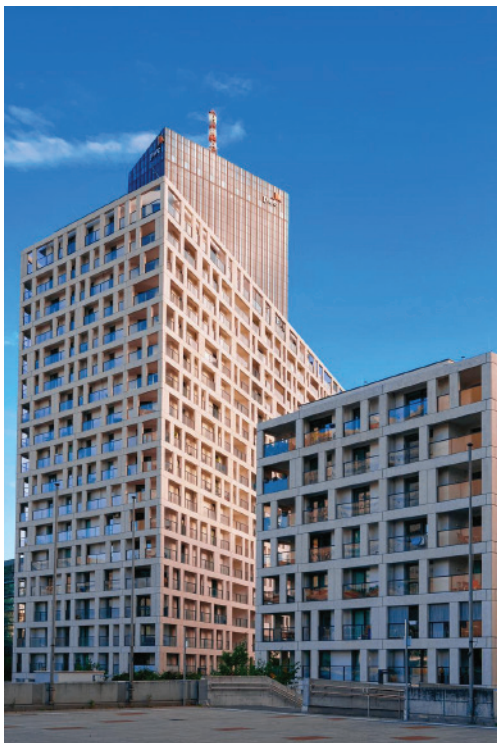
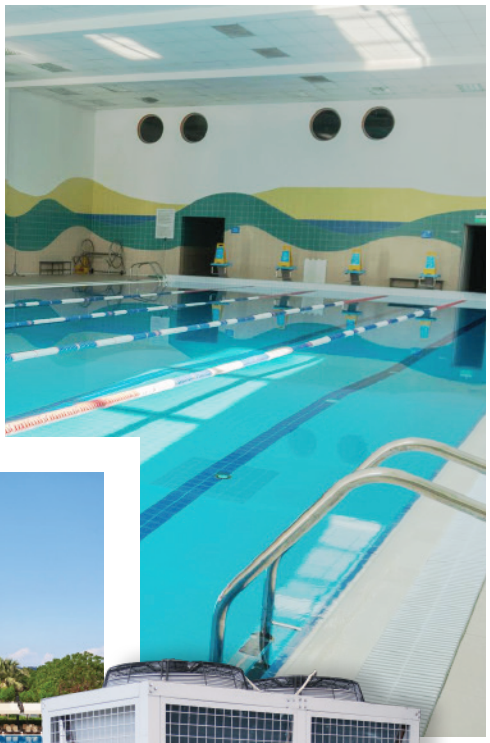
HONNY





Hospitality | Residential | Commercial | Swimming Pool

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OUR TIMELINE

2009

- **AUG** : Pioneered China's first heat pump hot water unit in collaboration with Shanghai Hitachi, featuring a dedicated compressor
- **SEP** : Manufactured specialized hot water compressors with cutting-edge heat pump technology in the past
  Entered into a comprehensive strategic cooperation contract with AFIS Company, South Korea
  Successfully achieved national CCC certification for household series products
  Secured certification from the Korea Refrigeration and Air Conditioning Association, marking the successful entry of advanced products into the Korean market
- **OCT** : Obtained national CCC certification for the light commercial series products
  The product performance in the comprehensive laboratory successfully passed the testing and certification conducted by Hefei General Institute
  Took part in the Bangkok RHV International Air Conditioning and Refrigeration Exhibition
- **NOV** : Successfully achieved EU CE certification for household series products
- **DEC** : Obtained EU CE certification for the light commercial series products

2010

- **JAN** : Secured the patent certificate for the new heat pump water heater with the patent number ZL 2009200639575
  Initiated factory inspection for products entering the French market through collaboration with the French FCD company
  Successfully launched products, fully penetrating the domestic market
- **FEB** : Successfully passed the EU 14511 testing and certification for light commercial series products.
- **MAR** : Participated in the 2010 International HVAC and Refrigeration Exhibition in Milan, Italy (MCE) with the PUN-200, marking the full entry of the product into the European market
- **MAY** : The commercial unit secured the 'National Industrial Product Production License' certificate
- **JUNE** : Commenced mass production of the low-temperature injection heat pump unit
- **SEPT** : Simultaneously launched the new generation of heat pump three-in-one units worldwide

2011

- **JAN** : Initiated mass production of the low-temperature injection heat pump three-in-one unit, with exports reaching Russia

2012

- **JAN** : The special heating unit of Hanging heat pump was successfully launched
- **JULY** : Hangzhou's 'heat pump three-in-one' unit secured national patent certification
- **AUG** : Hanging heat pump products secured a successful bid for a series of residential projects in Yunnan High-tech Development Zonett

2014

- : Hanning Company successfully completed the second factory audit conducted by the Korea Refrigeration Association

2015

- : Hangzhou's 'coal-to-electricity' series products entered mass production.

2016

- : Hanning Company successfully completed its third factory audit conducted by the Korea Refrigeration Association.

2017

- **JUNE** : Hanging Environmental Technology Co., Ltd. was established, with a dedicated commitment to enhancing the living environment as its core responsibility.
- **JULY** : Hanning Company and China Potevio Co., Ltd.'s strategic cooperation with Hangzhou Hongyan Company marked the initiation of a period of rapid development for the company.

ABOUT HONNY

Honny Heat Pump Manufacturing is a leading and innovative company specializing in the design, development, and production of advanced heat pump systems for residential, commercial, and industrial applications. With a commitment to sustainability and energy efficiency, Honny Heat Pump Manufacturing has established itself as a trusted provider of cutting-edge heat pump solutions that contribute to a greener and more environment friendly future.

PRODUCT SERIES

As a leader in heat pump technology, HONNY is dedicated to continuous innovation in the field of heat pump technology.

It continues to introduce **household heat pump water heaters, commercial heat pump water units, air-cooled heat pump cold (hot) water central air conditioning units, and specialized solutions for seafood.**

Building upon the foundation of our units, we have pioneered the industry by developing specialized heat pump hot water units for **swimming pools** and **solar heat pump hot water units**. Additionally, we are the **first in the industry to introduce floor heating technology.**

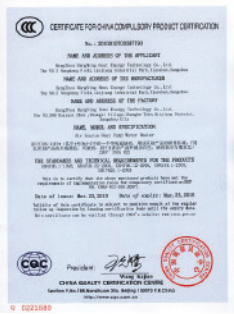
We specialize in high-end, energy-saving, and environment friendly products, including the heat pump hot water special unit, heat pump three-in-one unit, and ultra-low temperature heat pump unit. Our products showcase exquisite technology and innovation.

