

FROM 79 KW TO 208 KW.

CHA/H/A 351-P÷1221-P

A CLASS ENERGY EFFICIENCY AIRCOOLED LIQUID CHILLERS WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGER.

NEW



The CHA/H/A 351-P÷1221-P units, in A CLASS energy efficiency, 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.

The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.

Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).

MAXI POWER INVERTER SCREW TM MICROCHANNEL [®] HFO R1234ze

VERSION

CHA/H/A	CHA/H/A/MC
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	CHA/H/A/MC/SSL
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor 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 copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit 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 expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- 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
ECH	EC Inverter fans with high available static pressure
RT	Total heat recovery
TX	Coil with pre-coated fins
TXB	Coil with epoxy treatment
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump

FE	Antifreeze heater for evaporator
FA	Antifreeze heater for tank
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port

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	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

CHA/H/A 351-P÷1221-P



MODEL			351-P	601-P	801-P	901-P	1221-P
Cooling STD version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.9	32.3	39.7	49.6	66.6
	EER (1)		3.29	3.13	3.27	3.29	3.12
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.9	32.4	39.8	49.8	66.9
	EER (1)		3.28	3.12	3.27	3.27	3.11
	SEER (2)		4.09	3.95	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	155	154	159	158
	SEER with EC or ECH accessory (2)		4.68	4.42	4.47	4.52	4.47
	Energy Efficiency with EC or ECH accessory (2)	%	184	174	176	178	176
Cooling MC version	Cooling capacity (1)	kW	78.6	101	130	163	208
	Absorbed power (1)	kW	23.5	31.8	39.1	48.9	65.9
	EER (1)		3.34	3.18	3.32	3.33	3.16
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.5	101	130	163	208
	Absorbed power (1)	kW	23.5	31.9	39.2	49.1	66.2
	EER (1)		3.34	3.17	3.32	3.32	3.14
	SEER (2)		4.10	3.97	3.93	4.06	4.02
	Energy Efficiency (2)	%	161	156	154	159	158
	SEER with EC or ECH accessory (2)		4.69	4.43	4.48	4.53	4.48
	Energy Efficiency with EC or ECH accessory (2)	%	185	174	176	178	176
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.83	6.21	7.79	9.94
	Pressure drops	kPa	9	11	11	12	12
	Water connections	"G	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	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	145	205	190	180	150
	Tank water volume	l	600	600	600	600	600
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1281	1441	1888	1998	2189
	Operating weight (4)	Kg	1300	1480	1930	2050	2260

DIMENSIONS			351-P	601-P	801-P	901-P	1221-P
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

SPAZI DI RISPETTO

CHA/H/A 351-P÷1221-P

300 | 800 | 800 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
 - 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 versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

CHA/H/FC 351-P÷901-P

AIRCOOLED LIQUID CHILLERS FREE-COOLING WITH AXIAL FANS, (INVERTER) SCREW COMPRESSOR AND PLATE EXCHANGER.

NEW



The liquid Chillers of the CHA/H/FC 351-P÷901-P series, with **HFO-R1234ze** 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. 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.

During the cold months, in **FREE-COOLING** operating mode, the liquid returning from 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 compressor. 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.

Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application.

MAXI POWER INVERTER SCREW TM MICROCHANNEL [®] HFO R1234ze

VERSION

CHA/H/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor 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 copper tubes and aluminium finned coils combined with FREE-COOLING coils.
- Evaporator AISI 316 stainless steel braze welded plates type with one circuit 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 expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers
SL	Unit silencement
BT	Low water temperature kit
EC	EC Inverter fans
ECH	EC Inverter fans with high available static pressure
RT	Total heat recovery
TX	Coil with pre-coated fins
SI	Inertial tank
PS	Single circulating pump
PSI	Inverter single circulating pump
PD	Double circulating pump
PDI	Inverter double circulating pump
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)

IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
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	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers

MODEL			351-P	601-P	801-P	901-P
Cooling	Cooling capacity (1)	kW	81.7	110	140	170
	Absorbed power (1)	kW	26.8	36.3	44.1	53.5
	EER (1)		3.05	3.03	3.17	3.18
Cooling (EN14511)	Cooling capacity (1)	kW	81.5	110	140	171
	Absorbed power (1)	kW	27.1	36.5	44.8	53.8
	EER (1)		3.01	3.01	3.13	3.18
	SERP (2)		6.86	7.33	6.89	6.58
Free-Cooling cycle	Air temperature (3)	°C	1	-2	0	-3
	Absorbed power (3)	kW	6	6	8	8
Compressor	Quantity	n°	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1
	Capacity steps	n°	Stepless			
Water circuit	Water flow	l/s	4.44	6.20	7.60	8.53
	Pressure drops	kPa	36	108	80	113
	Water connections	DN	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	105	109	137	156
	Max. starting current	A	184	200	285	334
Unit with tank and pump	Pump available static pressure	kPa	180	110	125	80
	Tank water volume	l	400	400	400	400
	Water connections	DN	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	Pa	110	110	110	105	
Sound pressure	STD version (4)	dB(A)	74	74	75	75
	With SL accessory (4)	dB(A)	71	71	72	72
Weights	Transport weight (5)	Kg	1503	1677	2093	2222
	Operating weight (5)	Kg	1550	1760	2180	2320

