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### EN

# R290 Monoblock **Air Source Heat Pump**

















### **PROJECTS**

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

#### **SCHOOLS**













**HOSPITALS** 













#### **RESIDENTIAL**













### **HIGHTLIGHT**







The 2013 Boao Summit for Asia in Hainan.



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.



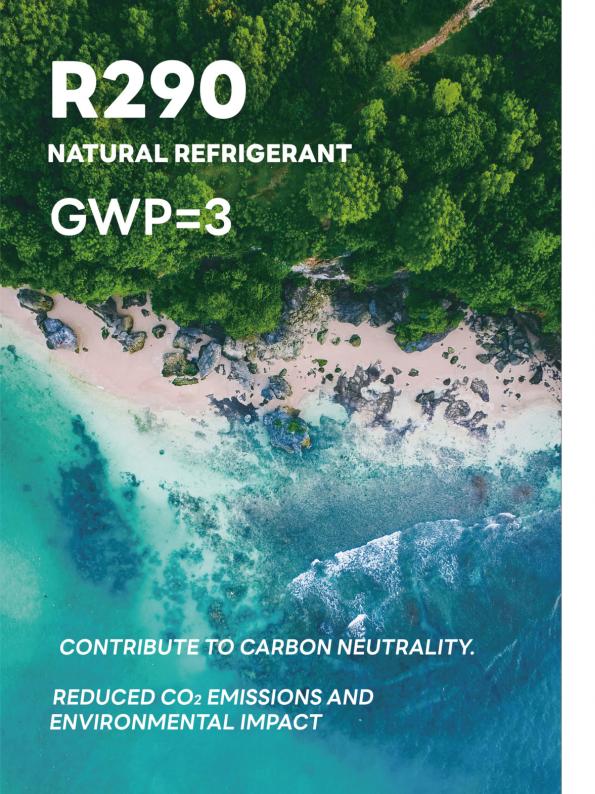
2016 the G20 Hangzhou Summit.



The 2022 Beijing Winter Olympic Games & Paralynpic Games.



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 m² 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.



# **Ecoforce Series**

HEATING+COOLING+DHW

VOLUME < 0.6 CBM

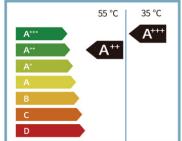
A+++ High Efficiency A+++ Energy Level

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%



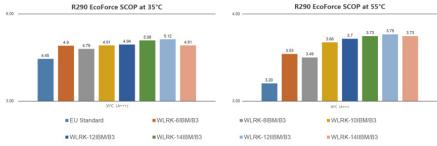
#### **Multi-Function Selections**

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 Installattion

Simple, efficient installation.



DC Inverter EVI Technology 30%+ more efficient.



Reduce Compressor Load Avert overheating, extend life.







Inverter-EVI Synergy

IPLV +20%-30% (partial load).



**Smart Control System** Remote monitoring and



SCOP Up to 5.24

The SCOP of this heat pump is as high as 5.24.

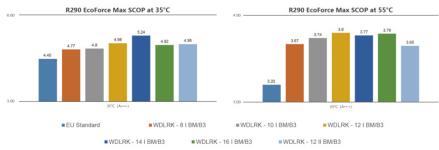
### **DC Inverter EVI Technology**

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 vou save more.

#### **Comparison between EU standards and Hien SCOP**

Regulation: (EU) No 811/2013



### **Smart Touch Display**





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

#### **RS485**

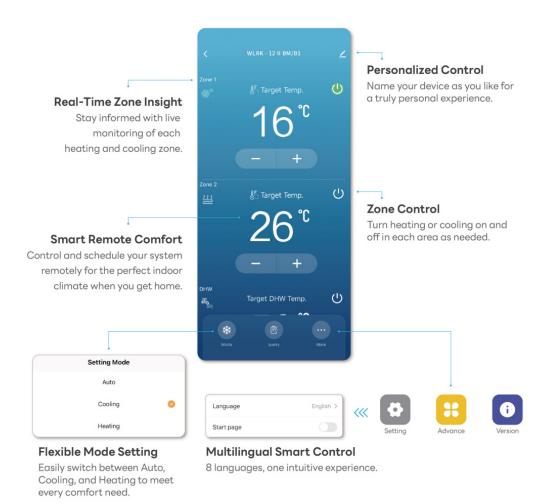
The intelligent controller with RS485 is adopted to realize the linkage control between the heat pump unit and the terminal end. Multiple heat pumps can be controlled and connected to be well monitored.



