



M Thermal Arctic Serie

- Split air to water heat pump system
- For applications such as underfloor heating, radiator, fan coil and domestic water
- Operation range in winter up to -25°C



COP
2.45
COOLING

COP
4.5
HEATING

HEATING
UP TO
 -25°C



Exclusive distributor in Quebec

DESCAIR

MAIN FEATURES

- Designed to heat or cool water and glycol water
- Split system that does not require glycol (antifreeze), thus increasing its efficiency
- Less expensive compared to the installation of a geothermal system
- Power supply: 208-230 / 1 / 60
- Refrigerant: R32
- Variable speed compressor (Inverter technology)
- Water heating capacity of 16 kW (54 KBH @ 7°C (44.6°F) outdoor temperature)
- Maximum temperature in output water heating up to 65°C (149°F)
- Operation in cold weather down to -25°C (-13°F)
- Compact and silent outdoor unit
- Interior unit equipped with a circulating pump, an expansion tank, etc.

R32, AN ENVIRONMENTAL-FRIENDLY REFRIGERANT

- Higher heat transfer coefficient and better performance
- Less charged volume is needed in the system
- Lower GWP (Global Warming Potential) and carbene emissions
- GWP value of 675

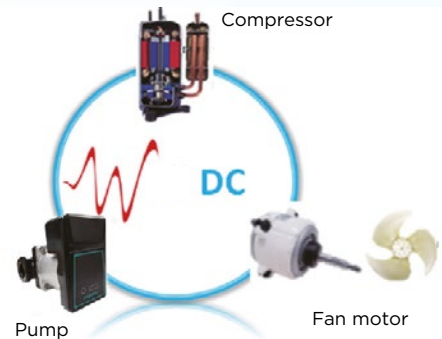


POWERFUL HEATING WITH HIGHER EFFICIENCY

- Optimal capacity with no attenuation at -10°C (14°F)
- Operation range as low as -25°C (-13°F)
- Maximum low output water temperature can reach a maximum of 65°C (149°F)
- Single point maximum of 4.5 COP

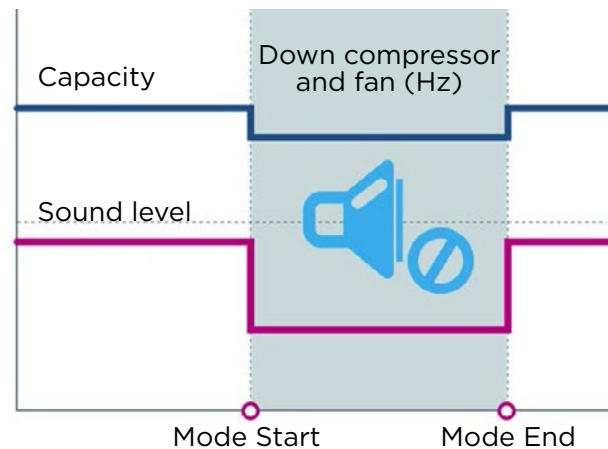
INVERTER SYSTEM DESIGN

All units are equipped with a DC compressor, DC fan motor and DC pump. It allows precise control of the motor speed and ensures that only the necessary power is used to perfectly match the real load and to save energy.



EXTREMELY SILENT

- Two levels of silent mode to provide more comfort
- Minimum sound level of 54 db(A)



USB FUNCTION

- Set up the transmission between wired controllers
- Update program with one key and save on-site installation time



MULTI-FUNCTION WIRED CONTROLLER AND APP CONTROL

- Multiple languages for different customer needs
- Modbus protocol and network flexibility
- "Holiday away" and "Holiday home" modes makes life convenient
- Built-in Wi-Fi module that supports APP control

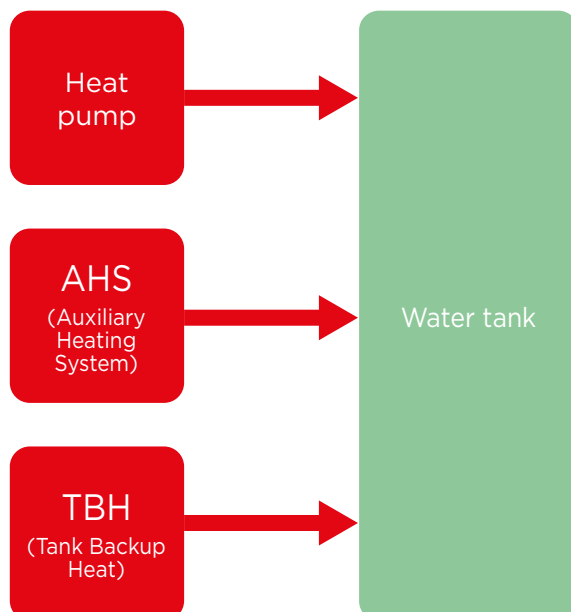


Through APP, the user can:

- Check the running state of the heat pump, zone switch, operation mode and temperature
- Set the operation mode and temperature of each zone
- Know energy consumption

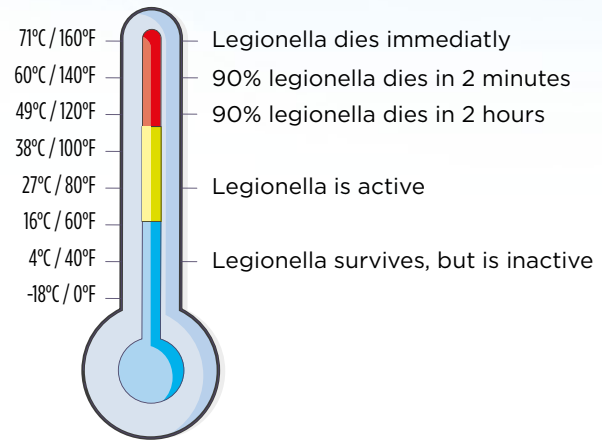
FAST DHW FUNCTION (DOMESTIC HOT WATER)

The Fast DHW function is used to force the system to operate in DHW mode when hot water is needed urgently.



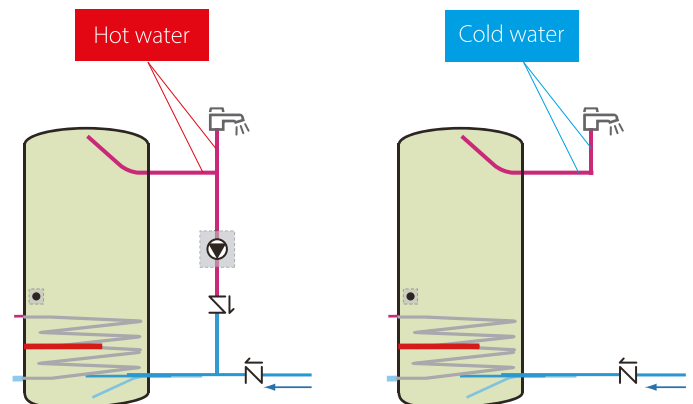
DISINFECT FUNCTION

The disinfect function is used to kill legionella, a type of bacteria found in water that is responsible for two types of diseases in humans (legionellosis (or Legionnaires' disease) and Pontiac fever), at 60-71°C (140-160°F) water temperature to ensure health and safety.



DHW PUMP FUNCTION (DOMESTIC HOT WATER)

The DHW pump function is used to return water from the water pipe net to the hot water tank according to the set timer. With this function, when hot water is needed, it will flow out from the tap immediately without waiting time. The DHW pump is not included and supplied by other manufacturers.

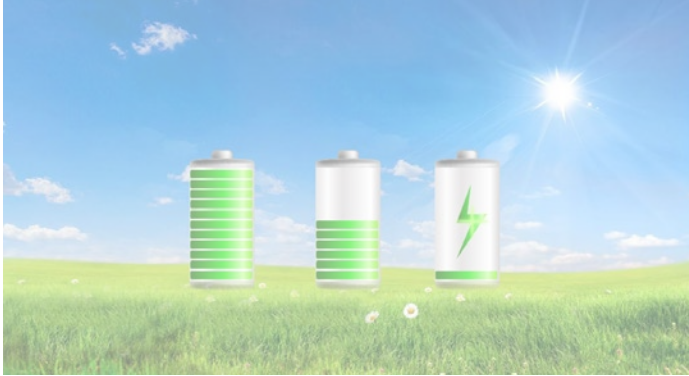


ADDITIONAL CONTROLS

- Remote control for ON/OFF, TBH (Tank Backup Heater), AHS (Auxiliary Heating System) (TBH and AHS not included and supplied by other manufacturers)
- The balance tank temperature sensor (field supplied) ensures accurate water temperature control

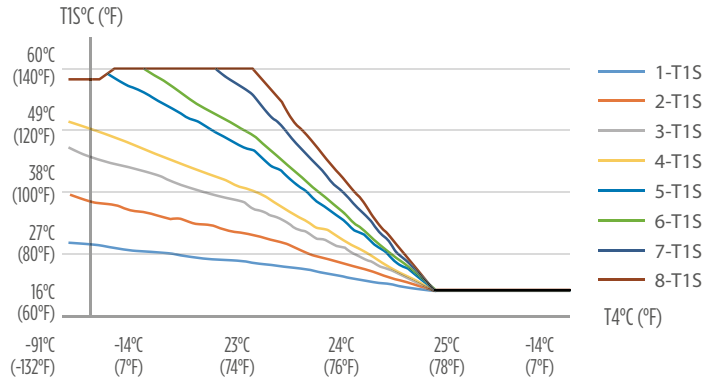
SMART GRID FUNCTION

The heat pump adjusts the operation according to different electrical signals. Power consumption of the system can be automatically adjusted according to the peak and valley power demand to reduce the power consumption to the greatest extent.



