

MACON®



Flame Heating Star

85°C DC Inverter High Temperature Heat Pump

(Heating/Hot Water)

Guangdong Macon New Energy Technology Co., Ltd.

6 Advantages of Two Stage High Temperature Heat Pump

Two stage heating system with R410a for stage 1 and R134a for stage 2

EVDC Inverter system for stage 1, ON/OFF system for stage 2

Strong heating performance under low ambient temperature, fast heating for high outlet water temperature

Advanced DC Inverter control technology, intelligent adjustment to ensure stable, energy-saving, safe and reliable operation

Two stage coupled system to reduce the compression ratio of unit operation and improve the operating efficiency under low ambient temperature

Highest outlet water temperature up to 85°C

Wide operating ambient temperature down to -35°C

Independent patented technology intellectual property rights

Modular design to meet the demand of large heating capacity expansion

RS485 and internet connection available for convenient management



Direct replacement for traditional coal, oil, electric boiler, suitable for heating and hot water supply in cold climate areas. Wide applications such as oil field, electroplating, printing and dyeing, slaughterhouse, hospital, sauna, drying and so on.

STRONG HEAT

REMOTE CONTROL

MACON heat pump is with RS485 and internet connection available to allow users to control and read the real-time working status of the unit remotely.

It is suitable for household, commercial, planting greenhouses, breeding greenhouse and other occasions with convenient control for unattended heating projects.



Key Components of Two Stage High Temperature Heat Pump

CONDENSOR

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

FAN MOTOR

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

ELECTRONIC EXPANSION VALVE

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

UNLOADING DEVICE

Automatic unloading by small plate heat exchanger allows the heat pump to work under high load

TUBE AND SHELL HEAT EXCHANGER

Thickened tank shell and multi-pipe design with strong heat exchange efficiency and anti-freeze performance

HOUSING

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

DISPLAY CONTROLLER

Intelligent display controller with multi-phase control and multiple functions

COMPRESSOR

High energy efficient EVI DC inverter compressor and ON/OFF scroll compressor



Centralized Control and Group Control

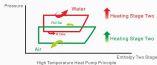
Heat pumps can be installed as a group controlling by a centralized wired controller. Multiple heat pumps of a residential central heating project can be controlled by group control to achieve simple and convenient control effect.



Product Features

Super Heating Performance Technology in Cold Climate

Working principle: Two-stage coupled system with R410a in Stage 1 and R134a in Stage 2 to reduce the operating compression ratio and thus improve the running efficiency under low ambient temperature.



Strong Heat High Outlet Water Temperature

Unit is able to maintain 85°C outlet water temperature even under ambient temperature down to -35°C without auxiliary electric heater.

Keep outlet water temperature up to 85°C under ambient temperature down to -35°C without auxiliary electric heater.

In -35°C
Outdoor
Temp 85°C
hot water



Safe Operation Technology in All Working Conditions

Wide working ambient temperature range : -35°C~43°C. Safe and reliable operation for all seasons



Product Features

Application Range

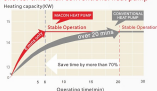
Direct replacement for traditional coal, oil, and electric boiler. It is suitable for space heating and hot water supply in cold climate areas. It can be connected to radiators for space heating and applied in places that need high temperature hot water.



Rapidly Heating Status

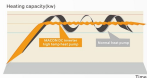
Automatic adjustments on working frequency and expansion valve opening according to the change of ambient temperature and water supply temperature. Rapid and high efficient heating to reach the setting temperature.

70% shorter time than conventional heat pump



Accurate Water Temp Control

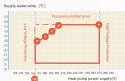
DC inverter technology that controls the water temperature accurately to avoid fluctuation that affects the heating comfort experience.



Product Features

Wide Operating Voltage Range

AC input voltage allowed range: 165V~270V, Three phase input voltage allowed range: 340V~420V



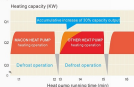
Intelligent Defrosting Technology

Automatic adjustment on defrost mode according to the changes of outdoor temperature and coil temperature to reduce the defrosting time and thus extend the heating time.



Super Heating Performance

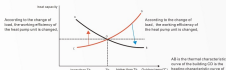
Fast recovery from defrost to stable heating status that can accumulate more heating capacity in the same working time.



Product Features

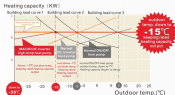
Automatically Adjustment on Capacity Output

Unit capacity output can be adjusted according to the variation of building load.



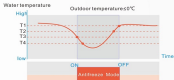
High Heating Capacity

EVI DC inverter technology enables heat pump to maintain rated heating capacity output even under -15°C ambient temperature to meet the heating load.



Automatic Antifreeze Protection in Standby Mode

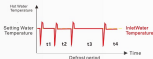
Multi-level antifreeze protection function with automatic antifreeze process according to the change of outdoor temperature and water temperature to ensure the safe operation of the heat pump.



Product Features

Intelligent Defrost Technology

Intelligent defrost technology with reduced defrost times to extend the heating time and with rapid defrost to shorten the defrost time and reheat the water temperature rapidly, which helps to improve the heating efficiency and comfort.