### **Smart Control Family**

#### **Smart APP control**

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



#### Wi-Fi DTU

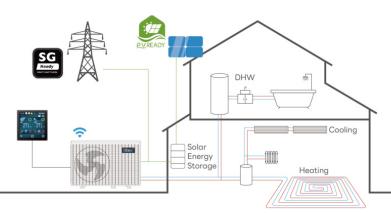
To deliver the best user experience, EcoForce series is designed with a DTU module for remote data transferring, and then you can easily monitor the running status of your heating system.



### Can be operated in combination with:

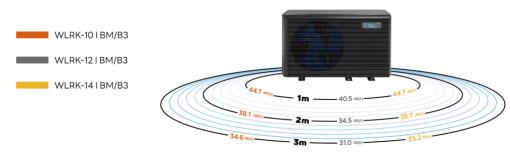
- 1. Electric Water Heater
- 2. Conventional Boiler
- 3. Solar Hot Water Systems

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:

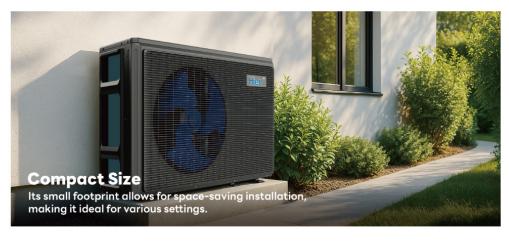
- New type of eddy current fan blades;
- Low air resistance grille, designed to better fit air flow dynamics;
- compressor shock absorber pads for vibration reduction;
- · Simulated technology optimized vortex design for finned heat exchanger;
- · Simulated technology optimized pipeline vibration transmission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



### Set It · Forget It · Enjoy It







### Different Look, Same Excellence

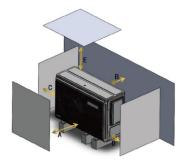
#### SAME PERFORMANCE, DIFFERENT STYLE

To meet diverse aesthetic preferences and installation needs, we offer two exterior designs for the same model.

Both versions share identical performance, dimensions, and air outlet design, with a volume under **0.6 CBM** — only the appearance differs.

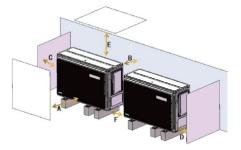


### **Installation Mode**



Single-unit installation

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
≥2000	≥500	≥500	≥500	≥1000



Double-unit installation

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
≥2000	≥500	≥500	≥500	≥1000	≥1000

### **Sterilizing Mode**

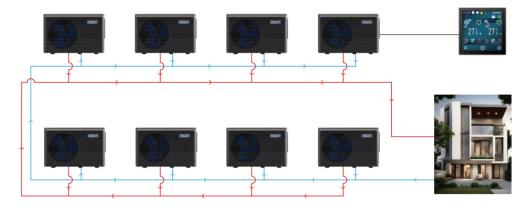
Thanks to its ability to reach temperatures as high as 75°C, this cutting-edge product eliminates harmful Legionella bacteria and viruses, ensuring the highest level of water safety.

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.