DIMENSIONS			351-P	601-P	801-P	901-P
L	STD	mm	3550	4700	4700	4700
W	STD	mm	1100	1100	1100	1100
H	STD	mm	2200	2200	2200	2200

CLEARANCE AREA

CHA/H/FC 351-P÷901-P

300 | 800 | 800 | 1800



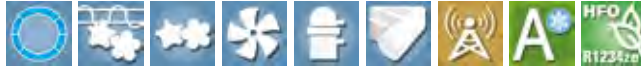
NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
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.

CHA/H/A 351÷1221

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

NEW



The CHA/H/A 351 ÷ 1221 units, in A CLASS energy efficiency, 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.

The innovative heat exchangers, traditional or Microchannel, the Screw compressor and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on Screw compressor, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressor and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system.

Are available as option the new **EC Inverter fans with high available static pressure and efficiency for indoor ducted installation.**

The units are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant if provided with EC or ECH accessory (EC Inverter fans).

MAXI POWER INVERTER SCREW MICROCHANNEL HFO R1234ze

VERSION

CHA/H/A	CHA/H/A/MC
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	CHA/H/A/MC/SSL
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via polyester powder painting.
- Screw compressor 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 copper tube and aluminum finned coils or aluminium MICROCHANNEL coils.
- Shell and tube evaporator with one independent circuit 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 expansion valve.
- Electronic high and low pressure gauges.
- HFO-R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relay for compressor and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- 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
ECH	EC Inverter fans with high available static pressure
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
EW	External water connections
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/tank
IQ	Inverter on one compressor
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface

ISBT	BACnetTCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FTT-10 serial interface
ISS	SNMP protocol, Ethernet port
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	Coils protection metallic guards
AG	Rubber shock absorbers
AM	Spring shock absorbers
FL	Flow switch

MODEL			351	1202	801	901	1802
Cooling STD version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.6	30.8	39.0	48.9	66.7
	EER (1)		3.33	3.21	3.31	3.37	3.16
Cooling STD version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.4	31.0	39.3	49.6	67.3
	EER (1)		3.37	3.19	3.28	3.31	3.14
	SEER (2)		4.15	4.02	3.97	4.15	4.07
	Energy Efficiency (2)	%	163	158	156	163	160
	SEER with EC or ECH accessory (2)		4.73	4.53	4.53	4.63	4.53
	Energy Efficiency with EC or ECH accessory (2)	%	186	178	178	182	178
Cooling MC version	Cooling capacity (1)	kW	78.7	99.0	129	165	211
	Absorbed power (1)	kW	23.2	30.3	38.4	48.2	66.0
	EER (1)		3.39	3.27	3.36	3.42	3.20
Cooling MC version (EN14511)	Cooling capacity (1)	kW	78.8	98.9	129	164	211
	Absorbed power (1)	kW	23.0	30.5	38.7	48.9	66.6
	EER (1)		3.43	3.24	3.33	3.35	3.17
	SEER (2)		4.16	4.03	3.97	4.15	4.07
	Energy Efficiency (2)	%	163	158	156	163	160
	SEER with EC or ECH accessory (2)		4.74	4.54	4.54	4.64	4.54
	Energy Efficiency with EC or ECH accessory (2)	%	187	179	179	183	179
Compressor	Quantity	n°	1	1	1	1	1
	Refrigerant circuits	n°	1	1	1	1	1
	Capacity steps	n°	Stepless				
Evaporator	Water flow	l/s	3.76	4.73	6.16	7.88	10.08
	Pressure drops	kPa	21	20	23	44	31
	Water connections	"G	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	101	100	133	152	214
	Max. starting current	A	180	190	279	328	435
Unit with tank and pump	Pump available static pressure	kPa	140	200	180	150	130
	Tank water volume	l	660	660	660	660	660
	Water connections	"G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
ECH fan available static pressure	STD versions	Pa	110	110	110	110	110
	SSL versions	Pa	110	110	110	110	110
	MC versions	Pa	110	110	110	110	110
	MC/SSL versions	Pa	110	110	110	110	110
Sound pressure	STD version (3)	dB(A)	74	74	75	75	76
	With SL accessory (3)	dB(A)	71	71	72	72	73
	SSL version (3)	dB(A)	66	66	67	68	69
Weights	Transport weight (4)	Kg	1361	1465	2005	2073	2367
	Operating weight (4)	Kg	1380	1490	2040	2120	2420

DIMENSIONS			351	1202	801	901	1802
L	STD-SSL-MC-MC/SSL	mm	3550	3550	4700	4700	4700
W	STD-SSL-MC-MC/SSL	mm	1100	1100	1100	1100	1100
H	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200

CLEARANCE AREA

CHA/H/A 351÷1221

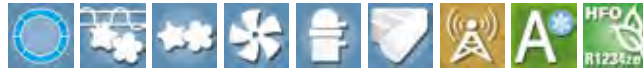



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
 - 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 versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.

