	A+	A+	-	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Electrical characteristics	Capacity steps	n°	2					3			4	
	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	39	45	51	57	68	73	86	102	110	136
Water circuit	Max. starting current	A	133	143	148	173	212	170	201	246	226	280
	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pump available static pressure	kPa	140	125	105	100	140	140	125	130	105	75
Sound pressure	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version (4)	dB(A)	56	56	60	60	60	60	61	61	61	61
	With SL accessory (4)	dB(A)	54	54	58	58	58	58	59	59	59	59
Weights	SSL version (4)	dB(A)	52	52	56	56	56	55	55	55	56	---
	Transport weight	Kg	655	675	715	735	860	950	990	1130	1210	1450
	Operating weight	Kg	660	690	730	750	875	970	1010	1150	1230	1470

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	2350	3550	3550	3550	---
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/SSL	mm	1920	1920	1920	1920	2220	2220	2220	2220	2220	2220

CLEARANCE AREA

CHA/K/ST 182÷604

300 | 800 | 800 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL and WP versions are specified on technical brochure.

FROM 4,2 KW TO 33 KW.

CRA/K 15÷131

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, ROTARY/SCROLL COMPRESSOR AND PLATE EXCHANGER.



The indoor liquid Chillers and Heat Pumps of the CRA/K 15÷131 series, with R410A refrigerant, are designed for small and medium domestic or service sector systems with particular difficulty in positioning units outside the building.

With a prepainted plate structure, these units can be combined with terminal units or with intermediate heat exchangers for process cooling applications.

Available in the versions with or without pumping kit, these units are equipped with particular technical and design adjustments that enable an immediate and efficient use, in addition to remarkably quiet operation and a significant useful head of the fan.

A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CRA/K

Cooling only

CRA/K/SP

Cooling only with tank and pump

CRA/K/WP

Reversible Heat Pump

CRA/K/WP/SP

Reversible Heat Pump with tank and pump

FEATURES

- Self-supporting prepainted steel frame.
- Rotary/Scroll compressor with internal overheat protection and crankcase heater, if needed.
- Double inlet radial type fan statically and dynamically balanced directly driven by a electric motor (15÷81) or belt driven connected to a three-phase electric motor (91÷131).
- Condenser in copper tubes and aluminium finned coil complete with drain pan for WP version only.
- Evaporator AISI 316 stainless steel braze welded plates type, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical panel includes: main switch with door lock device, fuses, compressor and pump remote control switch (51÷131).
- Water circuit for SP version includes: insulated tank, circulating pump, safety valve, gauge and expansion vessel.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

BT	Low water temperature Kit
CC	Condensing control down to -20 °C
TX	Coil with pre-coated fins
PS	Single circulating pump
FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank

LOOSE ACCESSORIES

CR	Remote control panel
IS	Modbus RTU protocol, RS485 serial interface
RP	Coil protection metallic guards
AG	Rubber shock absorbers

CRA/K 15÷131



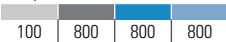
MODEL			15	18	21	25	31	41	51	
Cooling	Cooling capacity (1)	kW	4.2	5.1	6.4	7.5	8.6	10.4	12.2	
	Absorbed power (1)	kW	1.5	1.8	2.2	2.6	3.0	3.6	4.8	
	EER (1)		2.80	2.83	2.91	2.88	2.87	2.89	2.54	
Cooling (EN14511)	Cooling capacity (1)	kW	4.2	5.1	6.3	7.4	8.5	10.3	12.1	
	Absorbed power (1)	kW	1.5	1.9	2.3	2.7	3.1	3.7	4.9	
	EER (1)		2.75	2.76	2.78	2.78	2.77	2.78	2.46	
	ESEER		2.77	2.94	3.13	3.13	3.15	3.18	2.78	
Heating	Heating capacity (2)	kW	5.0	6.0	8.0	8.7	10.3	12.4	14.8	
	Absorbed power (2)	kW	1.9	2.2	2.8	3.1	3.7	4.4	5.6	
	COP (2)		2.63	2.73	2.86	2.81	2.78	2.82	2.64	
Heating (EN14511)	Heating capacity (2)	kW	5.0	6.0	8.0	8.7	10.3	12.4	14.8	
	Absorbed power (2)	kW	1.9	2.2	2.8	3.1	3.7	4.4	5.6	
	COP (2)		2.62	2.73	2.86	2.81	2.78	2.81	2.63	
	SCOP (3)		2.95	2.95	2.94	2.96	2.94	2.96	2.94	
	Energy Efficiency (3)	%	115	115	115	115	115	115	115	
Compressor	Type		Rotary				Scroll			
	Quantity	n°	1	1	1	1	1	1	1	
Evaporator	Water flow	l/s	0.20	0.24	0.31	0.36	0.41	0.50	0.58	
	Pressure drops	kPa	18	24	35	20	29	37	35	
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	
Available static pressure	STD version	Pa	90	90	80	80	80	80	115	
Electrical characteristics	Power supply	V/Ph/Hz	230/1/50						400/3+N/50	
	Max. running current	A	10	12	13	14	17	21	11	
	Max. starting current	A	40	46	65	65	82	89	61	
Unit with tank and pump	Pump available static pressure	kPa	46	40	45	50	51	42	145	
	Tank water volume	l	50	50	50	50	50	50	150	
	Water connections	"G	1"	1"	1"	1"	1"	1"	1"	
Sound pressure	STD/SP version (4)	dB(A)	49	49	49	49	51	52	52	
	Transport weight (5)	Kg	128	129	131	134	139	141	200	
Weights	Operating weight (5)	Kg	129	130	132	135	140	142	202	

MODEL			61	71	81	91	101	131
Cooling	Cooling capacity (1)	kW	15.3	18.6	20.5	24.8	28.6	33.4
	Absorbed power (1)	kW	5.8	6.8	7.4	10.0	11.9	13.7
	EER (1)		2.64	2.74	2.77	2.48	2.40	2.44
Cooling (EN14511)	Cooling capacity (1)	kW	15.2	18.5	20.3	24.6	28.3	33.2
	Absorbed power (1)	kW	5.9	6.9	7.6	10.2	12.2	13.9
	EER (1)		2.58	2.67	2.69	2.41	2.33	2.39
	ESEER		2.86	3.02	3.04	2.72	2.69	2.70
Heating	Heating capacity (2)	kW	18.8	21.9	24.4	30.6	36.7	41.6
	Absorbed power (2)	kW	7.0	7.9	8.8	11.4	13.0	14.8
	COP (2)		2.69	2.77	2.77	2.68	2.82	2.81
Heating (EN14511)	Heating capacity (2)	kW	18.8	21.9	24.4	30.6	36.7	41.6
	Absorbed power (2)	kW	7.0	7.9	8.8	11.5	13.0	14.8
	COP (2)		2.69	2.77	2.77	2.67	2.82	2.81
	SCOP (3)		2.94	3.04	3.00	2.94	2.98	2.98
	Energy Efficiency (3)	%	115	119	117	115	116	116
Compressor	Type		Scroll					
	Quantity	n°	1	1	1	1	1	1
Evaporator	Water flow	l/s	0.73	0.89	0.98	1.18	1.37	1.60
	Pressure drops	kPa	23	32	37	39	51	37
	Water connections	"G	1"	1"	1"	1"	1"	1"
Available static pressure	STD version	Pa	115	115	115	150	150	160
Electrical characteristics	Power supply	V/Ph/Hz	400/3+N/50					
	Max. running current	A	14	14	15	27	33	36
	Max. starting current	A	64	61	77	146	151	148
Unit with tank and pump	Pump available static pressure	kPa	146	123	108	205	182	165
	Tank water volume	l	150	150	150	150	150	150
	Water connections	"G	1"	1"	1"	1"	1"	1"
Sound pressure	STD/SP version (4)	dB(A)	52	53	62	62	62	63
	Transport weight (5)	Kg	210	212	214	349	355	370
Weights	Operating weight (5)	Kg	212	214	216	352	358	373

DIMENSIONS			15	18	21	25	31	41	51	61	71	81	91	101	131
L	STD/SP	mm	900	900	900	900	900	900	900	900	900	900	1500	1500	1500
W	STD/SP	mm	550	550	550	550	550	550	690	690	690	690	800	800	800
H	STD/SP	mm	1425	1425	1425	1425	1425	1425	1725	1725	1725	1725	1425	1425	1425

CLEARANCE AREA

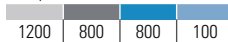
CRA/K 15÷41



CRA/K 51÷81



CRA/K 91÷131



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Efficienza energetica stagionale riscaldamento d'ambiente a bassa temperatura in condizioni climatiche average secondo il Regolamento UE n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Unit without tank and pump.
- N.B. Weights of WP versions are specified on technical brochure.

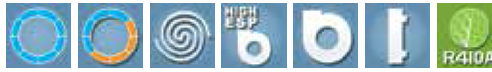


Electrical board side

FROM 48 KW TO 178 KW.

CRA/K 182-P÷604-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The indoor liquid Chillers and Heat Pumps of the CRA/K 182-P÷604-P series, with R410A refrigerant, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.

They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface.

Equipped with radial fans, Scroll compressors and plate-type exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CRA/K	CRA/K/AP
Cooling only	Cooling only with high ESP fans
CRA/K/WP	CRA/K/WP/AP
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PD	Double circulating pump

FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MIN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CRA/K 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178
	Absorbed power (1)	kW	17.0	20.4	24.2	27.4	30.6	33.8	41.9	47.3	55.0	64.4
	EER (1)		2.80	2.69	2.62	2.66	2.73	2.84	2.63	2.68	2.67	2.76
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	94.8	110	126	147	177
	Absorbed power (1)	kW	17.5	20.8	24.7	27.9	31.1	35.1	42.6	48.0	55.8	65.3
	EER (1)		2.70	2.62	2.56	2.60	2.67	2.70	2.58	2.63	2.63	2.71
Heating	ESEER		3.29	3.04	2.98	3.06	3.20	3.14	2.76	2.91	2.84	2.83
	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (2)	kW	18.2	21.3	25.5	27.8	31.2	35.8	42.5	47.8	55.5	66.8
Heating (EN14511)	COP (2)		2.97	2.90	2.80	2.89	2.90	2.96	2.82	2.82	2.77	2.80
	Heating capacity (2)	kW	54.3	63.0	71.7	80.6	90.7	107	120	135	155	187
	Absorbed power (2)	kW	18.4	22.5	25.8	28.1	31.5	37.2	42.9	48.2	56.0	67.4
Compressor	COP (2)		2.95	2.80	2.78	2.87	2.88	2.88	2.80	2.80	2.77	2.77
	SCOP (3)		3.25	3.11	3.02	3.12	3.15	3.23	3.07	3.10	3.10	3.10
	Energy Efficiency (3)	%	127	121	118	122	123	126	120	121	121	121
Energy Class (3)	Energy Class (3)		A+	A	A	A	A	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Evaporator	Capacity steps	n°	2			3			4			
	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pressure drops	kPa	45	48	43	48	43	50	46	53	48	48
Available static pressure	Water connections	"G	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version	Pa	165	147	120	120	105	115	135	135	190	105
Electrical characteristics	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
	Power supply	V/Ph/Hz	400/3/50									
Unit with tank and pump	Max. running current	A	38	45	52	58	69	74	90	106	116	145
	Max. starting current	A	132	144	149	174	213	170	205	250	232	289
Sound pressure	Pump available static pressure	kPa	120	110	110	110	140	150	140	120	130	100
	Tank water volume	l	400	400	400	400	400	400	400	400	600	600
Weights	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version (4)	dB(A)	65	65	66	66	66	67	67	67	67	67
	STD version with SL accessory (4)	dB(A)	62	62	63	63	63	64	64	64	64	64
	High ESP version (4)	dB(A)	66	66	67	67	67	68	---	---	68	---
Weights	High ESP version with SL accessory (4)	dB(A)	63	63	64	64	64	65	---	---	65	---
	Transport weight (5)	Kg	665	674	738	757	781	938	991	1011	1240	1354
Weights	Operating weight (5)	Kg	670	680	745	765	790	950	1005	1025	1255	1370

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

CRA/K 182-P÷604-P

300 | 800 | 800 | 1800



Electrical board side

NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Unit without tank and pump.
- N.B. Weights of WP versions are specified on technical brochure.

CRA/K/ST 182-P÷604-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS, PLATE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



The indoor liquid Chillers and Heat Pumps of the CRA/K/ST 182-P÷604-P series, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.

They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Equipped with radial fans, Scroll compressors and plate-type exchangers even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



AQUALOGIK

VERSION

CRA/K/ST

Cooling only with AQUALOGIK technology

CRA/K/AP/ST

Cooling only with high ESP fans and AQUALOGIK technology

CRA/K/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CRA/K/WP/AP/ST

Reversible Heat Pump with high ESP fans and AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side in 182-P ÷ 453-P models; with two independent circuits on the refrigerant side and one on the water side in 524-P÷604-P models, complete with water differential pressure switch. On the heat pump units it is always installed an antifreeze heater.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device allows also the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
DS	Desuperheater

RT	Total heat recovery
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CRA/K/ST 182-P÷604-P



MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
Cooling	Cooling capacity (1)	kW	47.6	54.9	63.5	72.9	83.4	95.9	110	127	147	178
	Absorbed power (1)	kW	17.0	20.4	24.2	27.4	30.6	33.8	41.9	47.3	55.0	64.4
	EER (1)		2.80	2.69	2.62	2.66	2.73	2.84	2.63	2.68	2.67	2.76
Cooling (EN14511)	Cooling capacity (1)	kW	47.3	54.5	63.1	72.4	82.9	94.8	110	126	147	177
	Absorbed power (1)	kW	17.5	20.8	24.7	27.9	31.1	35.1	42.6	48.0	55.8	65.3
	EER (1)		2.70	2.62	2.56	2.60	2.67	2.70	2.58	2.63	2.63	2.71
Heating	Heating capacity (2)	kW	54.1	61.8	71.4	80.3	90.4	106	120	135	154	187
	Absorbed power (2)	kW	18.2	21.3	25.5	27.8	31.2	35.8	42.5	47.8	55.5	66.8
	COP (2)		2.97	2.90	2.80	2.89	2.90	2.96	2.82	2.82	2.77	2.80
Heating (EN14511)	Heating capacity (2)	kW	54.3	63.0	71.7	80.6	90.7	107	120	135	155	187
	Absorbed power (2)	kW	18.4	22.5	25.8	28.1	31.5	37.2	42.9	48.2	56.0	67.4
	COP (2)		2.95	2.80	2.78	2.87	2.88	2.88	2.80	2.80	2.77	2.77
	SCOP (3)		3.25	3.11	3.02	3.12	3.15	3.23	3.07	3.10	3.10	3.10
	Energy Efficiency (3)	%	127	121	118	122	123	126	120	121	121	121
	Energy Class (3)		A+	A	A	A	A	-	-	-	-	-
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
	Capacity steps	n°	2			2			3			4
Available static pressure	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	41	48	55	61	73	78	94	111	121	149
	Max. starting current	A	135	147	152	177	217	175	210	255	236	293
Water circuit	Water flow	l/s	2.27	2.62	3.03	3.48	3.98	4.58	5.27	6.06	7.04	8.49
	Pump available static pressure	kPa	120	110	110	100	140	130	125	110	95	65
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sound pressure	STD version (4)	dB(A)	65	65	66	66	66	67	67	67	67	67
	STD version with SL accessory (4)	dB(A)	62	62	63	63	63	64	64	64	64	64
	High ESP version (4)	dB(A)	66	66	67	67	67	68	---	---	68	---
	High ESP version with SL accessory (4)	dB(A)	63	63	64	64	64	65	---	---	65	---
Weights	Transport weight	Kg	680	689	753	772	796	958	1011	1031	1260	1374
	Operating weight	Kg	685	695	760	780	805	970	1025	1045	1275	1390

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	524-P	604-P
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

CRA/K/ST 182-P÷604-P

300 | 800 | 800 | 1800



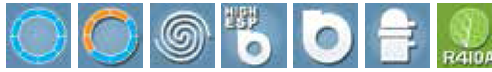
NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B.** Weights of WP versions are specified on technical brochure.

