

MACON

CLIMAHEAT R32

FULL DC INVERTER HEAT PUMP

HEATING

COOLING

HOT WATER

MACON

BEST CHOICE FOR ENERGY SAVING

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MACON CLIMAHEAT R32 VS Other Heating Methods

Electric Heating	Efficiency: 0.7~0.9	Electricity Leakage Risk
Gas Heating	Efficiency: 0.85~0.95	Gas Leakage Risk
MACON ClimaHeat R32	Efficiency: Above 3.3	No Safety Risk

MACON CLIMAHEAT R32 HIGHLIGHTS

**High Efficient & Energy-Saving**

Full DC Inverter technology using DC fan motor, twin rotary DC inverter compressor, patented high efficient heat exchanger, hydrophilic aluminum foil fin heat exchanger with internal threaded copper and advanced control technology, COP up to 18.

**Rapid Heating**

Automatic changes on working frequency and EEV opening according to the changes of ambient and water temperature in order to achieve high efficient cooling or heating and thus reach the setting temperature rapidly.

**Comfort Constant Temperature**

Water temperature maintaining control accurate to $\pm 0.5^{\circ}\text{C}$ for comfortable experience.

**Wide Operating Range**

Wide working ambient temperature range from -35°C to 50°C . Wider operating voltage range.

**Environmental Friendly**

R32 refrigerant without CO₂ emission, no pollution, no waste gas or residue.

**Low Noise**

Unique DC inverter low noise design working mode to ensure quiet operation of the unit.

Good Quality Components

CONDENSOR

High quality hydrophilic aluminum fin with well-distributed flow design makes more significant heat transfer effect

TUBE AND SHELL/ PLATE HEAT EXCHANGER

High quality heat exchanger with strong heat exchange efficiency and excellence performance

FAN MOTOR

Low noise fan motor with steady speed and large diameter fan blade makes more smooth air flow

HOUSING

Galvanized metal plate with UV-resistant powder coating and environmental protection screw for long durability

ELECTRONIC EXPANSION VALVE

Industrial grade linear electronic expansion valve throttle control for high efficient heating

DISPLAY CONTROLLER

Intelligent display controller with multiphase control and multiple functions

ECONOMIZER

EVI (Enhanced Vapor Injection) technology to ensure strong heating under low ambient temperature

COMPRESSOR

High efficient Full DC inverter twin rotary compressor



PRODUCT CHARACTERISTICS

LOW RUNNING COSTS: HIGH HEAT PUMP EFFICIENCIES AT ALL OUTDOOR AND WATER TEMPERATURES

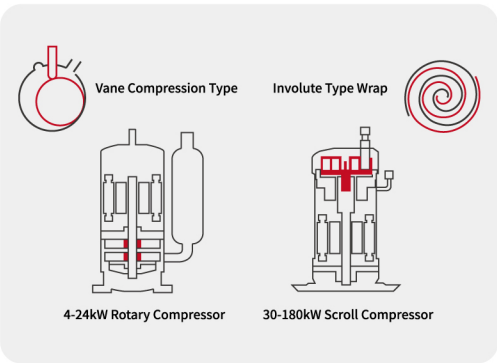
MACON ClimaHeat uses a range of efficient compressors, limiting electrical inputs to its maximum. This results in optimal efficiencies at several rated conditions, providing excellent ratings, complying with incentive and certification schemes throughout Europe.

Each capacity class has an individually sized compressor, dimensioned to provide optimal efficiencies per capacity range. This avoids having an over-dimensioned compressor, leading to lower seasonal efficiencies. For example, the compressor of the new 4kW class is designed to work at optimal frequencies, delivering the low capacities needed by houses with low heat loads. In addition to its efficient compressor range, the MACON ClimaHeat optimizes efficiency at all outside and water temperatures with the use of: an individual dimensioned plate heat exchanger per capacity class, to offer optimal efficiencies per capacity range.



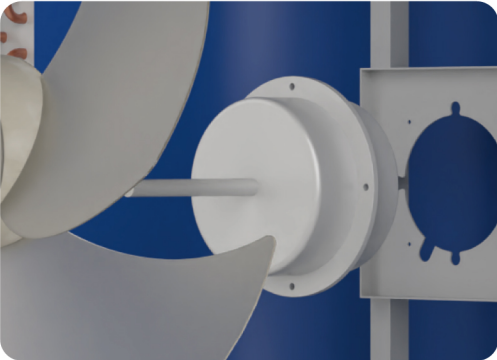
DC Inverter Compressor

- Low-capacity 4-24kW range is equipped with swing compressor: integration of main moving parts in one component, assuring no abrasion and no refrigerant leakages, guaranteeing optimal reliability and efficiency;
- High-capacity 30-180kW range is equipped with scroll compressors: quiet, compact and robust, guaranteeing optimal operational reliability (no valves and built-in swing-link coupling) and efficiency (through a low initial flow and a constant compression ratio).



DC Fan Motor

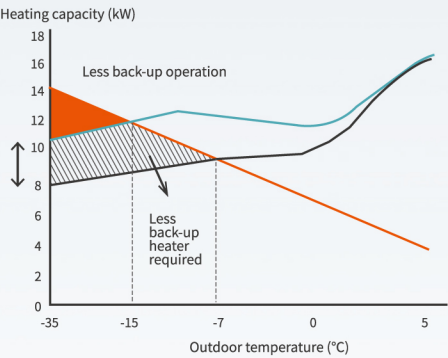
DC fan motor that can adjust the speed automatically according to the demand, and thus realize the effect of high reliability, low noise and low power consumption.



