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Honwo Heat Pump Introduction

GD Honwo Intelligent Environment Technology Co., Ltd

To Become a World-class HVAC Solution Supplier



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A photograph of a city skyline with various skyscrapers and buildings. In the foreground, there is a grey metal bridge railing. The image is partially obscured by a white diagonal shape that points towards the bottom right corner.

Company Profile

PART 1



About us

GD Honwo Intelligent Environment Technology Co., Ltd. is an Integrated Technology company and rules with “High Standard and High Quality”.

The company specializes in heating and ventilation equipment solutions, professional in research and development, high quality in manufacturing.

The main product range covers air to water heat pump, swimming pool heat pump, air cooled scroll chiller and so on.



ENTERPRISE SCALE

Sales Revenue of 2022:

35 million USD

Factory area:

50000m²

Number of employees:

more than 200

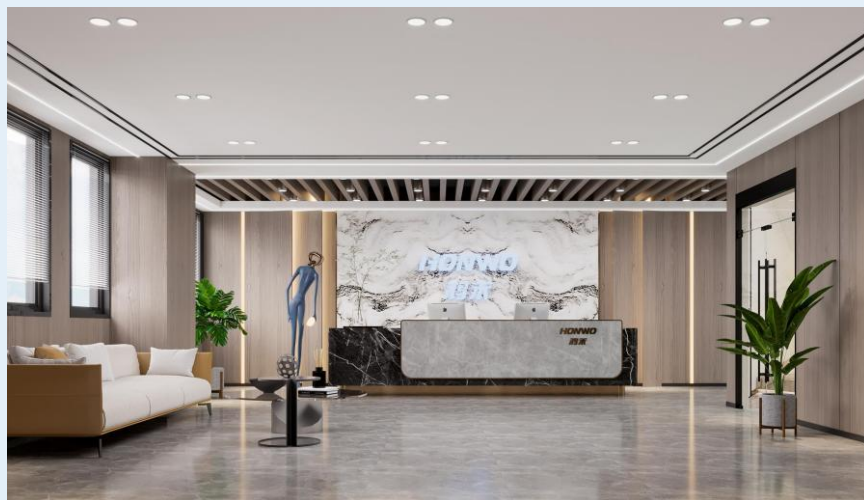
Number of R&D engineers:

more than 30

Annual production scale:

more than 100,000 sets

Reception



Exhibition Hall



R&D Labrotory



Workshop

Product Lineup

Residential Heat Pump



Commercial Heat Pump



Swimming Pool water heater



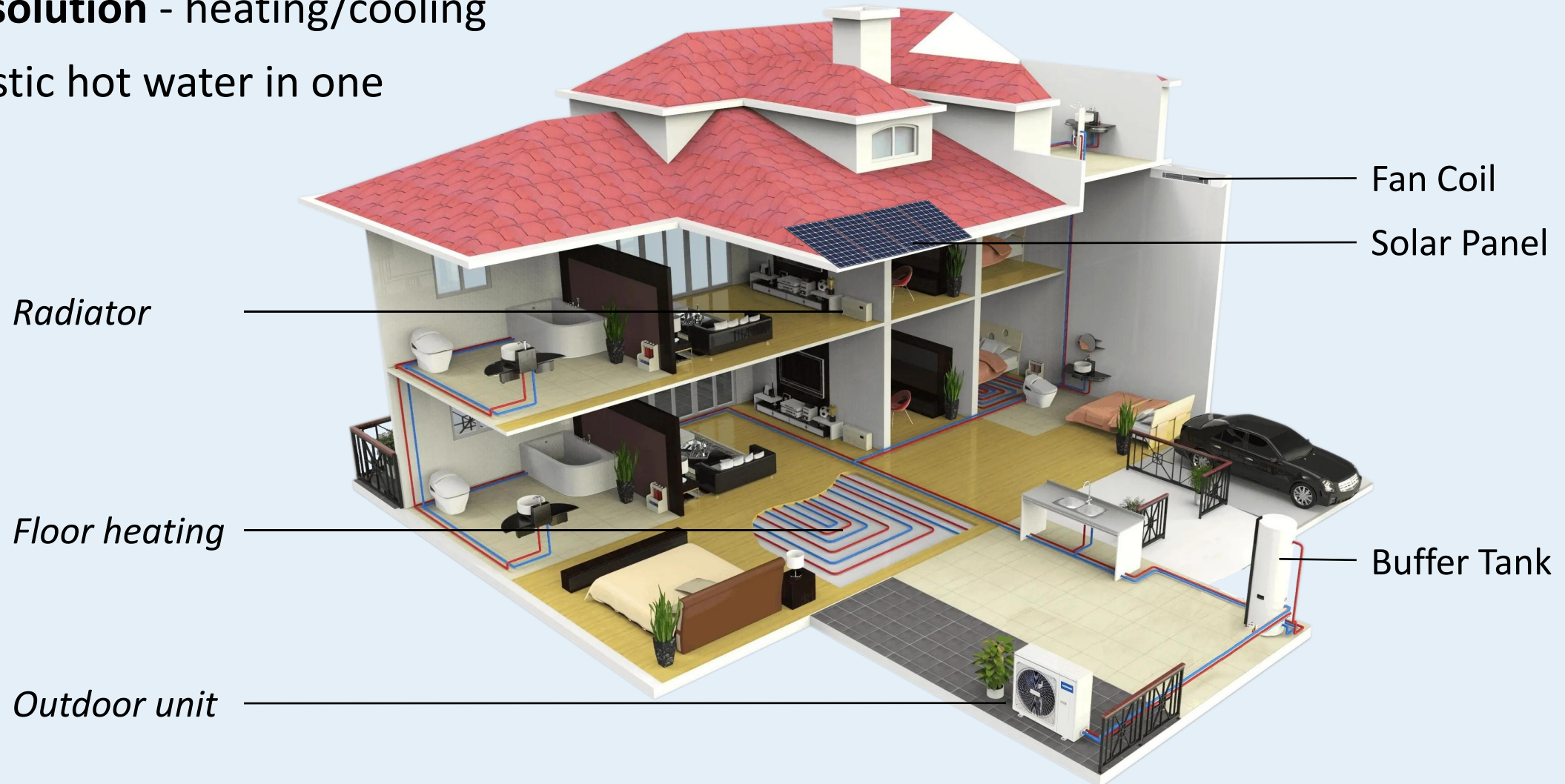


Product Introduction

PART 2



Residential Heat Pump

One-stop solution - heating/cooling and domestic hot water in one system.



