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Midea Group

HM-M202512V1

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Quality Assurance ISO 9001
Environmental Management ISO 14001
Occupational Health and Safety Management ISO 45001



MARS Series

R290 All DC Inverter Air Source Heat Pump

An environmentally friendly and energy efficient unit

What is the refrigerant?

Refrigerant is a kind of working medium used in refrigeration and air conditioning systems, which absorbs and releases heat through circulation flow, so as to achieve the effect of refrigeration and air conditioning.

Why is Mars Series unit equipped with R290 refrigerant?

Natural Refrigerant R290

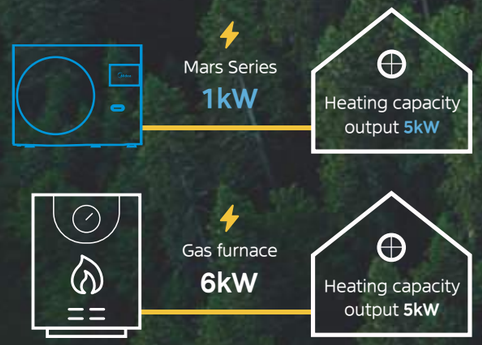
- Much lower GWP value to meet EU carbon neutrality
- No ozone depletion potential
- Excellent thermodynamic performance
- Great thermal efficiency for most conditions

ODP=O
Neutral for the ozone layer

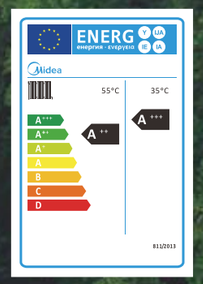
GWP=0.02
Lower impact on global warming

Mars series unit has obtained certifications from multiple organizations, which is worthy of the customers' trust.

Mars Series meets the highest rank of energy efficiency criteria of European energy rating system.



ηs. Seasonal space heating energy efficiency
ηs average up to A+++ at 35°C
ηs average up to A++ at 55°C



A light commercial Heat Pump that can be installed on a balcony

Mars Series unit has models with two capacity ranges: 18kW and 22kW, focusing on light commercial applications. It is suitable for villa garden, small office buildings, apartments, hotels and other light commercial application scenarios.

Mars Series units can be connected in parallel up to 6 units, with a maximum heating capacity of 132kW. Its large capacity can meet the requirements of many commercial applications.

What should be done when the distance between houses is small and it is not possible to install unit with high heating capacity?

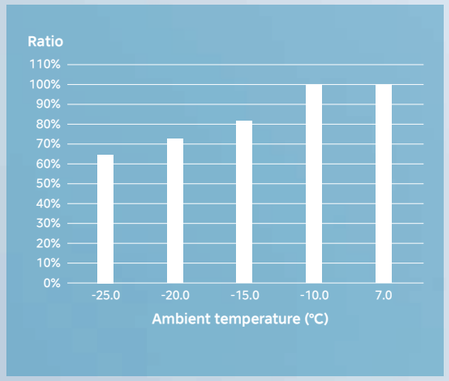
Mars Series unit adopts a side air outlet structure, with a footprint of approximately 0.63 ㎡, a length of 1330mm, and a width of 475mm. When installing, a width of not less than 300mm should be reserved behind the unit.
When the distance between houses is small and it is not possible to install machines on the roof, the special design of the Mars structure allows it to be installed in small spaces such as balconies, meeting the user's heating/cooling needs throughout the year.



A heat pump that can operate efficiently at low ambient temperatures

Ordinary heat pump at low ambient temperature heating capacity decay more, need to be combined with gas furnace or electric heating to meet the heating demand.

Ratio of actual heating capacity to rated heating capacity (55°C LWT)



Heating capacity reaches **100%** , at ambient temperatures of **-10°C**;

Heating capacity **≥80%**, at ambient temperatures of **-15°C**;

Heating capacity **≥70%**, at ambient temperatures of **-20°C**;

Heating capacity **≥65%**, at ambient temperatures of **-25°C**;

Note:
Test condition: EN14511
Under the ambient temperature of -10℃ to 7℃, due to the defrosting of the unit, the cycle heating capacity has a certain attenuation.

