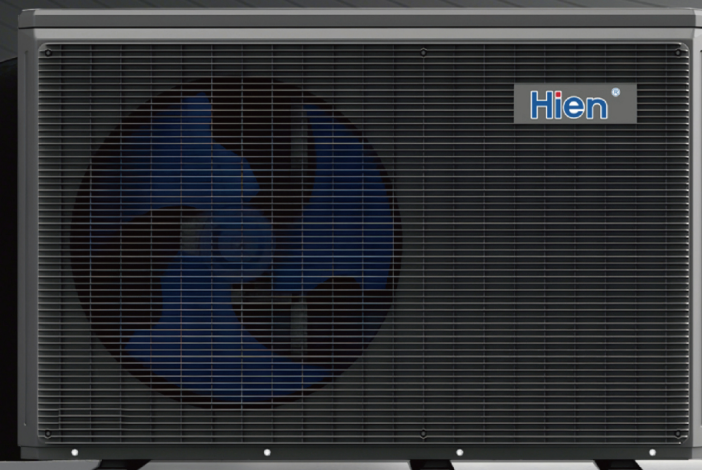


**Hien**®

# R290 AIR SOURCE MONOBLOCK HEAT PUMP

DC INVERTER



**Hien**®

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www.hien-ne.com

**HEATING+COOLING+DHW**



## PROJECTS

MORE THAN 70000 PROJECTS COMPLETED SO FAR;  
MORE THAN 6.5 MILLION PRODUCTS DELIVERED.

### SCHOOLS



### HOSPITALS



### RESIDENTIAL



## HIGHLIGHT



The 2008 Shanghai World Expo.



Universiade SHENZHEN 2011

The 2011 Universiade in Shenzhen.



The artificial island hot water project of the Hong Kong-Zhuhai-Macao Bridge in 2019.



2016 the hot water reconstruction project of Qingdao port.



The 2022 Beijing Winter Olympic Games & Paralympic Games.



The 2013 Boao Summit for Asia in Hainan.



2016 the G20 Hangzhou Summit.



2023 the Asian Games in Hangzhou





## ABOUT HIEN

Founded in 1992, Hien firstly started as an electronic component manufacturer. With a registered capital of 300 million RMB, Hien entered the air source industry in 2000. It is a leading enterprise of air source heat pumps in the area of product R & D, production, sales, and after-sales service. Hien owns one of the largest production bases of heat pumps in China, as well as the CANS certified state-level comprehensive laboratory.

## PRODUCTION LINE

With a total of 60,000 m<sup>2</sup> of construction area and over 1,000 processing equipments, the main factory comprises 6 assembly lines, while the branch factory consists of 3 production workshops. Main products include air source heat pumps for residential, commercial, and industrial use. The capacity of our products ranges from 3 kW to 320 kW, primarily for heating, cooling, and domestic hot water. Heat pump dryers are also used for the production of tobacco, aroma wicks, medicinal herbs, tea, fruits, vegetables, and other products.

# R290

NATURAL REFRIGERANT

# GWP=3

**CONTRIBUTE TO CARBON NEUTRALITY.**

**REDUCED CO<sub>2</sub> EMISSIONS AND  
ENVIRONMENTAL IMPACT**








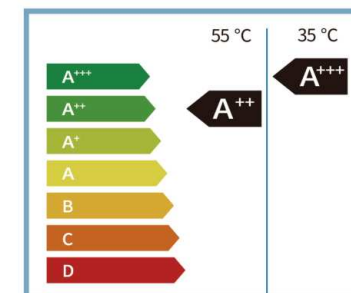


# ECOFORCE SERIES

HEATING+COOLING+DHW

**VOLUME < 0.6 CBM**

-  High Efficiency A+++ Energy Level
-  Energy – Saving up to 80%
-  Wi-Fi App Smart Controlled
-  Stable Running at -20°C Ambient Temperature
-  Our Product Surpasses CE Standards By Approximately 10%