Electrical board side

CRA/K 182÷604

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The indoor liquid Chillers and Heat Pumps of the CRA/K 182÷604 series, with R410A refrigerant, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building. They are used, combined with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. They can be supplied with Modbus RTU protocol through RS485 serial interface. Equipped with radial fans, Scroll compressors and shell and tube exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CRA/K	CRA/K/AP
Cooling only	Cooling only with high ESP fans
CRA/K/WP	CRA/K/WP/AP
Reversible Heat Pump	Reversible Heat Pump with high ESP fans

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182 ÷ 453 models; with two independent circuits on the refrigerant side and one on the water side in 524÷604 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump

SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CRA/K 182÷604



MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	17.6	20.6	24.0	27.8	31.0	34.1	41.6	47.6	55.8	65.2
	EER (1)		2.78	2.67	2.60	2.64	2.72	2.79	2.62	2.71	2.67	2.75
Cooling (EN14511)	Cooling capacity (1)	kW	48.4	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	17.9	20.7	24.2	28.3	31.3	35.1	42.1	48.4	56.4	65.9
	EER (1)		2.70	2.64	2.56	2.57	2.68	2.70	2.57	2.64	2.62	2.70
Heating	ESEER		3.36	3.05	2.90	3.03	3.23	3.07	2.74	2.94	2.86	2.87
	Heating capacity (2)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (2)	kW	18.8	21.3	25.1	28.2	31.5	35.8	42.1	48.3	56.2	67.5
Heating (EN14511)	COP (2)		2.96	2.91	2.80	2.86	2.90	2.93	2.83	2.84	2.78	2.79
	Heating capacity (2)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (2)	kW	19.0	21.7	25.8	29.1	32.2	36.6	43.1	49.2	57.4	68.8
Compressor	COP (2)		2.95	2.87	2.74	2.79	2.85	2.90	2.78	2.80	2.74	2.75
	SCOP (3)		3.25	3.11	3.01	3.09	3.16	3.19	3.07	3.11	3.09	3.09
	Energy Efficiency (3)	%	127	121	117	121	123	125	120	121	121	121
Evaporator	Energy Class (3)		A+	A	A	A	A	A+	A	A	A	A
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Available static pressure	Capacity steps	n°			2			3				4
	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pressure drops	kPa	22	29	50	55	40	39	45	36	45	38
Electrical characteristics	Water connections	"G	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	3"	2 1/2"	3"
	STD version	Pa	165	147	120	120	105	115	135	135	190	105
Unit with tank and pump	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
	Power supply	V/Ph/Hz	400/3/50									
Sound pressure	Max. running current	A	38	45	52	58	69	74	90	106	116	145
	Max. starting current	A	132	144	149	174	213	170	205	250	232	289
Weights	Pump available static pressure	kPa	140	125	105	100	140	165	140	135	110	110
	Tank water volume	l	470	470	470	470	470	470	470	470	660	660
Sound pressure	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	STD version (4)	dB(A)	65	65	66	66	66	67	67	67	67	67
	STD version with SL accessory (4)	dB(A)	62	62	63	63	63	64	64	64	64	64
	High ESP version (4)	dB(A)	66	66	67	67	67	68	---	---	68	---
Weights	High ESP version with SL accessory (4)	dB(A)	63	63	64	64	64	65	---	---	65	---
	Transport weight (5)	Kg	711	711	776	794	834	991	1036	1087	1297	1408
Weights	Operating weight (5)	Kg	730	730	795	815	860	1020	1065	1125	1335	1450

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

CRA/K 182÷604

300 | 800 | 800 | 1800



Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 5. Unit without tank and pump.
- N.B. Weights of WP versions are specified on technical brochure.

CRA/K/ST 182÷604

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH RADIAL FANS, SCROLL COMPRESSORS, SHELL AND TUBE EXCHANGER, HYDRONIC KIT AND AQUALOGIK CONTROL SYSTEM.



The indoor liquid Chillers and Heat Pumps of the CRA/K/ST 182÷604 series, with R410A refrigerant and AQUALOGIK technology, are designed for medium-sized service sector or industrial systems with particular difficulty in positioning units outside the building.

They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes and are managed by the AQUALOGIK smart control system which optimises the water set point and modulates the power supply voltage of the pump, equipped with Inverter, and the fans, thus making the use of the inertial tank superfluous. This obtains high energy efficiency, quiet operation and optimised dimensions and costs.

Equipped with radial fans, Scroll compressors and shell and tube exchanger, even in the version with high ESP fans, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



AQUALOGIK

VERSION

CRA/K/ST

Cooling only with AQUALOGIK technology

CRA/K/AP/ST

Cooling only with high ESP fans and AQUALOGIK technology

CRA/K/WP/ST

Reversible Heat Pump with AQUALOGIK technology

CRA/K/WP/AP/ST

Reversible Heat Pump with high ESP fans and AQUALOGIK technology

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Radial type fans coupled to 3-phase motors by V belt and variable pulley.
- Condenser with copper tube and aluminium finned coil.
- Shell and tube type evaporator with one circuit on the refrigerant side and one on the water side in 182 ÷ 453 models; with two independent circuits on the refrigerant side and one on the water side in 524-604 models, complete with water differential pressure switch.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a modulating adjustment of the dampers. This device allows also the cooling functioning of the unit by external temperature till -20°C.
- Water circuit includes: INVERTER circulating pump, safety valve and expansion vessel.
- Microprocessor control and regulation system with AQUALOGIK technology.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series

HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CRA/K/ST 182÷604



MODEL			182	202	242	262	302	363	393	453	524	604
Cooling	Cooling capacity (1)	kW	49.0	55.0	62.4	73.3	84.3	95.2	109	129	149	179
	Absorbed power (1)	kW	17.6	20.6	24.0	27.8	31.0	34.1	41.6	47.6	55.8	65.2
	EER (1)		2.78	2.67	2.60	2.64	2.72	2.79	2.62	2.71	2.67	2.75
Cooling (EN14511)	Cooling capacity (1)	kW	48.4	54.7	62.0	72.8	83.9	94.7	108	128	148	178
	Absorbed power (1)	kW	17.9	20.7	24.2	28.3	31.3	35.1	42.1	48.4	56.4	65.9
	EER (1)		2.70	2.64	2.56	2.57	2.68	2.70	2.57	2.64	2.62	2.70
Heating	ESEER		3.36	3.05	2.90	3.03	3.23	3.07	2.74	2.94	2.86	2.87
	Heating capacity (2)	kW	55.7	61.9	70.2	80.7	91.4	105	119	137	156	188
	Absorbed power (2)	kW	18.8	21.3	25.1	28.2	31.5	35.8	42.1	48.3	56.2	67.5
Heating (EN14511)	COP (2)		2.96	2.91	2.80	2.86	2.90	2.93	2.83	2.84	2.78	2.79
	Heating capacity (2)	kW	56.0	62.2	70.7	81.3	91.9	106	120	138	157	189
	Absorbed power (2)	kW	19.0	21.7	25.8	29.1	32.2	36.6	43.1	49.2	57.4	68.8
Compressor	COP (2)		2.95	2.87	2.74	2.79	2.85	2.90	2.78	2.80	2.74	2.75
	SCOP (3)		3.25	3.11	3.01	3.09	3.16	3.19	3.07	3.11	3.09	3.09
	Energy Efficiency (3)	%	127	121	117	121	123	125	120	121	121	121
Electrical characteristics	Energy Class (3)		A+	A	A	A	-	-	-	-	-	-
	Quantity	n°	2	2	2	2	2	3	3	3	4	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	2	2
Available static pressure	Capacity steps	n°	2			3			4			
	STD version	Pa	165	147	120	120	105	115	135	135	190	105
	High ESP version	Pa	298	288	263	263	245	256	---	---	400	---
Water circuit	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	41	48	55	61	73	78	94	111	121	149
	Max. starting current	A	135	147	152	177	217	175	210	255	236	293
Sound pressure	Water flow	l/s	2.31	2.60	2.95	3.46	3.98	4.50	5.15	6.09	7.04	8.45
	Pump available static pressure	kPa	140	125	105	100	140	140	125	130	105	75
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Weights	STD version (4)	dB(A)	65	65	66	66	66	67	67	67	67	67
	STD version with SL accessory (4)	dB(A)	62	62	63	63	63	64	64	64	64	64
	High ESP version (4)	dB(A)	66	66	67	67	67	68	---	---	68	---
	High ESP version with SL accessory (4)	dB(A)	63	63	64	64	64	65	---	---	65	---
Weights	Transport weight	Kg	725	725	790	810	850	1010	1055	1105	1315	1430
	Operating weight	Kg	730	740	805	825	865	1030	1075	1125	1335	1450

DIMENSIONS			182	202	242	262	302	363	393	453	524	604
L	STD/AP	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550
W	STD/AP	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
H	STD/AP	mm	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

CLEARANCE AREA

CRA/K/ST 182÷604

300	800	800	1800
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Electrical board side

NOTES

1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of WP versions are specified on technical brochure.

CHA/IK/A 674-P÷2356-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, INVERTER SCROLL COMPRESSORS, MICROCHANNEL CONDENSING COILS AND PLATE EXCHANGER.



The CHA/IK/A 674-P÷2356-P **MULTIPOWER** units are characterized by the highest efficiency, all in A CLASS energy efficiency, featuring Microchannel condensing coils and Scroll Inverter compressor: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0) and providing high energy efficiency. This results in heat loads less than 50% EER surpassing any traditional cooler. In this way, the machine can obtain high energy yield with decisively elevated ESEER/IPLV values, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series making them highly reliable and management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.



INVERTER SCROLL

MICROCHANNEL

VERSION

CHA/IK/A

Cooling only

CHA/IK/A/SSL

Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- DC INVERTER Scroll and ON-OFF Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1004-P÷2356-P models.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TXB	Coil with epoxy treatment
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump

PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/IK/A 674-P÷2356-P



MODEL			674-P	784-P	1004-P	1054-P	1154-P	1256-P	1456-P	1606-P	1756-P	2356-P
Cooling	Cooling capacity (1)	kW	196	234	287	316	349	383	422	458	515	668
	Absorbed power (1)	kW	60	72	89	97	108	119	132	143	161	209
	EER (1)		3.27	3.25	3.22	3.26	3.23	3.22	3.20	3.20	3.20	3.20
Cooling (EN14511)	Cooling capacity (1)	kW	195	233	286	315	348	382	421	457	514	666
	Absorbed power (1)	kW	61	73	90	98	109	120	133	144	162	211
	EER (1)		3.20	3.19	3.18	3.21	3.19	3.18	3.17	3.17	3.17	3.16
	ESEER		4.07	4.01	4.05	4.07	4.16	4.10	4.18	4.26	4.28	4.33
Compressor	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	Quantity	n°	2+2	2+2	2+2	2+2	2+2	3+3	3+3	3+3	3+3	3+3
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	9.36	11.18	13.71	15.10	16.67	18.30	20.16	21.88	24.61	31.92
	Pressure drops	kPa	38	36	35	37	40	32	33	36	32	37
	Water connections	DN	80	80	80	80	80	150	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	137	156	194	211	173	250	202	320	355	460
	Max. starting current	A	305	334	407	424	386	428	415	534	617	800
Unit with pump	Pump available static pressure	kPa	200	170	175	235	220	210	195	210	200	165
	Water connections	DN	100	100	100	100	100	150	150	150	150	150
Sound pressure	STD version (2)	dB(A)	67	68	68	72	72	73	73	74	74	74
	With SL accessory (2)	dB(A)	64	65	65	69	69	70	70	71	71	71
	SSL version (2)	dB(A)	62	62	62	63	63	64	64	65	65	---
Weights	Transport weight	Kg	1951	2064	2211	2461	2511	2806	2868	3228	3416	3912
	Operating weight	Kg	1970	2090	2250	2500	2550	2850	2920	3280	3480	3990

DIMENSIONS			674-P	784-P	1004-P	1054-P	1154-P	1256-P	1456-P	1606-P	1756-P	2356-P
L	STD	mm	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200
	SSL	mm	5000	5000	5000	6200	6200	6200	6200	7200	7200	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/IK/A 674-P÷2356-P

500	1800	1000	1800
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NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

CHA/K/A/WP 726-P÷24012-P

A CLASS ENERGY EFFICIENCY AIRCOOLED REVERSIBLE HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The CHA/K/A/WP 726-P÷24012-P **MULTIPOWER** reversible Heat Pumps are characterized by the highest efficiency, all in A CLASS energy efficiency. MULTIPOWER is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0) and providing high energy efficiency. The machine can obtain an high energy yield with decisively elevated ESEER/IPLV values, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series making them highly reliable and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.