Why can the Mars series unit achieve excellent low-temperature heating capacity?

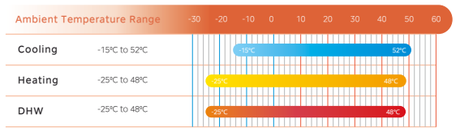
18kW and 22kW Mars series unit is equipped with an R290 dedicated Inverter EVI (Enhanced Vapor Injection) Rotary Compressor, which, combined with EVI technology, improves low-temperature heating capacity and energy efficiency by increasing refrigerant circulation of the heat pump at low ambient temperature.

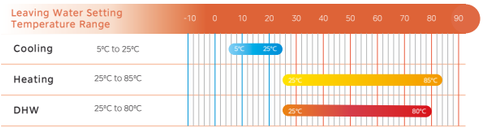
Mars series unit has a strong low temperature capacity, without the need to match an external heat source, one machine can provide year-round heating needs, not only worry, but also save electricity.



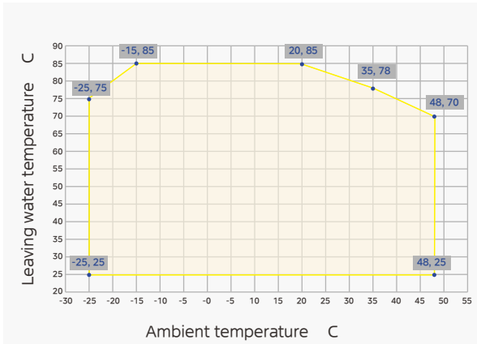
A heat pump that has wide application range and leaving water temperature reaches the disinfection temperature

Wide application range

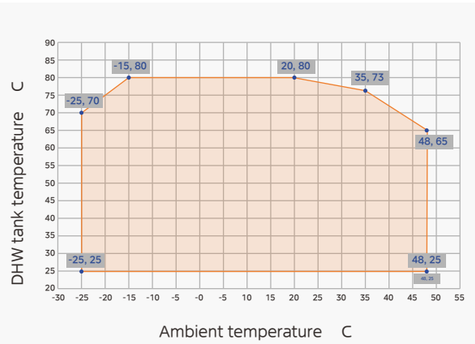




Heating application range

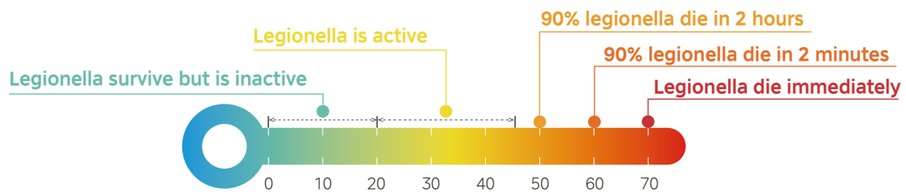


DHW application range



85 °C leaving water temperature at **-15°C** to **20°C** ambient temperature range
75 °C leaving water temperature at **-25°C** ambient temperature
78 °C leaving water temperature at **35°C** ambient temperature
70 °C leaving water temperature at **48°C** ambient temperature

80°C DHW tank temperature at **-15 °C** to **20°C** ambient temperature range
70°C DHW tank temperature at **-25 °C** ambient temperature
73°C DHW tank temperature at **35 °C** ambient temperature
65°C DHW tank temperature at **48 °C** ambient temperature



A good heat pump is inseparable from comfortable use experience

Mars comes with a color screen wired controller with an attractive design that has won the Red Dot Award. The interface is simple and direct, and the operation is easy. It can be paired with the Midea SmartHome app, allowing the unit to be remotely controlled from anywhere.