GUARANTEED PERFORMANCES: HIGH HEATING CAPACITIES DOWN TO LOW OUTSIDE TEMPERATURE

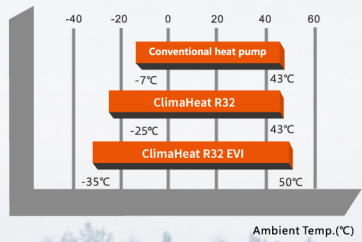
MACON ClimaHeat maintains its high heating capacities down to low outdoor temperatures. The electrical back-up heater assistance is no longer required or only very limited. These high heating capacities, available on the whole MACON ClimaHeat 4kW-36kW range, are achieved thanks to the combination of:

- Optimized controls to achieve higher frequency of use at low outdoor temperatures
- Liquid injection to avoid too high discharge temperatures when high water temperatures are required at low outdoor temperatures
- Perfectly dimensioned plate heat exchangers to maximize the heat exchange surface



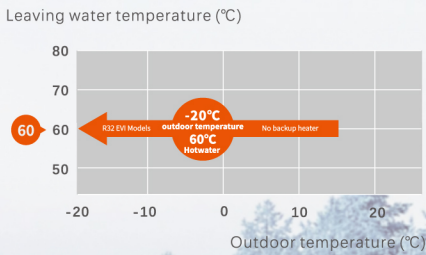
Wide Working Ambient Temperature Range

-35°C~50°C. Intelligent control with automatic load adjustment design to ensure reliable operation under different climates.



High Outlet Temperature

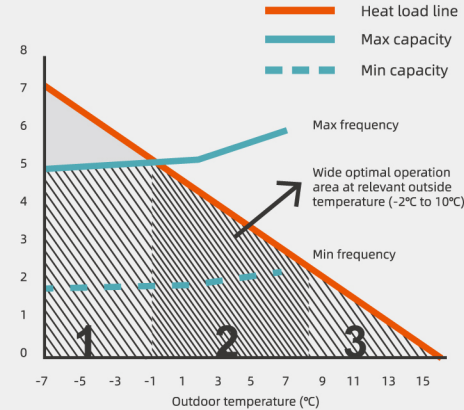
Maximum leaving water temperature is 60°C without backup heater down to -20°C outdoor temperature.



MINIMUM ENERGY CONSUMPTION: MACON ClimaHeat INVERTER COMPRESSORS WITH HIGH MODULATING RANGE

When the heat load is lower than the maximum capacity of the heat pump system, the compressor can turn in partial load operation. This reduced compressor frequency results in:

- Higher compressor efficiency in partial load operation
- Delivered capacities exactly matching the actual heating demand of the building
- Obtaining the capacities needed with minimum energy consumption
- Less on/off operation, increasing the operation life cycle of the compressor as MACON ClimaHeat has a high modulating range, meaning the compressor can modulate down to low frequencies to offer the highest efficiencies over the relevant temperature range. Each inverter compressor has a certain maximum and minimum frequency, and works in between the optimal operation area with the highest operating efficiencies. This is illustrated by the graph below.



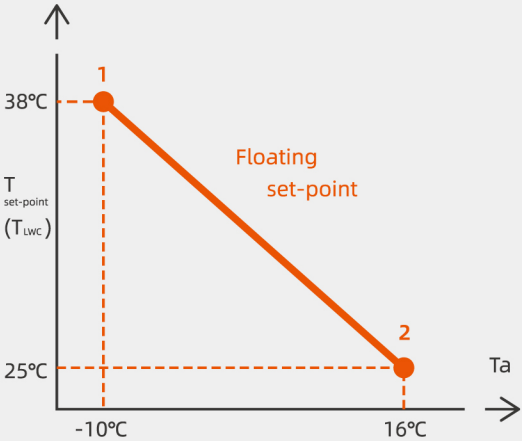
MINIMUM ENERGY CONSUMPTION: MACON ClimaHeat INVERTER COMPRESSORS WITH HIGH MODULATING RANGE

The combined effect of the MACON ClimaHeat weather-dependent set-point control and the inverter compressors maximizes the efficiency at each outdoor temperature, assuring stable room temperatures.

1 Weather-dependent set-point control: MACON ClimaHeat maximizes efficiency at every outdoor temperature through its weather-dependent set-point control. This control logic will always keep the water temperatures as low as possible, to maximize the heat pump efficiency for each specific outdoor temperature. This results in:

- Higher heat pump efficiency with lower water temperatures
- No unnecessary overheating, thereby delivering the temperatures required
- Continuous heating at lower water temperatures, providing stable room temperatures

2 Inverter technology: lowering the compressor frequency with increasing outdoor temperatures, thus increasing the efficiency



Accelerated Heating

After the unit is started, it quickly enters a stable and efficient operating state. MACON ClimaHeat has more heating output than ordinary heat pump in the same working time.

The graph shows 'Heating capacity(KW)' on the y-axis (13 to 15) and 'Operating time(min)' on the x-axis (0 to 30). Two curves are shown: 'MACON ClimaHeat' (orange) and 'ORDINARY HEAT PUMP' (blue). The MACON curve rises more steeply, reaching a 'Stable Operation' level of ~14.5 KW faster than the ordinary pump. Annotations include '70% shorter time than conventional heat pump', 'Stable Operation over 20 mins', and 'Save time by more than 70%'.

Intelligent Defrosting

Fast recovery from defrost to stable heating status that can accumulate more heating capacity in the same working time.

The graph shows 'Heating Capacity(kW)' on the y-axis (0 to 2) and 'Running Time(min)' on the x-axis (11 to 16). It illustrates two cycles of 'Defrosting' (dips to 0 kW) followed by 'Heating'. The 'MACON ClimaHeat Heating' (blue) recovers faster than 'Ordinary Heat Pump Heating' (orange). A note states: 'Each defrosting cycle outputs 20% more heat than the ordinary heat pump'.

Centralized Control

Heat pumps can be installed as a group controlling by a centralized wired controller. Multiple heat pumps of a residential central heating project can be controlled by group control to achieve simple and convenient control effect.

Three Heating Modes

Three heating modes including energy saving mode, fast heating mode and quiet heating mode are available to meet the demands of users under different conditions.

The graph shows 'Heating capacity(KW)' on the y-axis and 'Ambient temp.(°C)' on the x-axis (-25 to 25). Three curves are shown: 'Fast heating mode' (highest capacity), 'Quiet heating mode' (middle capacity), and 'Energy saving mode' (lowest capacity). The modes transition at specific ambient temperatures marked on the x-axis.