VERSION

CHA/K/A/WP

Reversible Heat Pump

CHA/K/A/WP/SSL

Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1048-P÷24012-P models.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
PS	Single circulating pump

PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/A/WP 726-P÷24012-P



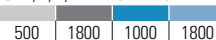
MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	
Heating	Heating capacity (1)	kW	227	256	272	294	342	369	389	
	Absorbed power (1)	kW	66	75	81	85	102	106	112	
	COP (1)		3.44	3.41	3.36	3.46	3.35	3.48	3.47	
Heating (EN14511)	Heating capacity (1)	kW	228	257	273	295	343	370	390	
	Absorbed power (1)	kW	68	77	83	87	105	108	115	
	COP (1)		3.35	3.34	3.29	3.39	3.27	3.43	3.39	
	EUROVENT Class		A	A	A	A	A	A	A	
	SCOP (2)		4.05	4.17	3.99	4.08	4.02	4.14	4.10	
	Energy Efficiency (2)	%	159	164	157	160	158	163	161	
Cooling	Cooling capacity (3)	kW	194	217	239	259	294	322	339	
	Absorbed power (3)	kW	68	75	78	85	100	107	113	
	EER (3)		2.85	2.89	3.06	3.05	2.94	3.01	3.00	
Cooling (EN14511)	Cooling capacity (3)	kW	193	216	238	258	293	321	338	
	Absorbed power (3)	kW	69	76	79	86	101	108	114	
	EER (3)		2.80	2.84	3.01	3.00	2.90	2.97	2.96	
	ESEER		3.64	3.69	3.79	3.89	3.79	4.03	4.01	
	EUROVENT Class		C	C	B	B	C	B	B	
	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	
Compressor	Refrigerant circuits	n°	2	2	2	2	2	2	2	
	Capacity steps	n°	6						8	
	Water flow	l/s	9.27	10.37	11.42	12.37	14.05	15.38	16.20	
Evaporator	Pressure drops	kPa	44	55	42	38	49	37	41	
	Water connections	DN	80	80	80	80	80	80	80	
	Power supply	V/Ph/Hz	400/3/50							
Electrical characteristics	Max. running current	A	152	166	187	199	224	241	258	
	Max. starting current	A	276	299	354	367	357	409	426	
	Pump available static pressure	kPa	195	165	230	220	240	235	230	
Unit with pump	Water connections	DN	100	100	100	100	100	100	100	
	STD version (4)	dB(A)	69	67	68	68	68	69	70	
Sound pressure	With SL accessory (4)	dB(A)	66	64	65	65	65	66	67	
	SSL version (4)	dB(A)	58	60	61	61	61	62	62	
	Transport weight	Kg	1954	2291	2409	2437	2567	2820	2830	
Weights	Operating weight	Kg	1970	2310	2430	2460	2590	2850	2860	

MODEL			13010-P	15010-P	16812-P	18012-P	21012-P	24012-P	
Heating	Heating capacity (1)	kW	420	476	532	566	677	762	
	Absorbed power (1)	kW	125	141	157	169	202	226	
	COP (1)		3.36	3.38	3.39	3.35	3.35	3.37	
Heating (EN14511)	Heating capacity (1)	kW	422	478	533	568	679	764	
	Absorbed power (1)	kW	128	144	160	172	206	230	
	COP (1)		3.30	3.32	3.33	3.30	3.30	3.32	
	EUROVENT Class		A	A	A	A	A	A	
	SCOP (2)		4.06	4.04	4.05	-	-	-	
	Energy Efficiency (2)	%	159	159	159	-	-	-	
Cooling	Cooling capacity (3)	kW	359	421	475	512	597	671	
	Absorbed power (3)	kW	127	144	162	172	207	241	
	EER (3)		2.83	2.92	2.93	2.98	2.88	2.78	
Cooling (EN14511)	Cooling capacity (3)	kW	358	419	474	510	595	669	
	Absorbed power (3)	kW	128	146	163	174	209	243	
	EER (3)		2.80	2.87	2.91	2.93	2.85	2.75	
	ESEER		3.94	3.96	3.98	3.99	3.93	3.97	
	EUROVENT Class		C	C	B	B	C	C	
	Quantity	n°	5+5	5+5	6+6	6+6	6+6	6+6	
Compressor	Refrigerant circuits	n°	2	2	2	2	2	2	
	Capacity steps	n°	8			10			
	Water flow	l/s	17.15	20.11	22.69	24.46	28.52	32.06	
Evaporator	Pressure drops	kPa	46	46	32	37	33	30	
	Water connections	DN	80	80	150	150	150	150	
	Power supply	V/Ph/Hz	400/3/50						
Electrical characteristics	Max. running current	A	274	324	358	391	446	500	
	Max. starting current	A	407	492	525	568	623	678	
	Pump available static pressure	kPa	215	185	205	190	185	175	
Unit with pump	Water connections	DN	100	100	100	100	150	150	
	STD version (4)	dB(A)	70	73	73	73	73	74	
Sound pressure	With SL accessory (4)	dB(A)	67	70	70	70	70	71	
	SSL version (4)	dB(A)	62	63	64	65	---	---	
	Transport weight	Kg	3019	3164	3702	3832	4660	4698	
Weights	Operating weight	Kg	3050	3200	3750	3880	4720	4770	

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P
L	STD	mm	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	4000	4000	5000	5000	5000	5000	5000	5000	6200	6200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K/A/WP 726-P÷24012-P



Electrical board side

NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 4. Sound power level according to Standard ISO 3744 and Eurovent 8/1.
- N.B. Weights of SSL version are specified on technical brochure.

FROM 199 KW TO 1051 KW.

CHA/K 726-P÷36012-P

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



CHA/K 726-P÷36012-P **MULTIPOWER** is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0), and features high energy yield, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series, making them highly reliable, and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.



VERSION

CHA/K	CHA/K/SSL
Cooling only	Super silenced cooling only
CHA/K/WP	CHA/K/WP/SSL
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On Heat Pump units is always installed an antifreeze heater.
- Cooling circuit shut-off valve on liquid line in 1048-P÷36012-P models.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
DS	Desuperheater
RT	Total heat recovery
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump

PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K 726-P÷36012-P



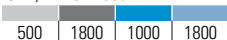
MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
Cooling	Cooling capacity (1)	kW	199	226	251	276	304	335	367	403	444
	Absorbed power (1)	kW	69	80	85	94	104	113	122	132	155
	EER (1)		2.88	2.83	2.95	2.94	2.92	2.96	3.01	3.05	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	198	225	250	275	303	334	365	402	442
	Absorbed power (1)	kW	70	81	86	95	105	115	124	134	157
	EER (1)		2.84	2.78	2.89	2.89	2.87	2.91	2.95	3.00	2.81
	ESEER		3.54	3.65	3.66	3.77	3.76	3.88	3.73	3.90	3.75
Heating	Heating capacity (2)	kW	228	255	283	310	338	369	401	441	510
	Absorbed power (2)	kW	73	83	90	103	108	121	132	141	164
	COP (2)		3.12	3.07	3.14	3.01	3.13	3.05	3.04	3.13	3.11
Heating (EN14511)	Heating capacity (2)	kW	228	255	283	311	338	370	402	442	511
	Absorbed power (2)	kW	73.1	83.4	90.1	103	108	122	133	142	165
	COP (2)		3.12	3.06	3.15	3.01	3.12	3.04	3.03	3.12	3.10
	SCOP (3)		3.69	3.76	3.81	3.61	3.67	3.67	3.64	3.79	3.76
	Energy Efficiency (3)	%	145	147	149	141	144	144	143	149	147
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.51	10.80	11.99	13.19	14.52	16.01	17.53	19.25	21.21
	Pressure drops	kPa	40	51	62	54	50	49	59	47	59
	Water connections	DN	80	80	80	80	80	80	80	80	80
	Power supply	V/Ph/Hz	400/3/50								
Electrical characteristics	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
	Pump available static pressure	kPa	199	167	228	215	237	225	201	194	155
Unit with pump	Water connections	DN	100	100	100	100	100	100	100	100	100
	STD version (4)	dB(A)	66	66	67	69	67	69	70	68	69
Sound pressure	With SL accessory (4)	dB(A)	63	63	64	66	64	65	66	65	66
	SSL version (4)	dB(A)	57	57	59	61	58	60	62	59	61
	Transport weight	Kg	1654	1674	1763	1961	2199	2457	2566	2610	3179
Weights	Operating weight	Kg	1670	1690	1780	1980	2220	2480	2590	2640	3210

MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
Cooling	Cooling capacity (1)	kW	495	546	602	671	751	845	942	1051
	Absorbed power (1)	kW	170	184	211	243	275	303	336	365
	EER (1)		2.91	2.97	2.85	2.76	2.73	2.79	2.80	2.88
Cooling (EN14511)	Cooling capacity (1)	kW	493	544	599	669	749	842	939	1047
	Absorbed power (1)	kW	172	186	214	246	277	306	339	369
	EER (1)		2.87	2.92	2.81	2.72	2.70	2.75	2.77	2.84
	ESEER		3.71	3.72	3.67	3.76	3.67	3.69	3.73	3.81
Heating	Heating capacity (2)	kW	564	620	684	776	861	962	1078	1210
	Absorbed power (2)	kW	182	202	223	249	282	312	349	383
	COP (2)		3.10	3.07	3.07	3.12	3.05	3.08	3.09	3.16
Heating (EN14511)	Heating capacity (2)	kW	565	621	685	777	862	963	1079	1211
	Absorbed power (2)	kW	183	203	224	250	283	313	350	384
	COP (2)		3.09	3.07	3.06	3.11	3.05	3.08	3.08	3.15
	SCOP (3)		-	-	-	-	-	-	-	-
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
	Capacity steps	n°	10							
Evaporator	Water flow	l/s	23.65	26.09	28.76	32.06	35.88	40.37	45.01	50.21
	Pressure drops	kPa	49	60	58	49	41	51	42	52
	Water connections	DN	80	80	80	150	150	150	150	150
	Power supply	V/Ph/Hz	400/3/50							
Electrical characteristics	Max. running current	A	350	375	422	485	545	598	676	746
	Max. starting current	A	518	543	600	662	759	812	938	1007
	Pump available static pressure	kPa	191	173	166	161	212	183	171	131
Unit with pump	Water connections	DN	100	100	150	150	150	150	150	150
	STD version (4)	dB(A)	68	70	72	73	73	73	73	74
Sound pressure	With SL accessory (4)	dB(A)	65	67	69	70	70	70	70	71
	SSL version (4)	dB(A)	60	62	64	65	64	65	---	---
	Transport weight	Kg	3294	3463	3517	3682	4200	4518	4918	5044
Weights	Operating weight	Kg	3330	3500	3560	3730	4260	4580	5238	5354

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K 726-P÷36012-P



Electrical board side

NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL and WP versions are specified on technical brochure.



FROM 208 KW TO 1102 KW.

CHA/K/FC 726-P÷36012-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGER.



The liquid Chillers of the CHA/K/FC 726-P÷36012-P series, with R410A refrigerant, provide advanced technology, flexible and reliable, through an intelligent control module which optimizes the operating times and the powers delivered by the Scroll compressors, according to the needs of the systems, both civil and industrial, where the production of chilled water is required in continuous service throughout the year. During the cold months, in **FREE-COOLING** operating mode, the liquid returning from the system is cooled directly, by way of the forced convection of outside air through the condensing coil, thus reducing the energy required for the Scroll compressors operation that the units are equipped with. A system of 3-way valves, controlled by the electronic microprocessor controller that manages the entire unit, can, depending on outside air temperature, operate in the CHILLER, FREE-COOLING or MIXED (CHILLER and FREE-COOLING at the same time) mode. CHA/K/FC 726-P÷36012-P allows the reduction of inrush currents generated, the elimination of inertial accumulation tanks and an excellent silent functioning, as the fans adjust their speed to the actual load of the system, providing great benefits especially at night.



FREE COOLING

VERSION

CHA/K/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048-P÷36012-P models.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump

SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/FC 726-P÷36012-P

MODEL			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P
Cooling	Cooling capacity (1)	kW	208	236	263	290	328	365	401	441	483
	Absorbed power (1)	kW	76	87	88	98	108	123	132	147	163
	EER (1)		2.74	2.71	2.99	2.96	3.04	2.97	3.04	3.00	2.96
Free-Cooling cycle	Air temperature (2)	°C	-2.0	-2.8	-2.5	-0.2	-2.7	-3.5	-1.0	-2.0	-1.0
	Absorbed power (2)	kW	7.0	7.0	10.5	10.5	14.0	14.0	14.0	14.0	17.5
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4						6		
Water circuit	Water flow	l/s	11.02	12.38	13.87	15.31	17.32	19.34	21.21	23.33	25.52
	Pressure drops	kPa	102	126	165	124	112	106	115	100	120
	Water connections	DN	100	100	100	100	100	100	100	100	100
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	187	199	232	249	266	282	332
	Max. starting current	A	276	299	354	367	365	417	433	415	500
Unit with pump	Pump available static pressure	kPa	155	165	115	140	125	110	130	140	115
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (3)	dB(A)	66	67	68	69	69	70	70	70	71
	With SL accessory (3)	dB(A)	64	64	65	66	66	67	67	67	67
Weights	Transport weight	Kg	2175	2185	2360	2435	2990	3020	3220	3510	3920
	Operating weight	Kg	2310	2320	2500	2630	3190	3220	3470	3770	4250

MODEL			16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P	
Cooling	Cooling capacity (1)	kW	536	590	665	738	827	920	1014	1102	
	Absorbed power (1)	kW	179	199	230	266	305	340	368	412	
	EER (1)		2.99	2.96	2.89	2.77	2.71	2.71	2.76	2.67	
Free-Cooling cycle	Air temperature (2)	°C	-2.2	-2.7	-3.0	-3.5	-2.5	-0.1	0.1	-0.4	
	Absorbed power (2)	kW	17.5	17.5	17.5	21.0	24.5	28.0	31.5	31.5	
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6	
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	
	Capacity steps	n°	8								
Water circuit	Water flow	l/s	28.28	31.09	35.11	38.89	43.64	48.52	53.51	58.13	
	Pressure drops	kPa	121	132	148	152	172	151	162	173	
	Water connections	DN	125	125	125	150	150	150	150	150	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	365	391	438	500	561	622	699	769	
	Max. starting current	A	533	558	615	678	774	835	961	1031	
Unit with pump	Pump available static pressure	kPa	155	135	105	180	145	140	110	100	
	Water connections	DN	125	125	125	150	150	150	150	150	
Sound pressure	STD version (3)	dB(A)	71	71	74	75	75	75	75	76	
	With SL accessory (3)	dB(A)	67	68	70	71	71	71	71	72	
Weights	Transport weight	Kg	4180	4220	5060	5240	5830	6880	7410	7530	
	Operating weight	Kg	4520	4560	5460	5650	6320	7600	8220	8340	

DIMENSIONS			726-P	786-P	826-P	906-P	1048-P	1128-P	1208-P	13010-P	15010-P	16812-P	18012-P	21012-P	24012-P	27012-P	30012-P	33012-P	36012-P
L	STD	mm	4000	4000	4000	4000	5000	5000	5000	5000	6200	6200	6200	7200	7200	8400	9600	10600	10600
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360

CLEARANCE AREA

CHA/K/FC 726-P÷36012-P

500 | 1800 | 1000 | 1800



NOTES

- Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
- Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
- Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 200 KW TO 1062 KW.

