

# MACON<sup>®</sup>



## **Macon EVI DC inverter heat pump Low temperatre and strong heat series**

**DC  
Inverter**



**can work -25°C  
outdoor**

## ABOUT MACON

MACON, an international enterprise that commits itself to heat pump technology, fixes energy saving and environmental protecting as its development orientation.

In its inception, MACON took Profession, Innovation, Responsibility and Excellence as its development strategy and focused on the Research & Development and production of heat pumps. Now it can provide various solutions for energy saving such as house heating, sanitary and commercial hot water supplying, swimming pool thermostatic dehumidifying and central air-conditioning integrated energy saving.

MACON pays great attention to absorb and integrate the advanced technologies of heat pump in the world. With our experienced engineers and skillful technicians, Macon focused on the Research & Development and production of heat pumps. Now it can provide various solutions for energy saving such as swimming pool thermostatic heat pump, air to water all in one heat pump, EVI (Scroll compressor with vapor injection) DC inverter air to water heat pump, DC inverter air to water heat pump, DC inverter water to water heat pump, double source heat pump, dehumidifier, high temperature hot water heat pump and so on, which enjoy favorable reputations all over the world.

MACON has her own comprehensive performance laboratory and test room to guarantee the quality of every products. MACON large scale factories located in the home appliances capital of the beautiful Pearl River Delta of China, are the strong supports for the further development of MACON.

MACON has gained ISO9001:2008 international quality management system certification. The products sold in domestic market have been accredited the CCC certification by reputable organization in China and the products sold overseas are qualified with CE, RoHS, ETL, SAA, C-TICK, WATER-MARK and STANDARD MARK certifications.

More than 100 engineers and technicians with advanced education backgrounds and a large number of skillful workers are the most valuable assets and the strongest guarantee for the sustained and rapid development of MACON.

The systems of ERP, PLM and CRM make MACON reach the highest standard of information management in the whole industry to meet clients special requirements. The Six Sigma management project conducting in MACON will lay the foundation of lean production. Profession, Innovation, Responsibility and Excellence always is the core philosophy of MACON.





## Honors & Qualifications



Best Heating Heat Pump Brand



Top Ten Consumer Favorite Brand



National High-Tech  
Energy-Saving Product



Quality Brand  
Excellent Enterprise



Energy Conservation  
Association Member



Excellent Six  
Sigma Project

### ISO Certificate and National Industrial Production License



ISO 9001



ISO 14001



OHSAS18001



Laboratory Competency  
Assessment Certificate



National industrial production license

### European Certificates CE, RoSH, En14511



### Australian Certificates SAA, C-Tick, WaterMark, StandardMark



### North American Certificates ETL



RoHS

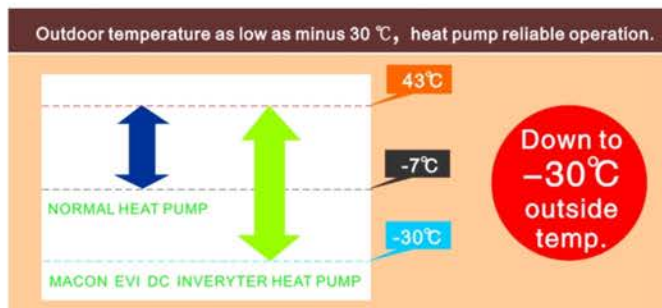


STANDARDS  
AUSTRALIA



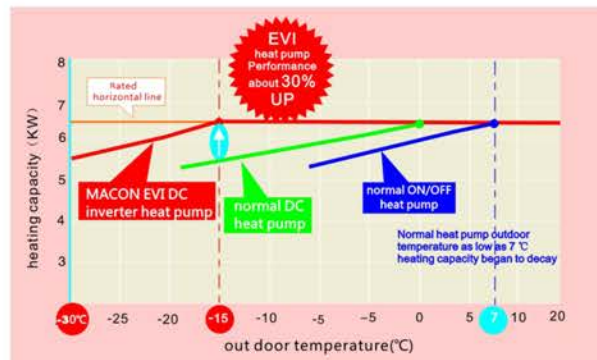
## Safe Operation in All Condition

- Wide working ambient temperature range:  $-30^{\circ}\text{C}$ ~ $43^{\circ}\text{C}$ ; Intelligent curve control, any weather available, meet the needs of summer cooling, winter heating and hot water throughout the year



