



M thermal Arctic Series

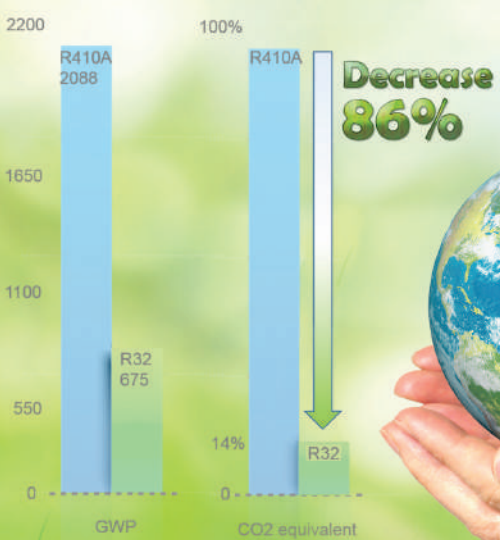
Hydro module with water tank

Comfort



R32 refrigerant

- Low Global Warming Potential (GWP)
- Higher heat transfer coefficient with better performance
- Less charged volume is needed in the system
- Less costs and easier to get R32
- Eco-Friendly refrigerant for future



Easy Installation and maintenance

- Pipe length up to 30m for flexible installation position of outdoor unit
- Without extra refrigerant supplement for pipe length less than 15m
- All parameters checked by wired controller for commissioning time saving
- Smaller floor print results in space saving
- SUS 316L stainless steel with high corrosion resistance ability



Easy control



- Real-time status inquiry by APP or multiple language wired controller
- Energy consumption and energy-saving suggestions

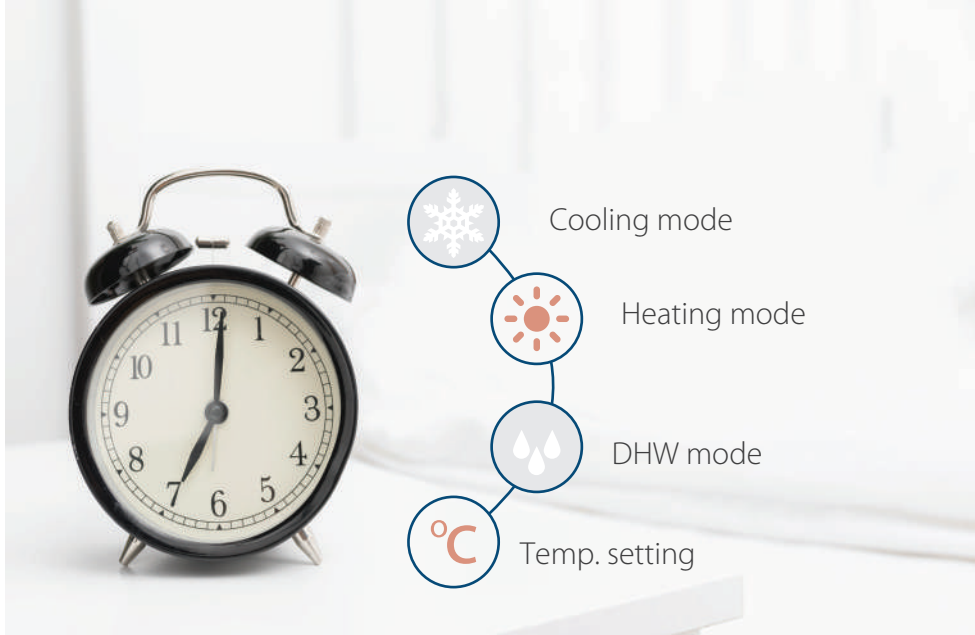
Comprehensive solution

- One-stop solution for space heating and cooling and domestic hot water
- Work with variety of heat source and terminals
- Ideal substitute for gas or oil boiler



Schedule

Operation according to users' habit to satisfy multiple usage requirements



Energy Saving



Heat pump technology

Typically around 4kW of air energy can be captured for every 1kWh of electrical energy expended, giving almost 5kW of heat energy and the efficiency is almost 500%.