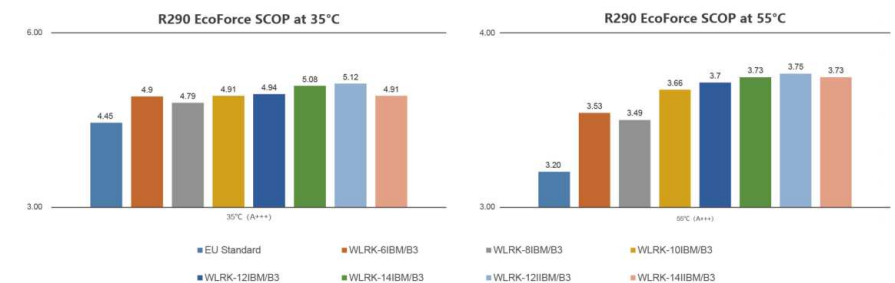
## Multi-function Selections

There are 5 operation modes to be selected :

- Heating + Hot Water
- Cooling + Hot Water
- Heating
- Cooling
- DHW

## COMPARISON BETWEEN EU STANDARDS AND HIEN SCOP

REGULATION : (EU) NO 811/2013







# ECOFORCE MAX SERIES

HEATING+COOLING+DHW

**VOLUME < 0.6 CBM**



**Stable Operation at -30°C**  
8kw to 16kw models.



**Easy Installation**  
Simple, efficient installation.



**DC Inverter EVI Technology**  
30%+ more efficient.



**Reduce Compressor Load**  
Avert overheating, extend life.



**Reduce Operating Noise**  
Quieter operation, better comfort.



**Inverter-EVI Synergy**  
IPLV +20%-30% (partial load).



**Smart Control System**  
Remote monitoring and auto-adjustment.



**SCOP Up to 5.24**  
The SCOP of this heat pump is as high as 5.24.

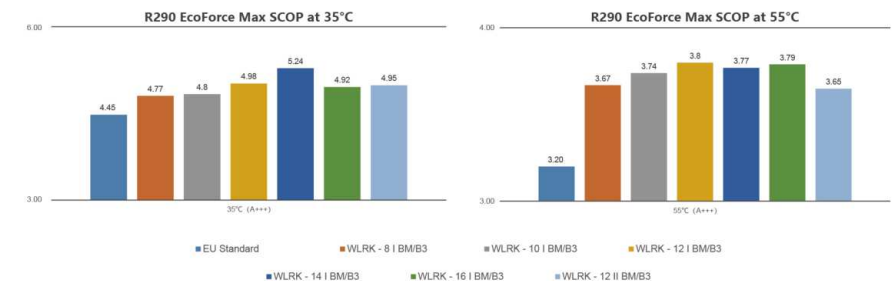
## DC INVERTER EVI TECHNOLOGY

The EVI technology ensures optimum performance of the unit at ambient temperatures as low as -30°C. This allows users to enjoy comfortable house heating and a stable hot water supply all year round.

Additionally, it outperforms conventional heat pumps in low temperatures, delivering higher COP, which not only ensures greater energy efficiency and reliable warmth in winter, but also significantly reduces electricity bills, helping you save more.

## COMPARISON BETWEEN EU STANDARDS AND HIEN SCOP

REGULATION : (EU) NO 811/2013



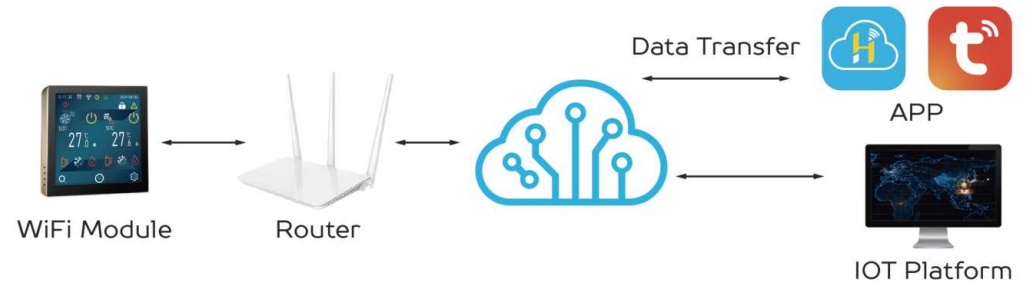


## SMART TOUCH DISPLAY



- Color Screen
- Intuitive Interface
- Touch Key Design
- Built-in Wifi Module
- APP Control