Product Line-up

R290-Monobloc

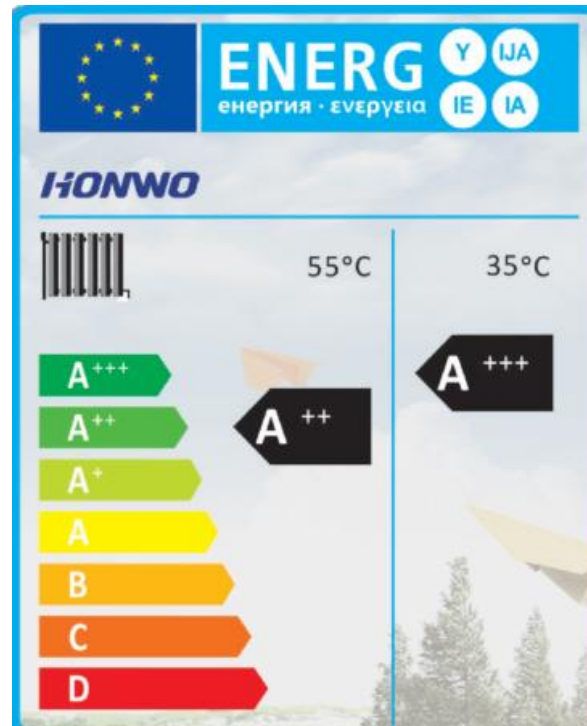
Capacity (kW)	7	9	13	15	18	21
Appearance						
220~240V~1Ph	●	●	●	●		
380-415V~3Ph			●	●	●	●

18/21kW models are in developing and will be available in November.

High efficiency



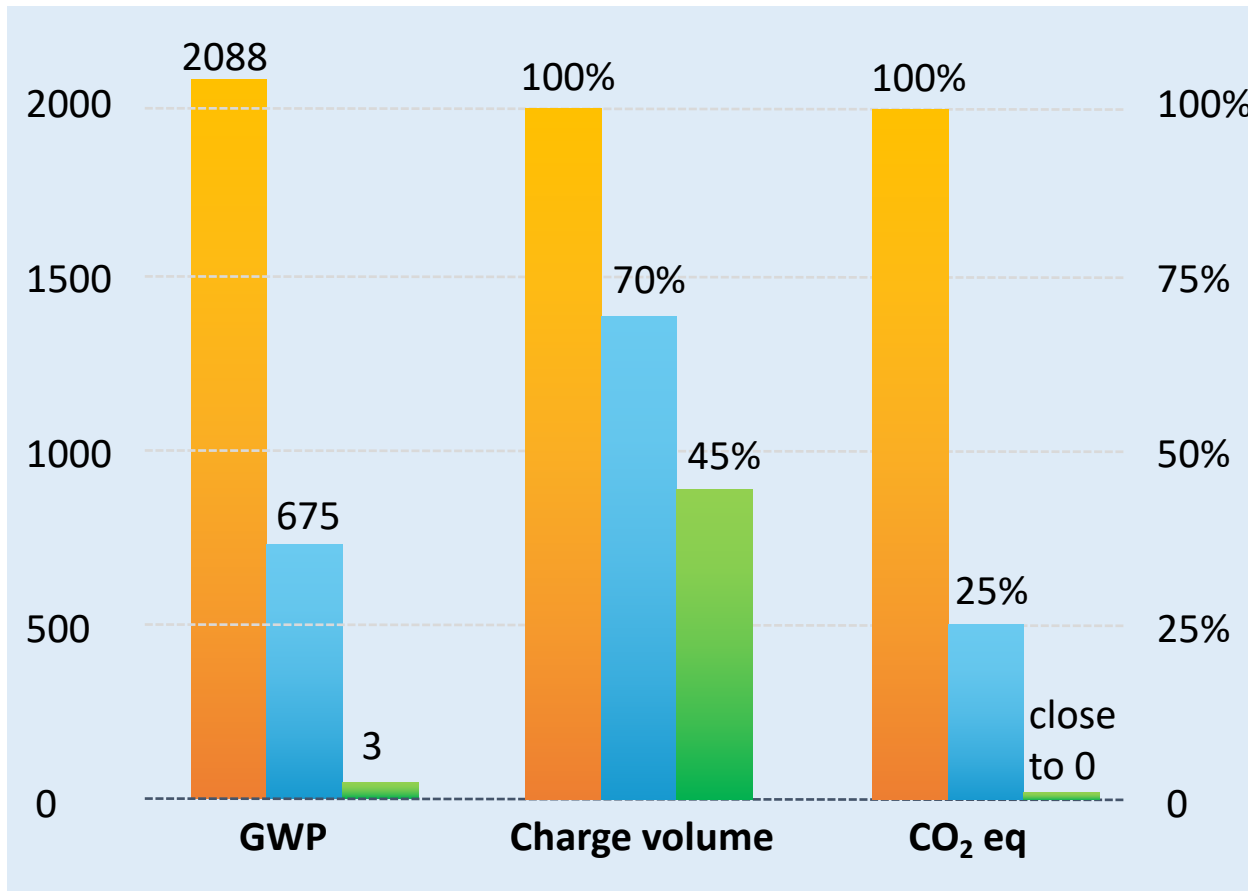
Full DC Inverter technology



ERP Certification
Average to A+++ at 35°C

- ✓ Full range of products, SEER average up to A+++ at 35°C
- ✓ Energy-saving and low use cost
- ✓ The power consumption equals to **1/3** of gas boiler and **1/4** of electric boiler

Friendly to Environment



R290 Refrigerant

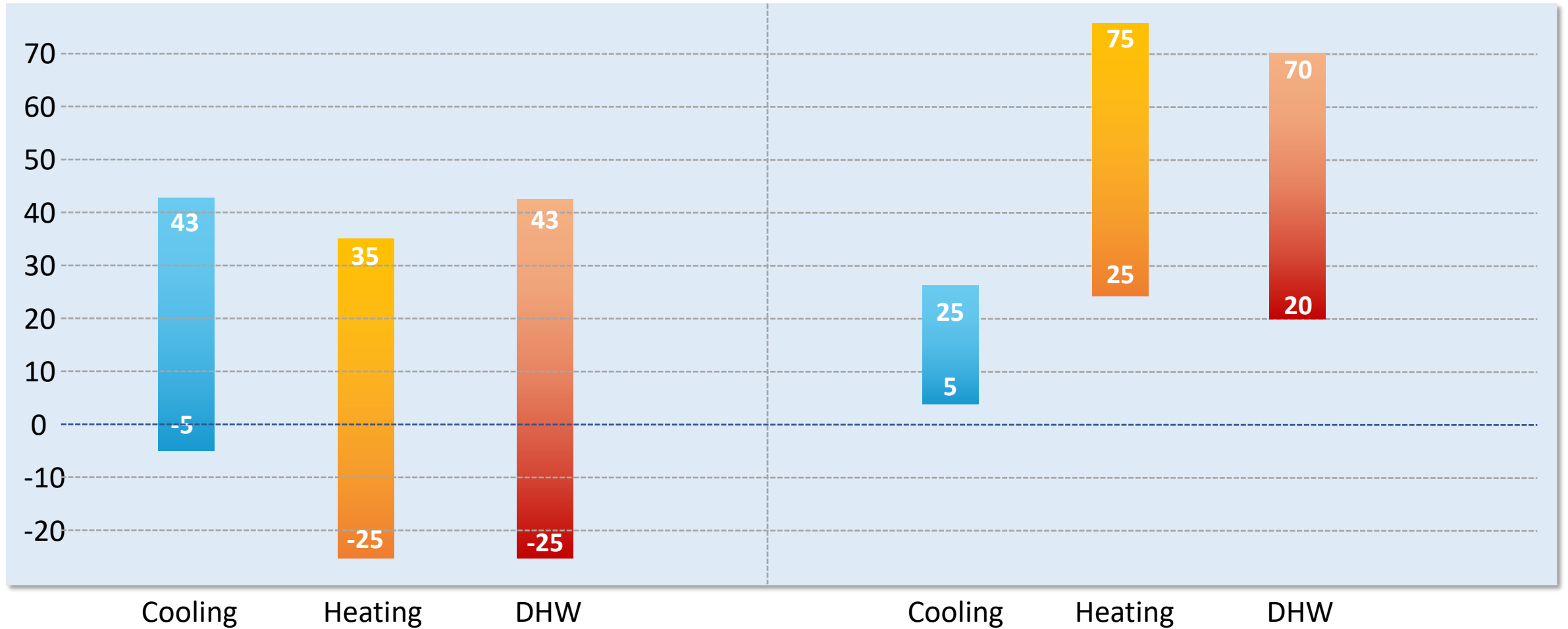
- ✓ GWP and CO₂ eq close to 0, much better than R32 and R410a refrigerant
- ✓ Less charge volume



