

# HeatMaster

5 ~ 140kW R290 High Temperature Heat Pump  
Domestic & Commercial Gas Boiler Replacement

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## R290 Refrigerant

PHNIX has always been committed to the concept of green environmental protection, and actively shoulders the responsibility of energy conservation and environmental protection. With both low carbon emissions and low GWP, R290 is recognized as the most potential refrigerant in the industry, and its application is conducive to achieving the goal of global carbon neutrality.

**HIGH ENERGY EFFICIENCY**

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**LARGE HEATING CAPACITY**

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**ENVIRONMENTALLY FRIENDLY**

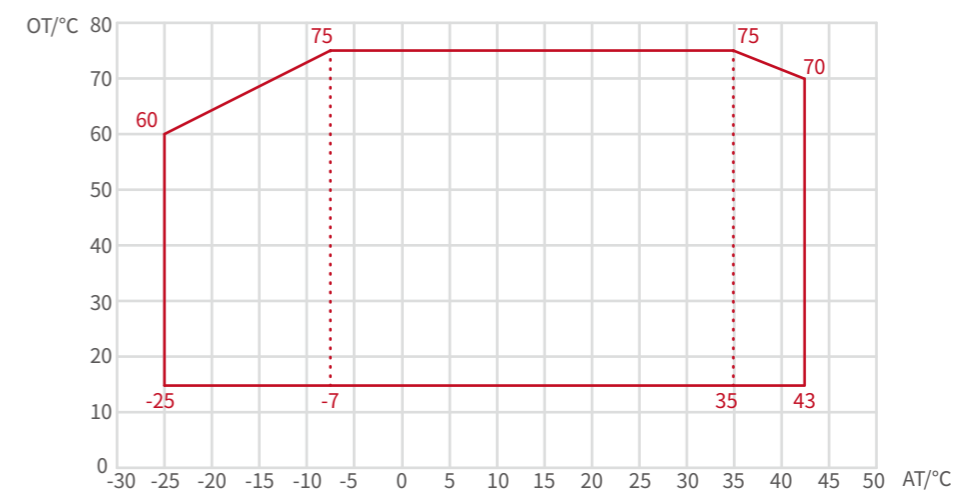
**ODP=0**  
neutral for  
the ozone layer

**GWP=3**  
low impact  
on global warming



# Operation Range

Running safely and reliably all year round, HeatMaster Series perfectly combines eco-friendly R290 natural refrigerant and inverter heating technology to ensure optimal performance from  $-25^{\circ}\text{C}$  to  $43^{\circ}\text{C}$ . It's worth mentioning that the unit can operate efficiently at  $-25^{\circ}\text{C}$ , maintaining high COP, reliable stability, and strong heating capacity for  $60^{\circ}\text{C}$  hot water. More significantly, the maximum outlet water temp can be up to  $75^{\circ}\text{C}$  without electric heating to guarantee protection against legionella. With wide operating range, HeatMaster is different from traditional installations. It can connect to solar water heating systems, various gas boiler water heating systems and electric water heating systems.



# RENEWABLE & CLEAN ENERGY

## COMBINATION OF SOLAR ENERGY AND HEAT PUMP

As the number of heat pumps increases, so does the demand for Photovoltaic (PV). In the future of Photovoltaic (PV), it will connect with the electricity grid in every household and become a source of electricity supply. As a member of the consumers' houses that requires electricity to run, HeatMaster commercial heat pump can connect with Photovoltaic (PV) system and directly use the electricity it generates during operation.



### PV READY

Smart green system is dedicated to consume as much photovoltaic energy as possible during power generation.