## SMART CONTROL FAMILY

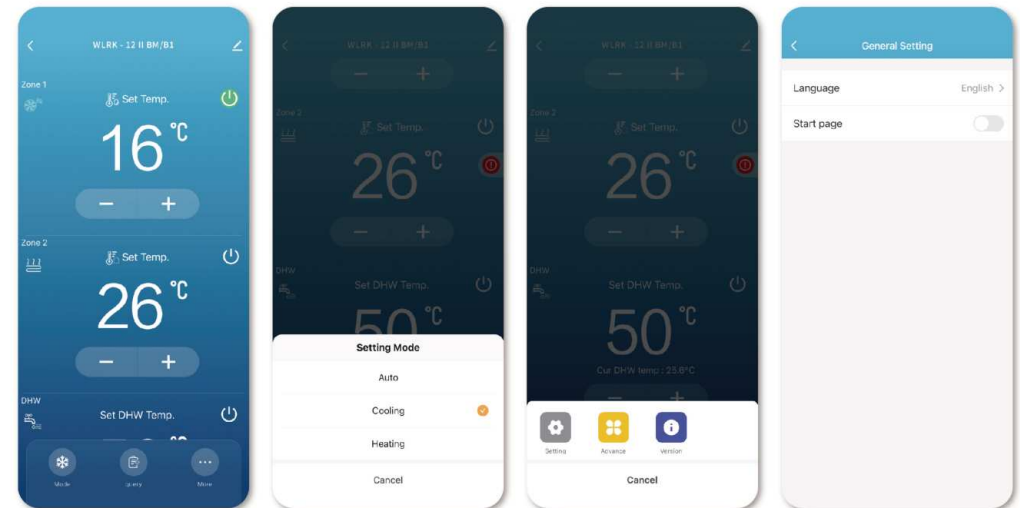


### RS485

The intelligent controller with RS485 is adopted to realize the linkage control between the heat pump unit and the terminal end. Multiple heat pumps can be controlled and connected to be well monitored.

### WiFi DTU

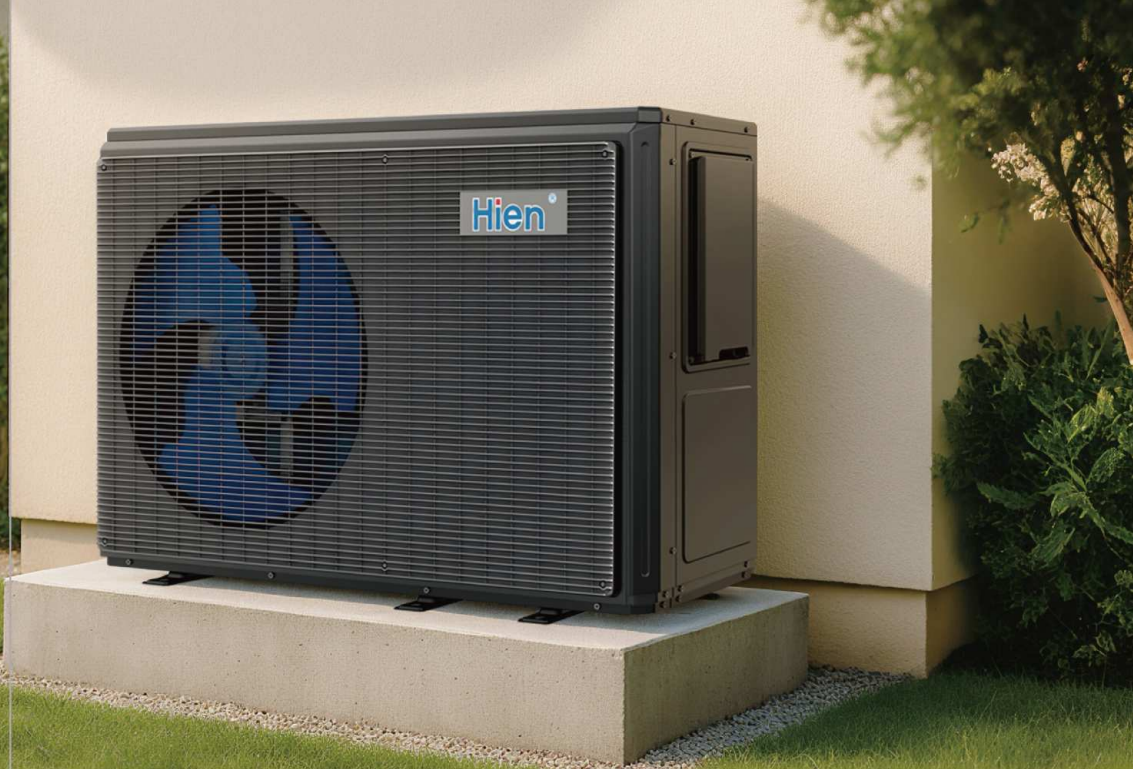
To deliver the best user experience, EcoForce series is designed with a DTU module for remote data transferring, and then you can easily monitor the running status of your heating system.