Wide Operation Range

Ambient temperature range

Leaving water temperature range



Main features - High comfort

➤ Smart defrosting technology

Determine the defrosting timing according to the ambient temp., coil temp., leaving water temp. and continuous heating time, reduce heating loss caused by unnecessary defrosting and reduce the temperature fluctuation in the room.

➤ Disinfect function

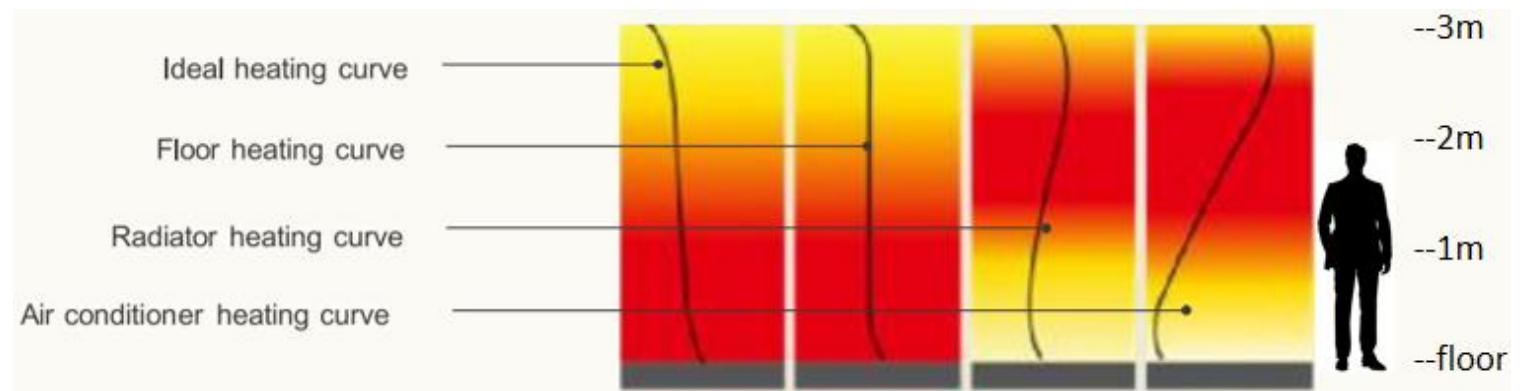
Kill legionella by 60~70°C water to ensure health and safety.

➤ Low running noise

Two level silent mode, minimum noise as low as 43dB(A).

➤ Floor Heating

The most comfortable heating method.



Main features - High reliability

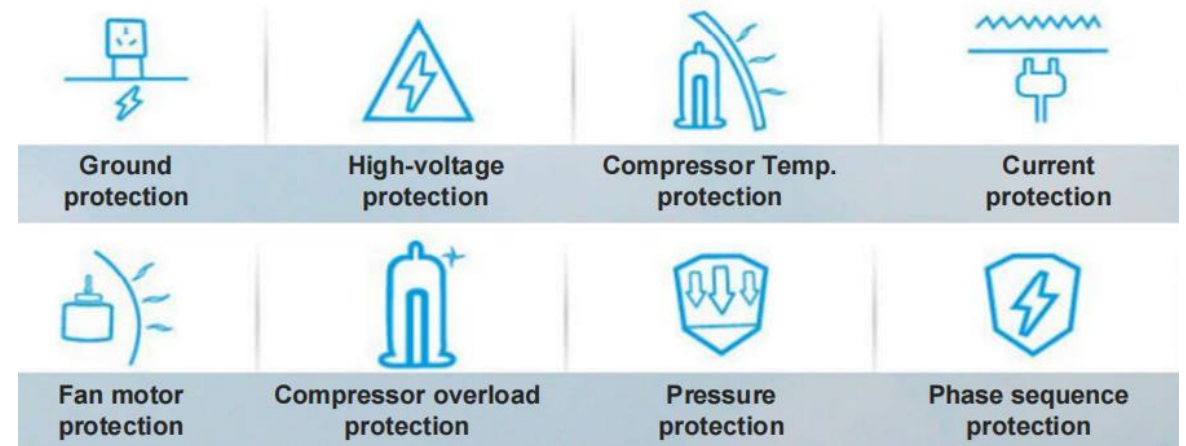
- Main components are from well-known suppliers
- Multiple protections

Real-time detection of power supply, running current, refrigerant and water temperature and pressure to adjust the operation status.

- **Auto anti-freeze function**

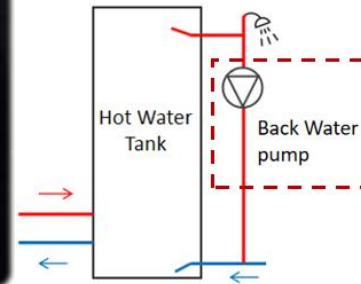
Protect hydraulic parts from damage and ensure the unit runs stably in cold winter.