* Ambient temperature: 7°C, Water inlet temperature: 30°C, Water outlet temperature: 35°C

Holiday mode

Protect water system from freezing during winter with lowest power consumption.



Smart Grid



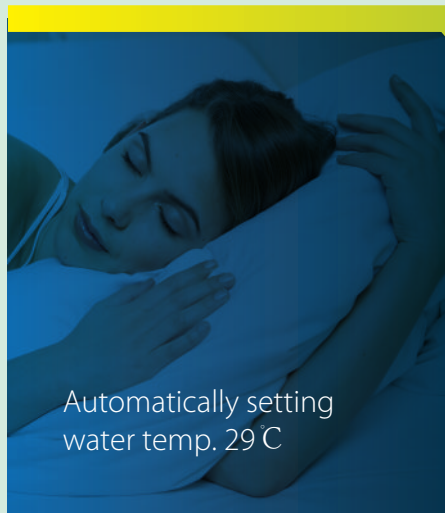
Smart Grid certification indicates M thermal can fully utilize electricity from different sources or different price levels, which means like photovoltaic, and the peak valley of urban electricity supply to satisfy different operation modes, which results in cost saving.

Note: Smart Grid certification plans to come with the launch of the product.



Climate curve

- Water temperature is automatically set according to ambient temperature to ensure high efficiency operation.
- ECO curve is specially designed for energy saving.
- Always keep room temperature at comfort.



Automatically setting water temp. 29 °C



30°C



5°C



Automatically setting water temp. 26 °C

*Temperature on left is for reference.