DC Inverter Technology

180° sine wave control with wide working frequency range: 20–120Hz, automatic adjustment on working frequency according to the changes of ambient and water temperature to reach energy saving, high efficient and intelligent use effect accord with humanized design.



Smooth sinusoidal waveform output by dc inverter

Thermostat Remote Control Interface

Convenient control on the conversion of different heat sources which can be connected to the thermostats of terminal equipment such as fan coil, floor heating manifolds. Once any of the terminal equipment is turned on, heat pump will turn on automatically and when all terminal equipment are turned off, heat pump will turn off automatically.



Product Features

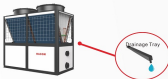
Adaptation to All Terminal Equipments

Available to equipped with all kinds of terminals such as radiator, floor heating pipe, fan coil, hot water tank and to meet both demands for space heating and hot water.



Chassis Rapid Drainage and Antifreeze Control Technology

The chassis is equipped with stainless steel heating tape which turns on according to specified conditions. The chassis is designed with sloping drainage tray which can smoothly discharge the defrosting and condensate water to ensure no icing problem on the chassis.



24-Hour Timing Function

24 hour timing setting is available which allows users to set the unit ON/OFF time according to their own needs.



Product Parameters



Model		R410A-R134A	142A-S8EH2NS	272A-S8EH2NS	542A-S8EH2NS
Power supply		V/Ph/Hz	220/1/50	380/3/50	380/3/50
Ambient 20°C Water outlet 75°C	Heating capacity	kW	18.5	27.0	54.0
	Power input	kW	5.75	11.30	23.00
	COP	J	2.35	2.35	2.35
Ambient 7°C Water outlet 75°C	Heating capacity	kW	12.5	25.0	50.0
	Power input	kW	5.50	11.20	22.30
	COP	J	2.27	2.23	2.24
Ambient -12°C Water outlet 75°C	Heating capacity	kW	9.2	18.5	37.0
	Power input	kW	5.1	10.2	20.50
	COP	J	1.80	1.81	1.80
Ambient -20°C Water outlet 75°C	Heating capacity	kW	8.1	16.2	32.5
	Power input	kW	5.2	10.4	20.80
	COP	J	1.56	1.56	1.56
Maximum power input		kW	6.5	13.0	26.0
Maximum current input		A	29.4	34.1	48.2
Maximum water outlet temperature		°C	85	85	85
Rated water flow volume		m³/h	2.12	4.20	8.80
Rated water pressure drop		kPa	40	43	55
Water connections (external threaded)		inch	1"	1"	1-1/4"
Refrigerant			R410A+R134A	R410A+R134A	R410A+R134A
Sound level		dB(A)	53	56	60
Waterproof level			IPX6	IPX6	IPX6
Electric shock protecting grade			I	I	I
Unit dimensions (L/W/H)		mm	824/589/1393	1430/760/1393	1000/1000/2115

Testing conditions:

Heating: outdoor temperature 26/16/8, 20/10°C, outlet water temperature: 75°C.

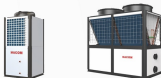
Heating: outdoor temperature 26/16/8, 10°C, outlet water temperature: 75°C.

Heating: outdoor temperature 26/16/8, -10/-5°C, outlet water temperature: 75°C.

Heating: outdoor temperature 26/16/8, -26/-1°C, outlet water temperature: 75°C.

The quoted input/output values are based on the water pump power consumption input. In case of any changes caused by product improvements, the nameplate shall prevail.

Product Parameters



Model		KPB-F0W	682A-SBEH2N5	1132A-SBEH2N5	1352A-SBEH2N5
Power supply		WV/Hz	380/3/50	380/3/50	380/3/50
Ambient 20°C Water outlet 75°C	Heating capacity	kW	67.5	112.5	135.0
	Power input	kW	29.00	47.70	57.50
	COP	-	2.33	2.36	2.35
Ambient 7°C Water outlet 75°C	Heating capacity	kW	62.5	104.2	125.0
	Power input	kW	27.90	46.30	56.00
	COP	-	2.24	2.25	2.23
Ambient -12°C Water outlet 75°C	Heating capacity	kW	46.0	76.5	92.0
	Power input	kW	25.30	42.50	51.00
	COP	-	1.82	1.80	1.80
Ambient -20°C Water outlet 75°C	Heating capacity	kW	40.5	67.5	81.0
	Power input	kW	26.00	43.00	51.50
	COP	-	1.56	1.57	1.57
Maximum power input		kW	32.5	54.0	65.0
Maximum current input		A	60.2	100.1	120.4
Maximum water outlet temperature		°C	85	85	85
Rated water flow volume		m³/h	10.75	17.62	21.50
Rated water pressure drop		kPa	60	62	65
Water connections (external threaded)		inch	1-1/2"	2-1/2"	3"
Refrigerant			R410A/R134A	R410A/R134A	R410A/R134A
Sound level		dB(A)	62	68	70
Waterproof level			IPX4	IPX4	IPX4
Electric shock protecting grade			I	I	I
Unit dimensions (L/W/H)		mm	1605/875/1635	2036/1103/2020	2036/1103/2020

Testing conditions:

Heating: outdoor temperature 0℃/5℃, inlet water temperature: 15℃.

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