Wide Operating Voltage Range

AC input voltage allowed range: 165V~270V. DC output voltage allowed range: 190V~380V. PFC maintains 360V.

The graph plots 'Supply water temp (°C)' on the y-axis (10 to 65) against 'Heat pump power supply(V)' on the x-axis (130 to 290). A shaded 'Frequency limited area' is shown. Points a, b, c, d, and e are marked along the operating curve. 'Low Voltage Protection' is indicated on the left, and 'High Voltage Protection' on the right.

Automatic Antifreeze Protection In Standby Mode

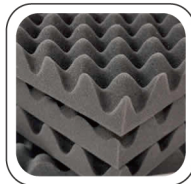
Multi-level antifreeze protection function with automatic antifreeze process according to the change of outdoor temperature and water temperature to ensure the safe operation of the heat pump.

The graph shows 'Water temperature' on the y-axis (Low to High) and 'Time' on the x-axis. A curve shows the water temperature fluctuating. A horizontal line at T4 indicates the 'Antifreeze Mode' activation threshold. The mode is shown as 'ON' (green bar) when the temperature drops below T4 and 'OFF' (grey bar) when it rises above T4.

Noise Reduction Technology

MACON ClimaHeat R32 perfectly combines eco-friendly R32 refrigerant and inverter technology to produce efficient house heating/cooling and hot water even under extreme cold climate.

Soundproof Isolation



All-sides of cabinet are fully wrapped with soundproof sponge material, which can efficiently absorb and block out the noise from compressor operation.

Shock Absorption Technology

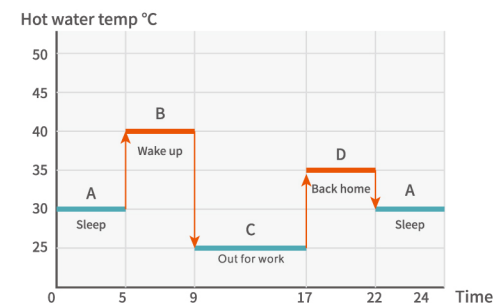


MACON R32 heat pump offers suspension chassis which can greatly minimize vibration and reduce noise.



Automatic Adjustment Of Water Temperature

Automatic regulation of water temperature according to the setting time phases. Automatic water changing timer that can allow users to set up to four timers of changing the water temperature during a day.

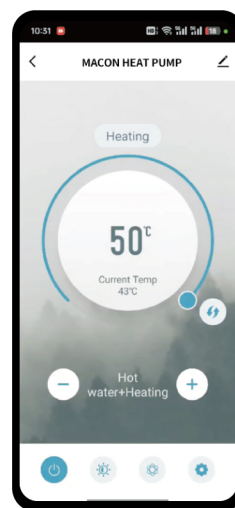


SMART TOUCH DISPLAY



MACON ClimaHeat has a high-end controller with colorful touch screen, which is one of the highlights of this trendy heat pump product. It is incredibly convenient for users from different countries that multiple languages can be chosen.

Smart APP control brings a lot of convenience to users. Temperature adjustment, mode switching, and timer setting can be achieved on your smart phone anytime and anywhere.