Honny's products, characterized by professional manufacturing and high-end quality, have garnered unanimous praise and wide acclaim from users worldwide.

QUALIFICATIONS AND HONORS

HONNY adheres to a comprehensive quality management system, having successfully obtained **ISO9001** quality management system certification and **CE** certification.

HONNY holds a range of certifications, including **CCC** certification, **production license** certification, China heat pump demonstration base certificate, and numerous other accolades, highlighting our commitment to quality and excellence.



INFRASTRUCTURE & CAPABILITIES

The company leverages strong **research and development** (R&D) and **design capabilities.** All projects undergo three-dimensional simulation design, ensuring comprehensive development of both the main products and their associated components.

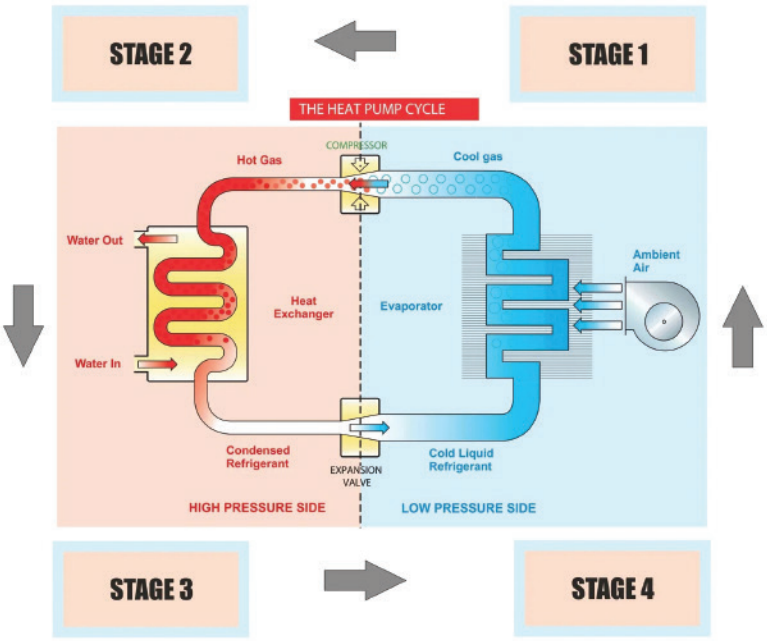
The company emphasizes both speed and development quality, aiming for swift progress without compromising on the quality of the outcomes.

- The establishment of the first-class national comprehensive performance laboratory in China, featuring a temperature control range from -20 to 43°C
- High-precision heat exchanger complete production line
- High-speed punch (fin heat exchanger processing)
- Turret punch (to achieve sheet metal self-made)
- Sheet metal hydraulic punching press
- Automatic copper pipe straightening and bending machine
- Long U bender
- Automatic vertical pipe expander
- Fully automatic welding production line
- CNC bending machine

AIR SOURCE HEAT PUMP

WORKING PRINCIPLE

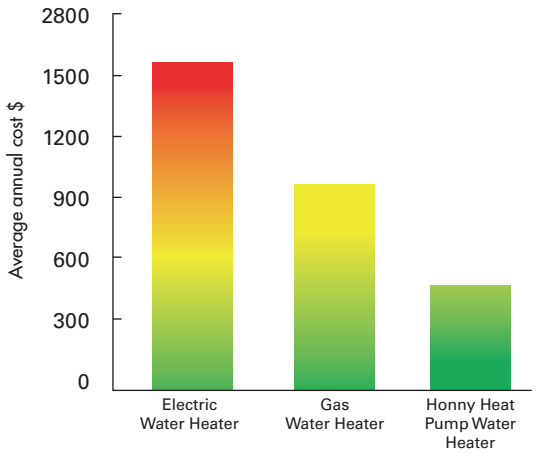
The air source heat pump unit operates according to the principles of the Reverse Carnot Cycle. By utilizing a small amount of electricity, it leverages the ability of refrigerant to absorb a substantial amount of heat from the surrounding air at low temperatures and pressures, causing it to vaporize. Subsequently, this vaporized refrigerant is compressed by a compressor, elevating it to a state of high temperature and pressure.



This high energy gas is then directed into a water heating exchanger, where it transfers its heat to water, effectively producing hot water. Finally, the pressure is released via an expansion valve, enabling the cycle to continue in a seamless loop, ensuring a continuous supply of hot water.

The heat pump water heater, built upon these principles, represents a novel and highly efficient water heating solution. It boasts exceptional energy efficiency, substantial energy savings, and an environment friendly profile. Notably, the technology ensures safety as well. This innovative approach to water heating aligns with a sustainable and eco-conscious ethos, position it as a viable alternative to conventional water heating methods.

	Electric Water Heater	Gas Water Heater	HONNY Heat Pump Water Heater
Energy supply	Electricity	Natural gas	Electricity
Energy calorific value	860kcal/kwh	9000kcal/m	860kcal/kwh
Average efficiency	95%	85%	400%
Average daily energy consumption	49kwh	5.23m³	11.6kwh
Energy prices	$0.085	$0.48	$0.085
Average daily cost	$4.17	$2.51	$0.99
Average annual cost	$1519.60	$917.81	$360.91



HEAT PUMP WATER HEATER

Water Heating Exchanger

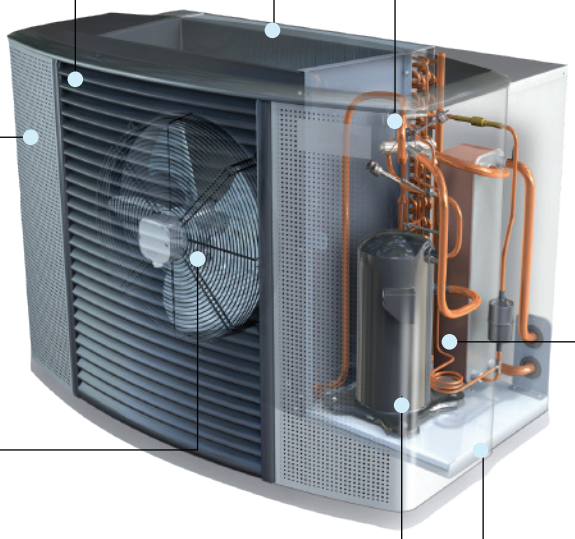
Using coaxial tube in tube heat exchanger. Several spiral flute corrugated structure, eddy current and concave turbulent flow scouring, with the descaling ability: Ensure tube clean at the same time, reduce dirt, so the heat exchange efficiency, stable performance. *Also available in shell in tube heat exchanger

PCB box

Intelligent control procedures, automatic control unit operation.