Specification



| Outdoor Unit Model | | | | MHA-V4W/D2N8-B | MHA-V6W/D2N8-B | MHA-V8W/D2N8-B | MHA-V10W/D2N8-B | | | | |
|---|---|---------------------------|------------------|-----------------------|-----------------------------|----------------|-----------------|-------|--|--|--|
| Indoor Unit Model | | | | HBT-A100/190CD30GN8-B | | | | | | | |
| Tapping profile according EN16147 | | | | L | | | | | | | |
| Domestic hot water | Water heating energy efficiency class ⁽¹⁾ | Average climate | class | A+ | A+ | A+ | A+ | | | | |
| | | | COP | 3.10 | 3.10 | 3.02 | 3.02 | | | | |
| | | Warm climate | class | A+ | A+ | A+ | A+ | | | | |
| | | | COP | 3.80 | 3.80 | 3.66 | 3.66 | | | | |
| | | Cold climate | class | A | A | A | A | | | | |
| | | | COP | 2.50 | 2.50 | 2.61 | 2.61 | | | | |
| Heating | A7W35 ⁽²⁾ | Capacity | kW | 4.25 | 6.20 | 8.30 | 10.00 | | | | |
| | | Rated input | kW | 0.82 | 1.24 | 1.60 | 2.00 | | | | |
| | | COP | | 5.20 | 5.00 | 5.20 | 5.00 | | | | |
| | A7W45 ⁽³⁾ | Capacity | kW | 4.35 | 6.35 | 8.20 | 10.00 | | | | |
| | | Rated input | kW | 1.14 | 1.69 | 2.08 | 2.63 | | | | |
| | | COP | | 3.80 | 3.75 | 3.95 | 3.80 | | | | |
| Cooling | A35W18 ⁽⁴⁾ | Capacity | kW | 4.50 | 6.55 | 8.40 | 10.00 | | | | |
| | | Rated input | kW | 0.81 | 1.34 | 1.66 | 2.08 | | | | |
| | | EER | | 5.55 | 4.90 | 5.05 | 4.80 | | | | |
| | A35W7 ⁽⁵⁾ | Capacity | kW | 4.70 | 7.00 | 7.40 | 8.20 | | | | |
| | | Rated input | kW | 1.36 | 2.33 | 2.19 | 2.48 | | | | |
| | | EER | | 3.45 | 3.00 | 3.38 | 3.30 | | | | |
| Space heating | Seasonal space heating energy efficiency class ⁽⁶⁾ | Water outlet at 35°C | class | A+++ | A+++ | A+++ | A+++ | | | | |
| | | Water outlet at 55°C | class | A++ | A++ | A++ | A++ | | | | |
| Indoor unit sound power Level ⁽⁷⁾ | | | dB | 38 | | 40 | | | | | |
| Outdoor unit sound power Level ⁽⁷⁾ | | | dB | 56 | 58 | 59 | 60 | | | | |
| Indoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | | | | | |
| | Rated input | | W | 3095 | | | | | | | |
| | DHW Tank | Type | Stainless steel | | | | | | | | |
| | | Material | - | SUS 316L | | | | | | | |
| | | Water volume | L | 190 | | | | | | | |
| | | Maximum water temperature | °C | 70 | | | | | | | |
| | | Insulation | Material | - | Polyurethane (Cyclopentane) | | | | | | |
| | Heat exchanger | | | Plate heat exchanger | | | | | | | |
| | Backup heater | Standard mounted | kW | 3 | | | | | | | |
| | | Capacity steps | | 1 | | | | | | | |
| | Water Pump | Type | DC Inverter | | | | | | | | |
| | | Max.head | m | 9 | | | | | | | |
| | Water piping connections | Water circuit | Inlet | R1" | | | | | | | |
| | | | Outlet | | | | | | | | |
| | | DHW tank water circuit | Cold water inlet | | | | | R3/4" | | | |
| | | | Hot water outlet | | | | | | | | |
| | Recirculation | | | | | | | | | | |
| | Unit dimension (WxDxH) | mm | 600*600*1683 | | | | | | | | |
| | Packing dimension (WxDxH) | mm | 730*730*1920 | | | | | | | | |
| | Net weight | kg | 140 | | | | | | | | |
| | Gross weight | kg | 161 | | | | | | | | |
| Ambient temperature range | °C | 5 ~ 35 | | | | | | | | | |
| Water outlet temperature | Heating(heating pump) | °C | 25 ~ 65 | | | | | | | | |
| | Cooling | °C | 5 ~ 25 | | | | | | | | |
| | Domestic hot water | °C | 30 ~ 60 | | | | | | | | |
| Outdoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | | | | | |
| | Unit dimension (WxHxD) | | mm | 1008x712x426 | | 1118x865x523 | | | | | |
| | Packing dimension (WxHxD) | | mm | 1065x810x485 | | 1190x970x560 | | | | | |
| | Net weight | | kg | 60 | | 78.5 | | | | | |
| | Gross weight | | kg | 65.5 | | 92 | | | | | |
| | Refrigerant | Type(GWP) | | R32(675) | | | | | | | |
| | | Charged volume | kg | 1.50 | | 1.65 | | | | | |
| | | Refrigerant to be added | g/m | 20 | | 38 | | | | | |
| | Refrigerant piping Connections | Liquid side | mm | φ6.35 | | φ9.52 | | | | | |
| | | Gas side | mm | φ15.9 | | φ15.9 | | | | | |
| | | Max.piping length | m | 30 | | | | | | | |
| | | Max.difference in height | m | 20 | | | | | | | |
| | Drain connection | | | DN32 | | | | | | | |
| | Ambient temperature range | Heating | °C | -25 ~ 35 | | | | | | | |
| | | Cooling | °C | -5 ~ 43 | | | | | | | |
| Domestic hot water | | °C | -25 ~ 43 | | | | | | | | |

Notes:

(1)According to EN16147/2017;EU No:812/2013

(2)DB/WB 7/6 C, LWT 35 C (ΔT=5 C)

(3)DB/WB 7/6 C, LWT 45 C (ΔT=5 C)

(4)DB 35 C, LWT 18 C (ΔT=5 C)

(5)DB 35 C, LWT 7 C (ΔT=5 C)

(6)According to EN14511/2018; EN14825/2018; EU No:811/2013

(7)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825

(8)Certifications plan to come with the launch of the product.