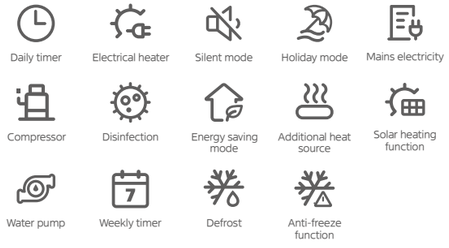
Intuitive and easy-to-use for best experience

New User Interface

reddot design award



- Color display
- Intuitive interface
- Touch-key design
- Liquid crystal display
- Built-in Wi-Fi module
- Modbus protocol
- APP control
- Non-polarized wiring



Energy Metering Function

Users have the option to receive a customized energy analysis through the user interface, APP and portal, enabling intuitive, visual energy management which helps guide user behavior to achieve a more energy efficient heat pump system.

Complies with EU Regulations 2018/2001/EU and (EU) 2022/759 for the purpose of receiving subsidies.



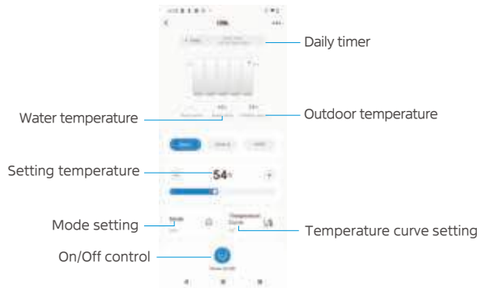
Controller



SmartHome

Control from anywhere at your fingertips

SmartHome APP



Monitoring

- System status
- Real-time temperature
- Energy consumption data

Scheduling

- On/off operation
- Holiday settings
- Hot water heating control

Convenient modes

- Silent mode
- Eco mode
- Holiday mode

Download on the App Store

GET IT ON Google Play

In light commercial scenarios, different heating temperature requirements often exist in the same build ing, such as different temperature requirements for shopping areas and office areas, which may have different hot water temperature requirements when using different end units.

The dual-zone control function equipped in Mars series unit can perfectly meet the requirements of this scenario. The wired controller can be used to set different water outlet temperatures for two independent zones, providing users with a more comfortable experience.





Heat pump selection and after-sales service are also important aspects of the user experience.

Midea has developed professional selection software and after-sales service tools to help dealers better serve customers. The selection software helps customers choose models with suitable capacity, and the after-sales service tools enable customers to enjoy better and more timely after-sales service experience.

Heat pump selection provides comprehensive design

Heat Pump Selection software

https://www.midea-hpselection.com/

- Website design
- Dedicated section for professionals (Eurovent certification)
- Easy-select consumer section
- Sophisticated configuration tool
- Energy-usage comparison tool





Eurovent Certita Certification

CERTIFICATE
N° 12.09.003

Appendix / Annexe

Granted on September 27, 2012 – *Date 1ère admission 27 septembre 2012*

This document is valid at the date of issue – Check the current validity on:
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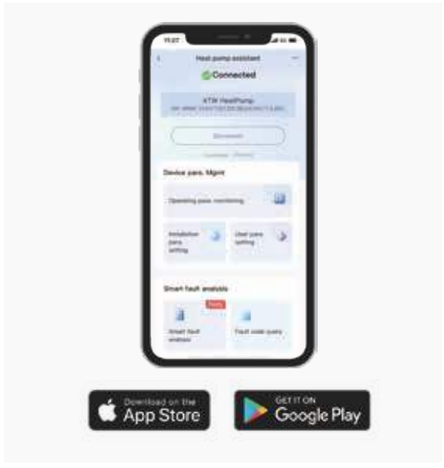
Not applicable for this certification programme / Non applicable pour ce programme de certification

This product performance certificate is valid for the following software:
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Software / Logiciel de sélection

Heat Pump Solution 1.2
Midea Air-Cooled Chiller Selection 1.006

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Multiple after-sales service and support platforms



LetsLink Heat Pump Assistant
APP

Heat pump remote connection and control from anywhere

- Ideal for busy service providers
- Enables faster service and eliminates unnecessary service calls
- Control various operations, monitor set parameters remotely
- Get reports with historical data
- Fault-code queries and troubleshooting

Intelligent HVAC Management System

Centralized, 24/7 monitoring of multiple units

- Enables complete control of all installed units
- Real-time status updates for multiple units with a single click
- Get access to historical data
- No limit to the number of connected devices and user accounts
- No need to carry multiple devices



iEasyEnergy solution - A Step Toward Energy Independence

Midea MBT has launched the iEasyEnergy solution to provide one-stop services spanning from design to installation to meet the needs of energy consuming devices in house holds. iEasyEnergy solution is based on PV panels, LFP batteries and heat pump system, through iEasyEnergy app for energy scheduling and centralized flexible control, greatly improve energy efficiency, the entire system can be up to 0% home energy self-sufficien cy increased to 90%, customers not only save energy bills, it can also improve energy security.