CHA/H/A 1002÷6002

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



The CHA/H/A 1002÷6002 units, in A CLASS energy efficiency, 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.

The innovative heat exchangers, traditional or Microchannel, the Screw compressors and the new design optimized in every detail ensure the reach of the highest efficiency. Furthermore, accessories as the Inverter control on one or both Screw compressors, fans and on circulating pumps (EC Inverter) are also available for getting the highest efficiency at part load. The super silenced versions, obtained through acoustic insulation on compressors and on whole structure and wider exchangers, are particularly suitable for installations where extremely quiet operations are essential for the ideal execution of the system. Are available as option the new EC Inverter fans with high available static pressure and efficiency.

MAXI POWER INVERTER SCREW
MICROCHANNEL
HFO R1234ze

The models 1002÷1602 are compliant to the ErP 2021 Regulation for process cooling application; the models 1802÷6002 are compliant with EC or ECH accessory (EC Inverter fans).

The units are compliant to the ErP 2021 Regulation for comfort cooling application with EC or ECH accessory (EC Inverter fans).

VERSION

CHA/H/A	CHA/H/A/MC
Cooling only	Cooling only with MICROCHANNEL condensing coils
CHA/H/A/SSL	CHA/H/A/MC/SSL
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via 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 copper tube and aluminium finned coils or aluminium MICROCHANNEL 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 expansion valve.
- Electronic high and low pressure gauges.
- R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- 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
ECH	EC Inverter fans with high available static pressure
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
EW	External water connections
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
FX	Antifreeze heater for evaporator and pipes
FB	Antifreeze heater for evaporator/tank
FQ	Antifreeze heater on evaporator/tank and pipes
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 soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)

IS	Modbus RTU protocol, RS485 serial interface
IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FT-10 serial interface
ISS	SNMP protocol, Ethernet port
IAV	Remote set-point, 0-10 V signal
IAA	Remote set-point, 4-20 mA signal
IAS	Remote set-point 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/H/A 1002÷6002



MODEL			1002	1202	1402	1602	1802	2202	2502	
Cooling STD version	Cooling capacity (1)	kW	197	261	309	366	406	464	548	
	Absorbed power (1)	kW	63	83	98	116	129	147	168	
	EER (1)		3.13	3.14	3.15	3.16	3.15	3.16	3.26	
Cooling STD version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547	
	Absorbed power (1)	kW	63	84	99	117	130	149	169	
	EER (1)		3.13	3.10	3.11	3.12	3.12	3.11	3.24	
	SEER (2)		3.81	3.84	3.94	3.89	4.09	4.03	4.11	
	Energy Efficiency (2)	%	149	151	155	153	161	158	161	
	SEER with EC or ECH accessory (2)		4.17	4.20	4.39	4.26	4.55	4.55	4.57	
Cooling MC version	Cooling capacity (1)	kW	197	261	309	366	406	464	548	
	Absorbed power (1)	kW	62	81	96	114	126	144	165	
	EER (1)		3.18	3.22	3.22	3.21	3.22	3.22	3.32	
Cooling MC version (EN14511)	Cooling capacity (1)	kW	197	260	308	365	405	463	547	
	Absorbed power (1)	kW	62	82	97	115	127	146	166	
	EER (1)		3.18	3.17	3.18	3.17	3.19	3.17	3.30	
	SEER (2)		3.85	3.88	3.95	3.93	4.1	4.04	4.12	
	Energy Efficiency (2)	%	151	152	155	154	161	159	162	
	SEER with EC or ECH accessory (2)		4.22	4.25	4.43	4.30	4.55	4.55	4.61	
Compressor	Quantity	n°	2	2	2	2	2	2	2	
	Refrigerant circuits	n°	2	2	2	2	2	2	2	
	Capacity steps	n°				Stepless				
Evaporator	Water flow	l/s	9.41	12.47	14.76	17.49	19.40	22.17	26.18	
	Pressure drops	kPa	39	37	32	34	31	28	37	
	Water connections	DN	125	125	150	150	150	150	150	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	203	275	319	355	413	467	512	
	Max. starting current	A	291	417	488	586	642	723	783	
Unit with tank and pump	Pump available static pressure	kPa	155	185	180	155	140	180	160	
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	
	Water connections	DN	100	100	100	100	125	125	150	
Sound pressure	STD version (3)	dB(A)	75	76	76	77	77	78	78	
	With SL accessory (3)	dB(A)	72	73	73	74	74	75	75	
	SSL version (3)	dB(A)	67	68	68	69	69	70	70	
Weights	Transport weight (4)	Kg	2700	3215	3540	4015	4120	4625	5165	
	Operating weight (4)	Kg	2790	3300	3670	4180	4280	4820	5430	