### Smart APP control

Smart APP control brings a lot of convenience to users. Temperature adjustment, mode switching, and timer setting can be achieved on your smart phone. Moreover, you can know power consumption statistics and fault record at anytime and anywhere.

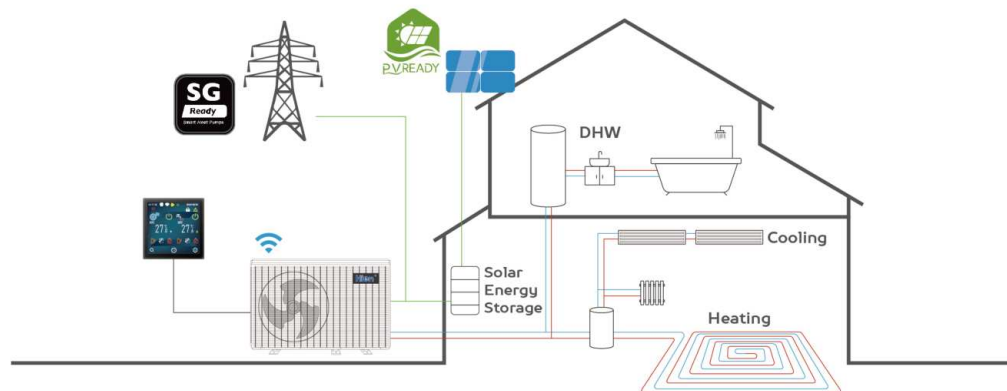




## CAN BE OPERATED IN COMBINATION WITH:

1. Electric Water Heater
2. Conventional Boiler
3. Solar Hot Water Systems

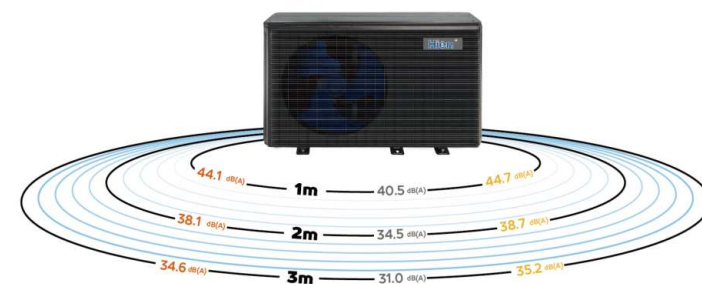
The Ecoforce Series provides heat through heating distribution systems like radiators, underfloor heating, fan coils, or air conditioners. It offers reliable heating, cooling, and domestic hot water year-round. The heat pump automatically adjusts and operates optimally in heating or cooling mode depending on the season and air temperature for energy savings. It suits various applications including space heating and domestic hot water for residential and commercial projects.



## THE NINE - LAYER NOISE REDUCTION MEASURES INCLUDE :

New type of eddy current fan blades;  
 Low air resistance grille, designed to better fit air flow dynamics;  
 compressor shock absorber pads for vibration reduction;  
 Simulated technology optimized vortex design for finned heat exchanger;  
 Simulated technology optimized pipeline vibration transmission design;  
 Sound-absorbing cotton and peak cotton for noise absorption and reduction;  
 Variable frequency compressor load adjustment;  
 DC fan load adjustment;  
 Energy saving mode.