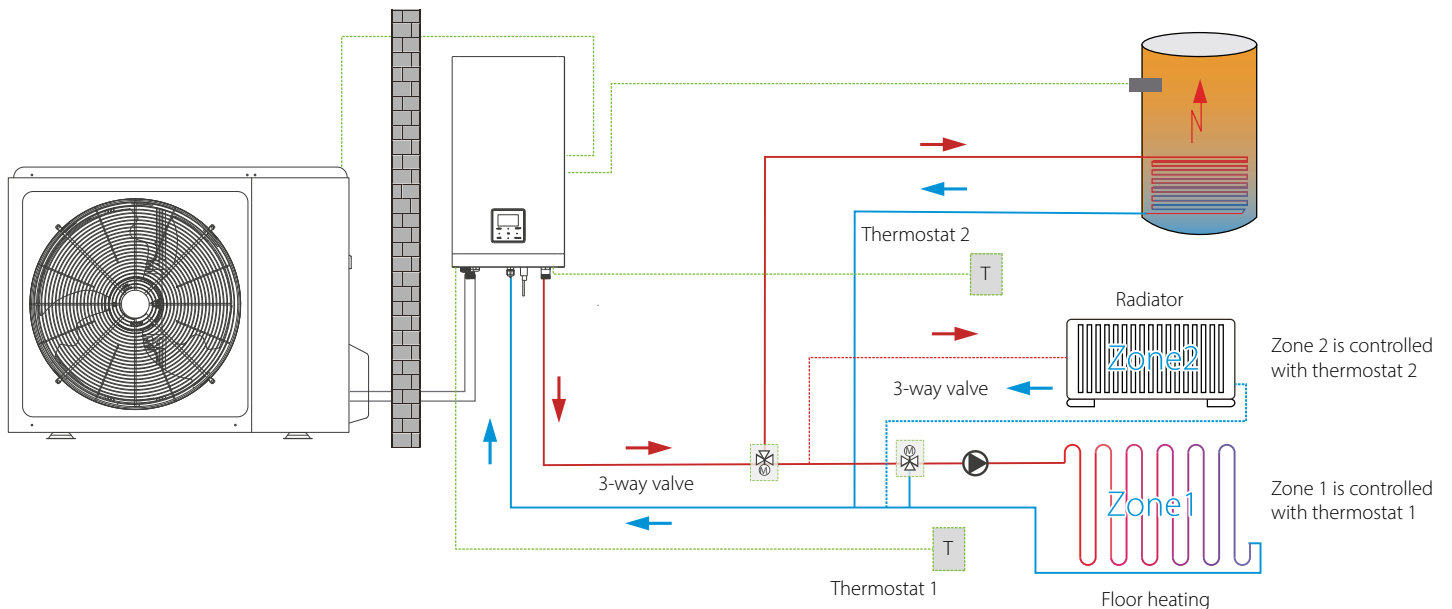
CLIMATE CURVE FUNCTION

There are 32 climate correlation curves to choose from and one optional custom curve. Once the curve is selected, the unit sets the outlet water temperature automatically according to the outdoor ambient temperature, which realizes intelligent control.



MORE ZONE CONTROL FLEXIBILITY

- More accurate low temperatures control
- The DC water pump controls accurately the water flow and three-way valve cycle regulation to achieve stable low temperature heating