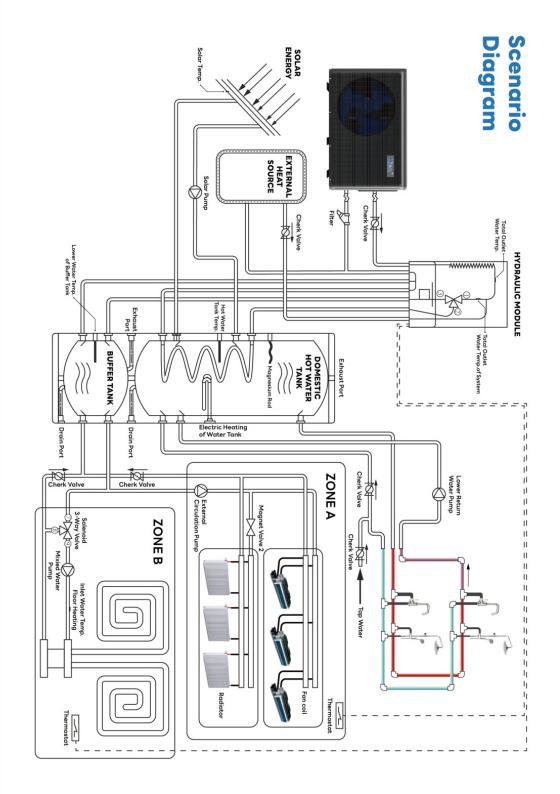
Don't compromise on safety and hygiene when it comes to your water supply. Choose our heat pump with its exceptional sterilizing mode, and enjoy the reassurance of pristine water quality every day.



### **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.



# **Specifications**

#### **ECOFORCE SERIES**

Model			WLRK-6IBM/B3	WLRK-8IBM/B3	WLRK-10IBM/B3	WLRK-12IBM/B3	WLRK-14IBM/B3	WLRK-16IBM/B3	WLRK-12IIBM/B3	WLRK-14IIBM/B3	WLRK-16IIBM/I	
Power sup	ply	V/Ph/Hz	220V-240V/1/50Hz								380V-415V/3/50Hz	
	Capacity	kW	6.00	8.00	10.00	12.00	14.00	16.00	12.00	14.00	16.00	
Heating(A7W35)	Rated Input	kW	1.22	1.79	2.24	2.65	3.19	3.40	2.60	3.16	3.50	
	COP		4.90	4.45	4.45	4.53	4.39	4.58	4.61	4.43	4.57	
	Capacity	kW	5.90	8.10	9.60	12.00	14.00	16.30	12.50	14.40	15.90	
Heating(A7W45)	Rated Input	kW	1.50	2.20	2.70	3.20	4.00	4.40	3.20	4.00	4.40	
	COP		3.74	3.59	3.56	3.75	3.49	3.67	3.80	3.56	3.58	
	Capacity	kW	6.00	8.05	9.98	12.00	14.07	16.00	12.07	13.96	16.05	
Heating(A7W55)	Rated Input	kW	2.03	2.62	3.28	3.99	4.82	5.40	3.98	4.72	5.40	
	COP		2.95	3.07	3.04	3.01	2.92	2.95	3.03	2.96	2.97	
	Capacity	kW	4.80	6.20	7.80	9.80	11.10	12.40	9.90	11.30	12.70	
Heating(A-7W35)	Rated Input	kW	1.50	2.10	2.60	3.20	3.80	4.20	3.10	3.70	4.30	
	COP		3.19	2.97	2.93	2.97	2.90	2.92	3.11	3.01	2.91	
	Capacity	kW	5.80	7.80	10.00	11.60	13.80	15.40	11.40	13.40	15.50	
Cooling(A35W18)	Rated Input	kW	1.52	2.00	2.60	3.03	4.00	4.02	2.90	4.00	4.00	
	EER		3.82	3.91	3.82	3.84	3.44	3.83	3.92	3.35	3.87	
		WASSC					A+++					
SCOP	Average Climate	, was C	4.90	4.79	4.91	4.94	5.08	/	5.12	4.91	/	
	Average Climate	WEESC					A++					
	Average Climate	, wss C	3.53	3.49	3.66	3.70	3.73	/	3.75	3.73	/	
Net Dimension(	W*H*D)	mm	1160*455*743	1160*455*743	1160*455*743	1330*486*914	1330*486*914	1330*486*914	1330*486*914	1330*486*914	1330*486*91	
Packing Dimension	n(W*H*D)	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	1485*615*11	
Net Weight  Erp Sound Power Level  Compressor		kg	95.00	97.00	106.00	129.00	134.00	149.00	143.00	147.00	151.00	
		dB	53	53	59	55	61	/	54	59	/	
		Brand	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly	Highly	
Water Side Connection			DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25	
Refrigerant/Charge		/	R290/0.6kg	R290/0.7kg	R290/0.8kg	R290/0.95kg	R290/1.00kg	R290/1.60kg	R290/0.95kg	R290/1.00kg	R290/1.60kg	
Rated Water	Flow	m³/h	1.03	1.38	1.72	2.06	2.41	2.75	2.06	2.41	2.75	
Control Mo	ode	/	Heating , Cooling , DHW , Heating + DHW , Cooling + DHW									
Max.Outlet Wat	er Temp.	°C					75					
20 00 000	Heating	°C	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	
Outdoor Air Temperature Range	Cooling	°C	-7~48	-7~48	-7~48	-7~48	-7~48	-7~48	-7~48	-7~48	-7~48	
	DHW	°C	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43	
	Heating	°C	25~70	25~70	25~70	25~70	25~70	25~70	25~70	25~70	25~70	
Water Setting Temperature Range	Cooling	°C	12~26	12~26	12~26	12~26	12~26	12~26	12~26	12~26	12~26	
emperature range	DHW	°C	28~70	28~70	28~70	28~70	28~70	28~70	28~70	28~70	28~70	