- WLRK-10 | BM/B3
- WLRK-12 | BM/B3
- WLRK-14 | BM/B3





## STERILIZING MODE

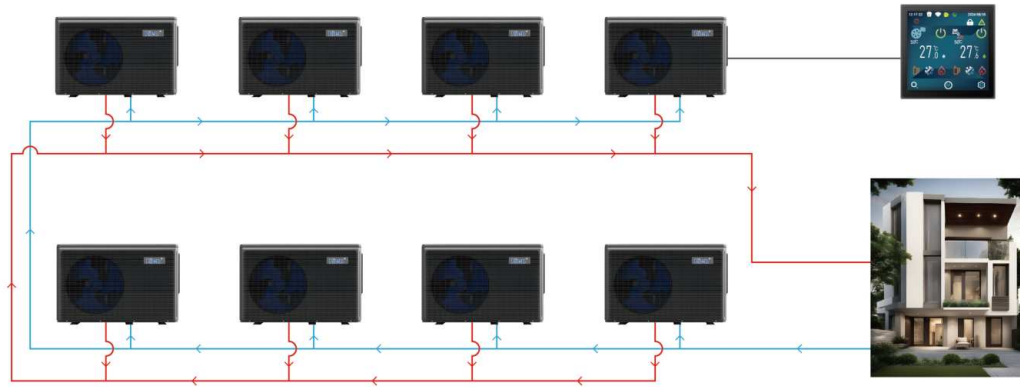
Thanks to its ability to reach temperatures as high as 75°C, this cutting-edge product eliminates harmful Legionella bacteria and viruses, ensuring the highest level of water safety.

Invest in your health and your family's well-being with our state-of-the-art heat pump. Experience the unparalleled convenience, energy efficiency, and superior performance that this product offers.

Don't compromise on safety and hygiene when it comes to your water supply. Choose our heat pump with its exceptional sterilizing mode, and enjoy the reassurance of pristine water quality every day.



## CASCADE SYSTEM DIAGRAM



- Maximum of 8 units can be controlled with one touch screen.
- Connect 1 master to 7 slaves for networking.
- Can be operated independently or in group.
- Automatically control the start and stop of the machine based on water temperature.
- Multiple heat pumps can work together to improve the efficiency and energy efficiency of the system.

## SET IT • FORGET IT • ENJOY IT



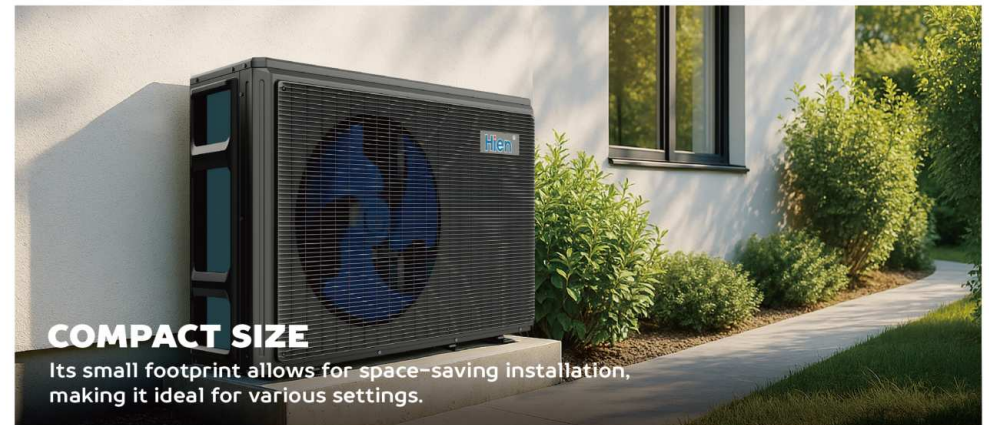
### EASY INSTALLATION

The machine is designed for hassle-free setup, making the installation process simple and efficient.



### QUIET OPERATION

With minimal noise output, the heat pump ensures smooth and peaceful operation.



### COMPACT SIZE

Its small footprint allows for space-saving installation, making it ideal for various settings.