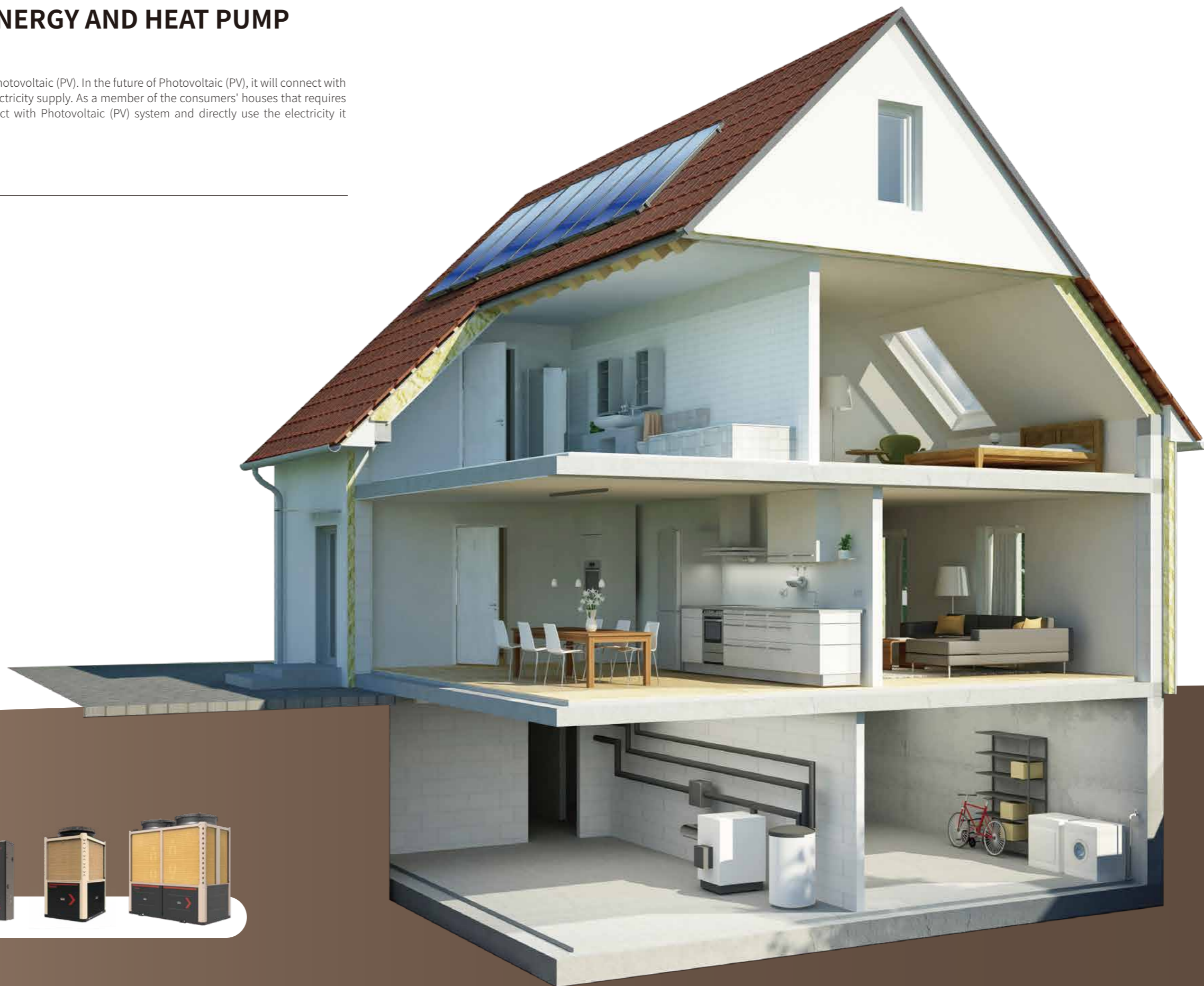
### HIGH EFFICIENCY

It can achieve 100% free running when solar energy is the strongest in summer.



### ENERGY MANAGEMENT

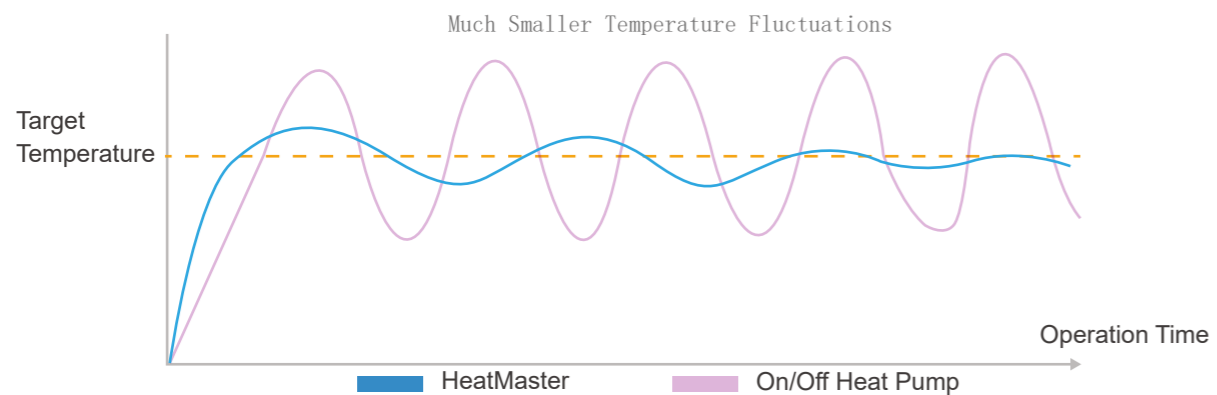
With over 20 years' experience, we are passionate about the potential of energy efficient and environmentally-friendly hot water solutions.