#### Note

data above based on test reference standard EN14511; EN14825; EN50564; EN 12102; (EU) No:811

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**

м	odel		WDLRK-8IBM/B3	WDLRK-10IBM/B3	WDLRK-12IBM/B3	WDLRK-14IBM/B3	WDLRK-16IBM/B3	WDLRK-12IIBM/B3	WDLRK-14IIBM/B3	WDLRK-16IIBM/E
Power supply V/Ph/Hz			220V-240V/1/50Hz					380V-415V/3/50Hz		
	Capacity	kW	8.00	10.00	12.00	14.00	16.00	12.00	14.00	16.00
Heating(A7W35)	Rated Input	kW	1.80	2.22	2.60	3.15	3.50	2.70	3.00	3.45
ricuting(r/ 1133)	COP	N.V	4.45	4.51	4.60	4.44	4.57	4.44	4.67	4.64
	Capacity	kW	7.90	10.00	11.80	14.03	16.06	12.08	14.19	16.04
Heating(A7W45)	Rated Input	kW	2.10	2.60	3.20	3.88	4.25	3.37	3.68	4.16
	COP	KVV	3.72	3.77	3.71	3.61	3.78	3.58	3.85	3.86
	Capacity	kW	7.80	10.00	11.90	14.18	16.02	12.04	14.20	16.13
Heating (A7M/EE)		kW	2.40	3.00	3.70	4.63	4.93	3.98	4.31	4.89
Heating(A7W55)	Rated Input COP	KVV								
			3.21	3.29	3.15	3.06	3.25	3.02	3.29	3.30
	Capacity	kW	6.24	8.10	9.74	/	/	/	/	/
Heating(A-7W35)	Rated Input	kW	2.00	2.60	3.00	/	/	/	/	/
	СОР		3.06	3.11	3.02	/	/	/	/	/
	Capacity	kW	/	/	/	10.93	12.10	9.42	11.03	12.44
Heating(A-10W35)	Rated Input	kW	/	/	/	3.94	4.26	3.32	3.89	4.19
	COP		/	/	/	2.77	2.84	2.84	2.84	2.97
Cooling(A35W18)	Capacity	kW	9.20	11.00	12.80	15.00	17.00	13.00	15.00	17.00
	Rated Input	kW	2.49	3.13	3.75	4.11	4.40	3.60	3.94	4.63
	EER		3.70	3.51	3.41	3.65	3.86	3.61	3.81	3.67
Average Climate	. W35°C	A+++								
SCOP			4.77	4.80	4.98	5.24	4.92	4.95	/	/
	Average Climate	. W55°C	A++							
			3.67	3.74	3.80	3.77	3.79	3.65	/	/
Net Dimension(W*H*D)		mm	1200*470*765	1200*470*765	1370*500*935	1370*500*935	1370*500*935	1370*500*935	1370*500*935	1370*500*935
Packing Dimension	n(W*H*D)	mm	1280*555*910	1280*555*910	1440*570*1080	1440*570*1080	1440*570*1080	1440*570*1080	1440*570*1080	1440*570*1080
Net Weig	ht	kg	106	114	131	146	151	156	161	163
Erp Sound Pow	er Level	dB	54	58	56	52	54	55	/	/
Compressor		Brand	Panasonic	Panasonic	Panasonic	Highly	Panasonic	Panasonic	Highly	Panasonic
Water Side Connection										
Water Side	Connection		DN25	DN25	DN25	DN25	DN25	DN25	DN25	DN25
Water Side Refrigerant/C		/	DN25 R290/0.8kg	DN25 R290/0.85kg	DN25 R290/1.1kg	DN25 R290/1.35kg	DN25 R290/1.5kg	DN25 R290/1.15kg	DN25 R290/1.35kg	DN25 R290/1.45kg