# SPECIFICATIONS

## ECOFORCE SERIES



Dc Inverter Heat Pump			WLRK-6IBM/B3	WLRK-8IBM/B3	WLRK-10IBM/B3	WLRK-12IBM/B3	WLRK-14IBM/B3	WLRK-12IIBM/B3	WLRK-14IIBM/B3	WLRK-16IIBM/B3
Heating Conditions			Outdoor Air Temperature : DB 7°C / WB 6°C , Indoor Water Temperature Inlet/Outlet : 30°C / 35°C .							
Rated Heating Capacity	kW	6.00	8.00	10.00	12.00	14.00	12.00	14.00	16.00	
Heating Power Input	kW	1.22	1.79	2.24	2.65	3.19	2.60	3.16	3.50	
Current Input Range	A	5.30	7.81	9.77	11.51	13.86	3.95	4.80	5.32	
Heating COP	W/W	4.90	4.45	4.45	4.53	4.39	4.61	4.43	4.57	
Heating Conditions			Outdoor Air Temperature : DB 7°C / WB 6°C , indoor Water Temperature Inlet / Outlet : 50°C / 55°C							
Rated Heating Capacity	kW	6.00	8.05	9.98	12.00	14.07	12.07	13.96	16.05	
Heating Power Input	kW	2.03	2.62	3.28	3.99	4.82	3.98	4.72	5.40	
Current Input Range	A	8.84	11.55	14.29	17.33	21.00	6.05	7.17	8.22	
Heating COP	W/W	2.95	3.07	3.04	3.01	2.92	3.03	2.96	2.97	
Cooling Conditions			Outdoor Air Temperature : DB 35°C/ WB 24°C, Indoor Water Temperature Inlet/Outlet : 23°C / 18°C							
Rated Cooling Capacity	kW	6.50	8.80	10.50	12.80	15.00	12.80	15.00	17.00	
Cooling Power Input	kW	1.91	2.63	2.96	3.79	4.73	3.88	4.91	4.40	
Current Input Range	A	8.30	11.46	12.86	16.51	20.57	5.89	7.47	6.69	
Cooling EER	W/W	3.40	3.33	3.55	3.37	3.17	3.30	3.05	3.86	
Outdoor Air Temp.35/-°C; Water Outlet: 7°C	kW	1.7~5.0	1.8~6.5	2.6~8.2	3.4~9.8	3.4~11.0	3.4~9.8	3.4~11.0	/	
Outdoor Air Temp.35/-°C; Water Outlet: 18°C	kW	2.2~6.5	2.5~8.8	3.5~10.5	4.5~12.8	4.5~15.0	4.5~12.8	4.5~15.0	/	
Ambient Temp. 12/11°C	35° C outlet	kW	2.8~6.5	3.1~9.2	4.1~10.8	5.5~13.5	5.8~16.0	5.5~13.5	5.8~16.0	/
	55° C outlet	kW	2.6~6.5	2.9~9.2	3.8~10.8	4.9~13.5	5.2~16.0	4.9~13.5	5.2~16.0	/
Ambient Temp. 7/6°C	35° C outlet	kW	2.6~6.0	2.7~8.0	3.8~10.0	4.9~12.0	4.6~14.0	4.9~12.0	4.6~14.0	/
	55° C outlet	kW	2.3~6.0	2.5~8.0	3.5~10.0	4.5~12.0	4.8~12.7	4.5~12.0	4.8~12.7	/
Ambient Temp. 2/1°C	35° C outlet	kW	2.4~5.2	2.5~7.0	3.5~8.5	4.5~10.5	4.8~12.7	4.5~10.5	4.8~12.7	/
	55° C outlet	kW	2.2~5.2	2.3~7.0	3.2~8.5	4.2~10.5	4.5~12.7	4.2~10.5	4.5~12.7	/
Ambient Temp. -7/-8°C	35° C outlet	kW	2.1~4.8	2.2~6.2	3.1~7.8	4.1~9.8	4.3~11.3	4.1~9.8	4.3~11.3	/
	55° C outlet	kW	2.1~4.8	2.2~6.2	3.2~8.0	4.2~10.0	4.4~11.6	4.2~10.0	4.4~11.6	/
Ambient Temp. -15/-°C	35° C outlet	kW	1.8~3.5	2.1~5.0	2.6~5.8	3.9~8.2	4.0~9.1	3.9~8.2	4.0~9.1	/
	55° C outlet	kW	1.8~3.5	2.1~5.0	2.6~5.8	3.9~8.2	4.0~9.1	3.9~8.2	4.0~9.1	/
Ambient Temp. -22/-°C	35° C outlet	kW	1.5~3.0	1.7~4.0	2.3~5.0	3.2~6.8	3.1~7.1	3.2~6.8	3.1~7.1	/
	55° C outlet	kW	1.3~2.7	1.5~3.8	2.0~4.7	2.8~6.4	3.0~7.0	2.8~6.4	3.0~7.0	/
Voltage	V/Hz	220V~240V~/50Hz				380V ~ 415V3N~ /50Hz				
Rated Water Flow	m³/h	1.03	1.38	1.72	2.06	2.41	2.06	2.41	2.75	
Rated of Waterproof	/	IPX4								
Control Mode	/	Heating , Cooling , DHW , Heating + DHW , Cooling + DHW								
Refrigerant/Charge	/	R290/0.6kg	R290/0.7kg	R290/0.8kg	R290/0.95kg	R290/1.00kg	R290/0.95kg	R290/1.00kg	R290	
Compressor	Form	/	Double - rotor	Double - rotor	Double - rotor	Double - rotor	Double - rotor	Double - rotor	Double - rotor	Double - rotor
	Brand	/	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly
Net Size	mm	1160*455*743	1160*455*743	160*455*743	1330*486*914	1330*486*914	1330*486*914	1330*486*914	1330*486*914	
Net Weight	kg	95.00	97.00	106.00	129.00	134.00	143.00	147.00	151.00	
Sound Pressure (1m)	dB (A)	≤45								
Fan	Form	/	Intelligent variable frequency fan motor							
	°C	-20~43								
Max.Outlet Water Temp.	°C	75								
Inlet Pipe Diameter	mm	G1"	G1"	G1"	G1"	G1"	G1"	G1"	G1"	
Outlet Pipe Diameter	mm	G1"	G1"	G1"	G1"	G1"	G1"	G1"	G1"	
Packing Size	mm	1335*605*955	1335*605*955	1335*605*955	1485*615*1110	1485*615*1110	1485*615*1110	1485*615*1110	1485*615*1110	
Wifi Function	/	√	√	√	√	√	√	√	√	
ErP Energy Class	/	35°C A+++ / 55°C A++								
Test Standard	/	EN 14825								