Heating
&
Hot Water



Hot Water



Heating



Cooling



Cooling
&
Hot Water

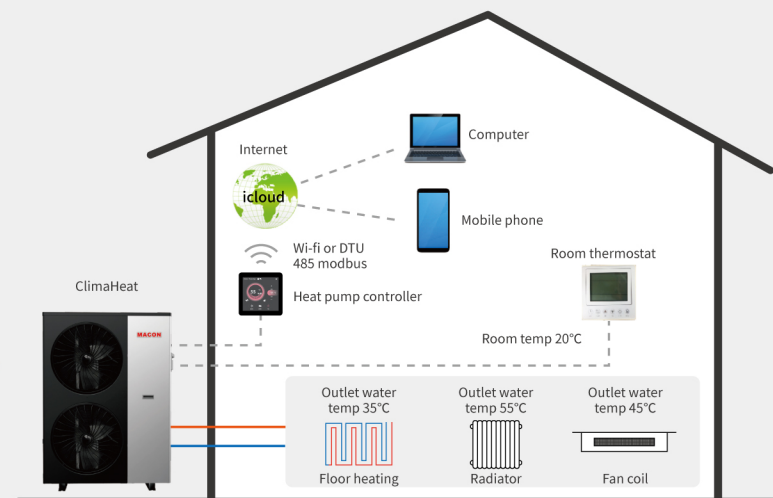


Timers



Unit Status

MACON SMART CONTROL FAMILY



CLIMAHEAT R32

PRODUCT PARAMETER

Full DC Inverter Heat Pump



MACON R32 DC INVERTER HEAT PUMP (SINGLE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	06ZA-BN3	08ZA-BN3	10ZA-BN3	12ZA-BN3	14ZA-BN3	18ZA-BN3
	Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50
+7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	1.3	1.7	2.2	2.7	3.0	3.9
	COP		4.72	4.60	4.55	4.48	4.70	4.63
+7°C / +55°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	2.0	2.7	3.4	4.1	4.7	6.1
	COP		2.98	2.95	2.92	2.90	2.97	2.95
+2°C / +35°C Heating	Heating Capacity	kW	5.2	7.0	9.2	11.0	13.0	15.2
	Heating Power Input	kW	1.5	2.1	2.8	3.4	3.8	4.5
	COP		3.45	3.38	3.32	3.26	3.40	3.35
-7°C / +35°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.4	2.0	2.7	3.5	3.9	4.6
	COP		3.15	3.00	2.97	2.89	3.05	3.00
-7°C / +45°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.8	2.4	3.3	4.3	4.9	5.8
	COP		2.52	2.46	2.40	2.34	2.47	2.40
+35°C / +18°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.0	1.2	1.7	2.2	2.4	2.9
	EER		4.90	4.82	4.76	4.60	4.90	4.85
+35°C / +7°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.72	2.11	2.86	3.60	4.14	4.91
	EER		2.90	2.84	2.80	2.78	2.90	2.85
Maximum Power Input		kW	2.8	3.2	4.2	5.5	6.0	7.8
Maximum Current Input		A	12.7	14.5	19.1	25.0	27.3	35.5
Nominal Water Flow Volume		m³/h	1.03	1.38	1.72	2.06	2.41	3.10
AC Side Water Pressure Drop		kPa	30	34	35	42	45	50
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1"
Refrigerant			R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	53	55	56	57	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I
Net Weight		kg	69	77	77	82	115	117
Unit Dimensions(L/W/H)		mm	1020/440/730	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 DC INVERTER HEAT PUMP (THREE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	08ZA-SBN3	10ZA-SBN3	12ZA-SBN3	14ZA-SBN3	18ZA-SBN3
	Power Supply	V/P/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
+7°C / +35°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	1.7	2.2	2.7	3.0	3.9
	COP		4.60	4.55	4.48	4.70	4.63
+7°C / +55°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	2.7	3.4	4.1	4.7	6.1
	COP		2.95	2.92	2.90	2.97	2.95
+2°C / +35°C Heating	Heating Capacity	kW	7.0	9.2	11.0	13.0	15.2
	Heating Power Input	kW	2.1	2.8	3.4	3.8	4.5
	COP		3.38	3.32	3.26	3.40	3.35
-7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	2.0	2.7	3.5	3.9	4.6
	COP		3.00	2.97	2.89	3.05	3.00
-7°C / +45°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	2.4	3.3	4.3	4.9	5.8
	COP		2.46	2.40	2.34	2.47	2.40
+35°C / +18°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.2	1.7	2.2	2.4	2.9
	EER		4.82	4.76	4.60	4.90	4.85
+35°C / +7°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	2.11	2.86	3.60	4.14	4.91
	EER		2.84	2.80	2.78	2.90	2.85
Maximum Power Input		kW	3.2	4.2	5.5	6.0	7.8
Maximum Current Input		A	5.9	7.8	10.2	11.1	14.5
Nominal Water Flow Volume		m³/h	1.38	1.72	2.06	2.41	3.10
AC Side Water Pressure Drop		kPa	40	45	55	60	70
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"
Refrigerant			R32	R32	R32	R32	R32
Sound Level		dB(A)	55	56	57	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I
Net Weight		kg	77	77	82	115	117
Unit Dimensions(L/W/H)		mm	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 DC INVERTER HEAT PUMP (SINGLE PHASE WITH WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	06ZA-PBN3	08ZA-PBN3	10ZA-PBN3	12ZA-PBN3	14ZA-PBN3	18ZA-PBN3
	Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50
+7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	1.4	1.8	2.3	2.8	3.1	4.1
	COP		4.30	4.40	4.40	4.28	4.45	4.40
+7°C / +55°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	2.2	2.9	3.7	4.4	5.1	6.5
	COP		2.78	2.75	2.72	2.70	2.77	2.75
+2°C / +35°C Heating	Heating Capacity	kW	5.2	7.0	9.2	11.0	13.0	15.2
	Heating Power Input	kW	1.6	2.2	2.9	3.6	4.1	4.8
	COP		3.25	3.18	3.12	3.06	3.20	3.15
-7°C / +35°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.5	2.1	2.9	3.7	4.2	4.9
	COP		2.95	2.80	2.77	2.69	2.85	2.80
-7°C / +45°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.9	2.7	3.6	4.7	5.3	6.3
	COP		2.32	2.26	2.20	2.14	2.27	2.20
+35°C / +18°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.1	1.3	1.8	2.3	2.6	3.0
	EER		4.70	4.62	4.56	4.40	4.70	4.65
+35°C / +7°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.85	2.27	3.02	3.82	4.44	5.19
	EER		2.70	2.64	2.65	2.62	2.70	2.70
Maximum Power Input		kW	2.8	3.2	4.2	5.5	6.0	7.8
Maximum Current Input		A	12.7	14.5	19.1	25.0	27.3	35.5
Nominal Water Flow Volume		m³/h	1.03	1.38	1.72	2.06	2.41	3.10
AC Side Water Pressure Drop		kPa	30	34	35	42	45	50
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1"
Refrigerant			R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	53	55	56	57	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I
Net Weight		kg	69	77	77	82	115	117
Unit Dimensions(L/W/H)		mm	1020/440/730	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 DC INVERTER HEAT PUMP (THREE PHASE WITH WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	08ZA-PSBN3	10ZA-PSBN3	12ZA-PSBN3	14ZA-PSBN3	18ZA-PSBN3
	Power Supply	V/P/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
+7°C / +35°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	1.8	2.3	2.8	3.1	4.1