SPECIFICATIONS

Outdoor unit model		MHA-V16WD2MN8-B2	
Indoor unit model		HB-A160CMDM30GN8-B2	
Heating Air (7°C / 44.6°F) Water (35°C / 95°F)	Capacity	BTU/hr	54,589
	Rated input	kW	3.56
	COP	W/W	4.5
Heating Air (7°C / 44.6°F) Water (45°C / 113°F)	Capacity	BTU/hr	54,589
	Rated input	kW	4.44
	COP	W/W	3.6
Heating Air (7°C / 44.6°F) Water (55°C / 131°F)	Capacity	BTU/hr	54,589
	Rated input	kW	5.52
	COP	W/W	2.9
Heating Air (2°C / 35.6°F) Water (35°C / 95°F)	Capacity	BTU/hr	44,353
	Rated input	kW	3.71
	COP	W/W	3.5
Heating Air (2°C / 35.6°F) Water (45°C / 113°F)	Capacity	BTU/hr	43,671
	Rated input	kW	4.49
	COP	W/W	2.85
Heating Air (2°C / 35.6°F) Water (55°C / 131°F)	Capacity	BTU/hr	45,718
	Rated input	kW	5.58
	COP	W/W	2.4
Heating Air (-7°C / 19.4°F) Water (35°C / 95°F)	Capacity	BTU/hr	45,377
	Rated input	kW	4.93
	COP	W/W	2.7
Heating Air (-7°C / 19.4°F) Water (45°C / 113°F)	Capacity	BTU/hr	44,012
	Rated input	kW	5.78
	COP	W/W	2.23
Heating Air (-7°C / 19.4°F) Water (55°C / 131°F)	Capacity	BTU/hr	42,648
	Rated input	kW	6.19
	COP	W/W	2.02
Cooling Air (35°C / 95°F) Water (18°C / 64.4°F)	Capacity	BTU/hr	48,448
	Rated input	kW	3.93
	COP	W/W	3.61
Cooling Air (35°C / 95°F) Water (7°C / 44.6°F)	Capacity	BTU/hr	47,765
	Rated input	kW	5.71
	COP	W/W	2.45

NOTES:

- Sound pressure level is the maximum value tested under the two conditions of:
 - Heating: Air (7°C / 44.6°F), Water (35°C / 95°F)
 - Cooling: Air (35°C / 95°F), Water (18°C / 64.4°F)
- Maximum domestic hot water temperature of 60°C (140°F) is only available with TBH support.

Outdoor unit		MHA-V16WD2MN8-B2	
AHR1		214648664	
Power supply		V/Ph/Hz	208-230/1/60
MCA/MOP		A	34 / 50
Compressor		Twin rotary DC Inverter	
Outdoor fan	Motor type	Brushless DC motor	
	Number of fans	1	
Air side heat exchanger		Finned tube	
Refrigerant (R32)		lbs	4.06
Precharged		ft	50
Additional charge		oz/ft	0.4
Throttle type		Electronic expansion valve	
Piping connections	Type	Flare	
	Liquid	in	3/8
	Gas	in	5/8
	Min. pipe length	ft	6.5
	Max. pipe length	ft	98
Installation height difference	ODU unit above	ft	65
	ODU unit below	ft	65
Sound pressure level at 1 m (3.2 ft) ¹		dB(A)	57
Dimensions (W x D x H)		in	46.85 x 22.05 x 38.19
Net weight		lbs	213.85
Operating temperature range	Cooling	°C / °F	-5 to 43 / 23 to 109.4
	Heating	°C / °F	-25 to 35 / -13 to 95
	DHW (Domestic hot water)	°C / °F	-25 to 43 / -13 to 109.4

Indoor unit		HB-A160CMDM30GN8-B2	
Function		Cooling and Heating	
Setting water temperature range	Cooling	°C / °F	5 to 25 / 41 to 77
	Heating	°C / °F	25 to 65 / 77 to 149
	DHW (Domestic hot water) ²	°C / °F	20 to 60 / 68 to 140
Power supply		V/Ph/Hz	208-230/1/60
MCA/MOP		A	19 / 25
Backup E-Heater	Standard mounted	kW	3
	Capacity steps	1	
Sound pressure level at 1 m (3.2 ft) ¹		dB(A)	35
Dimensions (W x D x H)		in	16.54 x 10.62 x 31.10
Net weight (with integrated backup heater)		lbs	99.21
Water circuit	Piping connections		in NPT 1
	Safety valve set pressure		PSI 43.51
	Drainage pipe connection		in 1
	Expansion tank	Volume	gal 1.32
		Max. water pressure	PSI 43.51
		Pre-pressure	PSI 14.50
	Water side exchanger		Plate type
	Water pump head		ft 30
	Rated water flow		GPM 12.11
	Water flow range		GPM 3.08 to 13.21
	Internal water volume		gal 0.66 to 1.93
Refrigerant circuit	Liquid	in	3/8
	Gas	in	5/8



Warranty

RESIDENTIAL: 5 years compressor and 2 years parts
COMMERCIAL: 5 years compressor and 2 years parts

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Midea reserves the right to change the specifications of the product, and to withdraw or replace products without prior notification or public announcement. Midea is constantly developing and improving its products.

Exclusive distributor in Quebec



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