The above parameters, if there are slight differences due to technical improvements, please refer to the relevant specifications of the actual product for accuracy.

# SPECIFICATIONS

## ECOFORCE MAX SERIES



Model:		WDLRK-8 I BM/B3	WDLRK-10 I BM/B3	WDLRK-12 I BM/B3	WDLRK-12 II BM/B3	WDLRK-14 I BM/B3	WDLRK-16 I BM/B3
Rated Heating Capacity	kW	8.00	10.00	12.00	12.00	14.00	16.00
Rated Heating Input	kW	1.80	2.22	2.60	2.70	3.15	3.50
Rated Heating Current	A	7.82	9.65	11.34	4.30	14.64	15.90
COP	W/W	4.45	4.51	4.60	4.44	4.44	4.57
SCOP at 35°C	W/W	4.77	4.80	4.98	4.95	5.24	4.92
SCOP at 55°C	W/W	3.67	3.74	3.80	3.65	3.77	3.79
Rated Cooling Capacity	kW	9.20	11.00	12.80	13.00	15.00	17.00
Rated Cooling Input	kW	2.49	3.13	3.75	3.60	4.11	4.40
Rated Cooling Current	A	10.81	13.61	16.32	6.10	18.82	19.50
EER	W/W	3.70	3.51	3.41	3.61	3.65	3.86
Power Supply	V.Hz	220-240V~.50HZ	220-240V~.50HZ	220-240V~.50HZ	380-415V.3N~.50Hz	220-240V~.50HZ	220-240V~.50HZ
Rated Power Input	kW	3.50	4.35	5.72	6.60	6.60	6.60
Rated Current	A	16.01	19.00	26.19	11.50	30.00	30.00
HP. PS	MPa	3.20	3.20	3.20	3.20	3.20	3.20
LP. PS	MPa	0.90	0.90	0.90	0.90	0.90	0.90
Max. Allowable Pressure	MPa	3.20	3.20	3.20	3.20	3.20	3.20
Refrigerant Type	/	R290	R290	R290	R290	R290	R290
Charge	kg	0.80	0.85	1.10	1.15	1.35	1.50
GWP	/	3	3	3	3	3	3
Co2 Equivalent	t	0.0024	0.0026	0.0033	0.00345	0.0041	0.0045
Waterproof Grade	/	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Electrical Shockproof	/	Class I	Class I	Class I	Class I	Class I	Class I
Sound Power Level	dB(A)	55	59	56	55	52	55
Max. Water Outlet Temp.	°C	75	75	75	75	75	75
Diameter of Water Connection	/	DN25	DN25	DN25	DN25	DN25	DN25
Rated Water Flow	m³/h	1.38	1.72	2.06	2.06	2.41	2.75
Min/Max Water Side Pressure	MPa	0.5/0.3	0.5/0.3	0.5/0.3	0.5/0.3	0.5/0.3	0.5/0.3
Net Dimensions (LxWxH)	mm	1200*470*765	1200*470*765	1370*500*935	1370*500*935	1370*500*935	1370*500*935
Net Weight	kg	106	114	131	156	146	151