MODEL			2802	3302	3602	4602	4802	5402	6002	
Cooling STD version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353	
	Absorbed power (1)	kW	189	223	249	300	333	379	422	
	EER (1)		3.22	3.22	3.25	3.27	3.20	3.24	3.21	
Cooling STD version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348	
	Absorbed power (1)	kW	191	225	251	302	336	383	427	
	EER (1)		3.17	3.17	3.21	3.24	3.16	3.20	3.16	
	SEER (2)		4.15	4.16	4.13	4.15	4.13	4.16	4.18	
	Energy Efficiency (2)	%	163	163	162	163	162	163	164	
	SEER with EC or ECH accessory (2)		4.56	4.57	4.57	4.58	4.55	4.55	4.55	
Cooling MC version	Cooling capacity (1)	kW	608	717	809	980	1064	1228	1353	
	Absorbed power (1)	kW	185	219	244	294	326	371	414	
	EER (1)		3.29	3.27	3.32	3.33	3.26	3.31	3.27	
Cooling MC version (EN14511)	Cooling capacity (1)	kW	606	714	806	978	1061	1224	1348	
	Absorbed power (1)	kW	187	221	246	296	329	375	418	
	EER (1)		3.24	3.23	3.28	3.30	3.22	3.26	3.22	
	SEER (2)		4.16	4.17	4.14	4.16	4.13	4.18	4.19	
	Energy Efficiency (2)	%	163	164	163	163	162	164	165	
	SEER with EC or ECH accessory (2)		4.60	4.61	4.61	4.62	4.55	4.55	4.55	
Compressor	Quantity	n°	2	2	2	2	2	2	2	
	Refrigerant circuits	n°	2	2	2	2	2	2	2	
	Capacity steps	n°				Stepless				
Evaporator	Water flow	l/s	29.05	34.26	38.65	46.82	50.84	58.67	64.64	
	Pressure drops	kPa	33	40	42	30	38	47	54	
	Water connections	DN	150	200	200	200	200	250	250	
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50							
	Max. running current	A	597	670	731	764	831	951	1039	
	Max. starting current	A	896	947	1091	1206	1244	1450	1494	
Unit with tank and pump	Pump available static pressure	kPa	145	160	140	120	170	180	155	
	Tank water volume	l	3000	3000	3000	-	-	-	-	
	Water connections	DN	150	150	150	-	-	-	-	
Sound pressure	STD version (3)	dB(A)	78	80	81	82	82	84	84	
	With SL accessory (3)	dB(A)	75	77	78	79	79	81	81	
	SSL version (3)	dB(A)	70	72	73	74	74	76	76	
Weights	Transport weight (4)	Kg	5260	6240	7460	8995	9435	11230	11560	
	Operating weight (4)	Kg	5520	6570	7880	9500	9910	11800	12190	

DIMENSIONS			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802	5402	6002
L	STD-MC	mm	4400	5000	5000	5550	5550	6700	6700	6700	8900	10050	11100	12250	13400	13400
	SSL-MC/SSL	mm	5000	5550	5550	6700	6700	8900	8900	8900	10050	11100	12250	13400	-	-
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	2550
H	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	2550
	SSL-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2100	2550	2550	2550	2550	-	-

CLEARANCE AREA

CHA/H/A 1002-6002



Electrical board side

NOTES

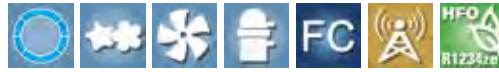
- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
 - Sound pressure level measured in free field conditions at 1 m from the unit. According to ISO 3744.
 - Unit without tank and pump.
- N.B. Weights of SSL versions are specified on technical brochure.
N.B. Data of MC versions are specified on technical brochure.



FROM 232 KW TO 1144 KW.

CHA/H/FC 1002÷4802

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



The liquid Chillers of the CHA/H/FC 1002÷4802 series, with **HFO-R1234ze** 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. 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.

During the cold months, in **FREE-COOLING** operating mode, the liquid returning from 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.

Are available as option the new EC Inverter fans with high available static pressure and efficiency.

The units are compliant to the ErP 2021 Regulation for process cooling application if provided with EC or ECH accessory (EC Inverter fans).