Water pump

- Shielding pump, low noise. table running.
- Anti-scaling treatment, long life.



Evaporator

Finned tube evaporator using hydrophilic aluminium fin and internal thread copper pipe, ensure sufficient absorb heat from the air.

Fan

- Low noise axial flow fan, low consumption, high efficiency.
- Two speed, improve the unit running under high ambient temperature.

Throttle device

Using thermal expansion valve throttling control, according to the different ambient temperature and water temperature, effectively regulate the flow of refrigerant, so the unit is always running in the best running status.

Compressor

Compressor is the heart of the heat pump water heater. and its quality determines the reliability of the unit. This compressor is specially designed for heat pump water heater, its unique design to ensure the unit can run reliably throughout the year, and for making high temperature hot water.

Galvanized Steel Plate

As applicable to the outdoor environment, use high quality galvanized steel and special powder coating, windproof, rainproof and UV protection.

PRODUCT FEATURES

- The system offers a broad and adaptable range of uses, encompassing sanitary hot water, floor heating, and swimming pool heating.
- High-temperature T3 compressor.
- Eco-friendly refrigerant: R407C.
- Two speed fan motor which further improves unit operation under high ambient temp.
- Electronic expansion valve regulates the flow of refrigerant precisely.
- Heat-exchanger cycle technology to further improve operation under low ambient temperature.
- The air exchange mechanism, facilitated by a fin-coil configuration, is further augmented by the integration of a hydrophilic coating.
- The heat pump system features an innovative tube-in-tube heat exchanger with an internal spiral design. This design not only ensures exceptionally high thermal efficiency but also effectively combats scaling concerns. *Also available in shell in tube heat exchanger
- The system incorporates a soft start device designed to effectively mitigate the impact of starting current. This innovative feature serves to optimize performance and minimize the strain on the system during the initial phases.
- The system features a housing made from galvanized plates, further enhanced by a layer of powder coating. This combination of materials and treatments offers several advantages, ensuring durability, protection, and an appealing aesthetic.
- LCD display wire controller.
- The system integrates a hot water return control mechanism aimed at maintaining optimal warmth within the supplying pipes.
- Experience unmatched freedom with our system's ability to set operating times according to your preferences. Tailor your schedule to meet your specific needs, ensuring optimal functionality and convenience.
- The system operates seamlessly with an automatic mode that is closely tied to the temperature of the tank water.
- Automatic defrosting.
- Automatic prevent freezing in the winter.
- Water flow protection control.
- The system includes a sophisticated feature that enables control over auxiliary heating devices, such as electric heating units. This intelligent functionality offers a comprehensive approach to maintaining desired temperatures and ensuring optimal comfort.
- Control of solar heating (optional).
- Fault diagnosis and display.

SPECIFICATION (Standard)

Honny Model	Type	KFRS-7J1A	KFRS-18J2	KFRS-22J2
Power supply(V/Ph/Hz)		220-240/1/50	380/415/3/5042	
Hot water model				
– Heating capacity	kW	7	18	22
– Rated power input	kW	1.8	4.2	4.9
– COP		3.9	4.3	4.5
– Rated hot water output	L/h	150	390	480
– Hot water temperature	℃		20~60	
Floor heating				
– Heating capacity	kW	/	14	17.5
– Rated power input	kW	/	3.6	4.6
– COP	W/W	/	3.9	3.8
Circulating water flow	m3/h	1.2	3.1	3.8
Water resistance	kPa	/	≤48	≤52
Compressor type		Rotary	Scroll	
Refrigerant			R407C	
Noise	dB(A)	55	58	58
Net weight	kg	57	130	140
Unit dimensions (L×W×H)	mm	850×290×605	960×340×1260	
Packing dimensions (L×W×H)	mm	930×360×656	1100×480×1350	
Stacking layers	layer	2	1	1
Water pipe connector	mm	DN20(3/4")	DN25(1")	DN25(1")
Ambient condition	℃		-15~43	
Water flow switch		None	Optional	Optional
Pump		Built-in	None	
Auxiliary heating control function		Yes	Yes	Yes
Indoor signal control function		Yes	Yes	Yes
Modular control function		No	No	No

Honny Model	Type	KFRS-36J2	KFRS-45J2	KFRS-72J2	KFRS-90J2	KFRS-150J2
Power supply(V/Ph/Hz)				380-415/3/50		
Hot water model						
– Heating capacity	kW	36	45	72	90	150
– Rated power input	kW	8.2	10.5	16.8	22	35.7
– COP		4.4	4.3	4.3	4.1	4.2
– Rated hot water output	L/h	770	960	1550	1930	3220
– Hot water temperature	℃			20~60		
Floor heating						
– Heating capacity	kW	28	35	58	72	120
– Rated power input	kW	7.4	9.3	15.6	20	33.1
– COP	W/W	3.8	3.8	3.7	3.6	3.63
Circulating water flow	m3/h	6.8	7.8	12.5	15.5	26
Water resistance	kPa	≤60	≤60	≤60	≤60	≤60
Compressor type				Scroll		
Refrigerant				R407C		
Noise	dB(A)	64	64	66	66	68
Net weight	kg	300	320	700	730	1100
Unit dimensions (LxWxH)	mm	1390×740×1640		2025×1030×1995		2370×1400×2400
Packing dimensions (LxWxH)	mm	1490×790×1800		2130×1075×2080		2450×1430×2490
Stacking layers	layer	1	1	1	1	1
Water pipe connector	mm	DN40(1-1/2")	DN40(1-1/2")	DN65(2-1/2")		DN65(2-1/2")
Ambient condition	℃			-15~43		
Water flow switch		Built-in	Built-in	Built-in	Built-in	Built-in
Pump				None		
Auxiliary heating control function		Yes	Yes	Yes	Yes	Yes
Indoor signal control function		Yes	Yes	Yes	Yes	Yes
Modular control function		Yes	Yes	Yes	Yes	Yes

* Rated test conditions:

- Hot water heating rated test conditions: Ambient temperature (DB/WB): 20℃/15℃; Water temperature: from15℃ to 55℃.
- Floor heating: Ambient temp. (DB/WB): 7℃/6℃, Water temp. (In/Out): 30℃/35℃.