CHA/K 726÷36012

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCROLL COMPRESSORS AND SHELL AND TUBE EXCHANGER.



CHA/K 726÷36012 is an extremely flexible and reliable machine: an intelligent control module optimizes functioning times and supplied power from the Scroll compressors based on heat load demands in the system. The machine is equipped with R410A refrigerant, guaranteeing full adherence to the protocol standards in the Kyoto Treaty (O.D.P.=0), and features high energy yield, elimination of generated power surges, elimination of inertial accumulation tanks and excellent silent functioning, since the fans adjust their speeds to the actual system load, providing benefits especially during the night. The use of components built in large series, making them highly reliable, and the management of an elevated number of compressors allows increased life span and reduction of machine stopping risks: a faulty compressor will not compromise cooler functioning, which will continue to function with decreased power levels. In addition, maintenance operations are decisively reduced due to the high reliability of the machines and their components.



VERSION

CHA/K

Cooling only

CHA/K/SSL

Super silenced cooling only

CHA/K/WP

Reversible Heat Pump

CHA/K/WP/SSL

Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valve on liquid line in 1048÷36012 models.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses or magnetothermic switches, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump

PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/K 726÷36012



MODEL		726	786	826	906	1048	1128	1208	13010	15010	
Cooling	Cooling capacity (1)	kW	200	224	248	270	302	328	367	404	445
	Absorbed power (1)	kW	70	80	86	97	105	115	121	136	158
	EER (1)		2.86	2.80	2.88	2.78	2.88	2.85	3.03	2.97	2.82
Cooling (EN14511)	Cooling capacity (1)	kW	199	223	247	269	301	326	365	403	444
	Absorbed power (1)	kW	71	81	87	98	106	117	123	137	159
	EER (1)		2.80	2.75	2.84	2.74	2.84	2.79	2.97	2.94	2.79
	ESEER		3.47	3.69	3.70	3.62	3.72	3.72	3.80	3.83	3.86
Heating	Heating capacity (2)	kW	229	252	280	304	336	362	401	442	512
	Absorbed power (2)	kW	74	83	91	106	109	123	130	145	167
	COP (2)		3.09	3.04	3.08	2.87	3.08	2.94	3.08	3.05	3.07
Heating (EN14511)	Heating capacity (2)	kW	229	252	280	305	336	363	402	443	513
	Absorbed power (2)	kW	74.4	83.3	91.4	107	109	124	131	146	168
	COP (2)		3.08	3.03	3.07	2.86	3.07	2.93	3.07	3.04	3.06
	SCOP (3)		3.69	3.72	3.71	3.44	3.74	3.55	3.69	3.70	3.71
	Energy Efficiency (3)	%	145	146	145	135	147	139	145	145	145
Compressor	Quantity	n°	3+3	3+3	3+3	3+3	4+4	4+4	4+4	5+5	5+5
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6				8				
Evaporator	Water flow	l/s	9.44	10.58	11.71	12.75	14.26	15.49	17.33	19.08	21.01
	Pressure drops	kPa	45	42	45	50	48	56	55	45	33
	Water connections	DN	100	100	100	100	100	100	100	125	125
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	152	166	179	191	216	233	250	274	316
	Max. starting current	A	276	299	347	359	349	401	418	407	484
Unit with pump	Pump available static pressure	kPa	195	175	235	210	230	220	200	190	170
	Water connections	DN	100	100	100	100	100	100	100	100	100
Sound pressure	STD version (4)	dB(A)	66	66	67	69	67	69	70	68	69
	With SL accessory (4)	dB(A)	63	63	64	66	64	65	66	65	66
	SSL version (4)	dB(A)	57	57	59	61	58	60	62	59	61
Weights	Transport weight	Kg	1703	1723	1813	2003	2253	2532	2642	2691	3283
	Operating weight	Kg	1750	1770	1860	2050	2310	2600	2710	2780	3380

MODEL		16812	18012	21012	24012	27012	30012	33012	36012		
Cooling	Cooling capacity (1)	kW	510	551	614	684	766	862	961	1062	
	Absorbed power (1)	kW	174	186	214	250	281	307	340	369	
	EER (1)		2.93	2.96	2.87	2.74	2.73	2.81	2.83	2.88	
Cooling (EN14511)	Cooling capacity (1)	kW	508	549	611	682	763	858	958	1058	
	Absorbed power (1)	kW	176	188	217	252	284	311	343	373	
	EER (1)		2.89	2.92	2.82	2.71	2.69	2.76	2.79	2.84	
	ESEER		3.78	3.75	3.69	3.77	3.60	3.67	3.75	3.80	
Heating	Heating capacity (2)	kW	581	626	698	791	878	981	1100	1222	
	Absorbed power (2)	kW	186	204	226	257	288	316	353	388	
	COP (2)		3.12	3.07	3.09	3.08	3.05	3.10	3.12	3.15	
Heating (EN14511)	Heating capacity (2)	kW	582	627	699	792	879	982	1101	1223	
	Absorbed power (2)	kW	187	205	227	258	289	317	354	389	
	COP (2)		3.12	3.06	3.08	3.07	3.04	3.10	3.11	3.14	
	SCOP (3)		-	-	-	-	-	-	-	-	
	Energy Efficiency (3)	%	-	-	-	-	-	-	-	-	
Compressor	Quantity	n°	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6	
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	
	Capacity steps	n°	10								
Evaporator	Water flow	l/s	24.08	26.02	28.99	32.30	36.17	40.71	45.38	50.15	
	Pressure drops	kPa	43	54	59	46	55	62	47	52	
	Water connections	DN	125	125	125	150	150	150	150	150	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	350	375	422	485	545	598	676	746	
	Max. starting current	A	518	543	600	662	759	812	938	1007	
Unit with pump	Pump available static pressure	kPa	195	175	165	165	195	170	165	130	
	Water connections	DN	100	100	150	150	150	150	150	150	
Sound pressure	STD version (4)	dB(A)	68	70	72	73	73	73	73	74	
	With SL accessory (4)	dB(A)	65	67	69	70	70	70	70	71	
	SSL version (4)	dB(A)	60	62	64	65	64	65	---	---	
Weights	Transport weight	Kg	3383	3565	3605	3840	4385	4705	5210	5330	
	Operating weight	Kg	3480	3670	3720	3970	4540	4860	5470	5590	

DIMENSIONS		726	786	826	906	1048	1128	1208	13010	15010	16812	18012	21012	24012	27012	30012	33012	36012	
L	STD	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	2800	2800	2800	2800	4000	4000	4000	4000	5000	5000	5000	5000	6200	7200	7200	---	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K 726÷36012

500	1800	1000	1800
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Electrical board side

NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL and WP versions are specified on technical brochure.

CHA/K/EP 182-P÷693-P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

NEW



ENERGYPOWER is the range of multifunctional units for 4-Pipe systems with high efficiency. The units CHA/K/EP 182-P÷693-P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER and ESEER/IPLV energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.



VERSION

CHA/K/EP

CHA/K/EP/SSL

Multifunctional unit

Super silenced Multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Condenser AISI 316 stainless steel braze welded plates type, with one circuit on the refrigerant side and one on the water side. On the unit is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plate type with one circuit on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit is always installed an antifreeze heater.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side

PDIH	Inverter double circulating pump heating side
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
TS	Touch screen interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FF-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/EP 182-P÷693-P

MODEL			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	502-P	603-P	693-P
Cooling only	Cooling capacity (1)	kW	48.6	55.9	63.2	72.2	81.8	92.7	105	118	134	159	190
	Absorbed power (1)	kW	16.8	19.3	21.9	24.4	27.9	32.5	38.0	42.3	46.5	57.4	68.5
	EER (1)		2.89	2.90	2.89	2.96	2.93	2.85	2.76	2.79	2.88	2.77	2.77
Heating only	Heating capacity (2)	kW	52.2	59.7	67.0	75.5	86.0	98.4	111	127	142	171	203
	Absorbed power (2)	kW	16.0	18.7	21.2	23.4	26.5	30.0	35.1	39.5	42.8	52.5	61.2
	COP (2)		3.26	3.19	3.16	3.23	3.25	3.28	3.16	3.22	3.32	3.26	3.32
Cooling + Heating	Cooling capacity (3)	kW	49.6	56.5	62.9	71.8	83.3	94.0	110	126	140	168	203
	Heating capacity (3)	kW	64.9	73.9	82.5	94.1	109	123	143	163	181	217	261
	Absorbed power (3)	kW	15.3	17.4	19.6	22.3	25.2	29.4	32.6	37.2	40.7	49.0	58.4
	TER (3)		7.48	7.49	7.42	7.44	7.63	7.38	7.76	7.77	7.89	7.86	7.95
Compressor	Quantity	n°	2	2	2	2	2	3	3	3	2	3	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	1	1
	Capacity steps	n°			2				3		2		3
Evaporator - cooling side	Water flow	l/s	2.32	2.67	3.02	3.45	3.91	4.43	5.02	5.64	6.40	7.60	9.08
	Pressure drops	kPa	35	41	53	50	49	51	38	46	50	52	52
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Condenser - heating side	Water flow (3)	l/s	2.49	2.85	3.20	3.61	4.11	4.70	5.30	6.07	6.78	8.17	9.70
	Pressure drops (3)	kPa	31	35	38	42	40	35	34	42	48	43	45
	Water connections (3)	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50										
	Max. running current	A	40	46	54	59	66	77	84	95	100	128	151
	Max. starting current	A	164	166	178	191	234	201	217	263	314	304	359
Unit with pump cooling side	Pump available static pressure	kPa	145	135	120	110	135	130	125	105	150	130	105
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Unit with pump heating side	Pump available static pressure	kPa	150	140	125	115	145	140	115	155	145	135	110
	Water connections	"G	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	2 ½"	3"	3"
Sound pressure	STD version (4)	dB(A)	60	62	62	63	63	63	65	65	69	70	70
	With SL accessory (4)	dB(A)	58	60	60	61	61	61	63	63	67	68	68
	SSL version (4)	dB(A)	55	57	57	58	58	58	60	60	64	65	65
Weights	Transport weight	Kg	750	760	815	905	925	1030	1055	1085	1295	1500	1545
	Operating weight	Kg	765	775	830	925	950	1060	1085	1115	1335	1545	1595

DIMENSIONS			182-P	202-P	242-P	262-P	302-P	363-P	393-P	453-P	502-P	603-P	693-P
L	STD	mm	2350	2350	2350	2350	2350	2350	2350	2350	3550	3550	3550
	SSL	mm	2350	2350	2350	2350	2350	3550	3550	3550	3550	4700	4700
W	STD/SSL	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
H	STD/SSL	mm	1920	1920	1920	2220	2220	2220	2220	2220	2220	2220	

CLEARANCE AREA

CHA/K/EP 182-P÷693-P

300 | 800 | 800 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

CHA/K/EP 604-P÷2406-P

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, SCROLL COMPRESSORS AND PLATE EXCHANGERS.

NEW



ENERGYPOWER is the range of multifunctional units for 4-Pipe systems with high efficiency. The units CHA/K/EP 182-P÷693-P feature R410A refrigerant and Scroll compressors activated in series based on the requested thermal load, to reach high EER and ESEER/IPLV energy values. The units are characterized by double cooling circuit. Thanks to the advanced control system, ENERGYPOWER units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.



VERSION

CHA/K/EP

CHA/K/EP/SSL

Multifunctional unit

Super silenced Multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Scroll compressors with oil sight glass, internal overheat protection and crankcase heater.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Condenser AISI 316 stainless steel braze welded plates type, with two independent circuits on the refrigerant side and one on the water side. On the unit is always installed an antifreeze heater.
- Evaporator AISI 316 stainless steel braze welded plates type with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch. On the unit is always installed an antifreeze heater.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R410A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
RFM	Cooling circuit shut-off valve on discharge line
RFL	Cooling circuit shut-off valve on liquid line
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
PSH	Single circulating pump heating side
PSIH	Inverter single circulating pump heating side
PDH	Double circulating pump heating side
PDIH	Inverter double circulating pump heating side

FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes
SS	Soft start
TS	Touch screen interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/K/EP 604-P÷2406-P



MODEL			604-P	724-P	804-P	904-P	1004-P	1104-P	1206-P	1506-P	1806-P	2006-P	2206-P	2406-P
Cooling only	Cooling capacity (1)	kW	167	190	216	241	264	301	339	395	459	522	583	643
	Absorbed power (1)	kW	57	69	75	85	93	104	114	140	169	193	210	225
	EER (1)		2.93	2.75	2.88	2.84	2.84	2.89	2.97	2.82	2.72	2.70	2.78	2.86
Heating only	Heating capacity (2)	kW	180	204	231	257	281	318	361	427	515	570	632	693
	Absorbed power (2)	kW	55	64	72	79	86	97	109	128	159	168	195	208
	COP (2)		3.25	3.20	3.22	3.25	3.28	3.28	3.31	3.34	3.24	3.39	3.24	3.33
Cooling + Heating	Cooling capacity (3)	kW	170	195	214	243	270	303	334	405	465	543	594	652
	Heating capacity (3)	kW	220	255	281	318	351	396	436	527	613	712	777	849
	Absorbed power (3)	kW	50	60	67	75	81	93	102	122	148	169	183	197
	TER (3)		7.80	7.50	7.39	7.48	7.67	7.52	7.55	7.64	7.28	7.43	7.49	7.62
Compressor	Quantity	n°	4	4	4	4	4	4	6	6	6	6	6	6
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	4						6					
Evaporator - cooling side	Water flow	l/s	7.98	9.08	10.32	11.51	12.61	14.38	16.20	18.87	21.93	24.94	27.85	30.72
	Pressure drops	kPa	34	33	36	35	42	36	45	44	53	43	34	40
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Condenser - heating side	Water flow (3)	l/s	8.60	9.75	11.04	12.28	13.43	15.19	17.25	20.40	24.61	27.23	30.20	33.11
	Pressure drops (3)	kPa	35	36	39	30	37	33	43	43	42	49	48	54
	Water connections (3)	DN	100	100	100	100	100	100	100	100	125	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	133	151	171	186	201	227	255	301	386	416	453	483
	Max. starting current	A	301	328	347	400	415	488	432	515	647	755	792	822
Unit with pump cooling side	Pump available static pressure	kPa	175	170	145	140	125	145	145	140	100	160	160	140
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Unit with pump heating side	Pump available static pressure	kPa	165	160	145	145	125	140	140	135	105	150	140	120
	Water connections	DN	100	100	100	100	100	100	100	100	125	150	150	150
Sound pressure	STD version (4)	dB(A)	70	70	71	71	71	72	74	74	76	77	78	79
	With SL accessory (4)	dB(A)	68	68	69	69	69	70	72	72	74	75	76	77
	SSL version (4)	dB(A)	64	64	65	65	65	66	66	66	70	70	71	72
Weights	Transport weight	Kg	2200	2230	2350	2390	2420	3180	3420	3530	4530	4600	5320	5350
	Operating weight	Kg	2300	2330	2450	2500	2530	3310	3560	3680	4730	4840	5630	5670

DIMENSIONS		604-P	724-P	804-P	904-P	1004-P	1104-P	1206-P	1506-P	1806-P	2006-P	2206-P	2406-P
L	STD	mm	3350	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200
	SSL	mm	3350	3350	3350	5000	5000	5000	6200	6200	7200	7200	7200
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100

CLEARANCE AREA

CHA/K/EP 604-P÷2406-P

500	1800	1000	1800
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NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

FROM 278 KW TO 1133 KW.