- I. Water pump runs intermitently
- II. Water pump keeps running and electrical heater on
- III. The system start to run in heating mode



Main features - Smart control

Wired controller with Multiple timing scheme



Wi-Fi control

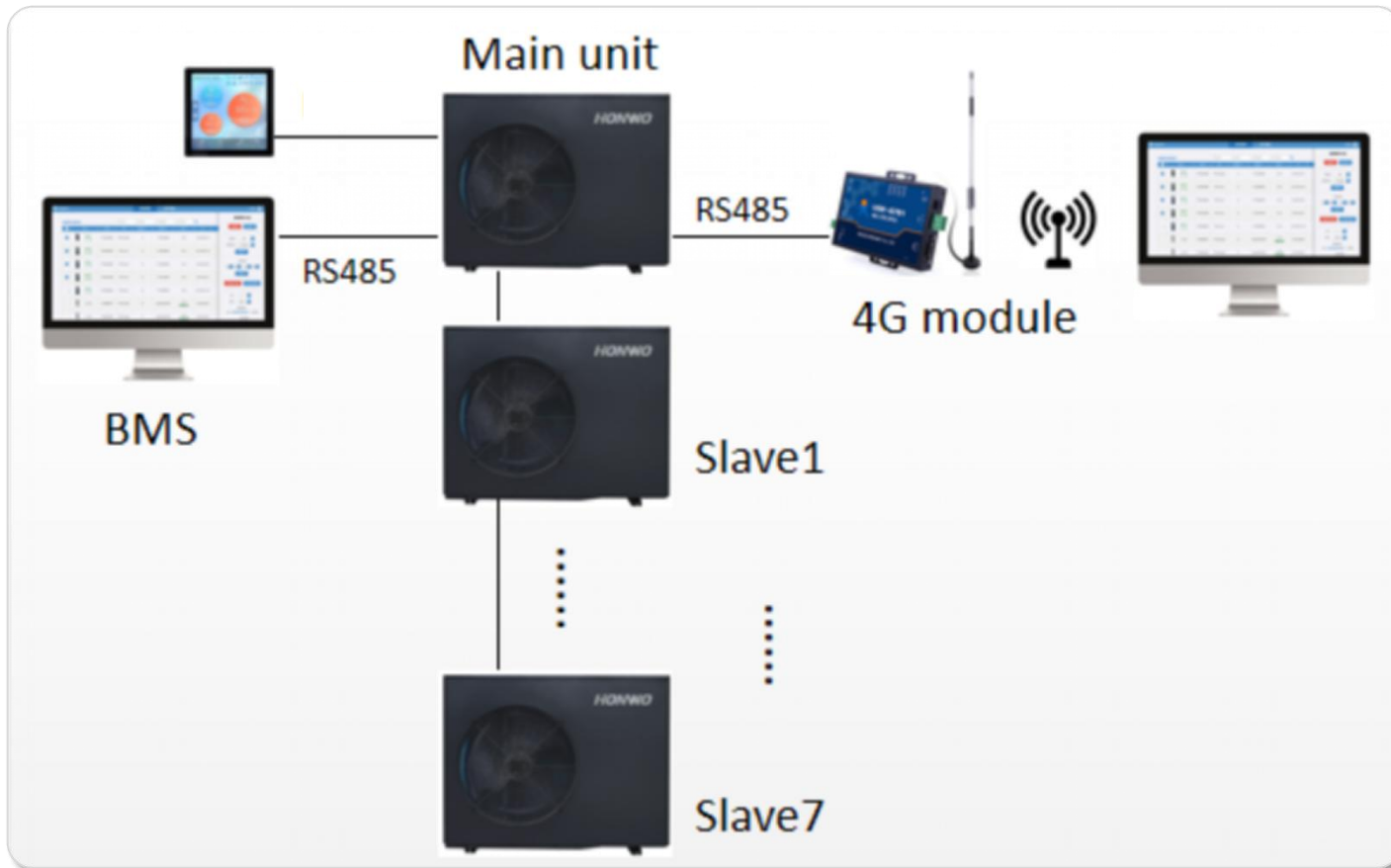


- Touchscreen controller with high-grade appearance and multiple languages .
- Daily/weekly timer and Holiday home function
- Timing sterilization function
- Timing start for back water pump

Built-in Wi-Fi module (in the wired controller), users can control the heat pump system anywhere on their phone.

Main features - Smart control

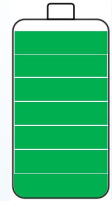
Group/network control



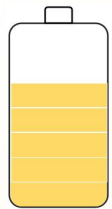
1. **Group control**: maximum 8 units can be controlled as a group.
2. with **Modbus communication protocol**, the heat pumps can be connected to Building Management System (BMS)
3. **4G communication module** is optional (each group need only one 4G module) to realize network control through mobile network.

Main features - Smart control

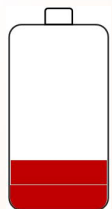
Smart Grid



DHW mode turn on and setting water temperature will change to 70°C. TBH turn on automatically.



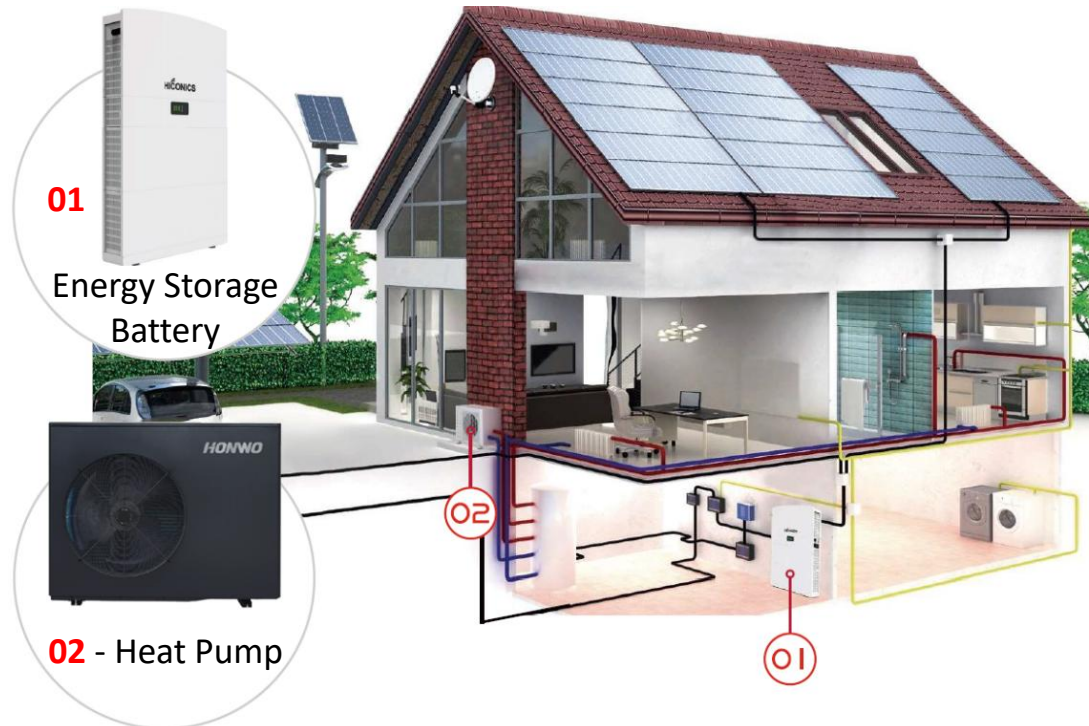
Normal operation



Restricted operation - heat pump run for certain time and turn off the electric auxiliary heating.

SG Ready - Power consumption of the system can be adjusted automatically according to the peak and valley power to reduce the cost of use.