	COP		4.40	4.40	4.28	4.45	4.40
+7°C / +55°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	2.9	3.7	4.4	5.1	6.5
	COP		2.75	2.72	2.70	2.77	2.75
+2°C / +35°C Heating	Heating Capacity	kW	7.0	9.2	11.0	13.0	15.2
	Heating Power Input	kW	2.2	2.9	3.6	4.1	4.8
	COP		3.18	3.12	3.06	3.15	3.15
-7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	2.1	2.9	3.7	4.2	4.9
	COP		2.80	2.77	2.69	2.85	2.80
-7°C / +45°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	2.7	3.6	4.7	5.3	6.3
	COP		2.26	2.20	2.14	2.27	2.20
+35°C / +18°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.3	1.8	2.3	2.6	3.0
	EER		4.62	4.56	4.40	4.70	4.65
+35°C / +7°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	2.27	3.02	3.82	4.44	5.19
	EER		2.64	2.65	2.62	2.70	2.70
Maximum Power Input		kW	3.2	4.2	5.5	6.0	7.8
Maximum Current Input		A	5.9	7.8	10.2	11.1	14.5
Nominal Water Flow Volume		m³/h	1.38	1.72	2.06	2.41	3.10
AC Side Water Pressure Drop		kPa	40	45	55	60	70
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"
Refrigerant			R32	R32	R32	R32	R32
Sound Level		dB(A)	55	56	57	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I
Net Weight		kg	77	77	82	115	117
Unit Dimensions(L/W/H)		mm	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 EVI DC INVERTER HEAT PUMP (SINGLE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	06ZA-BEN3	08ZA-BEN3	10ZA-BEN3	12ZA-BEN3	14ZA-BEN3	18ZA-BEN3
	Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50
+7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	1.3	1.7	2.2	2.7	3.0	3.9
	COP		4.72	4.60	4.55	4.48	4.70	4.63
+7°C / +55°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	18.0
	Heating Power Input	kW	2.0	2.7	3.4	4.1	4.7	6.1
	COP		2.98	2.95	2.92	2.90	2.97	2.95
+2°C / +35°C Heating	Heating Capacity	kW	5.2	7.0	9.2	11.0	13.0	15.2
	Heating Power Input	kW	1.4	1.9	2.5	3.0	3.4	4.1
	COP		3.80	3.75	3.72	3.65	3.82	3.73
-7°C / +35°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.3	1.7	2.4	3.0	3.4	4.0
	COP		3.50	3.43	3.40	3.33	3.50	3.43
-7°C / +45°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	13.8
	Heating Power Input	kW	1.7	2.3	3.1	3.9	4.5	5.3
	COP		2.72	2.66	2.60	2.54	2.67	2.60
-15°C / +35°C Heating	Heating Capacity	kW	4.0	5.0	7.0	8.5	10.0	12.0
	Heating Power Input	kW	1.4	1.8	2.5	3.1	3.4	4.1
	COP		2.88	2.80	2.77	2.70	2.98	2.91
+35°C / +18°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.0	1.2	1.7	2.2	2.4	2.9
	EER		4.90	4.82	4.76	4.60	4.90	4.85
+35°C / +7°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0
	Cooling Power Input	kW	1.72	2.11	2.86	3.60	4.14	4.91
	EER		2.90	2.84	2.80	2.78	2.90	2.85
Maximum Power Input		kW	2.5	3.5	4.4	5.4	6.0	7.8
Maximum Current Input		A	11.6	15.8	20.0	24.4	27.1	35.3
Nominal Water Flow Volume		m³/h	1.03	1.38	1.72	2.06	2.41	3.10
AC Side Water Pressure Drop		kPa	30	34	35	42	45	50
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1"
Refrigerant			R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	53	55	56	57	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I
Net Weight		kg	75	80	80	85	118	120
Unit Dimensions(L/W/H)		mm	1020/440/730	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 EVI DC INVERTER HEAT PUMP (THREE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	08ZA-SBEN3	10ZA-SBEN3	12ZA-SBEN3	14ZA-SBEN3	18ZA-SBEN3	24ZA-SBEN3	36ZA/S(BE)
	Power Supply	V/P/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
+7°C / +35°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0	24.0	36.0
	Heating Power Input	kW	1.7	2.2	2.7	3.0	3.9	5.2	8.1
	COP		4.60	4.55	4.48	4.70	4.63	4.58	4.44
+7°C / +55°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0	24.0	36.0
	Heating Power Input	kW	2.7	3.4	4.1	4.7	6.1	8.3	12.4
	COP		2.95	2.92	2.90	2.97	2.95	2.90	2.90
+2°C / +35°C Heating	Heating Capacity	kW	7.0	9.2	11.0	13.0	15.2	20.0	31.0
	Heating Power Input	kW	1.9	2.5	3.0	3.4	4.1	5.3	8.3
	COP		3.75	3.72	3.65	3.82	3.73	3.78	3.72
-7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8	18.5	27.0
	Heating Power Input	kW	1.7	2.4	3.0	3.4	4.0	5.5	8.3
	COP		3.43	3.40	3.33	3.50	3.43	3.34	3.24
-7°C / +45°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8	18.5	27.0
	Heating Power Input	kW	2.3	3.1	3.9	4.5	5.3	7.1	10.6
	COP		2.66	2.60	2.54	2.67	2.60	2.60	2.55
-15°C / +35°C Heating	Heating Capacity	kW	5.0	7.0	8.5	10.0	12.0	16.0	24.0
	Heating Power Input	kW	1.8	2.5	3.1	3.4	4.1	5.6	8.4
	COP		2.80	2.77	2.70	2.98	2.91	2.86	2.85
+35°C / +18°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0	20.0	30.0
	Cooling Power Input	kW	1.2	1.7	2.2	2.4	2.9	4.1	6.3
	EER		4.82	4.76	4.60	4.90	4.85	4.88	4.75
+35°C / +7°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0	20.0	30.0
	Cooling Power Input	kW	2.11	2.86	3.60	4.14	4.91	7.02	10.91
	EER		2.84	2.80	2.78	2.90	2.85	2.85	2.75
Maximum Power Input		kW	3.5	4.4	5.4	6.0	7.8	10.5	16.2
Maximum Current Input		A	6.4	8.1	9.9	11.0	14.4	19.4	30.0
Nominal Water Flow Volume		m³/h	1.38	1.72	2.06	2.41	3.10	4.13	6.19
AC Side Water Pressure Drop		kPa	40	45	55	60	70	80	90
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
Refrigerant			R32	R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	55	56	57	58	58	59	60
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I	I
Net Weight		kg	80	80	85	118	120	123	204
Unit Dimensions(L/W/H)		mm	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395	1000/440/1480	1270/515/1600