FREE COOLING

HFO R1234ze

VERSION

CHA/H/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via 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 copper tubes and aluminium finned coils combined with FREE-COOLING 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 expansion valve.
- Electronic high and low pressure gauges.
- R1234ze refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.
- Electronic high and low pressure gauges.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers	SPD	Inertial tank and double circulating pump	ISL	LonWorks protocol, FTT-10 serial interface
SL	Unit silencing	SPDI	Inertial tank and Inverter double circulating pump	ISS	SNMP protocol, Ethernet port
BT	Low water temperature Kit	II	Inverter on one compressor and soft start	IAV	Remote set-point, 0-10 V signal
EC	EC Inverter fans	ID	Inverter on all compressors	IAA	Remote set-point, 4-20 mA signal
ECH	EC Inverter fans with high available static pressure	SS	Soft start	IAS	Remote signal for second set-point activation
HRT/P	Total heat recovery in parallel	WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)	IDL	Demand limit from digital input
TX	Coil with pre-coated fins	IS	Modbus RTU protocol, RS485 serial interface	CP	Potential free contacts
SP	Inertial tank	IST	Modbus TCP/IP protocol, Ethernet port		
PU	Single circulating pump	ISB	BACnet MSTP protocol, RS485 serial interface		
PUI	Inverter single circulating pump	ISBT	BACnet TCP/IP protocol, Ethernet port		
PD	Double circulating pump				
PDI	Inverter double circulating pump				
SPU	Inertial tank and single circulating pump				
SPUI	Inertial tank and Inverter single circulating pump				

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

MODEL			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802
Cooling	Cooling capacity (1)	kW	232	297	350	404	444	519	604	684	801	891	1044	1144
	Absorbed power (1)	kW	67	87	107	125	142	158	187	205	239	271	338	362
	EER (1)		3.46	3.41	3.27	3.23	3.13	3.28	3.23	3.34	3.35	3.29	3.09	3.16
Cooling (EN14511)	Cooling capacity (1)	kW	231	295	346	401	440	516	600	678	796	885	1035	1132
	Absorbed power (1)	kW	68	89	111	128	146	161	191	211	244	277	347	374
	EER (1)		3.40	3.31	3.12	3.13	3.01	3.20	3.14	3.21	3.26	3.19	2.98	3.03
Free-Cooling cycle	SEPR with EC or ECH accessory (2)		5.59	5.57	5.52	5.63	5.50	5.67	5.63	5.66	5.71	5.74	5.50	5.50
	Air temperature (3)	°C	2.0	0.0	1.3	1.0	-0.5	-0.5	0.5	-1.0	-0.5	-0.5	-1.0	0.0
	Absorbed power (3)	kW	10.8	10.8	14.4	14.4	14.4	18.0	21.6	21.6	21.6	25.2	28.8	32.4
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	2	2	2	2	2	2	2	2	2
	Capacity steps	n°	Stepless											
Water circuit	Water flow	l/s	11.6	14.9	17.5	20.2	22.2	25.9	30.2	34.2	40.1	44.6	52.2	57.2
	Pressure drops	kPa	77	96	143	118	132	77	104	124	98	108	138	169
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50											
	Max. running current	A	211	275	327	355	413	467	520	605	670	731	764	831
	Max. starting current	A	299	417	496	586	642	723	791	904	947	1091	1206	1244
Unit with tank and pump	Pump available static pressure	kPa	148	114	117	137	158	193	146	106	162	132	112	111
	Tank water volume	l	2000	2000	2000	2000	2000	2000	2000	2000	3000	-	-	-
	Water connections	DN	100	100	100	125	125	125	150	150	150	150	200	200
Sound pressure	STD version (4)	dB(A)	75	76	76	77	77	78	78	78	80	81	82	82
	With SL accessory (4)	dB(A)	72	73	73	74	74	75	75	75	77	78	79	79
Weights	Transport weight (5)	Kg	3150	3420	4020	4410	4560	5440	6800	7280	8420	8900	10690	11570
	Operating weight (5)	Kg	3390	3720	4400	4850	5040	6010	7420	7980	9420	10000	11890	12940

DIMENSIONS			1002	1202	1402	1602	1802	2202	2502	2802	3302	3602	4602	4802
L	STD	mm	4400	4400	5550	5550	5550	6700	10050	10050	10050	10050	12250	13400
W	STD	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H	STD	mm	2360	2360	2360	2360	2360	2360	2360	2360	2750	2750	2750	2750

CLEARANCE AREA

CHA/H/FC 1002-4802

500 | 1800 | 1000 | 1800



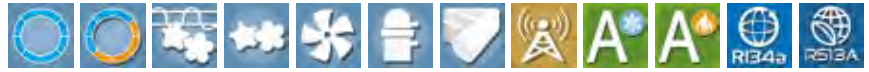
NOTES

1. Chilled water (with ethylene glycol at 30%) from 15 to 10 °C, ambient air temperature 35 °C.
2. Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
3. Ambient air temperature at which the cooling capacity indicated in point (1) is reached.
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.