SPECIFICATION (Enhanced Vapour Injection)

Honny Model	Type	KFRS-18J2P	KFRS-36J2P	KFRS-72J2P
Power supply(V/Ph/Hz)			380/415/3/5042	
Hot water model				
– Heating capacity	kW	18	36	72
– Rated power input	kW	4.2	8.2	16.8
– COP		4.3	4.4	4.3
– Rated hot water output	L/h	390	770	1550
– Hot water temperature	℃		20~60	
Floor heating				
– Heating capacity	kW	16	31.5	63
– Rated power input	kW	4.1	8.1	16.1
– COP	W/W	3.9	3.9	3.9
Circulating water flow	m3/h	3	6.2	12
Water resistance	kPa	≤40	≤60	≤60
Compressor type			EVI Scroll	
Refrigerant			R407C	
Noise	dB(A)	58	64	66
Net weight	kg	135	320	740
Unit dimensions (L×W×H)	mm	960×340×1260	1390×740×1640	2025×1030×1995
Packing dimensions (L×W×H)	mm	1100×480×1350	1490×790×1800	2130×1075×2080
Stacking layers	layer		1	
Water pipe connector	mm	DN25(1")	DN40(1-1/2")	DN65(2-1/2")
Ambient condition	℃		-25~43	
Water flow switch		Optional	built in	built in
Pump		Built-in	None	
Auxiliary heating control function		Yes	Yes	Yes
Indoor signal control function		Yes	Yes	Yes
Modular control function		No	Yes	Yes

- Floor heating rated test conditions: Ambient temp. (DB/WB) : 7℃/6℃, Water temp. (In/Out) :30℃/35℃.
- Hot water heating rated test conditions: Ambient temp. (DB/WB) : 20℃/15℃, Water temp.:from15℃ to 55℃.

CONFIGURATION & FUNCTION

Model		KFRS-7J1A	KFRS-18J2M KFRS-22J2M	KFRS-36J2 KFRS-45J2	KFRS-72J2 KFRS-90J2	KFRS-150J2
Configuration						
• **Compressor**						
– Type		Rotary	Scroll	Scroll	Scroll	Scroll
– Quantity		1	1	2	4	4
• **Evaporator**		Hydrophilic aluminium fins + Internal thread copper pipe				
• **Condenser**		Tube in tube heat exchanger				
• **Throttle Type**		Electronic expansion valve				
• **Fan Motor**		Two speed to improve unit operation				ONE speed to improve unit operartion
• **Water Pump**		Internally Installed Canned Pump, Anti Rust, Anti-Scale, No Noise	Not Included	Not Included	Not Included	Not Included
• **Pressure Gauge**	pcs		(option)	4	8	8
Housing						
• **Material**		Galanized steel coating powder				
• **Color**		White				
Control						
• **Control Type**		Wire Remote				
• **Controller Display**		LCD				
• **Operation**		Button				
• **Max Modular Control Units**	pcs		16	16	8	8
• **Soft Start Design**			✓	✓	✓	✓
• **Keep Memory When Power Off**		✓	✓	✓	✓	✓
• **Auto restart after power restore**		✓	✓	✓	✓	✓
• **Water Return Control**		Five kinds of control way, keep water warm inside of hot water loop. (Water return system is optional)				
• **Running Parameters Inspect**		✓	✓	✓	✓	✓
• **Running Parameters To Modify**		✓	✓	✓	✓	✓
• **Clock On Controller**		✓	✓	✓	✓	✓
• **Timer Function**		Two Period Timer Setting				
• **Auto Defrost**		✓	✓	✓	✓	✓
• **Weekly Sterlization**		✓				
• **Signal control from indoor thermastat or terminal device**		(passive signal)				
• **Auto Control the Standby Electric Heater**		✓	✓	✓	✓	✓
• **Auto Control the solar Heating pump Working**		Option (When the solar temp. is 10°C higher than tank water, the solar pump will be running)				
• **Fault Diagnosis and display**		✓	✓	✓	✓	✓
• **Water Level Control and Display**		Option				
Protection Function						
• **High Pressure Protection**		✓	✓	✓	✓	✓
• **Low Pressure Protection**			✓	✓	✓	✓
• **Discharge temp overheating protection**		✓	✓	✓	✓	✓
• **Water outlet overheating protection**		✓	✓	✓	✓	✓
• **Water inlet temp. protection**		✓	✓	✓	✓	✓
• **Water flow protection**			✓	✓	✓	✓
• **High current protection**			✓	✓	✓	✓
• **Power phase sequence protection**			✓	✓	✓	✓
• **Automatic prevent freezing in winter**			✓	✓	✓	✓
Accessory						
• **Wire controller**		✓	✓	✓	✓	✓
• **Connecting line of controller**	m	5	5	5	5	5
• **Screws for controller mounting**		✓	✓	✓	✓	✓
• **Tank temp. sensor**		10K				
• **Connecting line of tank sensor**	m	5	5	5	5	5
• **Condensed water drain connector**			✓	✓	✓	✓
• **Water flow switch**			✓		Internally Installed	
• **Line for modular communication**			✓	✓	✓	✓
• **Water level sensor**			Option	Option	Option	Option
Packing						
• **Packing Type (normal)**		Carton	Carton+Plywood Pallet	Carton+Plywood Pallet	Plastic Film+Plywood	Plastic Film+Plywood
• **Quantity**						
– 20ft Container	pcs	108	27	10	5	
– 40ft Container	pcs	228	57	23	11	

PRODUCT FEATURES

- Swimming pool water heating.
- High-quality rotary compressor.
- Eco-friendly refrigerant: R407C or R417A.
- Two speed fan motor, further improve unit operation under high ambient temperature.
- Electronic expansion valve regulates the flow of refrigerant precisely.
- Heat-exchanger cycle technology to further improve operation under low ambient temperature.
- Air exchanger (Fins-coil) with hydrophilic coating.
- Heat exchanger with titanium tubes enclosed within a high-strength plastic shell offers corrosion resistance an the convenience of easy disassembly for cleaning purposes.
- The housing is constructed from galvanized plates and further protected with a powder coating for added durability and resistance to environmental factors.
- Wire controller with an LCD display.
- The modular control design allows for flexible unit installation, enabling units to be combined freely. With this setup, a single controller has the capability to manage up to 16 units simultaneously.
- A variable energy design, the number of active compressors automatically adjusts in response to changes in water temperature. For example of 16pcs KFRS-40J2Y, the variable energy is 32/32,31/32,30/32……,1/32.
- The soft start design initiates the compressors in a sequential manner, with priority given to the one that has been at rest for a longer duration. This approach minimizes sudden power surges and promotes smoother operation.
- The flexibility to set the operating time according to your preferences or requirements.
- Unit runs or stop automatically according to tank water temperature.
- Automatic defrosting.
- Automatic prevent freezing in the winter.
- Water flow protection control.
- With control of auxiliary heating device (e.g. electric heating).
- More protection functions.
- Fault diagnosis and display.