Zero Power Consumption Solution



Photovoltaic energy storage system (Optional)

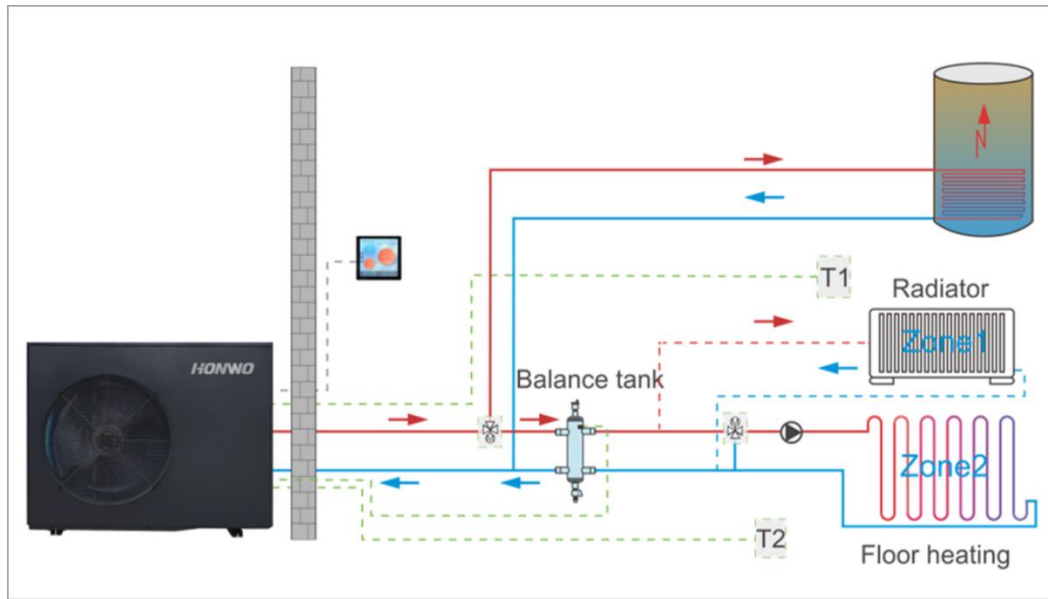
The photovoltaic energy storage system(PESS) allows household roof to be covered with photovoltaicpanels, turning solar energy into household electricity.

Electric energy can be stored, giving priority to meet 24h electricity demand throughout the day, **the heat pumps no longer need to be powered by the government grid.**

- ✓ Connect the heat pump to **PV energy storage system** to realize the use of economical and clean energy for household heating.
- ✓ Energy usage and hot water supply are integrated with one-stop monitoring, setting and energy digitization, supporting remote monitoring and remote setting.

Main features - Smart control

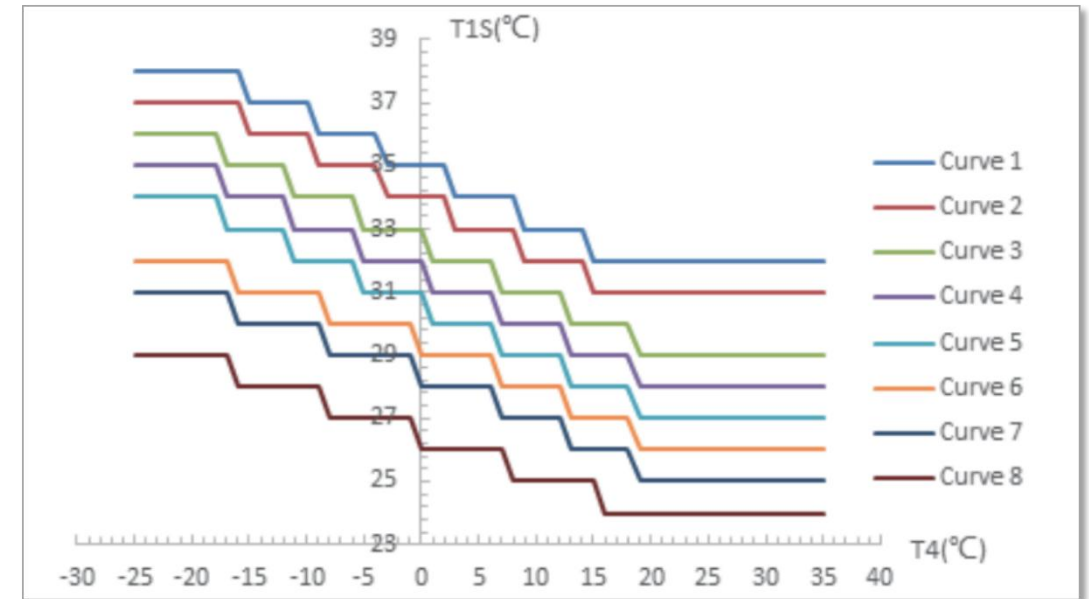
Two-zone control



The function is used to ensure different indoor terminals working at its design temperature, zone1 and zone2 water temperature are adjust according to T1 and T2.

Enhance the comfort and save energy.

Intelligent water temperature adjustment



Settings which allow to optimise indoor ambient temperature based on weather conditions. There are 8 standard climate correlation curves available plus one personalized curve.

Main features-Easy Installation

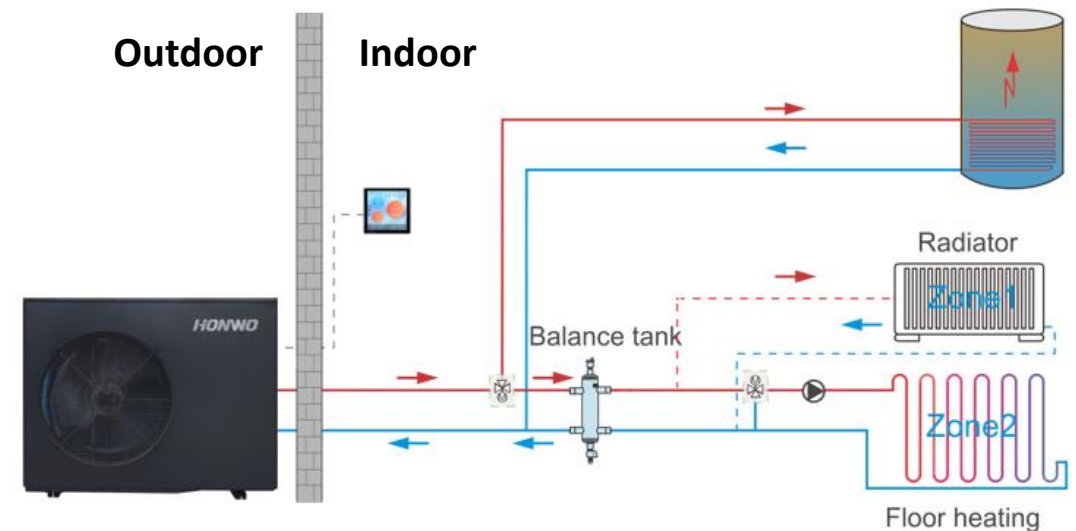
➤ Monobloc design

- All refrigerant circulation components are in the outdoor unit, users only need to connect water pipe to the room, easy to install and avoid R290 refrigerant entering the room.