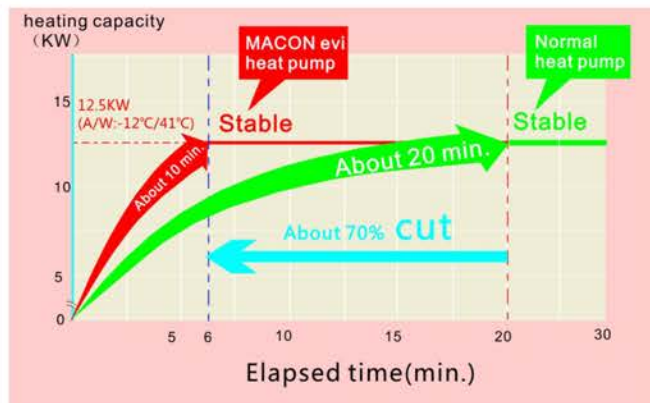
## High Heating Capacity

- Technical grade linear electronic expansion valve throttle control the refrigerant volume of major loop of refrigerant system and, even ambient temperature is under  $-15^{\circ}\text{C}$ , heat pump still keep rated heating capacity output without electric heater.



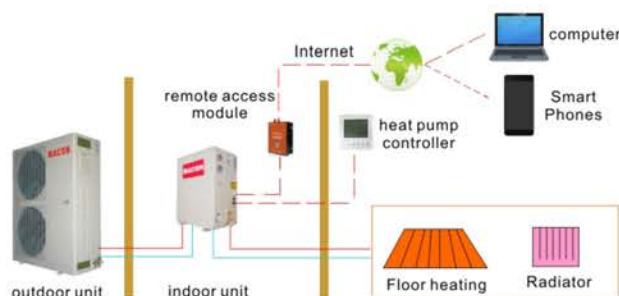
## Enter Stable Status Quickly

- The time to enter a stable state is more than 70% shorter than the normal heat pump.



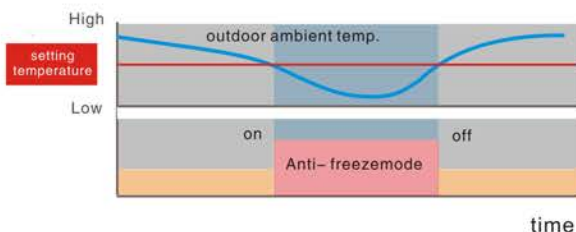
## Remote Control-Extension

- Various remote controls are available on your hand. Remote control is also available via Web. All kind of life styles are supported.



## Automatic Antifreeze Protection Technology under Standby Mode

- Unit designed with multi-grade antifreeze protection control function. When outdoor ambient temperature is lower than setting function, unit operate antifreeze protection function automatically and keep the unit safe



## Multi-Protection

- Macon EVI DC inverter heat pump has various protection control like water flow switch protection, antifreezing protection, high/low pressure protection, compressor overload protection, high discharge temp protection, etc.





## Energy Saving up to 30%

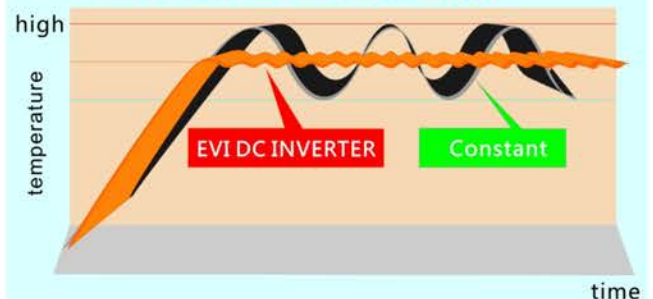
- With the use of inverter compressors, brushless DC fan motors and PFC control method, the units can regulate the running capacity. With no frequent start-ups and stop runnings, the units work in stable condition with high efficiency. The energy consumption is 30% less than that of standard heat pump units.