FROM 263 KW TO 1533 KW.

CHA/Y/A 1302÷6002

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



The CHA/Y/A 1302÷6002 units, in A CLASS energy efficiency, have extremely high efficiency levels due to reduced electrical absorption and a high efficiency of the compressor-exchanger combination. The latest generation Screw compressors 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 operations are essential for the ideal execution of the system.

The Microchannel condensing coils, available on dedicated versions, ensure an even higher efficiency (high EER), having a better heat exchange than traditional coils. A wide range of accessories, factory fitted or supplied separately, complete the outstanding versatility and functionality of the series.

Are available as option the new **EC Inverter fans with high available static pressure and efficiency.** The Heat Pump versions are designed for **hot water production up to 55 °C.**

Cooling only models 1302÷1702 are compliant to the ErP 2021 Regulation. Cooling only models 1902÷6002 are compliant to the ErP 2021 Regulation for process cooling application; for comfort cooling application they are compliant with EC or ECH accessory (EC Inverter fans).

Heat pump models 1302÷2002 are compliant to the ErP Regulation; models 2602÷6002 are compliant if provided with EC or ECH accessory (EC Inverter fans).

On request, units can be supplied with **R513A** refrigerant (**CHA/J/A 1302÷6002**).



MICROCHANNEL

INVERTER SCREW

VERSION

CHA/Y/A	CHA/Y/A/MC	CHA/Y/A/WP
Cooling only	Cooling only with MICROCHANNEL condensing coils	Reversible Heat Pump
CHA/Y/A/SSL	CHA/Y/A/MC/SSL	CHA/Y/A/WP/SSL
Super silenced cooling only	Super silenced cooling only with MICROCHANNEL condensing coils	Super silenced reversible Heat Pump

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via 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 copper tube and aluminium finned coils or aluminium MICROCHANNEL 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 expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to 0 °C in cooling mode. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation and high and low pressure transducers on cooling circuit.
- Functioning in heating mode with outside air temperature down to -10 °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
ECH	EC Inverter fans with high available static pressure
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
EW	External water connections
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

SPII	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
FX	Antifreeze heater for evaporator and pipes
FB	Antifreeze heater for evaporator/tank
FQ	Antifreeze heater on evaporator/tank and pipes
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 soft start
ID	Inverter on all compressors
SS	Soft start
WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)
IS	Modbus RTU protocol, RS485 serial interface

IST	Modbus TCP/IP protocol, Ethernet port
ISB	BACnet MSTP protocol, RS485 serial interface
ISBT	BACnet TCP/IP protocol, Ethernet port
ISL	LonWorks protocol, FT-10 serial interface
ISS	SNMP protocol, Ethernet port
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