SPECIFICATION

Model		KFRS-20E2Y	KFRS-40E2Y	KFRS-50E2Y	KFRS-80E2Y	KFRS-100E2Y
HP		5	10	12	20	25
Rated Heating Capacity	kW	20	40	50	80	100
Power Input	kW	4.4	8.2	10.5	16.5	22
Circulating Water	m3/h	5.8	11.4	14.2	22.9	28.5
Pressure Drop	kPa	≤40				
Hot water temperature range	°C	25～43				
Power Supply		380-415V/3PH/50Hz				
Compressor Type		Scroll				
Compressor Qty		1	2	2	2	2
Refrigerant		R410a				
Noise	db	58	64	64	66	66
Net Weight	kg	126	300	350	700	760
Unit Dimensions（LxWxH）	mm	755×755×680	1390×740×1640		2025×1030×1990	
Packing Size（LxWxH）		855×855×720	1490×790×1800		2130×1075×2080	
Pipe Connection Size	mm	DN25(1") Female	DN40(1") Female		DN50(1-1/2") Female	
Ambient air range	°C	-5 ~43				
Water side Heat Exchanger		Co-axial (Ti)	Shell & tube (Ti)			
Flow Switch		Built in				
Air Discharge		Top Discharge				

- Rated condition: ambient air 24°C wet bulb 19oC; Entering water 27°C.
- Please consult Honny if other refrigerant required such as R407C, R417A.
- Honny reserve the right to change above parameters without future notice.

CONFIGURATION & FUNCTION

Model		KFRS-20E2Y	KFRS-40E2Y KFRS-50E2Y	KFRS-80E2Y KFRS-100E2Y
Configuration				
• Compressor				
– Type		Scroll	Scroll	Scroll
– Quantity		1	2	4
• Evaporator		Hydrophilic aluminium fins + Internal thread copper pipe		
• Condenser		Titanium Tube in tube heat exchanger		
• Throttle Type		Electronic expansion valve		
• Fan Motor		Two speed to improve unit operation		
• Pressure Gauge	pcs	✓	✓	✓
Housing				
• Material		Galanized steel Powder Coating		
• Color		White		
Control				
• Control Type		Wire remote		
• Controller Display		LCD		
• Operation		Button		
• Max Modular Control Units	pcs	16	16	16
• Variable Energy Design		✓	✓	✓
• Soft Start Design		✓	✓	✓
• Keep Memory When Power Off		✓	✓	✓
• Auto restart after power restore		✓	✓	✓
• Running Parameters Inspect		✓	✓	✓
• Control Parameters to Modify		✓	✓	✓
• Clock On Controller		✓	✓	✓
• Timer Function		Two Period Timer Setting		
• Auto Defrost		✓	✓	✓
• Auto Control the Standby Electric Heater		✓	✓	✓
• Fault Diagnosis and display		✓	✓	✓
Protection Function				
• High Pressure Protection		✓	✓	✓
• Low Pressure Protection		✓	✓	✓
• Discharge temp overheating protection		✓	✓	✓
• Water Outlet overheating protection		✓	✓	✓
• Water flow protection		✓	✓	✓
• High current protection		✓	✓	✓
• Power phase sequence protection		✓	✓	✓
• Automatic prevent freezing in winter		✓	✓	✓
Accessory				
• Wire controller		✓	✓	✓
• Connecting line of controller	m	5	5	5
• Screws for controller mounting		✓	✓	✓
• Water flow switch		✓	✓	✓
• Line for modular communication		✓	✓	✓
Packing				
• Packing Type (normal)		Carton+plywood pallet		Plastic+film+plywood
• Quantity				
– 20ft Container	pcs	27	10	5
– 40ft Container	pcs	57	23	11

COMMERCIAL HEAT PUMP

PRODUCT FEATURES

- Application: Residential and commercial (heating & cooling).
- High-quality compressor.
- Eco-friendly refrigerant: R410A.
- Electronic expansion valve maintains precise control over the refrigerant flow.
- Air exchanger (Fins-coil) with hydrophilic coating.
- High-efficiency tube-in-shell heat exchanger designed for water exchange.
- Housing made of galvanized steel plates with a powder coating finish.
- Wire remote controller with an LCD display.
- Modular control design where units can be freely combined, allowing a single controller to manage and control between 8 to 16 units simultaneously.
- Variable energy design that automatically adjusts the number of running compressors based on changes in water temperature. For example of 16pcs KLRS-E2, the variable energy is 32/32,31/32,30/32……,1/32.
- Soft start design where compressors start or stop in a sequential manner, with priority given to the one that has been at rest for a longer duration.
- Freedom to set the operating time according to your preferences or requirements.
- Automatic defrosting.
- Automatic freeze protection to safeguard the water heat exchanger from freezing.
- Control system that ensures protection by monitoring and regulating water flow.
- Incorporating control of an auxiliary heating device, such as electric heating, into the system.
- Signal control from indoor thermostat or other switch signal (passive signal).
- Additional protective functions included in the system for enhanced safety and performance.
- Fault diagnosis and display.

SPECIFICATION (Standard)