## Accurate Temperature Control

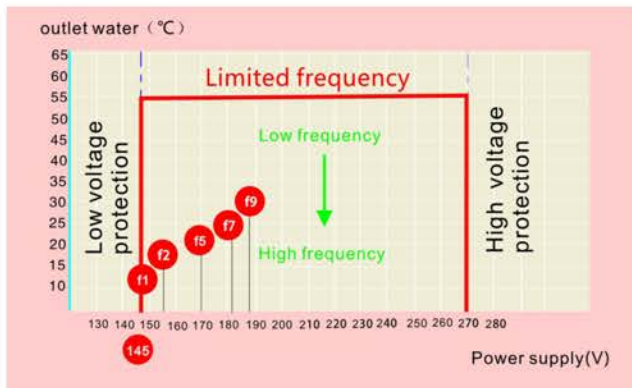


### Accurate temperature control by EVI DC inverter technology



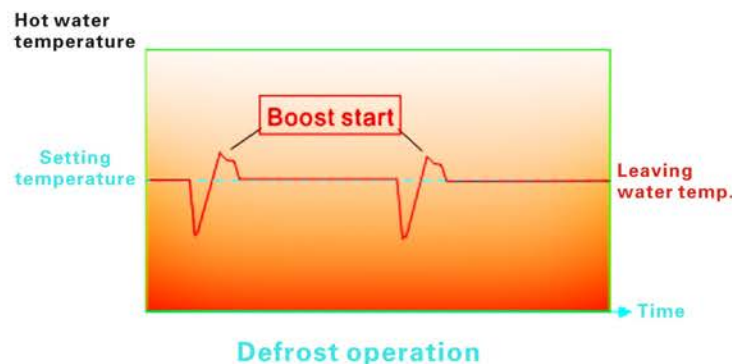
## Wide Range of Working Voltage

- Reliable working voltage range from 145V to 270V



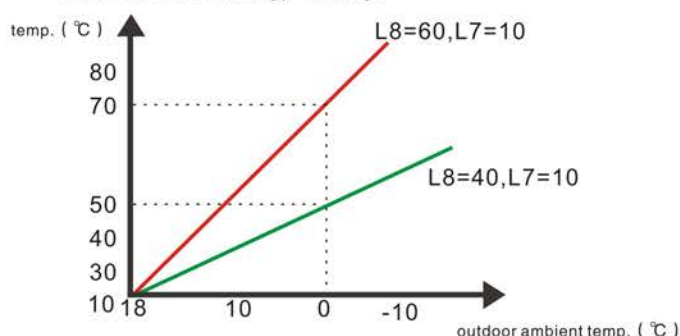
## Quick Recovery from Defrost Operation

- Maintaining the room temperature during defrost operation by boost start operation.



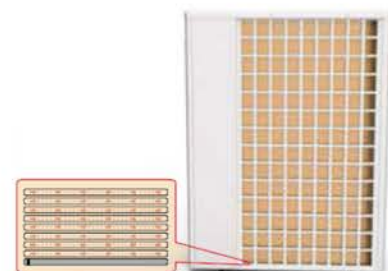
## Intelligent Curve Control Mode

- Intelligent working mode with winter heating curve, according to the change of outdoor ambient temperature, the unit will calculate water supply temperature automatically. Make more convenient and energy-saving.