1 Heat Pump
2 M-ESS (Energy storage)
3 M-Master (Central controller)
4 M-Charger (EV Charger)
5 M-Solar (Solar module)

Analyze whether your home energy is safe, perform visible energy management automatically

iEasyEnergy is an intelligent energy management APP that integrates heat pumps, photovoltaic modules, energy storage, hybrid inverters, and other equipment into a flexible and efficient system. It enhances the energy independence of your home and opens up a new era of home energy management.

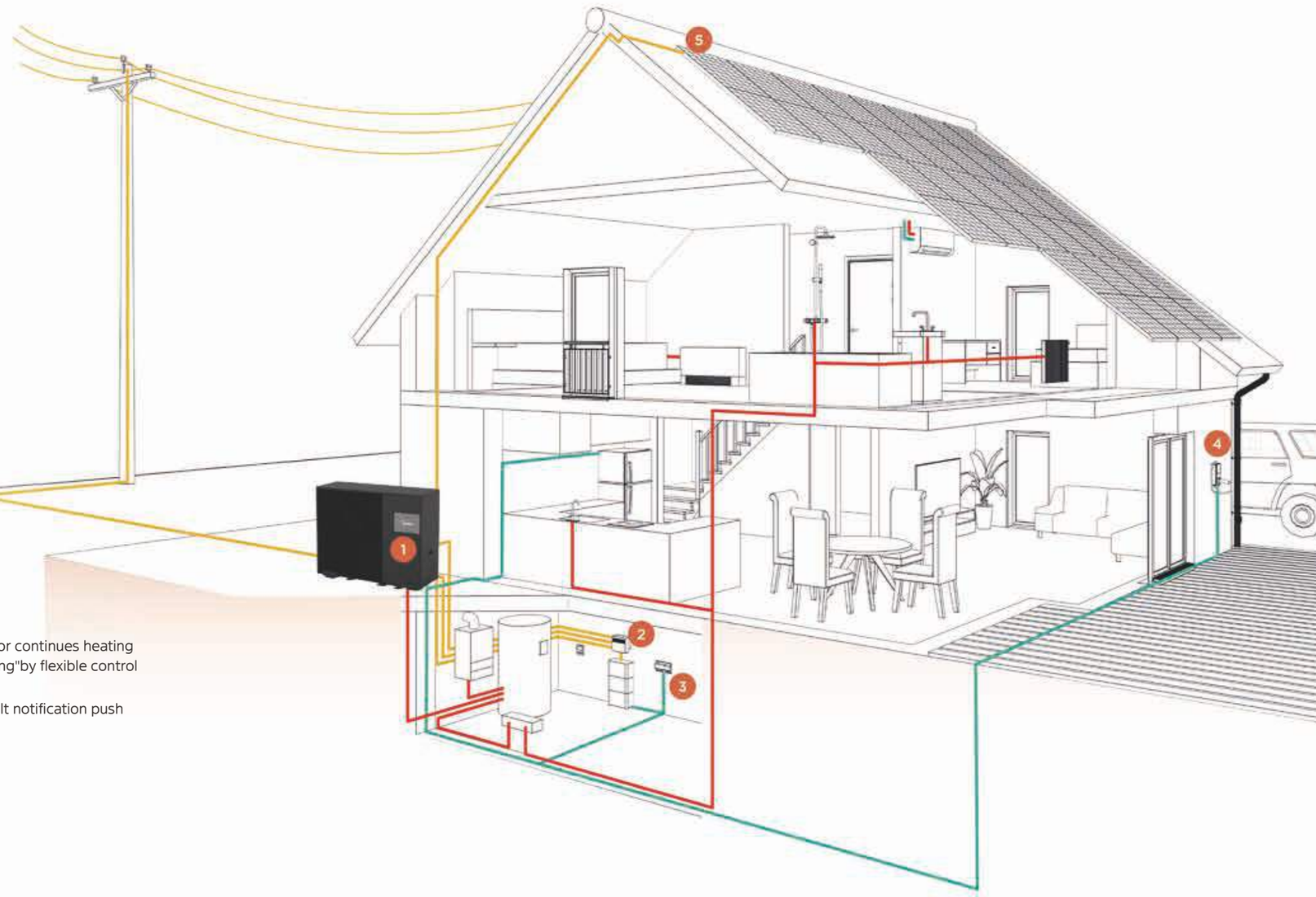
Heat Pump + PV + Battery + DHW Water Tank Professional Selection