➤ Built-in water pump and various components

- The lift of the built-in water pump is 9m(standard), which can meet most household needs, 12m lift can be customized.
- Built-in expansion vessel (5L), water flow switch, air purge valve and safety valve, easy to install.
- Electric auxiliary heating is field supply, the control port is reversed on the mainboard of the heat pump.

Only water circulation in the room
R290 refrigerant will not enter the room.



Refrigerant leak detector (optional)

➤ **Easy to install**

Just need to connect to the mainboard of the heat pump.

➤ **Real-time monitoring concentration of R290**

When the concentration of R290 $\geq 0.3\text{vol}\%$ (3000ppm) and continues for 5s, the buzzer will alarm and the heat pump will stop running.

➤ **Detection rate:** 0.5s / time



Spiral exhaust valve (optional)

➤ Function

The valve is used to avoid the R290 refrigerant entering the room.

The valve is installed on the outlet side of the plate heat exchanger. If the plate heat exchanger is leaked and the refrigerant enters the water, the valve can separate the refrigerant from the water and discharge the refrigerant gas to the outside.

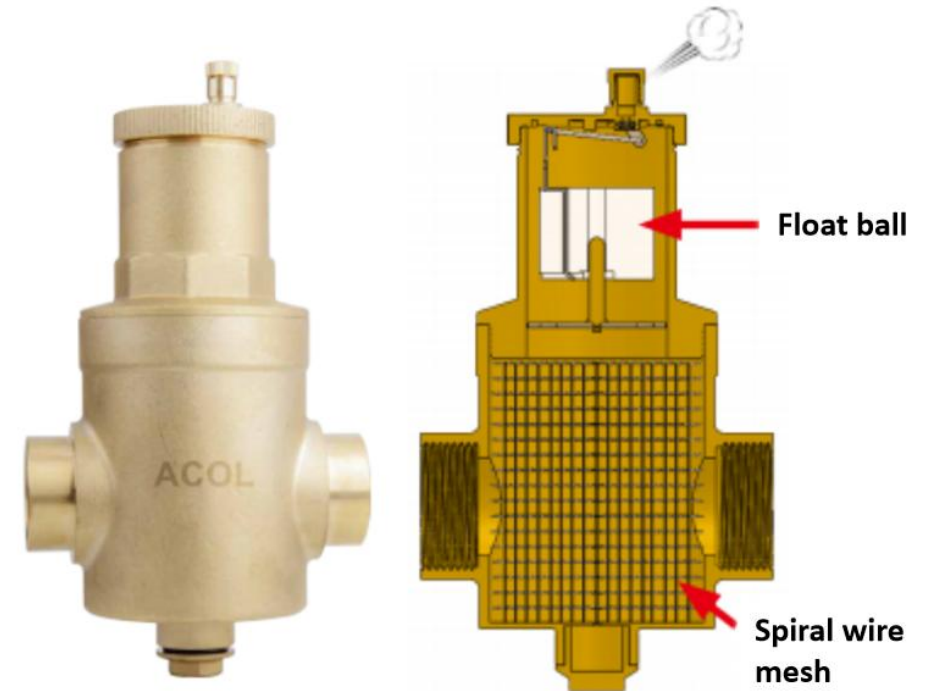
➤ Specification

Material: Brass

Maximum working pressure: 1.0Mpa

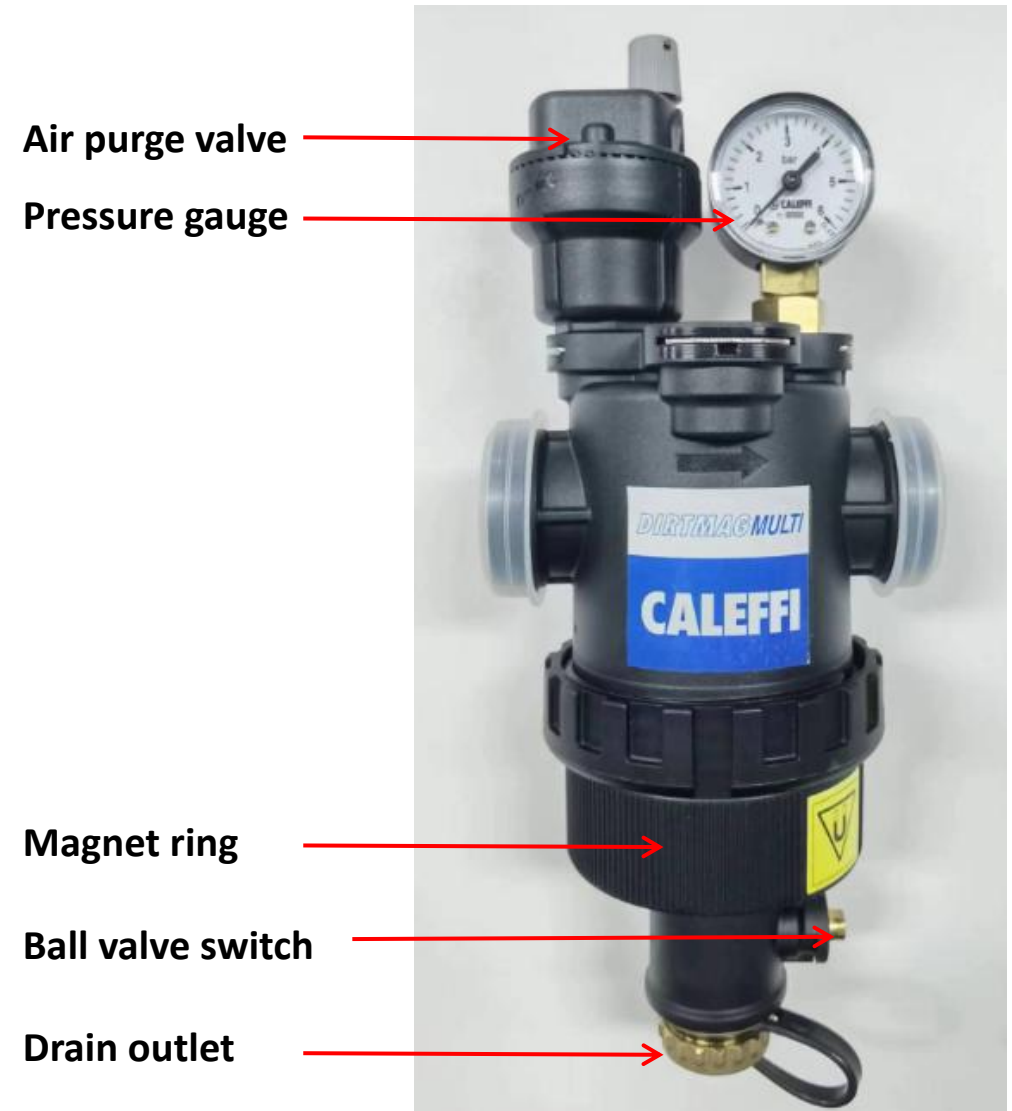
Maximum working temperature: 110°C

The highest concentration of glycol solution: 50%



Magnetic filter (optional)

1. The filter is used to better **remove metal impurities in the system**, preventing impurities from entering the plate and other valves causing blockage, wear and leakage.
2. The filter is **installed on the water inlet side of the system**.
When metal impurities in the water flow pass through the filter, they are **magnetically attracted to the collector**.
Maintenance personnel can regularly check and clean the filter to remove impurities.