MODEL		1302	1502	1702	1902	2002	2602	3002	3602	4202	4802	5002	5402	6002	
Cooling STD versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	82	96	114	131	146	179	219	256	305	352	380	440	480
	EER (1)		3.21	3.26	3.15	3.15	3.18	3.21	3.18	3.28	3.14	3.23	3.33	3.18	3.19
Cooling STD versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	83	97	115	132	147	180	221	258	308	356	383	444	485
	EER (1)		3.16	3.22	3.11	3.12	3.15	3.18	3.14	3.24	3.10	3.18	3.3	3.15	3.16
	SEER (2)		4.13	4.25	4.22	4.14	4.18	4.19	4.11	4.25	4.30	4.23	4.24	4.17	4.22
	Energy Efficiency (2)	%	162	167	166	163	164	165	161	167	169	166	167	164	166
	SEER with EC or ECH accessory (2)		4.63	4.76	4.73	4.73	4.74	4.77	4.65	4.86	4.85	4.69	4.74	4.71	4.73
Cooling MC versions	Cooling capacity (1)	kW	263	313	359	413	464	574	696	839	959	1136	1264	1398	1533
	Absorbed power (1)	kW	80	94	112	128	143	175	215	251	299	345	372	431	470
	EER (1)		3.29	3.33	3.21	3.23	3.24	3.28	3.24	3.34	3.21	3.29	3.4	3.24	3.26
Cooling MC versions (EN14511)	Cooling capacity (1)	kW	262	312	358	412	463	573	694	837	956	1132	1263	1397	1532
	Absorbed power (1)	kW	81	95	113	129	144	176	217	253	302	349	375	435	475
	EER (1)		3.23	3.28	3.17	3.19	3.22	3.26	3.20	3.31	3.17	3.24	3.37	3.21	3.23
	SEER (2)		4.14	4.26	4.23	4.15	4.19	4.12	4.25	4.31	4.25	4.24	4.17	4.23	
	Energy Efficiency (2)	%	163	167	166	163	165	165	162	167	169	167	167	164	166
	SEER with EC or ECH accessory (2)		4.64	4.77	4.74	4.74	4.75	4.78	4.66	4.87	4.86	4.70	4.75	4.72	4.74
Heating STD versions	Heating capacity (3)	kW	272	324	372	428	480	594	721	869	993	1176	---	---	---
	Absorbed power (3)	kW	81	95	113	130	144	177	217	253	302	348	---	---	---
	COP (3)		3.36	3.41	3.29	3.29	3.33	3.32	3.32	3.43	3.29	3.38	---	---	---
Heating STD versions (EN14511)	Heating capacity (3)	kW	273	325	373	430	482	596	723	872	996	1180	---	---	---
	Absorbed power (3)	kW	83	97	116	133	147	181	222	259	309	356	---	---	---
	COP (3)		3.29	3.34	3.23	3.23	3.27	3.29	3.26	3.36	3.22	3.31	---	---	---
	SCOP (4)		3.20	3.32	3.34	3.33	3.32	3.34	3.32	3.36	3.32	3.36	---	---	---
Compressor	Quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2	2
	Refrigerant circuits	n°	2	2	2	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	60.39	66.79	73.24
	Pressure drops	kPa	30	26	49	44	34	28	42	34	39	48	38	46	59
	Water connections	DN	125	125	150	150	150	150	150	200	200	200	250	250	250
Electrical characteristics	Power supply	V/Ph/Hz	400/3/50												
	Max. running current	A	201	237	261	301	337	393	485	580	664	720	922	876	1002
	Max. starting current	A	263	281	337	361	405	504	596	785	827	855	1267	1261	1379
Unit with tank and pump	Pump available static pressure	kPa	130	150	155	140	175	160	165	145	120	160	140	95	180
	Tank water volume	l	2000	2000	2000	2000	2000	2000	3000	3000	---	---	---	---	---
	Water connections	DN	100	100	100	125	125	150	150	200	200	200	200	200	200
Sound pressure	STD versions (5)	dB(A)	76	76	76	76	77	76	77	77	77	78	79	79	80
	STD versions with SL accessory (5)	dB(A)	73	73	73	73	74	73	74	74	74	75	76	76	77
	SSL versions (5)	dB(A)	66	66	66	65	66	66	67	68	68	69	---	---	---
	MC versions (5)	dB(A)	75	75	75	75	76	75	76	76	76	77	78	78	79
	MC versions with SL accessory (5)	dB(A)	72	72	72	72	73	72	73	73	73	74	75	75	76
Weights	MC/SSL versions (5)	dB(A)	65	65	65	64	65	65	66	67	67	68	---	---	---
	Transport weight (6)	Kg	3562	3609	3708	4207	4782	5202	6496	7430	7484	8773	9640	10380	10800
	Operating weight (6)	Kg	3690	3740	3850	4390	5070	5540	6790	8070	8170	9230	10160	10890	11270

DIMENSIONS		1302	1502	1702	1902	2002	2602	3002	3602	4202	4802	5002	5402	6002
L	STD-MC	mm	4400	4400	5000	5550	6200	6700	8900	11100	11100	13400	13400	13400
	SSL-MC/SSL	mm	5550	5550	5550	6700	8900	8900	11100	11100	11100	13400	---	---
	WP	mm	5550	5550	5550	7750	7750	8900	10050	13400	13400	13400	---	---
	WP/SSL	mm	7750	7750	7750	8900	10050	10050	13400	13400	13400	---	---	---
W	STD-SSL-MC-MC/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	WP-WP/SSL	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	---	---	---
H	STD-MC	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500
	SSL-MC/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	2500	---	---
	WP	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2500	---	---
	WP/SSL	mm	2100	2100	2100	2100	2100	2100	2100	2500	2500	---	---	---

CLEARANCE AREA

CHA/Y/A 1302÷6002

500 | 1800 | 1000 | 1800



NOTES

- Chilled water from 12 to 7 °C, ambient air temperature 35 °C.
 - Seasonal energy efficiency of cooling at low temperature. According to EU Regulation n. 2016/2281.
 - Heated water from 40 to 45 °C, ambient air temperature 7 °C d.b./6 °C w.b.
 - Seasonal energy efficiency of heating at low temperature with average climatic conditions. According to EU Regulation n. 813/2013.
 - 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.
N.B. Data of MC versions are specified on technical brochure.

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** operating mode, the liquid returning from 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. Are available as option the new EC Inverter fans with high available static pressure and efficiency.