CHA/IY/EP 1352÷4402

AIRCOOLED 4-PIPE MULTIFUNCTIONAL UNITS WITH AXIAL FANS, INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGERS.



ENERGYPOWER is the range of multifunctional units for 4-Pipe systems with high efficiency. The units CHA/IY/EP 1352÷4402 ENERGYPOWER, with R134a refrigerant, are provided with the new technological Inverter mono-Screw compressors with satellite, the units reach high EER and ESEER/IPLV energy values. Thanks to the advanced control system, the units can simultaneously fulfill the heating, cooling and domestic hot water request of the building. The unit can manage the opposed thermal loads at the same time and reach the highest possible efficiency. ENERGYPOWER units make the traditional layout of the technical plants easier because the production of thermal energy for the several users are joint in one unit only; the result is an advantage in terms of installation, maintenance and management and in the meantime of the comfort needs. As option also with EC Inverter axial fans.



INVERTER SCREW

VERSION

CHA/IY/EP

Multifunctional unit

CHA/IY/EP/SSL

Super silenced Multifunctional unit

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- INVERTER and ON/OFF Screw compressors, with built-in oil separator, suction filter, crandcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Two copper tube and aluminum finned coils.
- Shell and tube type condenser, with two independent circuits on the refrigerant side and one on the water side.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
TX	Coil with pre-coated fins
PUI	Inverter single circulating pump
PDI	Inverter double circulating pump
FI	Antifreeze heater for evaporator and condenser
FG	Antifreeze heater for single pump and pipes
FM	Antifreeze heater for double pump and pipes

SS	Soft start
TS	Touch screen interface
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/IY/EP 1352÷4402



MODEL			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
Cooling only	Cooling capacity (1)	kW	278	312	366	423	484	564	676	822	978	1133
	Absorbed power (1)	kW	89	100	116	133	153	177	210	258	315	365
	EER (1)		3.12	3.12	3.16	3.18	3.16	3.19	3.22	3.19	3.10	3.10
Heating only	Heating capacity (2)	kW	283	320	375	431	490	572	672	838	990	1156
	Absorbed power (2)	kW	86	91	107	122	139	159	190	231	271	313
	COP (2)		3.29	3.52	3.50	3.53	3.53	3.60	3.54	3.63	3.65	3.69
Cooling + Heating	Cooling capacity (3)	kW	276	318	370	429	492	575	686	834	996	1181
	Heating capacity (3)	kW	359	404	469	544	621	726	865	1054	1261	1495
	Absorbed power (3)	kW	83	87	99	115	130	152	179	220	265	314
	TER (3)		7.65	8.30	8.47	8.46	8.56	8.56	8.66	8.58	8.52	8.52
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator - cooling side	Water flow	l/s	13.28	14.91	17.49	20.21	23.12	26.95	32.30	39.27	46.73	54.13
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Condenser - heating side	Water flow (3)	l/s	17.15	19.30	22.41	25.99	29.67	34.69	41.33	50.36	60.25	71.43
	Pressure drops (3)	kPa	34	37	31	29	28	32	29	32	32	34
	Water connections (3)	DN	100	100	125	125	125	150	150	150	150	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	180	165	190	160	180	160	150	170	140	150
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (4)	dB(A)	77	77	77	78	78	78	79	80	80	81
	With SL accessory (4)	dB(A)	73	73	74	75	74	75	76	76	76	77
	SSL version (4)	dB(A)	67	67	68	69	69	70	70	72	72	72
Weights	Transport weight	Kg	4090	4110	4820	5460	5970	6950	8100	9340	9760	10430
	Operating weight	Kg	4330	4460	5280	5980	6480	7570	8880	10200	10740	11800

DIMENSIONS			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

CHA/IY/EP 1352÷4402

500 | 1800 | 1000 | 1800



NOTES

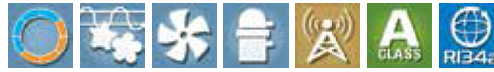
1. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 2. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 3. Chilled water from 12 to 7 °C, heated water from 40 to 45 °C.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

Electrical board side

FROM 282 KW TO 1148 KW.

CHA/IY/WP 1352÷4402

A CLASS ENERGY EFFICIENCY REVERSIBLE HEAT PUMPS WITH AXIAL FANS, INVERTER SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The aircooled reversible Heat Pump units of the line CHA/IY/WP 1352÷4402, in A CLASS and with R134a refrigerant, are suitable for big sizes installations, such as commercial or industrial buildings. The units are provided with the new technological Inverter mono-Screw compressors with satellite, axial fans and shell and tube evaporator and are available also with super low noise version; as option also with EC Inverter axial fans and with Inverter regulated circulating pumps. The designed large condensing coils, the high efficiency fans, the optimisation of the water and cooling circuits, the Inverter Screw compressors, allow the units to reach the A CLASS energy efficiency, if combined with a proper sizing of the end-user plant.



INVERTER SCREW

VERSION

CHA/IY/WP

Reversible Heat Pump

CHA/IY/WP/SSL

Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- INVERTER Screw compressors, with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
TX	Coil with pre-coated fins
PUI	Inverter single circulating pump
PDI	Inverter double circulating pump
FE	Antifreeze heater for evaporator
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes

SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/IY/WP 1352÷4402



MODEL			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
Heating	Heating capacity (1)	kW	282	323	375	428	514	570	671	837	1000	1148
	Absorbed power (1)	kW	88	94	111	126	150	164	196	237	277	320
	COP (1)		3.20	3.44	3.38	3.40	3.43	3.48	3.42	3.53	3.61	3.59
Heating (EN14511)	Heating capacity (1)	kW	283	324	377	430	516	572	673	840	1004	1153
	Absorbed power (1)	kW	90	96	114	129	154	168	201	244	286	332
	COP (1)		3.16	3.36	3.30	3.32	3.34	3.40	3.35	3.45	3.51	3.47
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	SCOP (2)		3.34	3.53	3.22	3.16	3.30	3.71	-	-	-	-
Cooling	Energy Efficiency (2)	%	131	138	126	123	129	145	-	-	-	-
	Cooling capacity (3)	kW	278	312	366	423	484	564	676	822	978	1133
	Absorbed power (3)	kW	89	100	116	133	153	177	210	258	315	365
	EER (3)		3.12	3.12	3.16	3.18	3.16	3.19	3.22	3.19	3.10	3.10
	Cooling capacity (3)	kW	277	311	365	421	482	562	674	819	974	1128
Cooling (EN14511)	Absorbed power (3)	kW	90	101	118	135	155	179	212	261	319	370
	EER (3)		3.08	3.07	3.10	3.13	3.11	3.14	3.17	3.14	3.06	3.05
	ESEER		3.77	3.79	3.75	3.76	3.79	3.90	4.02	3.92	3.95	4.02
	EUROVENT Class		B	B	B	A	A	A	A	A	B	B
	Quantity	n°	2	2	2	2	2	2	2	2	2	2
Compressor	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	13.28	14.91	17.49	20.21	23.12	26.95	32.30	39.27	46.73	54.13
	Pressure drops	kPa	33	43	51	48	48	46	48	47	52	64
	Water connections	DN	125	125	150	150	150	200	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	237	237	269	301	309	393	445	580	664	720
	Max. starting current	A	281	281	345	361	369	504	534	785	827	855
Unit with pump	Pump available static pressure	kPa	180	165	190	160	180	160	150	170	140	150
	Water connections	DN	100	100	125	125	125	150	150	150	150	200
Sound pressure	STD version (4)	dB(A)	77	77	77	78	78	78	79	80	80	81
	With SL accessory (4)	dB(A)	73	73	74	75	74	75	76	76	76	77
	SSL version (4)	dB(A)	67	67	68	69	69	70	70	72	72	72
Weights	Transport weight	Kg	3780	3800	4360	4910	5380	6340	7260	8420	8675	9230
	Operating weight	Kg	3950	3970	4690	5270	5720	6760	7780	8990	9330	10150

DIMENSIONS			1352	1402	1602	1802	1952	2302	2702	3302	3902	4402
L	STD	mm	5550	5550	6700	7750	8900	8900	10050	11100	11100	11100
	SSL	mm	6700	6700	7750	7750	8900	10050	11100	12250	12250	12250
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2500	2500	2500	2500	2500	2500

CLEARANCE AREA

CHA/IY/WP 1352÷4402

500 | 1800 | 1000 | 1800



NOTES

1. Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 2. Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 3. Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 4. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL version are specified on technical brochure.

CHA/Y/A 1302÷4802

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSORS, MICROCHANNEL CONDENSING COILS AND SHELL AND TUBE EXCHANGER.



The CHA/Y/A 1302÷4802 units in A CLASS energy efficiency have EER values higher than 3.1 due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination.

The Microchannel condensing coils, the mono-Screw compressors with satellite and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressors, on circulating pumps and EC Inverter on fans are also available for getting the highest efficiency at part load. The super silenced version, obtained through acoustic insulation on compressors and wider exchangers, is particularly suitable for installations where extremely quiet operation are essential for the ideal execution of the system. The Inverter accessory is equipped with SYNCHRONIZER that allows you to extend the useful life of the compressor, ensuring the rotation at every boot, and significantly reduce the inrush current of the unit.



INVERTER SCREW
MICROCHANNEL

VERSION

CHA/Y/A

Cooling only

CHA/Y/A/SSL

Super silenced cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of aluminium MICROCHANNEL condensing coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TXB	Coil with epoxy treatment
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump

SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
II	Inverter on one compressor and Synchronizer
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface

ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y/A 1302÷4802

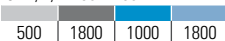


MODEL			1302	1502	1702	1902	2002	2602	3002	3602	4202	4802
Cooling	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136
	Absorbed power (1)	kW	80	94	112	128	143	175	215	251	299	345
	EER (1)		3.29	3.33	3.21	3.23	3.24	3.28	3.24	3.34	3.21	3.29
Cooling (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132
	Absorbed power (1)	kW	81	95	113	129	144	176	217	253	302	349
	EER (1)		3.23	3.28	3.17	3.19	3.22	3.26	3.20	3.31	3.17	3.24
	ESEER		3.93	4.05	3.97	4.05	4.07	4.02	3.95	4.07	4.05	4.04
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless									
Evaporator	Water flow	l/s	12.57	14.95	17.15	19.73	22.17	27.42	33.25	40.09	45.82	54.28
	Pressure drops	kPa	30	26	49	44	34	28	42	34	39	48
	Water connections	DN	125	125	150	150	150	150	150	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	201	237	261	301	337	393	485	580	664	720
	Max. starting current	A	263	281	337	361	405	504	596	785	827	855
Unit with tank and pump	Pump available static pressure	kPa	145	184	200	165	205	185	205	185	150	160
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	---	---
	Water connections	DN	100	100	100	125	125	150	150	150	200	200
Sound pressure	STD version (2)	dB(A)	76	76	76	76	77	76	77	77	77	78
	With SL accessory (2)	dB(A)	73	73	73	73	74	73	74	74	74	75
	SSL version (2)	dB(A)	66	66	66	65	66	66	67	68	68	---
Weights	Transport weight (3)	Kg	3825	3289	3348	3707	4402	4802	5826	6750	6774	7513
	Operating weight (3)	Kg	5825	3420	3490	3890	4690	5140	6120	7390	7320	7970

DIMENSIONS			1302	1502	1702	1902	2002	2602	3002	3602	4202	4802
L	STD	mm	4400	4400	5000	5550	6200	6700	8900	11100	11100	11100
	SSL	mm	5550	5550	5550	6700	8900	8900	11100	11100	11100	---
W	STD/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2500	---

CLEARANCE AREA

CHA/Y/A 1302÷4802



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Unit without tank and pump.
- N.B.** Weights of SSL version are specified on technical brochure.

FROM 221 KW TO 1597 KW.

CHA/Y 1202-B÷6802-B

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.



CHA/Y 1202-B÷6802-B series liquid Chillers and Heat Pumps, with R134a refrigerant, are designed for large service sector or industrial-type ambients.

They are used, together with terminal units, for air conditioning of rooms, or to remove the heat created during industrial processes. Equipped with axial fans, Screw compressors and shell and tube exchanger, even in the super silent version, they can be completed with a hydraulic circuit with tank, pump, or tank and pump. The use of large condensing coils and high unit efficiency fans, as well as optimisation of the hydraulic and refrigerant circuit and the use of latest-generation Screw compressors, combined with a adequate sizing of the user system, ensure high operating efficiency with a considerably reduction in energy consumption.