Remarks:

The values of heating capacity/power input/COP are based on measurement of EN14511 standard.

Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.

In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 EVI DC INVERTER HEAT PUMP (SINGLE PHASE WITH WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	06ZA-PBEN3	08ZA-PBEN3	10ZA-PBEN3	12ZA-PBEN3	14ZA-PBEN3	16ZA-PBEN3	18ZA-PBEN3	20ZA-PBEN3
	Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50
+7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
	Heating Power Input	kW	1.4	1.8	2.3	2.8	3.2	3.7	4.2	4.7
	COP		4.44	4.34	4.35	4.31	4.33	4.32	4.30	4.28
+7°C / +55°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
	Heating Power Input	kW	2.2	3.0	3.8	4.6	5.1	5.8	6.7	7.1
	COP		2.72	2.68	2.65	2.62	2.73	2.76	2.70	2.80
+2°C / +35°C Heating	Heating Capacity	kW	5.2	7.0	9.2	11.0	13.0	14.0	15.2	18.0
	Heating Power Input	kW	1.4	2.0	2.6	3.1	3.7	4.0	4.3	5.2
	COP		3.59	3.55	3.57	3.53	3.56	3.53	3.50	3.45
-7°C / +35°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	14.5	13.8	16.4
	Heating Power Input	kW	1.4	1.9	2.5	3.1	3.7	4.5	4.3	5.3
	COP		3.29	3.24	3.26	3.22	3.26	3.24	3.20	3.10
-7°C / +45°C Heating	Heating Capacity	kW	4.5	6.0	8.0	10.0	12.0	14.5	13.8	16.4
	Heating Power Input	kW	1.8	2.4	3.3	4.2	4.7	5.9	5.3	6.5
	COP		2.57	2.51	2.45	2.40	2.53	2.45	2.60	2.53
-15°C / +35°C Heating	Heating Capacity	kW	4.0	5.0	7.0	8.5	10.0	11.0	12.0	15.4
	Heating Power Input	kW	1.5	1.9	2.6	3.3	3.6	4.0	4.4	5.8
	COP		2.72	2.65	2.66	2.61	2.77	2.75	2.72	2.67
+35°C / +18°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0	14.0	16.0
	Cooling Power Input	kW	1.1	1.3	1.8	2.3	2.7	3.2	3.2	3.7
	EER		4.54	4.46	4.49	4.39	4.44	4.43	4.40	4.36
+35°C / +7°C Cooling	Cooling Capacity	kW	5.0	6.0	8.0	10.0	12.0	14.0	14.0	16.0
	Cooling Power Input	kW	1.82	2.21	2.96	3.72	4.29	5.09	5.13	5.82
	EER		2.75	2.72	2.70	2.69	2.80	2.75	2.73	2.75
Maximum Power Input		kW	2.7	3.7	4.6	5.6	6.5	7.4	8.4	9.3
Maximum Current Input		A	12.3	16.8	20.9	25.3	29.4	33.7	38.1	42.5
Nominal Water Flow Volume		m³/h	1.03	1.38	1.72	2.06	2.41	2.75	3.10	3.44
AC Side Water Pressure Drop		kPa	30	34	35	42	45	48	50	52
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
Refrigerant			R32	R32	R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	53	55	56	57	58	58	58	58
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I	I	I
Net Weight		kg	77	82	82	87	120	122	123	127
Unit Dimensions(L/W/H)		mm	1020/440/730	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395	1000/440/1395	1000/440/1480

Remarks:
The values of heating capacity/power input/COP are based on measurement of EN14511 standard.
Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.
In case of changes due to product improvement, the nameplate shall prevail.

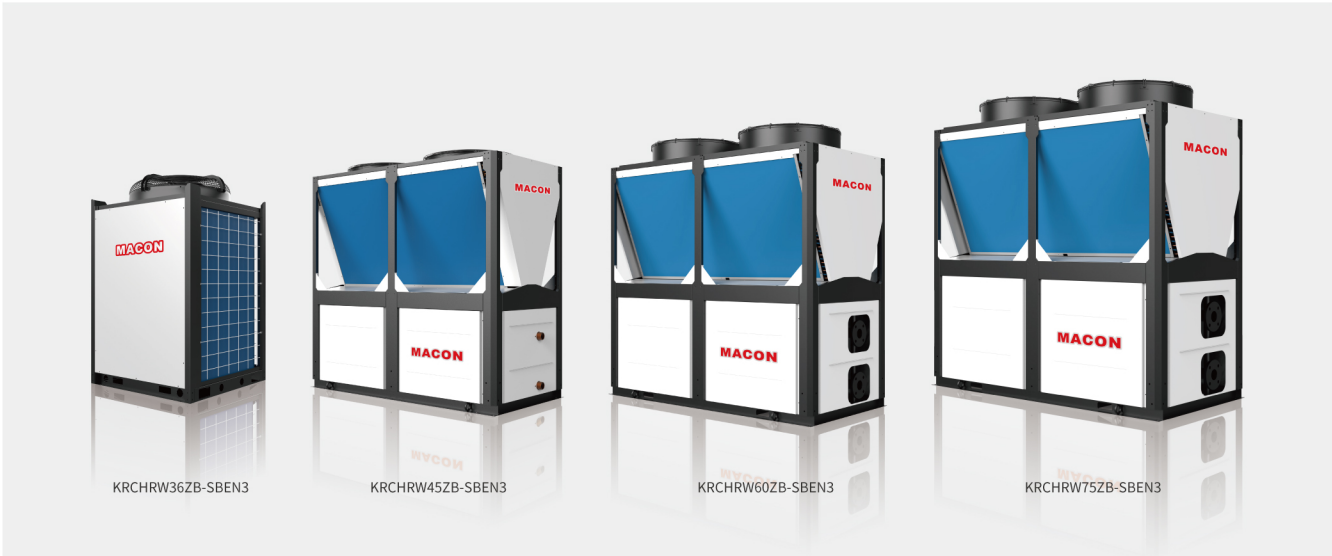
MACON R32 EVI DC INVERTER HEAT PUMP (THREE PHASE WITH WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	08ZA-SPBEN3	10ZA-SPBEN3	12ZA-SPBEN3	14ZA-SPBEN3	18ZA-SPBEN3	24ZA-SPBEN3
	Power Supply	V/P/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
+7°C / +35°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0	24.0
	Heating Power Input	kW	1.8	2.3	2.8	3.2	4.2	5.6
	COP		4.34	4.35	4.31	4.33	4.30	4.30
+7°C / +55°C Heating	Heating Capacity	kW	8.0	10.0	12.0	14.0	18.0	24.0
	Heating Power Input	kW	3.0	3.8	4.6	5.1	6.7	8.8
	COP		2.68	2.65	2.62	2.73	2.70	2.72
+2°C / +35°C Heating	Heating Capacity	kW	7.0	9.2	11.0	13.0	15.2	20.0
	Heating Power Input	kW	2.0	2.6	3.1	3.7	4.3	5.6
	COP		3.55	3.57	3.53	3.56	3.50	3.55
-7°C / +35°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8	18.5
	Heating Power Input	kW	1.9	2.5	3.1	3.7	4.3	5.9
	COP		3.24	3.26	3.22	3.26	3.20	3.15
-7°C / +45°C Heating	Heating Capacity	kW	6.0	8.0	10.0	12.0	13.8	18.5
	Heating Power Input	kW	2.4	3.2	4.2	4.7	5.5	7.6
	COP		2.52	2.50	2.40	2.54	2.51	2.45
-15°C / +35°C Heating	Heating Capacity	kW	5.0	7.0	8.5	10.0	12.0	16.0
	Heating Power Input	kW	1.9	2.6	3.3	3.6	4.4	5.9
	COP		2.65	2.66	2.61	2.77	2.72	2.70
+35°C / +18°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0	20.0
	Cooling Power Input	kW	1.3	1.8	2.3	2.7	3.2	4.1
	EER		4.46	4.49	4.39	4.44	4.40	4.88
+35°C / +7°C Cooling	Cooling Capacity	kW	6.0	8.0	10.0	12.0	14.0	20.0
	Cooling Power Input	kW	2.21	2.96	3.72	4.29	5.13	7.55
	EER		2.72	2.70	2.69	2.80	2.73	2.65
Maximum Power Input		kW	3.7	4.6	5.6	6.5	8.4	11.2
Maximum Current Input		A	6.8	8.5	10.3	12.0	15.5	20.7
Nominal Water Flow Volume		m³/h	1.38	1.72	2.06	2.41	3.10	4.13
AC Side Water Pressure Drop		kPa	40	45	55	60	70	80
Water Inlet/Outlet (External Threaded)		inch	1"	1"	1"	1"	1"	1-1/4"
Refrigerant			R32	R32	R32	R32	R32	R32
Sound Level		dB(A)	55	56	57	58	58	59
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I	I	I
Net Weight		kg	82	82	87	120	123	132
Unit Dimensions(L/W/H)		mm	1020/440/880	1020/440/880	1020/440/880	1000/440/1395	1000/440/1395	1000/440/1480