| Outdoor Unit Model | | | | MHA-V4W/D2N8-B | MHA-V6W/D2N8-B | MHA-V8W/D2N8-B | MHA-V10W/D2N8-B |
|---|---|---------------------------|------------------|-----------------------|-----------------------------|----------------|-----------------|
| Indoor Unit Model | | | | HBT-A100/240CD30GN8-B | | | |
| Tapping profile according EN16147 | | | | XL | | | |
| Domestic hot water | Water heating energy efficiency class ⁽¹⁾ | Average climate | class | A+ | A+ | A+ | A+ |
| | | | COP | 3.34 | 3.34 | 3.36 | 3.36 |
| | | Warm climate | class | A+ | A+ | A+ | A+ |
| | | | COP | 4.24 | 4.24 | 4.18 | 4.18 |
| | | Cold climate | class | A | A | A | A |
| | | | COP | 2.63 | 2.63 | 2.72 | 2.72 |
| Heating | A7W35 ⁽²⁾ | Capacity | kW | 4.25 | 6.20 | 8.30 | 10.00 |
| | | Rated input | kW | 0.82 | 1.24 | 1.60 | 2.00 |
| | | COP | | 5.20 | 5.00 | 5.20 | 5.00 |
| | A7W45 ⁽³⁾ | Capacity | kW | 4.35 | 6.35 | 8.20 | 10.00 |
| | | Rated input | kW | 1.14 | 1.69 | 2.08 | 2.63 |
| | | COP | | 3.80 | 3.75 | 3.95 | 3.80 |
| Cooling | A35W18 ⁽⁴⁾ | Capacity | kW | 4.50 | 6.55 | 8.40 | 10.00 |
| | | Rated input | kW | 0.81 | 1.34 | 1.66 | 2.08 |
| | | EER | | 5.55 | 4.90 | 5.05 | 4.80 |
| | A35W7 ⁽⁵⁾ | Capacity | kW | 4.70 | 7.00 | 7.40 | 8.20 |
| | | Rated input | kW | 1.36 | 2.33 | 2.19 | 2.48 |
| | | EER | | 3.45 | 3.00 | 3.38 | 3.30 |
| Space heating | Seasonal space heating energy efficiency class ⁽⁶⁾ | Water outlet at 35°C | class | A+++ | A+++ | A+++ | A+++ |
| | | Water outlet at 55°C | class | A++ | A++ | A++ | A++ |
| Indoor unit sound power Level ⁽⁷⁾ | | | dB | 38 | | 40 | |
| Outdoor unit sound power Level ⁽⁷⁾ | | | dB | 56 | 58 | 59 | 60 |
| Indoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | |
| | Rated input | | W | 3095 | | | |
| | DHW Tank | Type | Stainless steel | | | | |
| | | Material | - | SUS 316L | | | |
| | | Water volume | L | 240 | | | |
| | | Maximum water temperature | °C | 70 | | | |
| | | Insulation | Material | - | Polyurethane (Cyclopentane) | | |
| | Heat exchanger | | | Plate heat exchanger | | | |
| | Backup heater | Standard mounted | kW | 3 | | | |
| | | Capacity steps | | 1 | | | |
| | Water Pump | Type | DC Inverter | | | | |
| | | Max.head | m | 9 | | | |
| | Water piping connections | Water circuit | Inlet | R1" | | | |
| | | | Outlet | R1" | | | |
| | | DHW tank water circuit | Cold water inlet | R3/4" | | | |
| | | | Hot water outlet | R3/4" | | | |
| | Recirculation | | | | | | |
| | Unit dimension (WxDxH) | | mm | 600*600*1943 | | | |
| | Packing dimension (WxDxH) | | mm | 730*730*2180 | | | |
| | Net weight | | kg | 157 | | | |
| | Gross weight | | kg | 178 | | | |
| Ambient temperature range | | °C | 5~35 | | | | |
| Water outlet temperature | Heating(heating pump) | °C | 25~65 | | | | |
| | Cooling | °C | 5~25 | | | | |
| | Domestic hot water | °C | 30~60 | | | | |
| Outdoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | |
| | Unit dimension (WxHxD) | | mm | 1008x712x426 | | 1118x865x523 | |
| | Packing dimension (WxHxD) | | mm | 1065x810x485 | | 1190x970x560 | |
| | Net weight | | kg | 60 | | 78.5 | |
| | Gross weight | | kg | 65.5 | | 92 | |
| | Refrigerant | Type(GWP) | R32(675) | | | | |
| | | Charged volume | kg | 1.50 | | 1.65 | |
| | | Refrigerant to be added | g/m | 20 | | 38 | |
| | Refrigerant piping Connections | Liquid side | mm | φ6.35 | | φ9.52 | |
| | | Gas side | mm | φ15.9 | | φ15.9 | |
| | | Max.piping length | m | 30 | | | |
| | | Max.difference in height | m | 20 | | | |
| | Drain connection | | | DN32 | | | |
| | Ambient temperature range | Heating | °C | -25~35 | | | |
| | | Cooling | °C | -5~43 | | | |
| Domestic hot water | | °C | -25~43 | | | | |