## Full DC Inverter Technology

In order to meet the market requirement, PHNIX has made many breakthroughs in core technologies. With the full inverter technology, the units become more energy-efficient, thus saving users' energy bills. Also, when the heat pump is powered on, the current will start from 0A and go up slowly to the rated current without affecting the house electricity system.



## Intelligent Defrosting Technology

HeatMaster adopts intelligent defrosting technology, which can determine whether to defrost according to multiple variables, greatly extending the defrosting cycle and reducing defrosting time. Also, it can realize timed defrosting with the help of independent air chamber design, minimizing system water temperature fluctuations due to defrosting. As a result, the unit can operate with high heating capacity and energy efficiency.



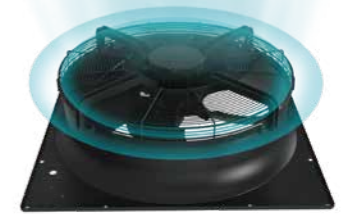
# Better by Design

As one of the leading heat pump manufacturers, PHNIX always adheres to forefront manufacturing technology and the most advanced spare parts to fit its machines.



**DC INVERTER  
COMPRESSOR**

DC inverter compressor is dedicated for heating & hot water.



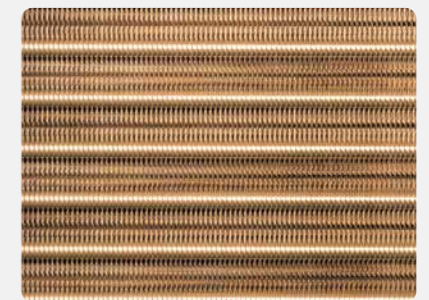
**DC INVERTER  
FAN MOTOR**

Dedicated speed module enhances COP and heating performance.



**REFRIGERANT  
COOLING BOARD**

Refrigerant cooling inverter heat dissipation technology, strong cooling below 55 °C



**FINNED  
HEAT EXCHANGER**

The capacity of the copper-aluminum fin heat exchanger is increased by 25%.



**TUBE IN SHELL  
HEAT EXCHANGER**

Water inside the tube, fluorine outside the tube, counter-current heat exchanger.



**RS485  
CENTRALIZED CONTROL**

HeatMaster Series is highlighted with central control system as a RS485 serial port is designed for communications in every unit.

# 4G-DTU Technology

Fitted with a plug-and-play 4G DTU module, the heat pump can communicate with the webplatform via the cloud server. Project managers and technicians can monitor and manage the heat pump at all times. PHNIX's DTU cloud server is located in Europe, ensuring the security and stability of data transmission.

## Mode

Hot Water ▾

55



## Water Tank

(unit: °C)

52.0



## Inter Water

(unit: °C)

50



## Ambient

(unit: °C)

7.0



## Outlet Water

(unit: °C)