300000000000000000000000000000000000000	harge	/ m³/h	973,897				1990///			000000
Refrigerant/C	harge	-	R290/0.8kg	R290/0.85kg	R290/1.1kg 2.06	R290/1.35kg 2.41	R290/1.5kg	R290/1.15kg 2.06	R290/1.35kg	R290/1.45kg
Refrigerant/C Rated Water	harge Flow ode	m³/h	R290/0.8kg	R290/0.85kg	R290/1.1kg 2.06	R290/1.35kg 2.41	R290/1.5kg 2.75 sting + DHW , Coolin	R290/1.15kg 2.06	R290/1.35kg	R290/1.45kg
Refrigerant/C Rated Water Control Mo Max.Outlet Wat	harge Flow ode	m³/h	R290/0.8kg	R290/0.85kg	R290/1.1kg 2.06	R290/1.35kg 2.41 Cooling , DHW , Hea	R290/1.5kg 2.75 sting + DHW , Coolin	R290/1.15kg 2.06	R290/1.35kg	R290/1.45kg
Refrigerant/C Rated Water Control Mc Max.Outlet Wat Outdoor Air Temperature	harge Flow ode er Temp.	m³/h	R290/0.8kg 1.38	R290/0.85kg 1.72	R290/1.1kg 2.06 Heating ,	R290/1.35kg 2.41 Cooling , DHW , Hea	R290/1.5kg 2.75 atting + DHW , Coolin	R290/1.15kg 2.06 ng + DHW	R290/1.35kg 2.41	R290/1.45kg 2.75
Refrigerant/C Rated Water Control Mc Max.Outlet Wate	Flow ode er Temp.	m³/h /	R290/0.8kg 1.38	R290/0.85kg 1.72	R290/1.1kg 2.06 Heating ,	R290/1.35kg 2.41  Cooling , DHW , Hea 7 -30~50	R290/1.5kg 2.75 sting + DHW , Coolin 5	R290/1.15kg 2.06 ng + DHW	R290/1.35kg 2.41	R290/1.45kg 2.75
Refrigerant/C Rated Water Control M: Max.Outlet Wat  Outdoor Air Temperature Range	Flow ode er Temp. Heating Cooling	m³/h / °C °C	R290/0.8kg 1.38 -25~43 -7~48	R290/0.85kg 1.72 -25~43 -7~48	R290/1.1kg 2.06 Heating , -25~43	2.41 Cooling , DHW , Hea 7 -30~50	R290/1.5kg 2.75 sting + DHW , Coolin 5 -30~50 15~48	2.06 g + DHW -30~50 15~48	2.41 -30~43 15~48	R290/1.45kg 2.75 -30~43 15~48
Refrigerant/C Rated Water Control Mc Max.Outlet Wat Outdoor Air Temperature	harge Flow ode er Temp. Heating Cooling DHW	m³/h / °C °C	R290/0.8kg 1.38 -25~43 -7~48 -25~43	R290/0.85kg 1.72 -25~43 -7~48 -25~43	R290/1.1kg 2.06 Heating , -25~43 15~48 -25~43	R290/1.35kg 2.41  Cooling , DHW , Hea 7 -30~50 15~48 -30~43	R290/1.5kg 2.75  sting + DHW , Coolin 5  -30~50 15~48  -30~43	R290/1.15kg 2.06 19 + DHW -30~50 15~48 -30~43	R290/1.35kg 2.41  -30~43 15~48 -30~43	2.75 -30~43 15~48 -30~43

#### Note

data above based on test reference standard EN14511; EN14825; EN50564;EN 12102; (EU) No:811

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