Notes:

(1)According to EN16147/2017;EU No:812/2013

(2)DB/WB 7/6 C, LWT 35 C (ΔT=5 C)

(3)DB/WB 7/6 C, LWT 45 C (ΔT=5 C)

(4)DB 35 C, LWT 18 C (ΔT=5 C)

(5)DB 35 C, LWT 7 C (ΔT=5 C)

(6)According to EN14511/2018; EN14825/2018; EU No:811/2013

(7)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825

(8)Certifications plan to come with the launch of the product.

| Outdoor Unit Model | | | | MHA-V12W/D2N8-B | MHA-V14W/D2N8-B | MHA-V16W/D2N8-B | MHA-V12W/D2RN8-B | MHA-V14W/D2RN8-B | MHA-V16W/D2RN8-B |
|---|---|---------------------------|------------------|-----------------------------|----------------------|-----------------|------------------|------------------|------------------|
| Indoor Unit Model | | | | HBT-A160/240CD30GN8-B | | | | | |
| Domestic hot water | Tapping profile according EN16147 | | | XL | | | | | |
| | Water heating energy efficiency class ⁽¹⁾ | Average climate | class | A+ | A+ | A+ | A+ | A+ | A+ |
| | | | COP | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| | | Warm climate | class | A+ | A+ | A+ | A+ | A+ | A+ |
| | | | COP | 3.73 | 3.73 | 3.73 | 3.73 | 3.73 | 3.73 |
| Cold climate | class | A | A | A | A | A | A | | |
| | COP | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | | |
| Heating | A7W35 ⁽²⁾ | Capacity | kW | 12.10 | 14.50 | 16.00 | 12.10 | 14.50 | 16.00 |
| | | Rated input | kW | 2.44 | 3.09 | 3.56 | 2.44 | 3.09 | 3.56 |
| | | COP | | 4.95 | 4.70 | 4.50 | 4.95 | 4.70 | 4.50 |
| | A7W45 ⁽³⁾ | Capacity | kW | 12.30 | 14.20 | 16.00 | 12.30 | 14.20 | 16.00 |
| | | Rated input | kW | 3.24 | 3.89 | 4.44 | 3.24 | 3.89 | 4.44 |
| | | COP | | 3.80 | 3.65 | 3.60 | 3.80 | 3.65 | 3.60 |
| Cooling | A35W18 ⁽⁴⁾ | Capacity | kW | 12.00 | 13.50 | 14.90 | 12.00 | 13.50 | 14.90 |
| | | Rated input | kW | 3.00 | 3.75 | 4.38 | 3.00 | 3.75 | 4.38 |
| | | EER | | 4.00 | 3.60 | 3.40 | 4.00 | 3.60 | 3.40 |
| | A35W7 ⁽⁵⁾ | Capacity | kW | 11.60 | 12.70 | 14.00 | 11.60 | 12.70 | 14.00 |
| | | Rated input | kW | 4.22 | 4.98 | 5.71 | 4.22 | 4.98 | 5.71 |
| | | EER | | 2.75 | 2.55 | 2.45 | 2.75 | 2.55 | 2.45 |
| Space heating | Seasonal space heating energy efficiency class ⁽⁶⁾ | Water outlet at 35°C | class | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ |
| | | Water outlet at 55°C | class | A++ | A++ | A++ | A++ | A++ | A++ |
| Indoor unit sound power Level ⁽⁷⁾ | | | dB | 42 | 44 | 44 | 42 | 44 | 44 |
| Outdoor unit sound power Level ⁽⁷⁾ | | | dB | 64 | 65 | 68 | 64 | 65 | 68 |
| Indoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | | | |
| | Rated input | | W | 3095 | | | | | |
| | DHW Tank | Type | | Stainless steel | | | | | |
| | | Material | - | SUS 316L | | | | | |
| | | Water volume | L | 240 | | | | | |
| | | Maximum water temperature | °C | 70 | | | | | |
| | Insulation | Material | - | Polyurethane (Cyclopentane) | | | | | |
| | | Heat exchanger | | | Plate heat exchanger | | | | |
| | Backup heater | Standard mounted | kW | 3 | | | | | |
| | | Capacity steps | | 1 | | | | | |
| | Water Pump | Type | | DC Inverter | | | | | |
| | | Max.head | m | 9 | | | | | |
| | Water piping connections | Water circuit | Inlet | R1" | | | | | |
| | | | Outlet | R1" | | | | | |
| | | DHW tank water circuit | Cold water inlet | R3/4" | | | | | |
| | | | Hot water outlet | R3/4" | | | | | |
| | Recirculation | | | | | | | | |
| | Unit dimension (WxDxH) | | mm | 600*600*1943 | | | | | |
| | Packing dimension (WxDxH) | | mm | 730*730*2180 | | | | | |
| | Net weight | | kg | 159 | | | | | |
| | Gross weight | | kg | 180 | | | | | |
| Ambient temperature range | | °C | 5~35 | | | | | | |
| Water outlet temperature | Heating(heating pump) | °C | 25~65 | | | | | | |
| | Cooling | °C | 5~25 | | | | | | |
| | Domestic hot water | °C | 30~60 | | | | | | |
| Outdoor Unit | Power supply | | V/Ph/Hz | 220-240/1/50 | | | 380-415/3/50 | | |
| | Unit dimension (WxDxH) | | mm | 1118x865x523 | | | | | |
| | Packing dimension (WxDxH) | | mm | 1190x970x560 | | | | | |
| | Net weight | | kg | 100 | | | 116 | | |
| | Gross weight | | kg | 113.5 | | | 129.5 | | |
| | Refrigerant | Type(GWP) | | R32(675) | | | | | |
| | | Charged volume | kg | 1.84 | | | | | |
| | | Refrigerant to be added | g/m | 38 | | | | | |
| | Refrigerant piping Connections | Liquid side | mm | φ9.52 | | | | | |
| | | Gas side | mm | φ15.9 | | | | | |
| | | Max.piping length | m | 30 | | | | | |
| | | Max.difference in height | m | 20 | | | | | |
| | Drain connection | | | DN32 | | | | | |
| | Ambient temperature range | Heating | °C | -25~35 | | | | | |
| | | Cooling | °C | -5~43 | | | | | |
| Domestic hot water | | °C | -25~43 | | | | | | |

Notes:

(1)According to EN16147/2017;EU No:812/2013

(2)DB/WB 7/6 C, LWT 35 C (ΔT=5 C)

(3)DB/WB 7/6 C, LWT 45 C (ΔT=5 C)

(4)DB 35 C, LWT 18 C (ΔT=5 C)

(5)DB 35 C, LWT 7 C (ΔT=5 C)

(6)According to EN14511/2018; EN14825/2018; EU No:811/2013

(7)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825

(8)Certifications plan to come with the launch of the product.