Honny Model		KLRS-12E2P	KLRS-15E2B	KLRS-24E2	KLRS-30E2	KLRS-60E2	KLRS-130E2
Power supply (V/Ph/Hz)		380-415/3/50					
Floor heating							
— Heating capacity	kW	14	17.5	28	35	68	145
— Rated power input	kW	3.6	4.6	7.4	9.2	18	38.5
— COP	W/W	3.9	3.8	3.8	3.8	3.8	3.8
Fan coil heating							
— Heating capacity	kW	13.0	16.0	26.0	33.0	65	135
— Rated power input	kW	3.90	4.80	7.90	10.00	20.00	40.60
— COP	W/W	3.3	3.3	3.3	3.3	3.3	3.3
Cooling							
— Cooling capacity	kW	12	15	24	30	60	125
— Rated power input	kW	4.35	5.20	8.5	10.7	21	43
— EER	W/W	2.8	2.9	2.8	2.8	2.8	2.9
Circulating water flow							
— Heating	m3/h	2.4	3	4.9	6	12	25
— Cooling	m3/h	2.1	2.7	4.2	5.1	10.5	21.6
Water resistance	kPa	≤43	≤46	≤56	≤60	≤50	≤65
Compressor type		Scroll					
Refrigerant		R410A					
Noise	dB(A)	58	59	64	65	66	75
Net weight	kg	120	150	300	325	750	1000
Unit dimensions (LxWxH)	mm	960×340×1260	810×765×1060	1390×740×1640		2025×1030×1995	2200×1450×2400
Packing dimensions (LxWxH)	mm	1100×480×1350	820×790×1160	1490×790×1800		2130×1075×2080	2300×1495×2480
Water pipe connector	mm	DN25(1")		DN40(1-1/2")		DN50(2")	DN65(2-1/2")
Ambient condition	℃	-10~43					
Water side exchanger		PHE		Shell & tube			
Water flow switch		Optional		built in			
Auxiliary heating control function		Yes	Yes	Yes	Yes	Yes	Yes
Indoor signal control function		Yes	Yes	Yes	Yes	Yes	Yes
Modular control function		No	No	Yes	Yes	Yes	Yes

- Floor heating rated conditions: Ambient temp. (DB/WB) : 7℃ / 6℃, Water temp. (In/Out) :30℃ / 35℃.
- Fan coil heating rated conditions: Ambient temp. (DB/WB) : 7℃ / 6℃, Water temp. (In/Out) :40℃ / 45℃.
- Cooling rated conditions: Ambient temp. (DB/WB) : 35℃ / 24℃, Water temp. (In/Out) :12℃ / 7℃.

SPECIFICATION (Enhanced Vapour Injection)

Honny Model		KLRS-12E2P	KLRS-24E2P	KLRS-30E2P	KLRS-60E2P	KLRS-130E2P
Power supply (V/Ph/Hz)		380-415/3/50				
Floor heating						
— Heating capacity	kW	15	30	36	72	145
— Rated power input	kW	3.8	7.6	9.5	18.5	38.5
— COP	W/W	3.9	3.9	3.8	3.9	3.8
Fan coil heating						
— Heating capacity	kW	15.0	30.0	36.0	72	135
— Rated power input	kW	4.45	9.00	11.00	22.00	40.60
— COP	W/W	3.4	3.3	3.3	3.3	3.3
Cooling						
— Cooling capacity	kW	12	24	30	60	125
— Rated power input	kW	4.20	8.5	10.5	21	43
— EER	W/W	2.9	2.8	2.9	2.8	2.9
Circulating water flow						
— Heating	m3/h	2.8	5.7	6.2	12.4	25
— Cooling	m3/h	2.3	4.5	5.6	11.3	21.6
Water resistance	kPa	≤50	≤35	≤35	≤60	≤60
Compressor type		EVI Scroll				
Refrigerant		R410A				
Noise	dB(A)	58	64	64	66	72
Net weight	kg	130	310	300	790	1060
Unit dimensions (LxWxH)	mm	960×340×1260	1390×740×1640		2025×1030×1995	2200×1450×2400
Packing dimensions (LxWxH)	mm	1100×480×1350	1490×790×1800		2130×1075×2080	2300×1495×2480
Stacking layers	layers	1				
Water pipe connector	mm	DN25(1")	DN40(1-1/2")		DN50(2")	DN65(2-1/2")
Ambient condition	℃	-20~60				
Water side exchanger		PHE	Shell & tube			
Water flow switch		Optional	Built-in			
Auxiliary heating control function		Yes	Yes	Yes	Yes	Yes
Indoor signal control function		Yes	Yes	Yes	Yes	Yes
Modular control function		No	Yes	Yes	Yes	Yes

- Floor heating rated conditions: Ambient temp. (DB/WB) : 7℃ / 6℃, Water temp. (In/Out) :30℃ / 35℃.
- Fan coil heating rated test conditions: Ambient temp. (DB/WB) : 7℃ / 6℃, Water temp. (In/Out) :40℃ / 45℃.

  Cooling rated test conditions: Ambient temp. (DB/WB) : 35℃ / 24℃, Water temp. (In/Out) :12℃ / 7℃.