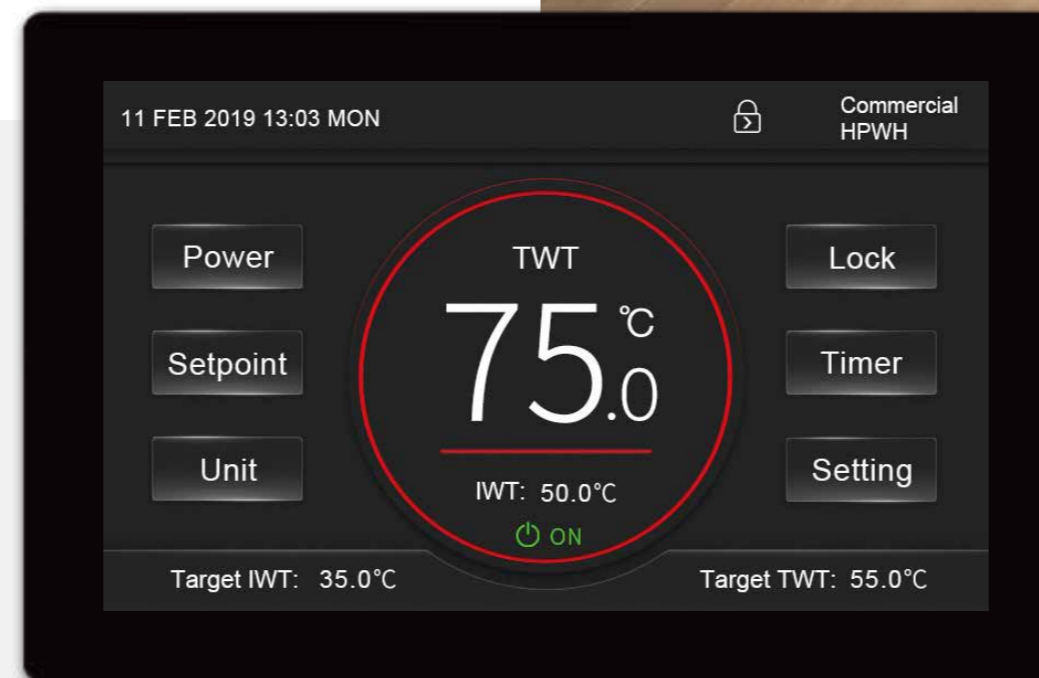
55.0



## CENTRALIZED CONTROL

The RS485 serial port is designed for communications in every unit.

- ✓ Daily Management
- ✓ After-sales Management
- ✓ Premium Service



## 5-inch Color Display

- ✓ Duty Cycling
- ✓ Water Temp Curve
- ✓ One-key Setting
- ✓ One Plus Four
- ✓ Temp Timer
- ✓ Fault Display

# Model Selection

## High-end Residential

**PASHW020B-BP**

Small unit as **PASHW020B-BP** is capable of fast and stable heating. Meanwhile, it helps to cut back on energy bills for users. Therefore, it is suitable for family places such as bungalow, villa, detached house and mansion.

### APPLICATION



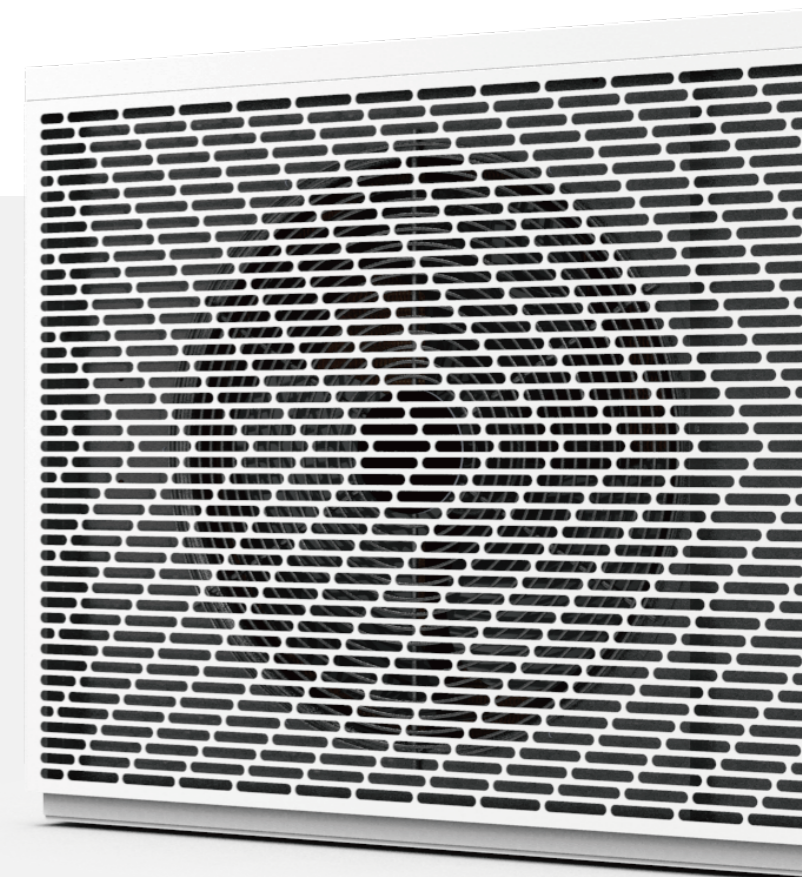
### DOUBLE-WALL PLATE HEAT EXCHANGER

The double-wall plate heat exchanger is certified by WaterMark, which is mandatory for all sanitary products installed in Australia.



### APPEARANCE DESIGN

Integrated sheet metal moulding, good craftsmanship and robustness, with portable installation.