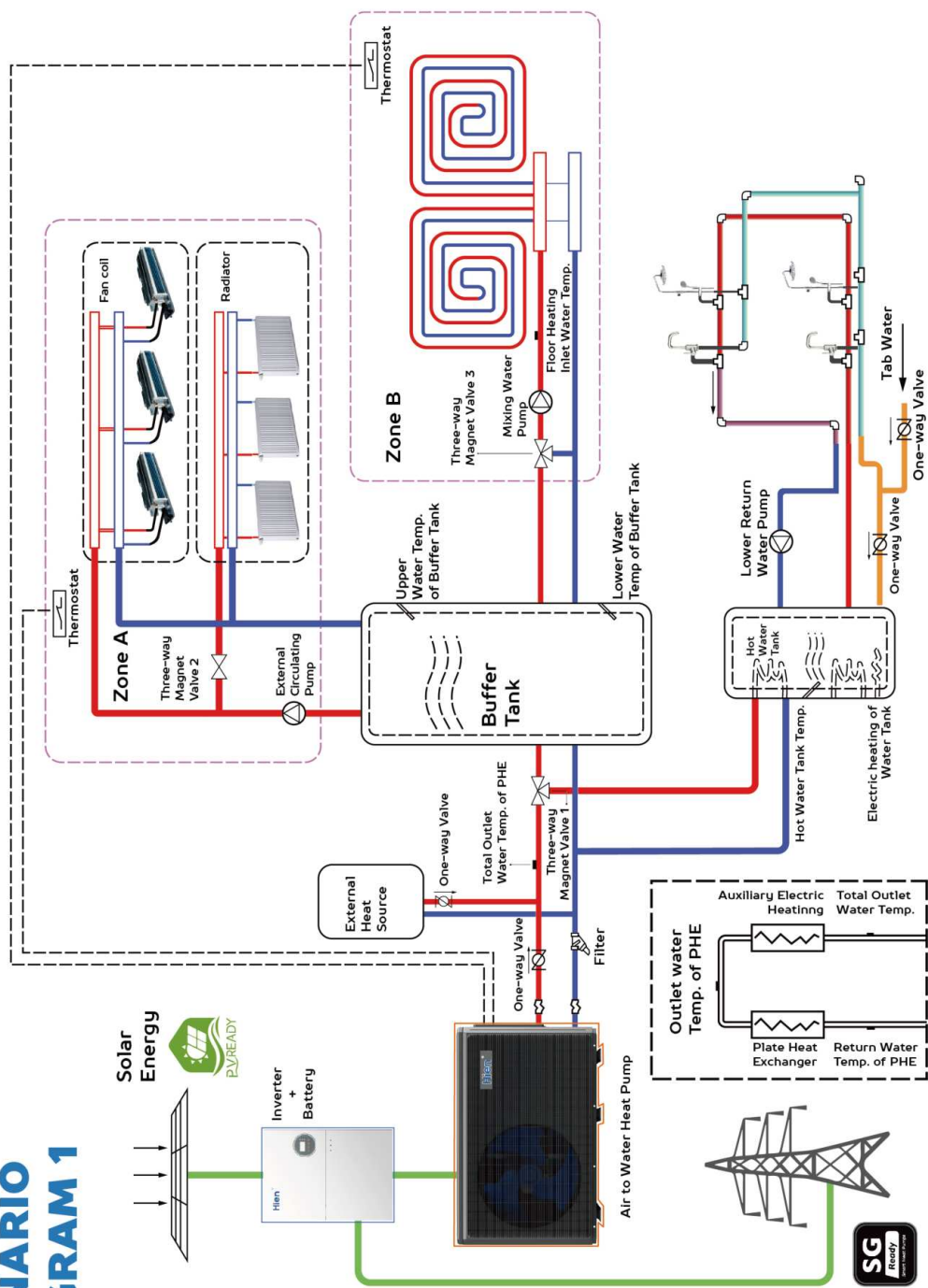
### Rated Test Conditions:

Heating: Ambient Temp. (DB / WB): 7°C/6°C Water Temp.(Inlet / Outlet): 30°C/35°C.  
Cooling: Ambient Temp. (DB / WB): 35°C/24°C.  
Water Temp. (Inlet / Outlet): 23°C / 18°C.  
According to safely tests.

The above parameters, if there are slight differences due to technical improvements please refer to the relevant specifications of the actual product for accuracy.



## SCENARIO DIAGRAM 1



## SCENARIO DIAGRAM 2