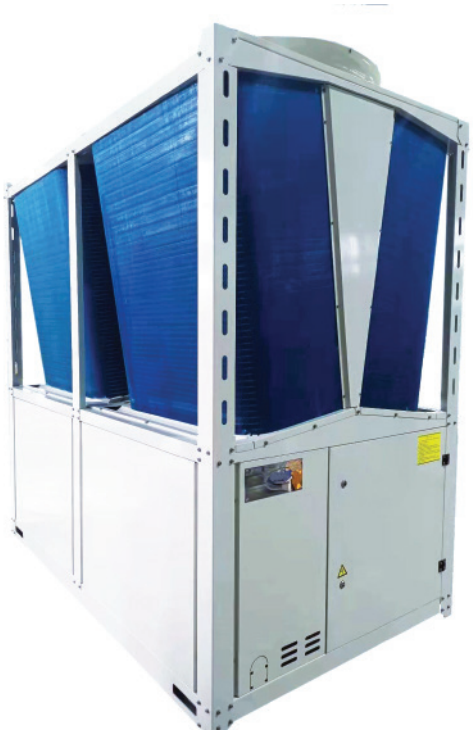
CONFIGURATION & FUNCTION

Model		KLRS-12E2 KLRS-15E2B	KLRS-24E2 KLRS-30E2	KLRS-60E2	KLRS-130E2
Configuration					
• **Compressor**					
– Type		Scroll	Scroll	Scroll	Scroll
– Quantity		1	2	2	4
• **Evaporator**		Hydrophilic aluminium fins + Internal thread copper pipe			
• **Condenser**		Tube in tube heat exchanger			
• **Throttle Type**		Electronic expansion valve			
• **Fan Motor**		2 Low noise fan motor			
• **Pressure Gauge**	pcs	NONE	4	NONE	NONE
Housing					
• **Material**		Galanized steel coating powder			
• **Color**		White			
Control					
• **Control Type**		Wire remote			
• **Controller Display**		LCD			
• **Operation**		Button			
• **Max Modular Control Units**	pcs	16	16	16	16
• **Variable Energy Design**		✓	✓	✓	✓
• **Soft Start Design**		✓	✓	✓	✓
• **Keep Memory When Power Off**		✓	✓	✓	✓
• **Auto restart after power restore**		✓	✓	✓	✓
• **Running Parameters Inspect**		✓	✓	✓	✓
• **Running Parameters to Modify**		✓	✓	✓	✓
• **Clock On Controller**		✓	✓	✓	✓
• **Timer Function**		Two Period Timer Setting			
• **Auto Defrost**		✓	✓	✓	✓
• **Signal control from indoor thermastat or terminal device**		(passive signal)			
• **Auto Control the Standby Electric Heater**		✓	✓	✓	✓
• **Fault Diagnosis and display**		✓	✓	✓	✓
Protection Function					
• **High Pressure Protection**		✓	✓	✓	✓
• **Low Pressure Protection**		✓	✓	✓	✓
• **Discharge temp overheating protection**		✓	✓	✓	✓
• **Water outlet overheating protection**		✓	✓	✓	✓
• **Water inlet temp. protection**		✓	✓	✓	✓
• **Water flow protection**		✓	✓	✓	✓
• **High current protection**		✓	✓	✓	✓
• **Power phase sequence protection**		✓	✓	✓	✓
• **Automatic prevent freezing in winter**		✓	✓	✓	✓
Accessory					
• **Wire controller**		✓	✓	✓	✓
• **Connecting line of controller**	m	5			
• **Screws for controller mounting**		✓	✓	✓	✓
• **Tank temp. sensor**		10K (Option)			
• **Connecting line of tank sensor**	m	5 (Option)			
• **Water flow switch**		Internally Installed			
• **Line for modular communication**		✓	✓	✓	✓
Packing					
• **Packing Type (normal)**		Carton+plywood pallet			Plastic film+plywood
• **Quantity**					
– 20ft Container	pcs	10			5
– 40ft Container	pcs	23			11

THREE IN ONE HEAT PUMP

PRODUCT FEATURES

- Scope of Application: Providing Room Heating, Cooling, and Supplying Sanitary Hot Water.
- Five Modes: Hot Water, Heating, Cooling, Heating with Hot Water, and Cooling with Hot Water.
- In summer, when operating in the Cooling + Hot Water mode, the unit will automatically provide cooling, hot water, or both simultaneously while generating sanitary hot water exceeding 70°C.
- In winter, when using the Heating + Hot Water mode, the unit will automatically provide heating, hot water, or both simultaneously.
- High temperature compressor.
- Eco-friendly refrigerant: R407C.
- Three heat exchangers are utilized, with a strict segregation between the systems for sanitary hot water and heating (or cooling) water. This clear separation ensures that there is no mixing or crossover between these two functions.
- Air exchanger equipped with a fins-coil heat exchanger that has been coated with a hydrophilic layer.
- Cooling (Heating) Water Exchanger: High-Efficiency Plate Heat Exchanger.
- Hot Water Exchanger: Tube-in-Tube Heat Exchanger with an Internal Spiral Design for High Thermal Efficiency and Effective Scaling Prevention.
- The electronic expansion valve precisely controls the flow of refrigerant.
- Two-speed fan motor enhances unit performance, particularly in high-temperature conditions when operating in the hot water mode.
- Featuring a modular control design, these units can be freely combined during installation, with a single controller capable of managing 8 to 16 units.**not for KS-12J2**.
- Variable energy design allows for automatic adjustment of the running compressors based on changes in water temperature. For instance, with 16 units of KLRS-24J2, the variable energy can range from 32/32 to 1/32 as the water temperature fluctuates. **not for KS-12J2**.
- A soft-start device is incorporated to reduce the initial current during startup, especially for 5HP 1-phase units.
- Galvanized plate housing, powder coating.
- LCD display wire remote controller.
- Flexibility to set the operating time as per your preference.
- Unit runs or stop automatically according to water temperature.
- Automatic defrosting.
- Automatic prevent freezing to protect the plate heat exchanger.
- Water flow protection control.
- Control of auxiliary heating device (e.g. electric heating).
- Signal control from indoor thermostat or other switch signal (passive signal).
- More protection functions.
- Fault diagnosis and display.



SPECIFICATION (Standard)

Honny Model		KS-12J2	KS-24J2	KS-30J2	KS-50J2	KS-60J2
Power Supply (V/Ph/Hz)				380-415/3/50		
Hot water model						
— Heating capacity	kW	17.5	35	45	70	82
— Rated power input	kW	4.2	8.2	10.2	16.5	19.4
— COP		4.2	4.3	938.0	4.2	4.2
— Rated hot water output	L/h	375	750	7.8	1500	1750
— Hot water temperature	℃			20～60		
Floor heating model						
— Heating capacity	kW	14	28	35	60	68
— Rated power input	kW	3.6	7.4	9.4	15.4	18
— COP		3.9	3.8	3.8	3.9	3.8
Fan coil heating model						
— Heating capacity	kW	13.0	27.0	33.8	55.0	62.0
— Rated power input	kW	4.35	8.90	11.30	17.00	20.50
— COP		3.0	3.0	3.0	3.2	3.0
Cooling mode						
— Cooling capacity	kW	12	24	30	50	60
— Heat recovery capacity	kW	14	28	32	57	66
— Rated input power	kW	4.1	8	10	17	20.3
— EER		6.3	6.5	6.3	6.3	6.2
Circulating water flow						
— Hot water	m3/h	2.5	5.0	6.2	10.0	11.8
— Heating/Cooling		2.1	4.2	5.3	9.6	11.2
Water resistance						
— Hot water side	kPa	≤35	≤40		≤50	
— Heating/cooling side		≤15	≤25		≤45	
Compressor type				Scroll		
Refrigerant				R407C		
Noise	dB(A)	58	64	65	66	67
Net weight	kg	139	330	380	760	830
Unit dimensions	mm	960×340×1260	1390×740×1640		2025×1030×1995	
Packing dimensions	mm	1100×480×1350	1490×790×1800		2130×1075×2080	
Stacking layers	layer	1	1	1	1	1
Water pipe connector						
— Hot water		DN25(1")	DN40(1-1/2")		DN65(2-1/2")	DN65(2-1/2")
— Heating/Cooling		DN25(1")	DN40(1-1/2")		DN50(2")	DN50(2")
Ambient condition	℃			-10～43		
Flow Switch		Optional	Built-in			
Air Discharge		Rear	Top			
Auxiliary heating control function (hot water side)		No	Yes	Yes	Yes	Yes
Auxiliary heating control function (heating side)		Yes	Yes	Yes	Yes	Yes
Indoor signal control function (heating/cooling)		Yes	Yes	Yes	Yes	Yes
Modular control function		No	Yes	Yes	Yes	Yes

- Water heater rated test conditions: Ambient temp. (DB/WB) : 20℃ / 15℃, Initial water temp.15, temp. rise of 40℃.