## No Frosting in the Bottom

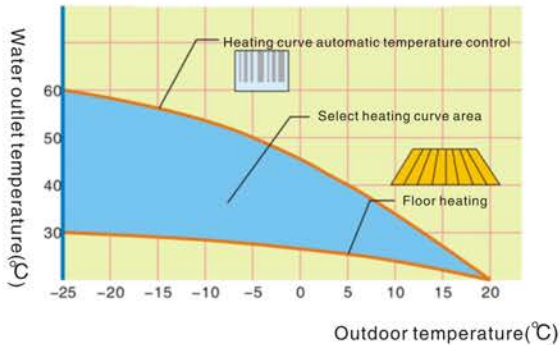
- With the use of the special liquid distribution technology, in heating mode, the temperature of refrigerant in the air exchanger's bottom copper tube will not decrease in order to ensure no frosting on it and smooth drainage.



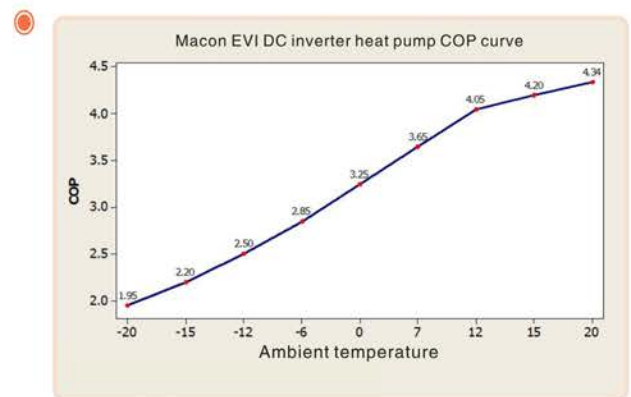
## Automatic Heating Curve Control

- Automatic adjustments of water supply temperature according to outdoor temperature changes. The rate/slope of curve is adjust.

### Automatic heating curve control



## COP Curve



## Finned Heat Exchanger

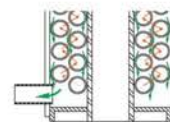


The finned heat exchanger uses riled copper tube which greatly improves the heating efficiency.

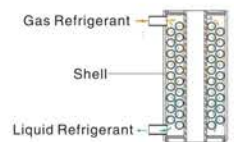


Louvered fins with greater airflow distribution effectively improve the heat exchanging efficiency.

## Tube-in-shell Heat Exchanger



Cooling water and refrigerant circuit is of counter current design, which ensures the refrigerant outlet subcooling and improves the performance of the heat pump system.



It's not easy to cause lubricant retention because of the small gap between the refrigerant circuit and shell. It makes the lubricant flow smoothly.



Spiral copper coil enlarges the water heat exchanging area so that the water can sufficiently exchange heat with gas.

5.0 Mpa Pressure Test

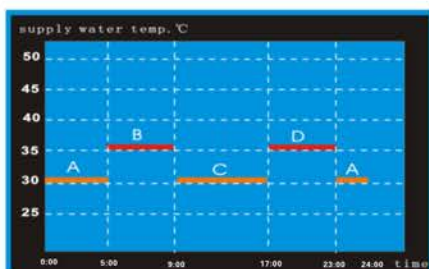
No Welding Point Inside the water coil



There is no welding point inside the water coil which avoids the leakage of the refrigerant. 5.0MPa pressure test ensures the heat exchanger always work stably.

## Timing in Sections Function

- The heat pump units are with Timing ON/OFF function and two sections can be set at the same time. For example, first section to be 8:00 unit ON, 10:00 unit OFF, and second section to be 17:00 unit ON, 23:00 unit OFF, more energy saving.



## Application

- EVI DC inverter heat pump can work at low temperature under -30 degree, for house heating, cooling, domestic hot water, is best choice for houses, villas, hotels, hospitals etc, especially in extremely cold area.