A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA/Y

Cooling only

CHA/Y/SSL

Super silenced cooling only

CHA/Y/WP

Reversible Heat Pump

CHA/Y/WP/SSL

Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a step regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till 0°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump

SPD	Inertial tank and double circulating pump
SPDI	Inertial tank and Inverter double circulating pump
FE	Antifreeze heater for evaporator
FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface

ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MIN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHAY 1202-B+6802-B



MODEL		1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B	
Cooling	Cooling capacity (1)	kW	221	262	302	348	393	453	549	684
	Absorbed power (1)	kW	80	88	112	137	156	167	197	231
	EER (1)		2.76	2.98	2.70	2.54	2.52	2.71	2.79	2.96
Cooling (EN14511)	Cooling capacity (1)	kW	220	261	301	347	391	451	547	681
	Absorbed power (1)	kW	81	89	113	139	158	168	199	234
	EER (1)		2.71	2.93	2.67	2.50	2.48	2.68	2.75	2.91
	ESEER		3.44	3.62	3.54	3.38	3.37	3.69	3.58	3.60
Heating	Heating capacity (2)	kW	225	255	289	338	390	457	536	662
	Absorbed power (2)	kW	75	78	91	105	120	138	160	191
	COP (2)		3.00	3.27	3.18	3.22	3.25	3.31	3.35	3.47
Heating (EN14511)	Heating capacity (2)	kW	225	255	289	338	390	457	536	665
	Absorbed power (2)	kW	75	78	91	106	121	143	161	197
	COP (2)		3.00	3.27	3.18	3.19	3.22	3.20	3.33	3.38
	SCOP (3)		3.07	3.23	3.25	3.18	3.30	2.99	3.12	3.39
Compressor	Energy Efficiency (3)	%	120	126	127	124	129	117	122	133
	Quantity	n°	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2
Evaporator	Capacity steps	n°	Stepless							
	Water flow	l/s	10.56	12.52	14.43	16.63	18.78	21.64	26.23	32.68
	Pressure drops	kPa	50	49	38	50	53	43	54	57
	Water connections	DN	100	100	125	125	125	125	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	194	194	230	254	286	321	377	421
	Max. starting current	A	256	256	274	330	346	389	488	510
Unit with tank and pump	Pump available static pressure	kPa	150	170	230	195	165	195	165	130
	Tank water volume	l	1100	1100	1100	1100	1100	2000	2000	2000
	Water connections	DN	100	100	100	100	125	125	150	150
Sound pressure	STD version (4)	dB(A)	77	77	77	77	76	76	77	77
	With SL accessory (4)	dB(A)	74	74	74	74	73	73	74	74
	SSL version (4)	dB(A)	67	67	67	66	67	67	67	68
Weights	Transport weight	Kg	2640	2730	2780	2920	3120	3800	4070	5270
	Operating weight	Kg	2740	2820	2920	3060	3250	3930	4330	5500

MODEL		3602-B	4202-B	4802-B	5402-B	6002-B	6302-B	6802-B		
Cooling	Cooling capacity (1)	kW	806	954	1089	1218	1347	1475	1597	
	Absorbed power (1)	kW	284	334	402	443	494	531	554	
	EER (1)		2.84	2.86	2.71	2.75	2.73	2.78	2.88	
Cooling (EN14511)	Cooling capacity (1)	kW	803	950	1084	1213	1342	1469	1589	
	Absorbed power (1)	kW	287	338	407	448	499	537	562	
	EER (1)		2.80	2.82	2.67	2.71	2.69	2.74	2.83	
	ESEER		3.66	3.61	3.49	3.59	3.57	3.68	3.63	
Heating	Heating capacity (2)	kW	767	850	1044	1172	1306	1438	---	
	Absorbed power (2)	kW	225	260	318	350	395	418	---	
	COP (2)		3.41	3.27	3.28	3.35	3.31	3.44	---	
Heating (EN14511)	Heating capacity (2)	kW	770	853	1048	1176	1311	1443	---	
	Absorbed power (2)	kW	231	266	328	360	406	431	---	
	COP (2)		3.33	3.21	3.20	3.27	3.23	3.35	---	
	SCOP (3)		-	-	-	-	-	-	---	
Compressor	Energy Efficiency (3)	%	-	-	-	-	-	-	---	
	Quantity	n°	2	2	2	2	2	2	2	
	Refrigerant circuits	n°	2	2	2	2	2	2	2	
Evaporator	Capacity steps	n°	Stepless							
	Water flow	l/s	38.51	45.58	52.03	58.19	64.36	70.47	76.30	
	Pressure drops	kPa	55	53	62	55	55	60	82	
	Water connections	DN	200	200	200	200	200	200	250	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	549	641	705	705	873	896	912	
	Max. starting current	A	754	804	840	840	1665	1541	1557	
Unit with tank and pump	Pump available static pressure	kPa	165	130	170	150	200	180	150	
	Tank water volume	l	2000	2000	---	---	---	---	---	
	Water connections	DN	150	200	200	200	200	200	200	
Sound pressure	STD version (4)	dB(A)	77	78	78	79	79	80	80	
	With SL accessory (4)	dB(A)	74	75	75	76	76	77	77	
	SSL version (4)	dB(A)	69	69	70	70	70	70	---	
Weights	Transport weight	Kg	5480	6250	7255	7715	8160	8840	10100	
	Operating weight	Kg	5770	6600	7710	8150	8700	9380	10620	

DIMENSIONS		1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B	3602-B	4202-B	4802-B	5402-B	6002-B	6302-B	6802-B
L	STD mm	3350	3350	3350	3350	4400	5550	5550	6700	6700	7750	10050	10050	10050	11100	13400
	SSL mm	3350	3350	3350	4400	4400	5550	6700	7750	7750	10050	10050	11100	13400	13400	---
	WP mm	4400	4400	4400	4400	5550	6700	6700	7750	7750	8900	12250	12250	13400	13400	---
	WP/SSL mm	4400	4400	4400	5550	5550	6700	6700	7750	8900	11100	13400	13400	---	---	---
W	* mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	STD/WP mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
H	SSL mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	---
	WP/SSL mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	---	---	---

CLEARANCE AREA

CHA/Y 1202-B+6802-B



Electrical board side

NOTES

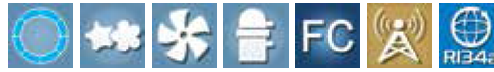
- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of ambient heating at low temperature with average climatic conditions. According to EU Regulation n. 811/2013.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Weights of SSL and WP versions are specified on technical brochure.
* STD-SSL-WP-WP/SSL



FROM 217 KW TO 1460 KW.

CHA/Y/FC 1202-B÷6002-B

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The liquid Chillers of the CHAY/FC 1202-B÷6002-B series, with R134a refrigerant, offer innovative technology to meet the needs of large systems for both domestic as well as industrial applications requiring the production of cooled water continuously year-round. During the cold months, in **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.



FREE COOLING

VERSION

CHA/Y/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors with built-in oil separator, suction filter, crankcase heater, oil sight glass, thermal protection and stepless capacity steps.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
BT	Low water temperature Kit
EC	EC Inverter fans
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PUI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
SPU	Inertial tank and single circulating pump
SPUI	Inertial tank and Inverter single circulating pump
SPD	Inertial tank and double circulating pump

SPDI	Inertial tank and Inverter double circulating pump
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation

IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/Y/FC 1202-B÷6002-B

MODEL		1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	
Cooling	Cooling capacity (1)	kW	217	258	315	375	418	473	569
	Absorbed power (1)	kW	83	97	114	148	157	184	210
	EER (1)		2.61	2.66	2.76	2.53	2.66	2.57	2.71
Free-Cooling cycle	Air temperature (2)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0	-3.5
	Absorbed power (2)	kW	8	12	12	12	12	16	20
Compressor	Quantity	n°	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless						
Water circuit	Water flow	l/s	11.22	13.34	16.29	19.38	21.61	24.45	29.42
	Pressure drops	kPa	125	170	180	168	191	130	115
	Water connections	DN	100	100	100	125	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	194	201	237	261	293	337	393
	Max. starting current	A	256	263	281	337	353	405	504
Unit with tank and pump	Pump available static pressure	kPa	165	120	125	115	110	145	185
	Tank water volume	l	1100	1100	1100	1100	1100	1100	2000
	Water connections	DN	100	100	100	125	125	125	150
Sound pressure	STD version (3)	dB(A)	75	75	76	76	76	77	77
	With SL accessory (3)	dB(A)	72	72	73	73	73	74	74
Weights	Transport weight (4)	Kg	3650	3320	3620	3805	4180	4510	5310
	Operating weight (4)	Kg	4950	3520	3870	4060	4530	4850	5700

MODEL		3002-B	3602-B	4202-B	4802-B	5402-B	6002-B		
Cooling	Cooling capacity (1)	kW	709	847	994	1139	1288	1460	
	Absorbed power (1)	kW	263	316	370	434	490	541	
	EER (1)		2.70	2.68	2.69	2.62	2.63	2.70	
Free-Cooling cycle	Air temperature (2)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9	
	Absorbed power (2)	kW	20	22	22	25	29	36	
Compressor	Quantity	n°	2	2	2	2	2	2	
	Refrigerant circuits	n°	2	2	2	2	2	2	
	Capacity steps	n°	Stepless						
Water circuit	Water flow	l/s	36.65	43.79	51.38	58.88	66.58	75.47	
	Pressure drops	kPa	160	164	160	200	225	300	
	Water connections	DN	150	150	200	200	200	200	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50						
	Max. running current	A	437	565	649	713	720	896	
	Max. starting current	A	526	770	812	848	855	1688	
Unit with tank and pump	Pump available static pressure	kPa	100	120	140	160	125	130	
	Tank water volume	l	2000	2000	2000	---	---	---	
	Water connections	DN	150	150	200	200	200	200	
Sound pressure	STD version (3)	dB(A)	77	79	79	79	79	80	
	With SL accessory (3)	dB(A)	74	76	76	76	76	77	
Weights	Transport weight (4)	Kg	6820	7710	8605	9590	10070	11750	
	Operating weight (4)	Kg	7420	8350	9410	10550	10900	12970	

DIMENSIONS			1202-B	1302-B	1502-B	1702-B	1902-B	2002-B	2602-B	3002-B	3602-B	4202-B	4802-B	5402-B	6002-B
L	STD	mm	4400	4400	4400	4400	5550	5550	6700	10050	10050	10050	10050	11100	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/Y/FC 1202-B-6002-B

500 | 1800 | 1000 | 1800



NOTES

- Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
- Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
- Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- Unit without tank and pump.

CHA 702-V÷5602-V

AIRCOOLED LIQUID CHILLERS AND HEAT PUMPS WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The liquid Chillers and Heat Pumps of the CHA 702-V÷5602-V series are designed to satisfy the needs of large-sized service sector or industrial areas.

They are used, in combination with terminal units, for the air conditioning of the rooms or to remove the heat developed during industrial processes. Equipped with axial fans, Screw compressors and shell and tube exchanger, even in the super silent version, these units can be completed by a hydraulic circuit with tank, with pump, or with tank and pump. The use of large condensing coils and fans with high unit efficiency, as well as the optimization of the hydraulic and cooling circuit and the use of latest generation screw compressors, combined with a suitable sizing of the user system, allows to obtain high efficiency during operation with remarkably reduced energy consumption.

A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.



VERSION

CHA	CHA/SSL
Cooling only	Super silenced cooling only
CHA/WP	CHA/WP/SSL
Reversible Heat Pump	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors, with built-in oil separator, suction filter, crankcase heater, oil sight glass and thermal protection.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Microprocessor control and regulation system.
- Digital high and low pressure gauges.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencing
RZ	Compressors stepless control
CT	Condensing control down to 0 °C
CC	Condensing control down to -20 °C
BT	Low water temperature Kit
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump
SPD	Inertial tank and double circulating pump
FE	Antifreeze heater for evaporator

FB	Antifreeze heater for evaporator and tank
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
FU	Antifreeze heater for evaporator, tank, single pump and pipes
FD	Antifreeze heater for evaporator, tank, double pump and pipes
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal

IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA 702-V÷5602-V



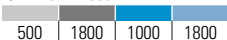
MODEL			702-V	802-V	902-V	1102-V	1202-V	1502-V	1602-V	1802-V	2002-V	2202-V
Cooling	Cooling capacity (1)	kW	170	198	227	259	290	338	386	433	480	541
	Absorbed power (1)	kW	67	77	87	97	107	125	141	161	171	189
	EER (1)		2.54	2.57	2.61	2.67	2.71	2.70	2.74	2.69	2.81	2.86
Cooling (EN14511)	Cooling capacity (1)	kW	169	197	226	258	289	337	385	432	479	539
	Absorbed power (1)	kW	68	78	88	98	108	126	142	163	172	191
	EER (1)		2.51	2.54	2.57	2.63	2.67	2.68	2.71	2.66	2.78	2.83
	ESEER		3.26	3.52	3.48	3.66	3.48	3.68	3.60	3.56	3.84	3.74
Heating	Heating capacity (2)	kW	190	215	253	280	314	372	417	478	514	585
	Absorbed power (2)	kW	72	82	92	102	114	132	149	172	179	201
	COP (2)		2.64	2.62	2.75	2.75	2.75	2.82	2.80	2.78	2.87	2.91
Heating (EN14511)	Heating capacity (2)	kW	190	216	254	281	316	373	418	480	516	587
	Absorbed power (2)	kW	73	83	94	105	117	134	152	176	182	206
	COP (2)		2.61	2.59	2.70	2.69	2.69	2.79	2.76	2.73	2.83	2.86
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6									
Evaporator	Water flow	l/s	8.12	9.46	10.85	12.37	13.86	16.15	18.44	20.69	22.93	25.85
	Pressure drops	kPa	30	34	45	50	55	25	36	42	35	42
	Water connections	DN	125	125	125	125	125	150	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	128	164	164	211	207	231	283	307	339	378
	Max. starting current	A	190	252	252	338	340	352	422	494	568	591
Unit with tank and pump	Pump available static pressure	kPa	180	160	140	155	165	195	165	175	170	160
	Tank water volume	l	1100	1100	1100	1100	2000	2000	2000	2000	2000	2000
	Water connections	DN	100	100	100	100	100	100	125	125	125	150
Sound pressure	STD version (3)	dB(A)	74	74	74	74	76	76	77	77	77	77
	With SL accessory (3)	dB(A)	71	71	71	71	73	73	74	74	74	74
	SSL version (3)	dB(A)	66	66	67	67	67	68	68	68	68	69
Weights	Transport weight	Kg	2120	2250	2270	2380	2730	3250	3870	3930	4105	4465
	Operating weight	Kg	2190	2320	2340	2450	2820	3380	4100	4160	4320	4680