  Floor heating rated test conditions: Ambient temp. (DB/WB): 7℃ / 6℃, Water temp. (In/Out): 30℃/ 35℃.

- AC heating rated test conditions:Ambient temp. (DB/W): 7℃ / 6℃, Water temp. (In/Out) : 40℃/45℃.

- AC cooling rated test conditions: Ambient temp. (DB/W): 35℃ / 24℃, Water temp. (In/Out 12℃ / 7℃. Heat recovery water temp. (In/Out): Initial water temp. 25℃, temp. rise of 30℃.

SPECIFICATION (Enhanced Vapour Injection)

Honny Model		KS-12J2P	KS-24J2P	KS-50J2P
Power Supply (V/Ph/Hz)			380-415/3/50	
Hot water model				
— Heating capacity	kW	17.5	35	70
— Rated power input	kW	4.2	8.2	16.5
— COP		4.2	4.3	4.2
— Hot water output	L/h	375	750	1500
— Hot water temperature	°C		20~60	
Floor heating model				
— Heating capacity	kW	16	31.5	63
— Rated power input	kW	4.1	8.1	16.1
— COP		3.9	3.9	3.9
Fan coil heating model				
— Heating capacity	kW	15.0	30.0	60
— Rated power input	kW	4.45	9.00	18.2
— COP		3.4	3.3	3.3
Cooling mode				
— Cooling capacity	kW	12	24	50
— Heat recovery capacity	kW	14.0	28.0	57.0
— Rated input power	kW	4.10	8.0	17
— EER		6.3	6.5	6.3
Circulating water flow				
— Hot water	m3/h	3.0	6.0	12
— Heating/Cooling		2.6	5.2	10.3
Water resistance				
— Hot water side	kPa	≤40	≤78	≤90
— Heating/cooling side		≤46	≤35	≤54
Compressor type			EVI Scroll	
Refrigerant			R407C	
Noise	dB(A)	58	64	66
Net weight	kg	143	340	780
Unit dimensions	mm	960×340×1260	1390×740×1640	2025×1030×1995
Packing dimensions	mm	960×340×1260	1490×790×1800	2130×1075×2080
Stacking layers	layer	1	1	1
Water pipe connector				
— Hot water		DN25(1")	DN40(2-1/2")	DN65(2-1/2")
— Heating/Cooling		DN25(1")	DN40(2-1/2")	DN50(2")
Ambient condition	°C			
Flow Switch		Optional		Built-in
Air Discharge		Rear	Top	
Auxiliary heating control function (hot water side)		No	Yes	Yes
Auxiliary heating control function (heating side)		Yes	Yes	Yes
Indoor signal control function (heating/cooling)		Yes	Yes	Yes
Modular control function		No	Yes	Yes

- Water heater rated test conditions: Ambient temp. (DB/WB) : 20℃ / 15℃, Initial water temp.15℃, temp. rise of 40℃.
- Floor heating rated test conditions: Ambient temp. (DB/WB): 7℃ / 6℃, Water temp. (Inlet/Outlet): 30℃/ 35℃.
- AC heating rated test conditions: Ambient temp. (DB/W): 7℃ / 6℃, Water temp. (Inlet/Outlet): 40℃/45℃.
- AC cooling rated test conditions: Ambient temp. (DB/W): 35℃ / 24℃, Water temp. (Inlet/Outlet 12℃ / 7℃. Heat recovery water temp. (Inlet/Outlet): 40℃/45℃.

CONFIGURATION & FUNCTION

Model		KS-12J2	KS-24J2 KS-30J2	KS-50J2 KS-60J2
Configuration				
• **Compressor**				
– Type		Scroll	Scroll	Scroll
– Quantity		1	2	2
• **Evaporator**		Hydrophilic aluminium fins + Internal thread copper pipe		
• **Condenser for Heating & Cooling**		Plate Heat Exchanger	Tube in Shell heat exchanger	
• **Condenser for Hot Water Heating**		Tube in tube heat exchanger		
• **Throttle Type**		Electronic expansion valve		
• **Fan Motor**		2 Low noise fan motor		
Housing				
• **Material**		Galanized steel coating powder		
• **Color**		White		
Control				
• **Control Type**		Wire Remote		
• **Controller Display**		LCD		
• **Operation**		Button		
• **Max Modular Control Units**	pcs	16	16	8
• **Variable Energy Design**			✓	✓
• **Soft Start Design**		✓	✓	✓
• **Keep Memory When Power Off**		✓	✓	✓
• **Auto restart after power restore**		✓	✓	✓
• **Hot Water return Control (Hot water supply loop)**			Five kinds of control way, keep water warm inside of hot water loop. (Hot water return system is optional)	
• **Running Parameters Inspect**		✓	✓	✓
• **Control Parameters to Modify**		✓	✓	✓
• **Clock On Controller**		✓	✓	✓
• **Timer Function**			Two Period Timer Setting	
• **Auto Defrost**		✓	✓	✓
• **Signal control from indoor thermostat or terminal device**			(passive signal)	
• **Auto Control the Standby Electric Heater**		✓	✓	✓
• **Fault Diagnosis and display**		✓	✓	✓
• **Water Level Control and Display**			Option	
Protection Function				
• **High Pressure Protection**		✓	✓	✓
• **Low Pressure Protection**		✓	✓	✓
• **Discharge temp overheating protection**		✓	✓	✓
• **Water outlet overheating protection**		✓	✓	✓
• **Water inlet temp. protection**		✓	✓	✓
• **Water flow protection**		✓	✓	✓
• **High current protection**			✓	✓
• **Power phase sequence protection**		✓	✓	✓
• **Automatic prevent freezing in winter**		✓	✓	✓
Accessory				
• **Wire controller**		✓	✓	✓
• **Connecting line of controller**	m		5	
• **Screws for controller mounting**		✓	✓	✓
• **Tank temp. sensor**		10K, 2pc	10K	
• **Connecting line of tank sensor**	m	5m, 2pcs	5m	
• **Water Flow Switch**		✓	Internally Installed	
• **Line for modular communication**		✓	✓	✓
• **Water level sensor**			Option	Option
Packing				
• **Packing Type (normal)**		Carton+plywood pallet		Plastic film+plywood
• **Quantity**				
– 20ft Container	pcs	27	10	5
– 40ft Container	pcs	57	23	11

HONNY

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