Remarks:
The values of heating capacity/power input/COP are based on measurement of EN14511 standard.
Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.
In case of changes due to product improvement, the nameplate shall prevail.

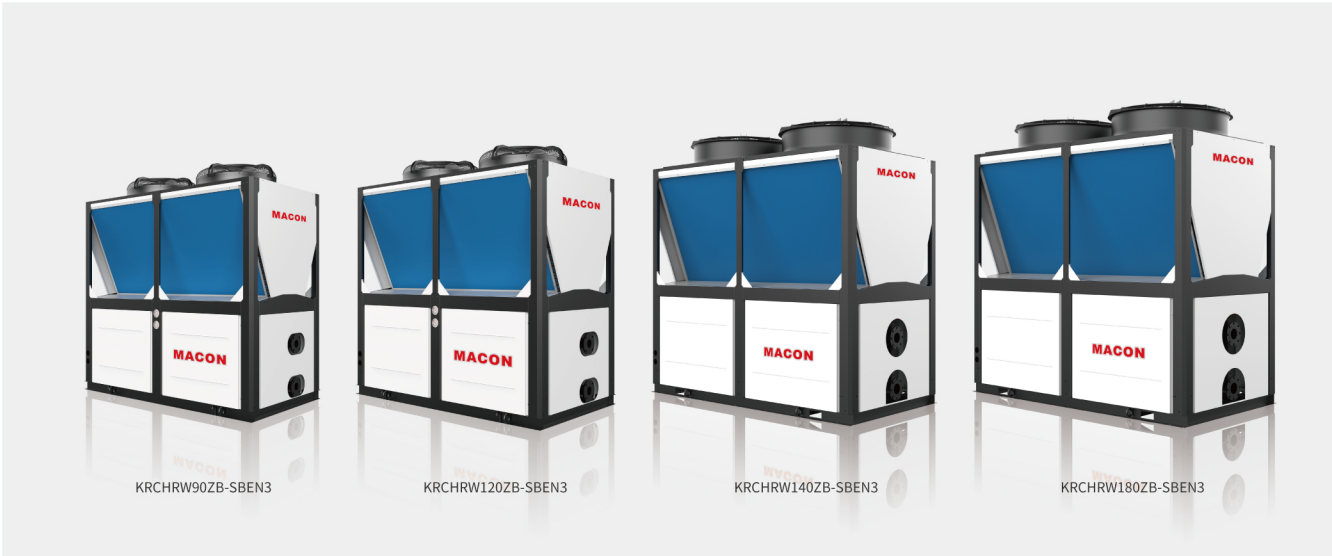
MACON R32 EVI DC INVERTER HEAT PUMP (THREE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	36ZB-SBEN3	45ZB-SBEN3	60ZB-SBEN3	75ZB-SBEN3
	Power Supply	V/P/Hz	380/3/50(60)	380/3/50(60)	380/3/50(60)	380/3/50(60)
+7℃ / +35℃ Heating	Heating Capacity	kW	36.0	45.0	60.0	75.0
	Heating Power Input	kW	8.70	10.90	14.60	18.20
	Heating Current Input	A	16.1	20.2	27.1	33.7
	COP		4.14	4.13	4.11	4.12
+7℃ / +45℃ Heating	Heating Capacity	kW	36.0	45.0	60.0	75.0
	Heating Power Input	kW	10.20	12.90	17.10	21.30
	Heating Current Input	A	18.9	23.9	31.7	39.5
	COP		3.53	3.49	3.51	3.52
+2℃ / +35℃ Heating	Heating Capacity	kW	32.4	40.5	54.0	68.0
	Heating Power Input	kW	9.82	12.27	16.30	20.50
	Heating Current Input	A	18.2	22.7	30.2	38.0
	COP		3.30	3.30	3.31	3.32
-7℃ / +35℃ Heating	Heating Capacity	kW	27.6	34.5	46.0	58.0
	Heating Power Input	kW	8.85	11.10	14.70	18.60
	Heating Current Input	A	16.4	20.6	27.2	34.5
	COP		3.12	3.11	3.13	3.12
-7℃ / +45℃ Heating	Heating Capacity	kW	27.6	34.5	46.0	58.0
	Heating Power Input	kW	10.10	12.60	16.80	21.20
	Heating Current Input	A	18.7	23.3	31.1	39.3
	COP		2.73	2.74	2.74	2.74
-15℃ / +35℃ Heating	Heating Capacity	kW	22.8	28.5	38.0	48.0
	Heating Power Input	kW	8.70	10.90	14.50	18.30
	Heating Current Input	A	16.1	20.2	26.9	33.9
	COP		2.62	2.61	2.62	2.62
+35℃ / +7℃ Cooling	Cooling Capacity	kW	30.0	37.5	50.0	65.0
	Cooling Power Input	kW	11.11	13.89	18.50	24.00
	Cooling Current Input	A	20.6	25.7	34.3	44.5
	EER		2.70	2.70	2.70	2.71
Maximum Power Input		kW	15.26	19.17	25.53	33.12
Maximum Current Input		A	28.3	35.5	47.3	61.4
Nominal Water Flow Volume		m³/h	5.16	6.45	8.60	11.18
AC Side Water Pressure Drop		kPa	55	60	38	40
Water Inlet/Outlet		inch	1-1/4"	1-1/2"	2"	2-1/2"
Refrigerant			R32	R32	R32	R32
Sound Level		dB(A)	58	60	62	65
IP Rating			IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I
Net Weight		kg	230	305	455	565
Unit Dimensions(L/W/H)		mm	880/900/1450	1645/805/1580	1750/875/1815	1750/875/1815