# Light Commercial

**PASHW040B-BP PASHW060B-BP  
PASHW080SB-BP**

Compared with some complicated heating and hot water solution for large and medium commercial occasions, with simple installation and small initial investment, **PASHW040B-BP/ PASHW060B-BP/ PASHW080SB-BP** has obvious advantages. It is suitable for light commercial application such as apartment, condominium, gym and restaurant.

## APPLICATION



# Large Commercial

**PASHW150SB-BP PASHW300SB-BP**

As a large machine, **PASHW150S-BP/ PASHW300S-BP** can achieve high COP while maintaining low noise, which makes it a good choice for large commercial and industrial projects such as hospital, schools, hotels and office building.

## APPLICATION



# PHNIX Sample Project



## Specification



HeatMaster		PASHW020B-BP	PASHW040B-BP	PASHW060B-BP	PASHW080SB-BP	PASHW150S-BP	PASHW300S-BP
Heating Condition - Ambient Temp. (DB/WB): 20/15°C, Water Temp. (In/Out): 15/55°C							
Heating Capacity Range	kW	5	12	22	30	60	120
Heating Power Input Range	kW	1.00	2.55	4.70	6.40	12.90	25.80
COP	W/W	5.00	4.70	4.68	4.68	4.65	4.65
Hot Water Capacity Range	kW	1.36-7.00	3.27-14.00	4.90-27.00	8.20-35.00	16.36-70.00	32.70-140.00
Max.Hot Water Capacity	L/h	150	300	580	750	1500	3000
Heating Condition - Ambient Temp. (DB/WB): 7/6°C, Water Temp. (In/Out): 50/55°C							
Heating Capacity Range	kW	1.96-6.55	3.72-12.29	6.02-19.89	6.76-23.40	12.76-46.80	25.52-93.60
Heating Power Input Range	kW	0.94-3.12	1.96-6.46	3.43-11.30	4.23-15.50	8.27-30.20	16.44-60.39
COP	W/W	2.61-3.59	2.47-3.45	2.43-3.40	2.40-3.35	2.35-3.30	2.35-3.30
Heating Condition - Ambient Temp. (DB/WB): -15°C, Water Temp. (In/Out): 50/55°C							
Heating Capacity Range	kW	0.47-1.75	1.77-6.50	2.59-9.50	3.54-13.00	7.09-26.00	14.18-52.00
Heating Power Input Range	kW	0.36-1.34	1.36-5.00	1.96-7.19	4.80-9.60	5.18-19.00	10.36-38.00
COP	W/W	1.30-1.80	1.30-1.80	1.32-1.82	1.35-1.85	1.36-1.86	1.36-1.86
ERP Level (55°C)	/			A+++			
ERP SCOP (65°C)	/	3.00	2.80	3.00	2.80	2.80	2.80
Max. Power Input	kW	2.70	5.00	7.50	9.70	20.00	40.00
Max. Current Input	A	12.00	6.70	10.00	13.00	25.00	50.00
Power Supply	V/Ph/Hz	220-240V/~50-60Hz			380-415V/~50-60Hz		
Refrigerant	/	R290					
Noise	dB(A)	40	42	44	56	60	65
Operating Ambient Temperature	°C	-25~43					
Max. Outlet Water Temperature	°C	75					
Display	/	5-inch display					
Smart Control	/	WiFi	DTU				
Central Management	/	/	One plus sixteen				
Condensor Type	/	Double Wall	Standard PHE	Standard PHE (Double wall for option)	Standard PHE (Double wall for option)	Standard PHE	Standard PHE
Fan Motor Quantity	/	1	1	1	2	1	2
Fan Motor Type	/	DC					
Water Connection	inch	G3/4"	G1"	G1"	G1"	G2"	DN65
Water Presussure (Max)	kPa	20	25	35	65	80	100
Refrigerant/Proper Input	g	380	500	850	1300	1250*2	1250*2
CO2	/	0.0011	0.0015	0.0026	0.0039	0.0075	0.0150
Rated Water Flow	m3/h	1	2	3	6	12	24
Rated Water Pressure Drop	kpa	20	25	35	65	80	80
Circulation Pump Water Head	m	7.50	7.50	7.50	12.50	24.00	24.00
Net Weight	kg	55	80	142	202	490	733
Gross Weight	kg	66	93	160	223	560	833
Unit Dimension (L/H/W)	mm	1020×448×605	1270×455×790	1390×500×930	1350×540×1330	1195×980×1900	2170×1150×2130
Ship Dimension (L/H/W)	mm	1040×470×630	1290×475×810	1410×520×950	1370×560×1350	1215×1000×1920	2190×1170×2150

The data above is for reference only. For more specific data, please refer to the nameplate on the unit.