Flowmeter (optional)


1. The flowmeter is used to **detect the water flow of the system in real time** and communicate with the main PCB of the heat pump, then the **heating capacity of the heat pump system can be calculated according to the water flow rate and the temperature difference of inlet and outlet water.**
2. The heating capacity and power consumption of the heat pump can be uploaded to the network system, and **users can view the energy consumption and energy efficiency of the heat pump in real time.**

Connect to the main PCB of the heat pump





Residential Heat Pump

R32-Monobloc

Capacity (kW)	6	8	10	12	14	16
Appearance						
220~240V~1Ph	●	●	●	●	●	●
380-415V~3Ph				●	●	●

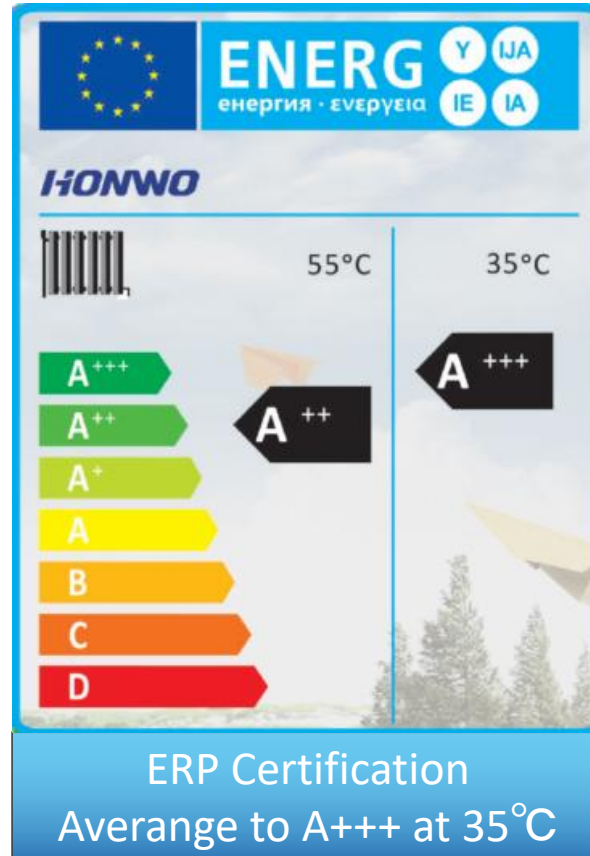
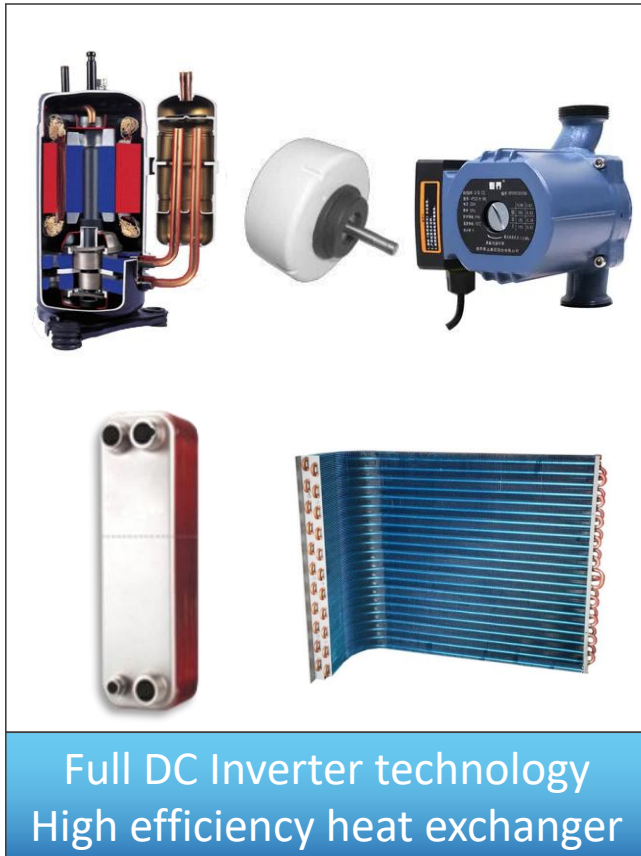
R32-Split Type

Capacity (kW)	6	8	10	12	14	16	18	20	22
Appearance									
220~240V~1Ph	●	●	●	●	●	●			
380-415V~3Ph				●	●	●	●	●	●