## Monoblock EVI DC inverter heat pump

【 Monoblock EVI DC inverter heat pump 】 replace the traditional coal, fuel and electric boilers, access to the floor heating system, fan coil, radiator, water tank and other terminal devices. Provide air cooling in summer, air heating in winter and domestic hot water all year in cold area. Apply to hotel, apartment, housing, villa, school, army, hospital, factory etc place need heating, cooling and domestic hot water

【 Intelligent curve control 】 According to the changes of ambient temperature to adjust the water temperature, high ambient temperature automatically reduce the water temperature to achieve energy saving, low ambient temperature automatically improve the water temperature to ensure heating effect

【 High efficient and energy-saving 】 saving 70% of the energy consumption compared with traditional heating method.

【 Intelligent control and easy operation 】 microcomputer control, one key switch heating and cooling

【 Operation quietly 】 adopt low noise scroll compressor and fans design, ensure unit run quietly.

【 Working temperature range 】 -30 degree to 43 degree ambient temperature



3P



5P/6P

### Model Parameters

Model	MACHRW	035ZA/P(BE01)	050ZA/P(BE01)	060ZA/P(BE01)
Cooling capacity①	KW	7.4	10.5	13.3
Rated input power(cooling)①	KW	3.08	3.89	5.4
Rated input current(cooling)①	A	14	17.1	24.6
COP①	W/W	2.39	2.71	2.46
Rated heating capacity②	KW	8.3	14.0	17.0
Rated input power (Heating) ②	KW	2.72	4.40	5.40
Rated input current (Heating) ②	A	12.4	20.0	24.5
COP②	W/W	3.05	3.18	3.14
Rated heating capacity③	KW	6.5	9.5	11.5
Rated input power (Heating) ③	KW	2.87	4.10	4.80
Rated input current (Heating) ③	A	13.0	18.6	21.8
COP③	W/W	2.26	2.31	2.39
Power	V/PH/Hz	220/1/50	220/1/50	220/1/50
Max running current	A	14.8	24.1	28.6
Noise	dB(A )	53	54	55
Water inlet/outlet	inch	1"	1"	1"
Water flow volume	m³/h	1.12	1.63	1.97
Refrigerant	R410A			
Unit dimension (L/M/H)	mm	1145/470/840	1195/470/1270	1195/470/1270
Packing dimension (L/M/H)	mm	1205/525/875	1255/525/1420	1255/525/1420

### Remark:

(1)①Cooling :Outdoor air temp: 35℃ , Outlet water temp:7℃ ,Input water temp:12℃

(2)②Heating: DB 7℃/WB 6℃ , water inlet temperature40℃ , water outlet temperature 45℃

(3)③Heating: DB -12℃/WB -14℃ , water outlet temperature 41℃

(4)Using ambient temperature: -30℃ ~43℃ ;

## Split EVI DC inverter heat pump

【 Split type design 】 Antifreeze design is more safe, reduce unit heat leakage loss, reduce the unit's automatic antifreeze energy consumption, the system more energy efficient.

【 Cooling, heating change automatically 】 If setting cooling function, unit can change to cooling or heating model, it depends on outdoor temperature provide comfortable air adjustment all day.

【 Wide working temperature range, superior heating 】 EVI DC inverter product can work at  $-30^{\circ}\text{C}$ ~ $43^{\circ}\text{C}$ , heat pump have constant heating capacity output when ambient temperature under  $-15^{\circ}\text{C}$

【 Easy operation 】 Easy operation, Backlit LCD display, induction key-press controller

【 Intelligent curve control 】 According to the changes of ambient temperature to adjust the water temperature, high ambient temperature automatically reduce the water temperature to achieve energy saving, low ambient temperature automatically improve the water temperature to ensure heating effect