Midea Energy Super Advisor helps installers configure energy systems with auto-generated reports and analysis.

https://ieasyenergy.mideaibp.com/

Simple, 4-Step professional energy-solution proposal

Basic info. For solar
Basic info. For HP
Historical energy data
Hardware proposal & Financing analysis





Advanced Highlights

- 3-in-1 one-stop management
- Excess solar for continues heating and free cooling"by flexible control
- Home energy self-sufficiency and anergy bill savings analysis
- Automatic fault notification push and analysis

Specifications

Model name			MHC-V18WD2RN7	MHC-V22WD2RN7
Heating A7W35	Capacity	kW	18.00	22.00
	Rated input	kW	3.91	5.12
	COP		4.60	4.30
Heating A7W55	Capacity	kW	18.00	22.00
	Rated input	kW	5.63	7.10
	COP		3.20	3.10
Heating A2W35	Capacity	kW	18.00	20.0
	Rated input	kW	5.12	6.27
	COP		3.50	3.19
Heating A-7W35	Capacity	kW	18.00	19.50
	Rated input	kW	6.43	7.65
	COP		2.80	2.55
Cooling A35W18	Capacity	kW	18.00	22.00
	Rated input	kW	3.83	5.24
	EER		4.70	4.20
Seasonal space heating energy efficiency class	Water outlet at 35℃	SCOP	4.75	4.60
		ηs	187.0%	181.1%
		class	A+++	A+++
	Water outlet at 55℃	SCOP	3.78	3.75
		ηs	148.0%	146.9%
		class	A++	A++
SEER	Water outlet at 7℃	SEER	4.90	4.82
		ηs	193.0%	189.8%
	Water outlet at 18℃	SEER	6.60	6.50
		ηs	261.0%	257.0%
Sound power level	Heating A7W35	dB	64	64
	Cooling A35W18	dB	64	64
Water flow range		m^3/h	0.6~3.72	0.6~4.54
Compressor	Type		DC Inverter Rotary	
Outdoor fan	Motor type		DC fan	
	Number of fans		1	
Air-side heat exchanger	Type		Finned tube	
Refrigerant	Type		R290	
	Charged volume	kg	1.8	
Unit dimensions (H×W×D)		mm	1051×1330×475	
Packing dimensions (H×W×D)		mm	1235×1390×570	
Net weight		kg	185	
Gross weight		kg	198	
Water-side heat exchanger		type	Plate heat exchanger	
Water-side connection dimensions		mm	DN25	
Water pump	Max. pump head	m	12	
Safety valve		Mpa	0.3	
Outdoor air temperature range	Cooling	℃	-15~52	
	Heating	℃	-25~48	
	DHW	℃	-25~48	
Water setting temperature range	Cooling	℃	5~25	
	Heating	℃	25~85	
	DHW	℃	25~80	

Optional items

Optional items	Physical component	Function
Microbubble separator		Internal installed microbubble separator effective separate R290 refrigerant gas from water loop
9kW IBH		Integrated design for easy installation， As a supplementary heat source, it improves the heating capacity of the heat pump at an ultra low temperature, thus improving comfort.As a backup heat source, it ensures the heating needs are met if a unit fails.

Note:

Water pressure sensor, water flow sensor and electric heater on the chassis are all factory installed as standard .