FREE COOLING

The models 1202-B÷1702-B are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans). The models 1902-B÷6002-B are compliant to the ErP 2021 Regulation for process cooling application with EC or ECH accessory (EC Inverter fans) and ID accessory (Inverter on all compressors).

On request, units can be supplied with **R513A** refrigerant (**CHA/J/FC 1202-B÷6002-B**).

VERSION

CHA/Y/FC

Cooling only

FEATURES

- Self-supporting galvanized steel frame protected with additional protection achieved via 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 copper tubes and aluminium finned coils combined with FREE-COOLING 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 expansion valve.
- Electronic high and low pressure gauges.
- R134a refrigerant. On request R513A refrigerant.
- Electrical board includes: main switch with door safety interlock, fuses, thermal protection relays for compressors and thermocontacts for fans.
- Condensing Control is included: electronic proportional device that ensures efficient and continuous functioning of the unit with outside air temperature down to -20 °C. It also allows to reduce the sound level especially at night. It consists of a fans speed controller with continuous speed regulation, high and low pressure transducers on cooling circuit and an electrical heater on electrical board.
- Microprocessor control and regulation system.

ACCESSORIES

FACTORY FITTED ACCESSORIES

IM	Automatic circuit breakers	SPD	Inertial tank and double circulating pump	ISL	LonWorks protocol, FTT-10 serial interface
SL	Unit silencement	SPDI	Inertial tank and Inverter double circulating pump	ISS	SNMP protocol, Ethernet port
BT	Low water temperature Kit	II	Inverter on one compressor and soft start	IAV	Remote set-point, 0-10 V signal
EC	EC Inverter fans	ID	Inverter on all compressors	IAA	Remote set-point, 4-20 mA signal
ECH	EC Inverter fans with high available static pressure	SS	Soft start	IAS	Remote signal for second set-point activation
HRT/P	Total heat recovery in parallel	WM	Web Monitoring - Wireless remote monitoring (GPRS/EDGE/3G/TCP-IP)	IDL	Demand limit from digital input
TX	Coil with pre-coated fins	IS	Modbus RTU protocol, RS485 serial interface	CP	Potential free contacts
SP	Inertial tank	IST	Modbus TCP/IP protocol, Ethernet port		
PU	Single circulating pump	ISB	BACnet MSTP protocol, RS485 serial interface		
PUI	Inverter single circulating pump	ISBT	BACnet TCP/IP protocol, Ethernet port		
PD	Double circulating pump				
PDI	Inverter double circulating pump				
SPU	Inertial tank and single circulating pump				
SPUI	Inertial tank and Inverter single circulating pump				

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
Cooling (EN14511)	Cooling capacity (1)	kW	215	255	311	371	413	469	565
	Absorbed power (1)	kW	85	100	118	152	162	188	215
	EER (1)		2.53	2.55	2.64	2.44	2.55	2.49	2.63
	SEPR with EC or ECH accessory (2)		5.00	5.04	5.03	5.03	5.30	5.20	5.40
	SEPR with EC or ECH and ID accessory (2)		5.35	5.39	5.38	5.38	5.64	5.57	5.76
Free-Cooling cycle	Air temperature (3)	°C	-2.5	-2.0	-2.0	-4.5	-3.7	-4.0	-3.5
	Absorbed power (3)	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	125	105	130	105	100	140	105
	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 (4)	dB(A)	75	75	76	76	76	77	77
	With SL accessory (4)	dB(A)	72	72	73	73	73	74	74
Weights	Transport weight (5)	Kg	3250	3320	3620	3805	4180	4510	5310
	Operating weight (5)	Kg	3450	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	
Cooling (EN14511)	Cooling capacity (1)	kW	702	838	984	1126	1272	1436	
	Absorbed power (1)	kW	270	325	380	447	507	565	
	EER (1)		2.60	2.58	2.59	2.52	2.51	2.54	
	SEPR with EC or ECH accessory (2)		5.40	5.20	5.20	5.20	5.30	5.30	
	SEPR with EC or ECH and ID accessory (2)		5.74	5.5	5.57	5.5	5.62	5.64	
Free-Cooling cycle	Air temperature (3)	°C	-4.3	-4.3	-4.6	-4.7	-4.1	-3.9	
	Absorbed power (3)	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	115	130	140	170	120	115	
	Tank water volume	l	2000	2000	2000	---	---	---	
	Water connections	DN	150	150	200	200	200	200	
Sound pressure	STD version (4)	dB(A)	77	79	79	79	79	80	
	With SL accessory (4)	dB(A)	74	76	76	76	76	77	
Weights	Transport weight (5)	Kg	6820	7710	8605	9590	10070	11750	
	Operating weight (5)	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.
- Seasonal energy efficiency of process cooling at high temperature. According to EU Regulation n. 2016/2281.
- 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.