3P



5P/6P

### Model Parameters

Indoor unit	MACHRW	035N/P(BE01)	050N/P(BE01)	060N/P(BE01)
Outdoor unit	MACHRW	035Y/(BE01)	050Y/(BE01)	060Y/(BE01)
Cooling capacity①	KW	7.4	10.5	13.3
Rated input power(cooling)①	KW	3.08	3.89	5.4
Rated input current(cooling)①	A	14	17.7	24.6
COP①	W/W	2.39	2.71	2.46
Rated heating capacity②	KW	8.3	14.0	17.0
Rated input power (Heating) ②	KW	2.72	4.40	5.40
Rated input current (Heating) ②	A	12.4	20.0	24.5
COP②	W/W	3.05	3.18	3.14
Rated heating capacity③	KW	6.5	9.5	11.5
Rated input power (Heating) ③	KW	2.87	4.10	4.80
Rated input current (Heating) ③	A	13.0	18.6	21.8
COP③	W/W	2.26	2.31	2.39
Power	V/PH/Hz	220/1/50	220/1/50	220/1/50
Max running current	A	14.8	24.1	28.6
Noise	dB(A )	53	54	55
Water inlet/outlet	inch	1"	1"	1"
Water flow volume	m³/h	1.12	1.63	1.97
Refrigerant		R410A		
Indoor unit net dimension (L/M/H)	mm	580/380/725	580/380/725	580/380/725
Outdoor unit net dimension (L/M/H)	mm	1145/470/840	1075/470/1270	1075/470/1270
Indoor unit packing dimension (L/M/H)	mm	650/480/900	650/480/900	650/480/900
Outdoor unit packing dimension (L/M/H)	mm	1205/525/875	1160/560/1465	1160/560/1465

#### Remark:

(1)①Cooling :Outdoor air temp:  $35^{\circ}\text{C}$ , Outlet water temp: $7^{\circ}\text{C}$ ,Input water temp: $12^{\circ}\text{C}$

(2)②Heating: DB  $7^{\circ}\text{C}$ /WB  $6^{\circ}\text{C}$ , water inlet temperature $40^{\circ}\text{C}$ , water outlet temperature  $45^{\circ}\text{C}$

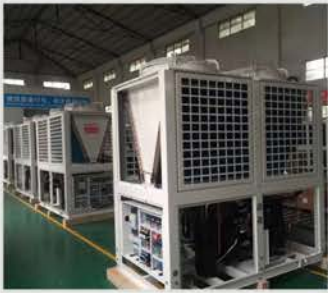
(3)③Heating: DB  $-12^{\circ}\text{C}$ /WB  $-14^{\circ}\text{C}$ , water outlet temperature  $41^{\circ}\text{C}$

(4)Using ambient temperature:  $-30^{\circ}\text{C}$ ~ $43^{\circ}\text{C}$ ;



## Hot sale

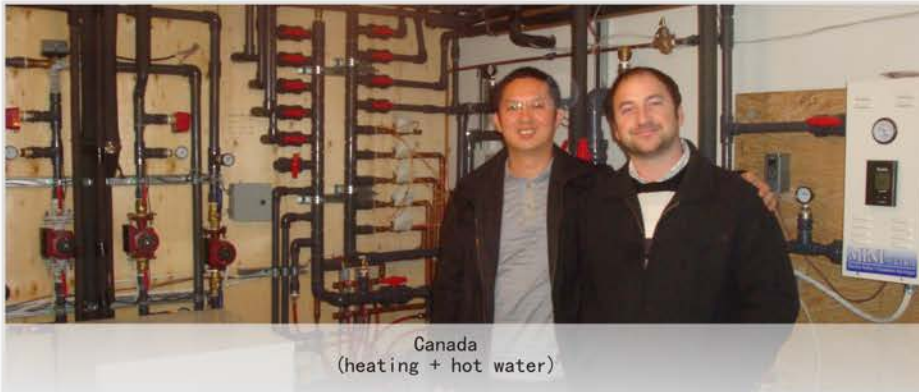
### PRODUCTION



### CONTAINER LOADING



### PROJECT





## MACON – Best Choice for Energy Saving

FOSHAN MACON COOLING & HEATING ENERGY-SAVING EQUIPMENT CO.,LTD.

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