✓ *Suitable for houses in different areas and structures.*

Residential Heat Pump

Main features - High efficiency

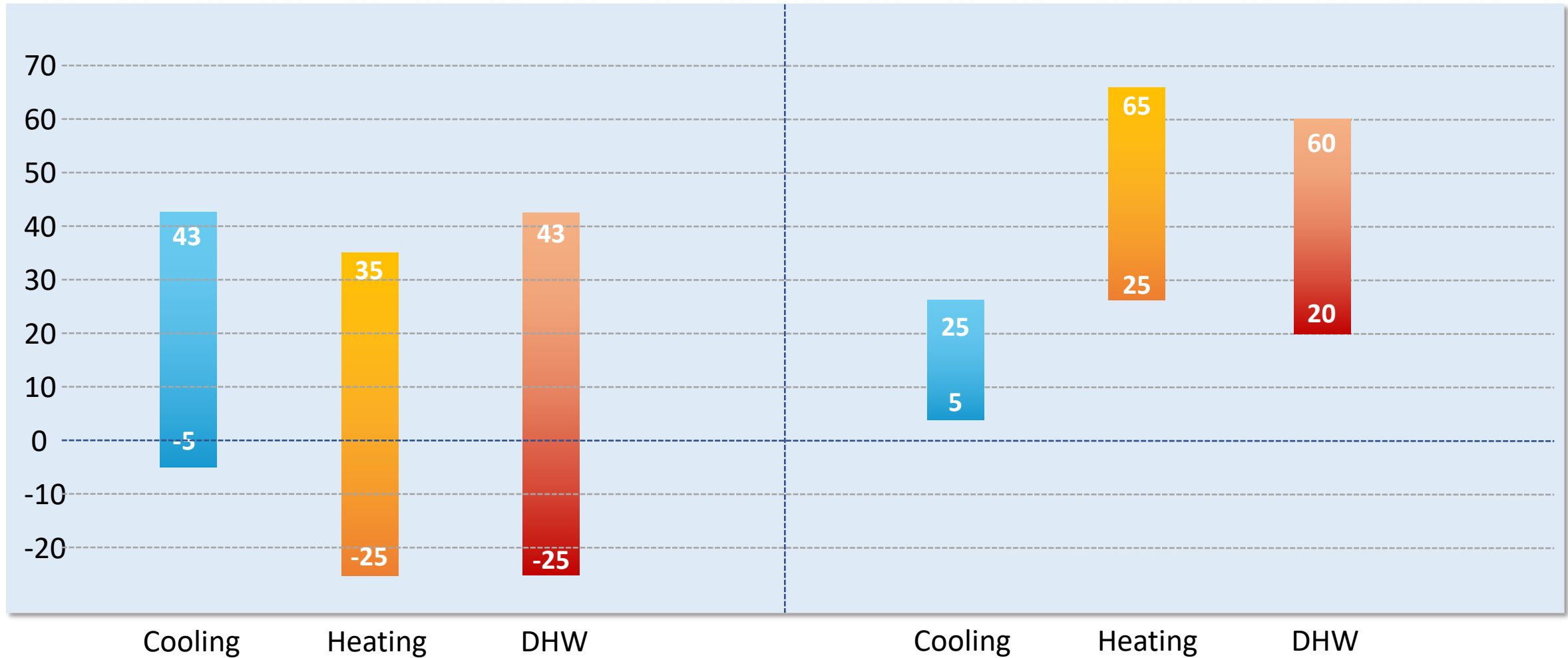


- ✓ Full ranges certified under european standards, SEER average up to A+++ at 35°C
- ✓ Energy-saving and low use cost
- ✓ The power consumption equals to **1/3 of gas boiler** and **1/4 of electric boiler**

Wide Operation Range

Ambient temperature range

Leaving water temperature range



Residential Heat Pump

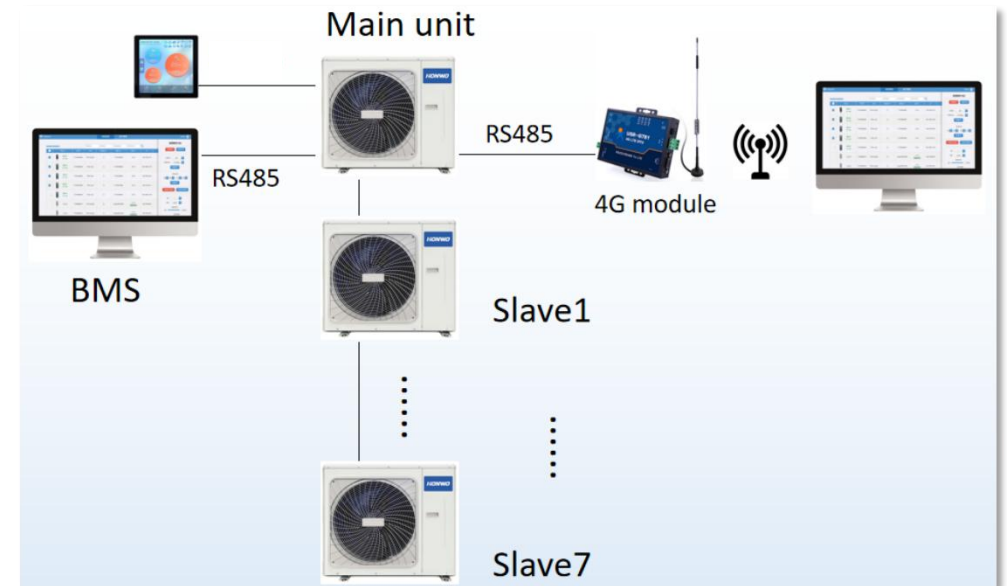
Main features - Smart control



Multifunction wired controller with touchscreen, high-grade appearance and easy to operate



The wired controller has a built-in Wi-Fi module, the unit can be controlled through APP



1. Maximum 8 units can be controlled as a group.
2. With Modbus communication protocol, the heat pumps can be connected to BMS.
3. 4G module is optional (each group need only one 4G module) to realize network control.

List of Main features

Components and functions	R290 monobloc	R32 monobloc	R32 split type
DC inverter compressor and DC fan motor	●	●	●
Built-in DC inverter water pump	●	●	●
Built-in expansion vessel	5L	5L	5L
Built-in water flow switch, safety valve and air purge valve	●	●	●
Built-in three way valve	/	/	●
Built-in electric heating	/	/	●
Touch screen controller	●	●	●
4G communication module	Optional	Optional	Optional
Group control	●	●	●
Wi-Fi control	●	●	●
RS 485 communication port for BMS and network control	●	●	●
Daily/weekly timer/holiday home function	●	●	●
Smart grid & PV ready	●	●	●
Two-zone control	●	●	●
Intelligent water temperature adjustment	●	●	●
Auto anti-freeze function	●	●	●
Refrigerant leak detector	Optional	Optional	Optional

Residential Heat Pump

Heat Pump Water Heater

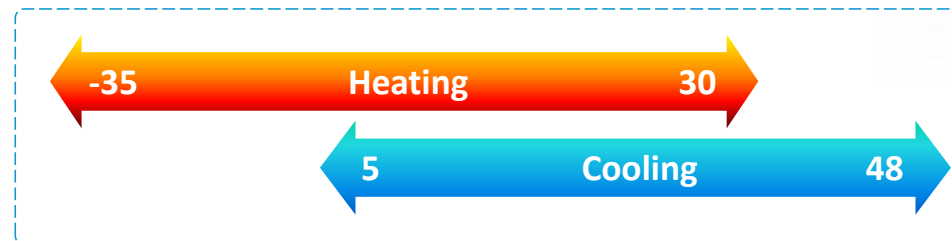
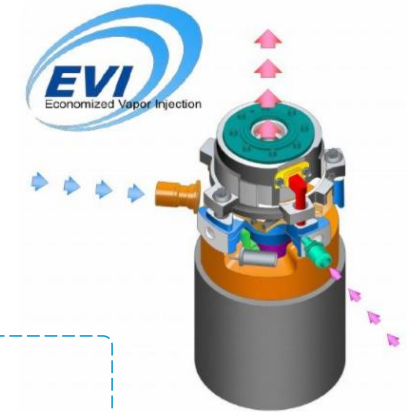


- ✓ All in one design, easy installation.
- ✓ Large water tank, **150/200/250/300L**
- ✓ Maximum water temperature reach up to **70°C**.
- ✓ Water and electricity are separated, **no risk of electric shock**
- ✓ Can be combined with solar panel, automatic control.

Commercial Heat Pump



- ✓ **Vapor injection technology** - Enhance heating capacity even in extremely cold climate
- ✓ **Wide operation range**



- ✓ **Cycle on-duty and backup operation**

- Basic models: 38/55/80/160/320kW
- Modular design, maximum 16 units can be combined as one system



Swimming Pool water Heater



- ✓ **R32 refrigerant**
Friendly to environment
- ✓ **High efficiency**
DC inverter compressor & Titanium tube heat exchanger
- ✓ **Constant water temperature**
Both heating and cooling function
- ✓ **Intelligent defrost technology**
- ✓ **Compact design**
Easy installation and low transport cost
- ✓ **Capacity range: 7.5~23kW**

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*Look forward to
cooperating with you*

Thanks