MODEL			2402-V	3202-V	3302-V	3402-V	3602-V	4002-V	4202-V	4602-V	5002-V	5602-V
Cooling	Cooling capacity (1)	kW	608	687	758	828	910	992	1077	1235	1397	1500
	Absorbed power (1)	kW	212	235	259	281	306	336	368	410	473	504
	EER (1)		2.87	2.92	2.93	2.95	2.97	2.95	2.93	3.01	2.95	2.98
Cooling (EN14511)	Cooling capacity (1)	kW	606	685	756	826	907	989	1074	1232	1393	1496
	Absorbed power (1)	kW	214	238	261	283	309	339	371	413	477	508
	EER (1)		2.83	2.88	2.90	2.91	2.94	2.92	2.90	2.98	2.92	2.94
	ESEER		3.85	3.94	3.93	3.91	3.90	4.00	4.11	3.99	4.00	4.11
Heating	Heating capacity (2)	kW	640	720	809	893	936	1046	1113	1342	---	---
	Absorbed power (2)	kW	222	245	275	300	313	350	380	430	---	---
	COP (2)		2.88	2.94	2.94	2.98	2.99	2.99	2.93	3.12	---	---
Heating (EN14511)	Heating capacity (2)	kW	643	723	811	896	939	1049	1116	1346	---	---
	Absorbed power (2)	kW	227	251	280	306	319	357	387	440	---	---
	COP (2)		2.83	2.88	2.90	2.93	2.94	2.94	2.89	3.06	---	---
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6									
Evaporator	Water flow	l/s	29.05	32.82	36.22	39.56	43.48	47.40	51.46	59.01	66.75	71.67
	Pressure drops	kPa	46	48	33	36	40	35	35	38	43	42
	Water connections	DN	200	200	200	200	200	200	200	200	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	434	468	544	544	638	674	707	819	902	955
	Max. starting current	A	729	729	1037	1037	1149	1167	1293	1645	1835	1949
Unit with tank and pump	Pump available static pressure	kPa	155	130	165	140	135	205	200	180	160	150
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	3000	3000
	Water connections	DN	150	150	150	150	150	200	200	200	200	200
Sound pressure	STD version (3)	dB(A)	77	77	78	78	78	78	78	78	78	78
	With SL accessory (3)	dB(A)	74	74	75	75	75	75	75	75	75	75
	SSL version (3)	dB(A)	69	69	69	69	69	69	69	69	---	---
Weights	Transport weight	Kg	4505	5045	5690	5890	6240	6940	7365	8360	9240	9750
	Operating weight	Kg	4720	5240	5900	6100	6450	7240	7650	8780	9660	10230

DIMENSIONS			702-V	802-V	902-V	1102-V	1202-V	1502-V	1602-V	1802-V	2002-V	2202-V	2402-V	3202-V	3302-V	3402-V	3602-V	4002-V	4202-V	4602-V	5002-V	5602-V	
L	STD	mm	3350	3350	3350	3350	4400	4400	5550	5550	5550	5550	6700	6700	7750	8900	8900	10050	10050	10050	12250	13400	13400
	SSL	mm	3350	3350	4400	4400	4400	5550	6700	6700	6700	8900	8900	8900	10050	10050	10050	10050	12250	12250	13400	---	---
	WP	mm	4400	4400	4400	4400	5550	5550	6700	6700	6700	7750	7750	7750	10050	10050	10050	10050	10050	12250	13400	---	---
W	WP/SSL	mm	4400	4400	5550	5550	5550	6700	7750	7750	7750	10050	10050	10050	10050	10050	10050	13400	13400	---	---	---	---
	*	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/ WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500
	SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500	---
	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2500	---

CLEARANCE AREA

CHA 702-V÷5602-V



Electrical board side

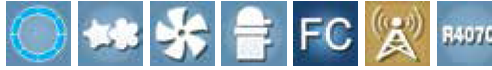
NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Length with inertial tank accessory.
- N.B. Weights of SSL and WP versions and units with tank and pump are specified on technical brochure.
- * STD-SSL-WP-WP/SSL



CHA/FC 702-V÷4602-V

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, SCREW COMPRESSORS AND SHELL AND TUBE EXCHANGER.



The liquid Chillers of the CHA/FC 702-V÷4602-V series offer innovative technology to meet the needs of large systems for industrial applications requiring the production of cooled water continuously year-round.

During the cold months, in **FREE-COOLING** operation mode, the return liquid of the system is cooled directly by forced convection of outdoor air through the condensing coil, thus saving energy by not operating the unit's Screw compressors. A 3-way valve system is controlled by the electronic microprocessor controller, allowing functioning in CHILLER, FREE-COOLING or MIXED (simultaneously CHILLER and FREE-COOLING) modes.



FREE COOLING

VERSION

CHA/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Screw compressors, with built-in oil separator, suction filter, crankcase heater, oil sight glass and thermal protection.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- Shell and tube type evaporator, with two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Digital high and low pressure gauges.
- R407C refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, overload protection for compressors and thermocontacts for fans.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature Kit
RZ	Compressors stepless control
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
SP	Inertial tank
PU	Single circulating pump
PD	Double circulating pump
SPU	Inertial tank and single circulating pump

SPD	Inertial tank and double circulating pump
SS	Soft start
IS	Modbus RTU protocol, RS485 serial interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/FC 702-V÷4602-V



MODEL			702-V	802-V	902-V	1102-V	1202-V	1502-V	1602-V	1802-V	2002-V
Cooling	Cooling capacity (1)	kW	177	199	226	255	286	329	377	423	478
	Absorbed power (1)	kW	65	79	87	101	111	121	145	167	173
	EER (1)		2.72	2.52	2.60	2.52	2.58	2.72	2.60	2.53	2.76
Free-Cooling cycle	Air temperature (2)	°C	0.0	-1.5	-2.5	-3.3	-3.2	-1.0	-2.5	-3.2	-2.3
	Absorbed power (2)	kW	8	8	8	8	12	16	16	16	16
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6								
Water circuit	Water flow	l/s	9.15	10.29	11.68	13.18	14.79	17.01	19.49	21.87	24.71
	Pressure drops	kPa	77	95	110	122	112	45	55	62	83
	Water connections	"G	4	4	4	4	4	4	5	5	5
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	128	164	164	211	207	238	283	307	339
	Max. starting current	A	190	252	252	338	340	360	422	494	568
Unit with tank and pump	Pump available static pressure	kPa	163	125	95	148	173	205	175	148	152
	Tank water volume	l	1100	1100	1100	1100	2000	2000	2000	2000	2000
	Water connections	"G	4"	4"	4"	4"	4"	4"	5"	5"	5"
Sound pressure	STD version (3)	dB(A)	74	74	74	74	76	77	77	77	77
	With SL accessory (3)	dB(A)	71	71	71	71	72	74	74	74	74
Weights	Transport weight (4)	Kg	2620	2750	2770	2800	2950	3920	4070	4140	4810
	Operating weight (4)	Kg	2800	2930	2950	2980	3180	4280	4430	4500	5230

MODEL			2202-V	2402-V	3202-V	3302-V	3402-V	3602-V	4002-V	4202-V	4602-V
Cooling	Cooling capacity (1)	kW	534	583	656	726	795	863	945	1036	1163
	Absorbed power (1)	kW	199	215	248	283	300	312	334	367	441
	EER (1)		2.68	2.71	2.65	2.57	2.65	2.77	2.83	2.82	2.64
Free-Cooling cycle	Air temperature (2)	°C	-3.0	-3.0	-2.5	-3.8	-3.2	-4.0	-3.3	-4.3	-4.2
	Absorbed power (2)	kW	20	20	24	24	28	28	28	28	36
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	6								
Water circuit	Water flow	l/s	27.61	30.14	33.91	37.53	41.10	44.61	48.85	53.56	60.12
	Pressure drops	kPa	83	84	130	135	165	176	152	145	203
	Water connections	"G	5	6	6	6	6	6	8	8	8
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	378	434	476	544	552	638	674	707	819
	Max. starting current	A	591	729	736	1037	1045	1149	1167	1293	1645
Unit with tank and pump	Pump available static pressure	kPa	145	141	125	110	65	94	113	105	77
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	3000	3000
	Water connections	"G	6"	6"	6"	6"	6"	6"	8"	8"	8"
Sound pressure	STD version (3)	dB(A)	77	77	78	79	80	79	79	80	79
	With SL accessory (3)	dB(A)	74	74	75	76	77	76	76	77	76
Weights	Transport weight (4)	Kg	5080	5110	6350	6440	7190	7240	8250	8600	9940
	Operating weight (4)	Kg	5600	5630	6930	7040	7820	7870	8950	9430	10940

DIMENSIONS			702-V	802-V	902-V	1102-V	1202-V	1502-V	1602-V	1802-V	2002-V	2202-V	2402-V	3202-V	3302-V	3402-V	3602-V	4002-V	4202-V	4602-V
L	STD	mm	4400	4400	4400	4400	4400	5550	5550	5550	6700	6700	6700	8900	8900	10050	10050	10050	10050	12250
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750

CLEARANCE AREA

CHA/FC 702-V÷4602-V

500 | 1800 | 1000 | 1800



NOTES

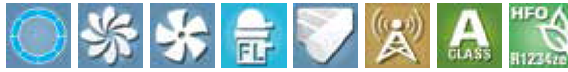
- Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
- Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
- Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- Unit without tank and pump.

FROM 262 KW TO 1340 KW.

CHA/TTH 1301-1÷4904-2

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

NEW



The innovative CHA/TTH 1301-1 ÷4904-2 **TURBOLINE** units, with **HFO-R1234ze** refrigerant, are designed to provide an effective solution to highly selective system needs. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight.

The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of shell tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled ESEER/IPLV values, in the elimination of accumulation tanks and in an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by using a specific webpage, have access to the Monitoring, Managing and Statistics activities.



TURBOLINE

MICROCHANNEL

HFO R1234ze

VERSION

CHA/TTH

Cooling only

CHA/TTH/MC

Cooling only with MICROCHANNEL coils

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, flow and delivery tap, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermo-contacts for the fans, interface relay and terminals for external connections.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
PU	Single circulating pump
PD	Double circulating pump
FE	Antifreeze heater for evaporator

FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
TS	Touch screen interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal

IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTH 1301-1÷4904-2



MODEL		1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2	
Cooling STD version	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	76	94	154	191	228	280	377	154	193	381
Cooling STD version (EN14511)	EER (1)		3.45	3.56	3.40	3.51	3.41	3.57	3.55	3.40	3.51	3.55
	Cooling capacity (1)	kW	261	334	522	668	774	997	1336	523	668	1335
	Absorbed power (1)	kW	77	95	156	193	231	283	381	155	195	386
	EER (1)		3.39	3.52	3.35	3.46	3.35	3.52	3.51	3.37	3.46	3.51
Cooling MC version	ESEER		4.70	4.82	4.87	5.17	5.02	5.17	5.19	4.70	4.93	4.99
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	Cooling capacity (1)	kW	262	335	524	670	777	1000	1340	524	670	1340
	Absorbed power (1)	kW	72	89	145	181	216	264	356	145	183	360
Cooling MC version (EN14511)	EER		3.64	3.76	3.59	3.70	3.60	3.79	3.76	3.59	3.70	3.76
	Cooling capacity (1)	kW	259	334	518	668	774	997	1336	519	668	1335
	Absorbed power (1)	kW	73	90	147	183	219	267	360	146	185	365
	EER (1)		3.55	3.71	3.52	3.65	3.53	3.73	3.71	3.55	3.65	3.71
Compressor	ESEER		4.92	5.06	5.12	5.42	5.26	5.43	5.44	4.93	5.17	4.99
	EUROVENT Class		A	A	A	A	A	A	A	A	A	A
	Quantity	n°	1	1	2	2	3	3	4	2	2	4
Evaporator	Refrigerant circuits	n°	1	1	1	1	1	1	2	2	2	
	Capacity steps	n°	Stepless									
	Water flow	l/s	12.52	16.01	25.04	32.01	37.12	47.78	64.02	25.04	32.01	64.02
Electrical characteristics	Pressure drops	kPa	40	47	47	50	40	43	32	47	50	32
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
	Power supply	V/Ph/Hz	400/3/50									
Unit with pump	Max. running current	A	173	173	339	347	505	520	678	339	347	678
	Max. starting current	A	25	25	191	199	357	372	530	191	199	530
Sound pressure	Pump available static pressure	kPa	140	120	110	125	105	120	145	110	125	145
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Weights	STD version (2)	dB(A)	70	70	71	71	71	71	72	71	71	72
	MC version (2)	dB(A)	69	69	70	70	70	70	71	70	70	71
Weights	Transport weight	Kg	2610	3000	4050	4460	6050	6820	8100	4290	4700	8400
	Operating weight	Kg	2670	3070	4150	4580	6210	7010	8400	4390	4820	8700

DIMENSIONS		1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2	
L	STD/MC	mm	4000	5000	6200	7200	8400	10050	11700	6200	7200	11700
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	
H	STD/MC	mm	2100	2100	2100	2100	2500	2500	2500	2100	2100	2500

CLEARANCE AREA

CHA/TTH 1301-1÷4904-2

500 | 1800 | 1000 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Data of MC version are specified on technical brochure.

Electrical board side

FROM 279 KW TO 1386 KW.

CHA/TTH/FC 1301-1÷4904-2

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.

NEW



The innovative CHA/TTH/FC 1301-1 ÷4904-2 **TURBOLINE** units, with **HFO-R1234ze** refrigerant and **FREE-COOLING** technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The latest generation refrigerant HFO-R1234ze, with GWP<1 (Global Warming Potential), is the most environmentally sustainable refrigerant on the market, and meets the strictest international environmental regulations. Furthermore, thanks to Turbocor compressors, the units perform with top efficiency at partial loads, low inrush currents, an excellent silent functioning and reduced weight. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell & tube evaporator, achieves a high rate of energy efficiency, with unequalled ESEER/IPLV values, without using accumulation tank and has an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by using a specific webpage, have access to the Monitoring, Managing and Statistics activities.



TURBOLINE

FREE COOLING

HFO R1234ze

VERSION

CHA/TTH/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, flow and delivery tap, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermo-contacts for the fans, interface relay and terminals for external connections.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
TS	Touch screen interface
ISB	BACnet MSTP protocol, RS485 serial interface

ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTH/FC 1301-1÷4904-2



MODEL		1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2	
Cooling	Cooling capacity (1)	kW	279	348	554	698	837	1040	1386	554	698	1386
	Absorbed power (1)	kW	75	95	160	193	242	283	387	160	193	387
	EER (1)		3.72	3.66	3.46	3.62	3.46	3.67	3.58	3.46	3.62	3.58
Free-Cooling cycle	Air temperature (2)	°C	3.0	2.5	1.5	-1.0	0.0	0.5	-1.0	1.5	-1.0	-1.0
	Absorbed power (2)	kW	10.8	14.4	21.6	21.6	25.2	32.4	36.0	21.6	21.6	36.0
Compressor	Quantity	n°	1	1	2	2	3	3	4	2	2	4
	Refrigerant circuits	n°	1	1	1	1	1	1	1	2	2	2
	Capacity steps	n°	Stepless									
Water circuit	Water flow	l/s	14.42	17.98	28.63	36.07	43.26	53.75	71.63	28.63	36.07	71.63
	Pressure drops	kPa	88	103	78	94	101	142	253	78	94	253
	Water connections	DN	100	100	125	125	150	150	150	125	125	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	173	181	347	347	505	520	678	347	347	678
	Max. starting current	A	25	33	199	199	357	372	530	199	199	530
Unit with pump	Pump available static pressure	kPa	140	125	110	180	150	150	160	110	180	160
	Water connections	DN	100	100	150	150	150	150	200	150	150	200
Sound pressure	STD version (3)	dB(A)	69	70	71	71	71	71	72	71	71	72
Weights	Transport weight	Kg	3620	3730	5560	5640	7890	8910	10800	5740	5820	11000
	Operating weight	Kg	3900	4030	6040	6160	8610	9810	11840	6220	6340	12040

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DIMENSIONS		1301-1	1701-1	2802-1	3502-1	4103-1	4403-1	4904-1	2802-2	3502-2	4904-2	
L	STD	mm	5000	5000	7200	7200	8400	10050	11700	7200	7200	11700
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2750	2750	2750	2360	2360	2750

CLEARANCE AREA

CHA/TTH/FC 1301-1:4904-2

500 | 1800 | 1000 | 1800



Electrical board side

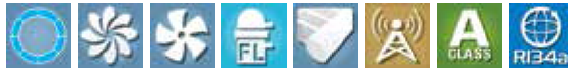
NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

FROM 248 KW TO 1456 KW.