Remarks:
The values of heating capacity/power input/COP are based on measurement of EN14511 standard.
Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.
In case of changes due to product improvement, the nameplate shall prevail.

MACON R32 EVI DC INVERTER HEAT PUMP(THREE PHASE WITHOUT WATER PUMP)



Air / Water Outlet / Mode	Model	KRCHRW	90ZB-SBEN3	120ZB-SBEN3	150ZB-SBEN3	180ZB-SBEN3
	Power Supply	V/P/Hz	380/3/50(60)	380/3/50(60)	380/3/50(60)	380/3/50(60)
+7℃ / +35℃ Heating	Heating Capacity	kW	90.0	120.0	150.0	180.0
	Heating Power Input	kW	21.90	29.20	36.40	43.80
	Heating Current Input	A	40.6	54.1	67.4	81.2
	COP		4.11	4.11	4.12	4.11
+7℃ / +45℃ Heating	Heating Capacity	kW	90.0	120.0	150.0	180.0
	Heating Power Input	kW	27.30	34.20	42.60	54.60
	Heating Current Input	A	50.6	63.4	78.9	101.2
	COP		3.30	3.51	3.52	3.30
+2℃ / +35℃ Heating	Heating Capacity	kW	81.0	108.0	136.0	162.0
	Heating Power Input	kW	24.55	32.60	41.00	49.10
	Heating Current Input	A	45.5	60.4	76.0	91.0
	COP		3.30	3.31	3.32	3.30
-7℃ / +35℃ Heating	Heating Capacity	kW	69.0	92.0	116.0	138.0
	Heating Power Input	kW	22.20	29.40	37.20	44.40
	Heating Current Input	A	41.1	54.5	68.9	82.3
	COP		3.11	3.13	3.12	3.11
-7℃ / +45℃ Heating	Heating Capacity	kW	69.0	92.0	116.0	138.0
	Heating Power Input	kW	25.50	33.60	42.40	51.00
	Heating Current Input	A	47.2	62.3	78.6	94.5
	COP		2.71	2.74	2.74	2.71
-15℃ / +35℃ Heating	Heating Capacity	kW	57.0	76.0	96.0	114.0
	Heating Power Input	kW	21.90	29.00	36.60	43.80
	Heating Current Input	A	40.6	53.7	67.8	81.2
	COP		2.60	2.62	2.62	2.60
+35℃ / +7℃ Cooling	Cooling Capacity	kW	75.0	100.0	130.0	150.0
	Cooling Power Input	kW	27.78	37.00	48.00	55.60
	Cooling Current Input	A	51.5	68.6	88.9	102.9
	EER		2.70	2.70	2.71	2.70
Maximum Power Input		kW	38.48	51.06	66.24	76.95
Maximum Current Input		A	71.3	94.6	122.7	142.6
Nominal Water Flow Volume		m³/h	12.90	17.20	22.36	25.80
AC Side Water Pressure Drop		kPa	40	50	50	50
Water Inlet/Outlet		inch	2-1/2"	3"	3"	3"
Refrigerant			R32	R32	R32	R32
Sound Level		dB(A)	67	69	69	69
IP Rating			IPX4	IPX4	IPX4	IPX4
Protection against Electric Shock			I	I	I	I
Net Weight		kg	600	650	950	960
Unit Dimensions(L/W/H)		mm	1986/1103/2055	1986/1103/2055	2300/1200/2350	2300/1200/2350

Remarks:
The values of heating capacity/power input/COP are based on measurement of EN14511 standard.
Usage environment, such as operation of the heating equipment, room temperature, and controller adjustments, may cause disparities between practically determined and these values.
In case of changes due to product improvement, the nameplate shall prevail.