CHA/TTY 1301-1÷5004-2

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.



The innovative CHA/TTY 1301-1 ÷ 5004-2 **TURBOLINE** units, with R134a refrigerant, are designed to provide an effective solution to highly selective system needs. Efficiency at partial loads, low inrush currents, an excellent silent functioning, reduced weight and the specific design and handling of every manufacturing aspect make the TURBOLINE series the top unit of the range.

The use of TURBOCOR dynamic partial-load oil-free magnetic levitation compressors managed by the TURBOSOFT self-adaptive electronic control, of shell tube evaporator and innovative heat exchangers, traditional or Microchannel, results in a high energy efficiency with unequalled ESEER/IPLV values, in the elimination of accumulation tanks and in an excellent silent functioning. Compared to traditional units, equipped with Screw compressors, TURBOLINE units have low operational costs during their entire operating period, even lower than 50%. Besides, the units are equipped with a WEB MONITORING system for the monitoring and remote management of the units through the GPRS/EDGE/3G/TCP-IP communication protocol. Users enabled to the use of this service can, by using a specific webpage, have access to the Monitoring, Managing and Statistics activities.



TURBOLINE

MICROCHANNEL

VERSION

CHA/TTY

Cooling only

CHA/TTY/MC

Cooling only with MICROCHANNEL coils

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, flow and delivery tap, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of two copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermo-contacts for the fans, interface relay and terminals for external connections.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
HR	Desuperheater
HRT/S	Total heat recovery in series
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
PU	Single circulating pump
PD	Double circulating pump

FE	Antifreeze heater for evaporator
FZ	Antifreeze heater for evaporator, single pump and pipes
FH	Antifreeze heater for evaporator, double pump and pipes
TS	Touch screen interface
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal

IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTY 1301-1÷5004-2



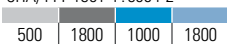
MODEL			1301-1	1401-1	1701-1	2201-1	2601-1	3302-1	4002-1	4302-1	4603-1
Cooling STD version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	73	81	97	116	150	185	221	274	311
	EER (1)		3.40	3.48	3.45	3.47	3.39	3.39	3.48	3.39	3.46
Cooling STD version (EN14511)	Cooling capacity (1)	kW	247	281	334	402	507	624	767	925	1072
	Absorbed power (1)	kW	74	82	98	117	152	188	224	278	315
	EER (1)		3.32	3.43	3.40	3.42	3.34	3.33	3.43	3.32	3.41
	ESEER		4.24	4.47	4.57	4.69	4.69	4.50	4.72	4.51	4.81
	EUROVENT Class		A	A	A	A	A	A	A	A	A
Cooling MC version	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	133	163	198	243	281
	EER		3.88	3.86	3.90	3.80	3.83	3.85	3.89	3.82	3.83
Cooling MC version (EN14511)	Cooling capacity (1)	kW	248	282	335	403	509	627	770	929	1075
	Absorbed power (1)	kW	64	73	86	106	133	163	198	243	281
	EER (1)		3.88	3.86	3.90	3.80	3.83	3.85	3.89	3.82	3.83
	ESEER		4.79	4.96	5.13	5.20	5.27	5.07	5.26	5.04	5.33
	EUROVENT Class		A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	1	1	1	1	1	2	2	2	3
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	11.85	13.47	16.01	19.25	24.32	29.96	36.79	44.39	51.36
	Pressure drops	kPa	64	40	40	35	44	56	46	68	46
	Water connections	DN	100	100	100	125	125	150	150	150	150
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	168	168	168	262	270	337	509	517	763
	Max. starting current	A	25	25	25	33	41	194	280	288	534
Unit with pump	Pump available static pressure	kPa	131	195	230	200	196	159	204	142	210
	Water connections	DN	100	100	100	125	125	150	150	150	150
Sound pressure	STD version (2)	dB(A)	69	69	69	69	70	70	70	69	70
	MC version (2)	dB(A)	68	68	68	68	69	69	69	68	69
Weights	Transport weight	Kg	2440	2440	2770	2790	3590	4020	4055	5710	6460
	Operating weight	Kg	2510	2510	2900	2920	3730	4170	4225	5910	6680

MODEL			4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
Cooling STD version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	362	433	145	185	221	274	309	362	433
	EER (1)		3.48	3.36	3.51	3.39	3.48	3.39	3.48	3.48	3.36
Cooling STD version (EN14511)	Cooling capacity (1)	kW	1256	1450	507	624	767	925	1072	1256	1450
	Absorbed power (1)	kW	366	439	147	188	224	278	312	366	439
	EER (1)		3.43	3.31	3.46	3.33	3.43	3.32	3.43	3.43	3.31
	ESEER		4.44	4.78	4.35	4.33	4.43	4.61	4.15	4.46	4.70
	EUROVENT Class		A	A	A	A	A	A	A	A	A
Cooling MC version	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
Cooling MC version (EN14511)	Cooling capacity (1)	kW	1260	1456	509	627	770	929	1075	1260	1456
	Absorbed power (1)	kW	328	381	132	163	198	243	279	328	381
	EER (1)		3.84	3.82	3.86	3.85	3.89	3.82	3.85	3.84	3.82
	ESEER		4.90	5.41	4.79	4.87	4.93	5.16	4.57	4.92	5.30
	EUROVENT Class		A	A	A	A	A	A	A	A	A
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless								
Evaporator	Water flow	l/s	60.20	69.56	24.32	29.96	36.79	44.39	51.36	60.20	69.56
	Pressure drops	kPa	50	59	44	56	46	68	41	50	59
	Water connections	DN	200	200	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50								
	Max. running current	A	658	1002	329	337	509	517	650	658	1002
	Max. starting current	A	515	773	186	194	280	288	507	515	773
Unit with pump	Pump available static pressure	kPa	255	220	196	159	204	142	210	255	220
	Water connections	DN	200	200	125	150	150	150	150	200	200
Sound pressure	STD version (2)	dB(A)	71	71	70	70	70	69	70	71	71
	MC version (2)	dB(A)	70	70	69	69	69	68	69	70	70
Weights	Transport weight	Kg	7430	7640	3700	4250	4270	5820	6690	7570	7850
	Operating weight	Kg	7660	7880	3845	4405	4445	6030	6915	7805	8095

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2601-1	3302-1	4002-1	4302-1	4603-1	4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
L	STD/MC	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD/MC	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD/MC	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	2500	2100	2100	2100	2500	2500	2500	2500

CLEARANCE AREA

CHA/TTY 1301-1:5004-2



Electrical board side

NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
- N.B. Data of MC version are specified on technical brochure.



FROM 246 KW TO 1443 KW.

CHA/TTY/FC 1301-1÷5004-2

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, TURBOCOR (MAGNETIC LEVITATION) COMPRESSORS AND FLOODED SHELL AND TUBE EXCHANGER.



The innovative CHA/TTY/FC 1301-1 ÷ 5004-2 **TURBOLINE** units, with R134a refrigerant and **FREE-COOLING** technology, are designed to provide an effective solution to installation requirements of large areas, both commercial and industrial, where the production of chilled water is required in continuous service throughout the year. The unit, designed with specific attention to every aspect of construction and combined with the use of TURBOCOR dynamic partialization oil-free magnetic levitation compressors - managed by the TURBOSOFT self-adaptive electronic control - and with the use of flooded shell & tube evaporator, achieves a high rate of energy efficiency, with unequalled ESEER/IPLV values, without using accumulation tank and has an excellent silent functioning. Depending on outside air temperature, the microprocessor controller manages the functioning in CHILLER, FREE-COOLING or MIXED (both CHILLER and FREE-COOLING) mode. The units are also equipped with a WEB MONITORING system for the monitoring and remote management of the units through the communication protocol GPRS/EDGE/3G/TCP-IP. Users enabled to the use of this service can, by using a specific webpage, have access to the Monitoring, Managing and Statistics activities.



TURBOLINE

FREE COOLING

VERSION

CHA/TTY/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with polyester powder painting.
- Semi-hermetic centrifugal compressors with dual Turbocor turbine, oil free, magnetic rising rotor, thermal protection, flow and delivery tap, continuous capacity adjustment system thanks to built-in INVERTER, automatic anti-cavitation system. The power circuit of the compressor is fitted with a set of electrolytic condensers to control the rising in the event of a power failure, reactor for the power factor correction, EMI filter for electromagnetic compatibility.
- Axial fans directly coupled to an electric motor with external rotor.
- Condenser made of FREE-COOLING copper tube and aluminium finned coil.
- High efficiency flooded shell and tube type evaporator, with one or two independent circuits on the refrigerant side and one on the water side, complete with water differential pressure switch.
- Cooling circuit shut-off valves on suction, discharge and liquid line.
- Electronic thermostatic valve.
- Digital high and low pressure gauges.
- R134a refrigerant.
- Electrical board includes: main on-off switch with door lock, fuses, electronic/digital overload device to protect the compressors and thermo-contacts for the fans, interface relay and terminals for external connections.
- Electronic proportional device to decrease the sound level, with a continuous regulation of the fan speed. This device also allows the cooling functioning of the unit by external temperature till -20°C.
- TURBOSOFT control and regulation system is fitted with RS485 serial interface and Web Monitoring device for remote monitoring via GPRS/EDGE/3G/TCP-IP network.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
EC	EC Inverter fans
HRT/P	Total heat recovery in parallel
TX	Coil with pre-coated fins
PU	Single circulating pump
PD	Double circulating pump
TS	Touch screen interface
ISB	BACnet MSTP protocol, RS485 serial interface

ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FFT-10 serial interface
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote signal for second set-point activation
IDL	Demand limit from digital input
CP	Potential free contacts

LOOSE ACCESSORIES

MN	High and low pressure gauges
CR	Remote control panel
RP	Coil protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

CHA/TTY/FC 1301-1÷5004-2



MODEL			1301-1	1401-1	1701-1	2201-1	2601-1	3302-1	4002-1	4302-1	4603-1	
Cooling	Cooling capacity (1)	kW	246	281	333	400	495	588	696	869	1046	
	Absorbed power (1)	kW	71	80	94	116	146	171	204	257	307	
	EER (1)		3.46	3.51	3.54	3.45	3.39	3.44	3.41	3.38	3.41	
Free-Cooling cycle	Air temperature (2)	°C	-2.5	0.5	-2.9	0.0	-2.8	-2.3	-0.5	-0.2	1.0	
	Absorbed power (2)	kW	10.8	10.8	10.8	14.4	18.0	21.6	21.6	25.2	32.4	
Compressor	Quantity	n°	1	1	1	1	1	2	2	2	3	
	Refrigerant circuits	n°	1	1	1	1	1	1	1	1	1	
	Capacity steps	n°	Stepless									
Water circuit	Water flow	l/s	12.69	14.50	17.18	20.64	25.54	30.34	35.91	44.84	53.97	
	Pressure drops	kPa	92	97	88	105	115	155	125	144	220	
	Water connections	DN	100	100	100	125	125	150	150	150	150	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	168	168	168	262	270	337	509	517	763	
	Max. starting current	A	25	25	25	33	41	194	280	288	534	
Unit with pump	Pump available static pressure	kPa	160	185	170	115	150	155	165	135	155	
	Water connections	DN	100	100	100	125	125	150	150	150	150	
Sound pressure	STD version (3)	dB(A)	68	68	69	69	69	70	70	69	70	
Weights	Transport weight	Kg	3040	3200	3600	3700	4500	5150	5500	7700	8800	
	Operating weight	Kg	3180	3360	3810	3930	4730	5400	5810	8080	9250	

MODEL			4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2	
Cooling	Cooling capacity (1)	kW	1229	1443	495	588	696	869	981	1229	1443	
	Absorbed power (1)	kW	357	425	143	171	204	257	280	357	425	
	EER (1)		3.44	3.40	3.46	3.44	3.41	3.38	3.50	3.44	3.40	
Free-Cooling cycle	Air temperature (2)	°C	1.0	1.0	-2.8	-2.3	-0.5	-0.2	1.5	1.0	1.0	
	Absorbed power (2)	kW	36.0	36.0	18.0	21.6	21.6	25.2	32.4	36.0	36.0	
Compressor	Quantity	n°	4	4	2	2	2	2	4	4	4	
	Refrigerant circuits	n°	1	1	2	2	2	2	2	2	2	
	Capacity steps	n°	Stepless									
Water circuit	Water flow	l/s	63.42	74.46	25.54	30.34	35.91	44.84	50.62	63.42	74.46	
	Pressure drops	kPa	256	275	115	155	125	144	188	256	275	
	Water connections	DN	200	200	125	150	150	150	150	200	200	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50									
	Max. running current	A	658	1002	329	337	509	517	650	658	1002	
	Max. starting current	A	515	773	186	194	280	288	507	515	773	
Unit with pump	Pump available static pressure	kPa	190	125	150	155	165	135	190	190	125	
	Water connections	DN	200	200	125	150	150	150	150	200	200	
Sound pressure	STD version (3)	dB(A)	70	70	69	70	70	69	70	70	70	
Weights	Transport weight	Kg	10000	10300	4700	5400	5700	7800	9100	10200	10500	
	Operating weight	Kg	10480	10790	4930	5650	6010	8180	9550	10680	10990	

DIMENSIONS			1301-1	1401-1	1701-1	2201-1	2601-1	3302-1	4002-1	4302-1	4603-1	4804-1	5004-1	2602-2	3302-2	4002-2	4302-2	4604-2	4804-2	5004-2
L	STD	mm	4000	4000	5000	5000	6200	7200	7200	8400	10050	11100	11100	6200	7200	7200	8400	10050	11100	11100
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/TTY/FC 1301-1÷5004-2

500 | 1800 | 1000 | 1800



NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
3. Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.

Electrical board side