Technical Sales Guide

SWIMMING POOL HEAT PUMP

(GC202306- Ⅱ)

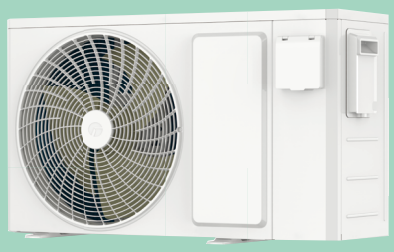
TECHNICAL SALES GUIDE: 50Hz/60Hz

CAPACITY RANGE: 11.8~18.8kW

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

CONTENTS

1 PRODUCTS

Model	Heating Capacity (kW)	Power Supply	Ref	Appearance
GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	11.8	1Ph 220-240V 50/60Hz	R32	
GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S	18.8	1Ph 220-240V 50/60Hz		

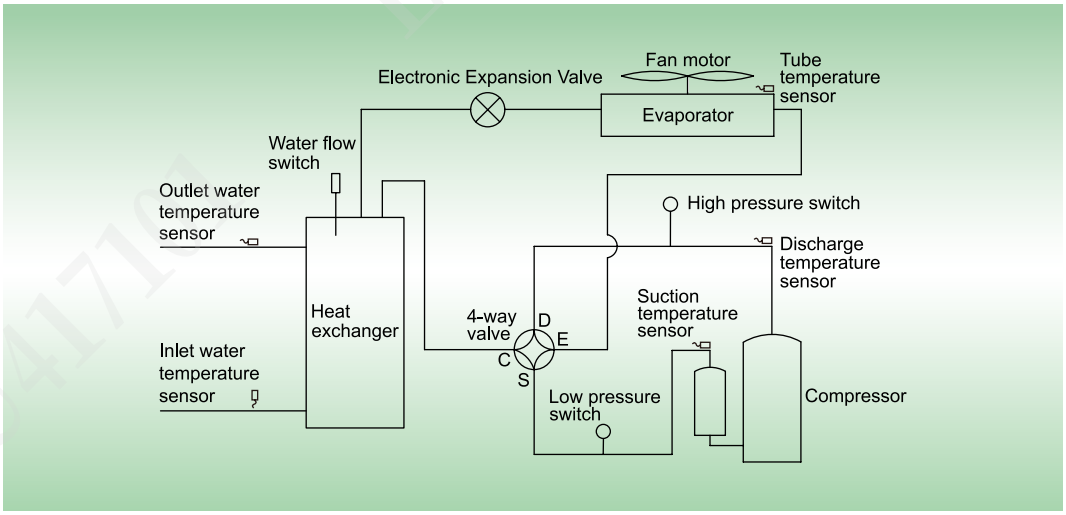
2 NOMENCLATURE

GRS	-	CP	11	Pd	/	Nh	A	-	K
1		2	3	4		5	6		7

NO.	Description	Options
1	Product Type	Gree swimming pool heat pump
2	Application	Swimming pool heat pump
3	Heating capacity	High temperature heating capacity (kW)
4	Compressor Type	Fixed frequency-omitted
		Inverter-Pd
5	Refrigerant	R22-omitted
		R32-Nh
		R410a-Na
		Others to be applied for when they are used
6	Design	Arranged based on A, B, C, D,and so on
7	Power Supply	K: 220~240V 1Ph~, 50/60Hz S: 220~240V 1Ph~, 50/60Hz D: 208/230V 1Ph~, 60Hz

3 WORKING PRINCIPLE

The swimming pool heat pump is a new, efficient, energy-saving and eco-friendly product. It uses the principle of heat pump to drive the compressor with electric energy. Through the thermal cycle, the heat absorbed in the air is transferred to the water-side heat exchanger for water supply (hot water), or the heat absorbed by the water-side heat exchanger (cold water) is released into the air through the thermal cycle.



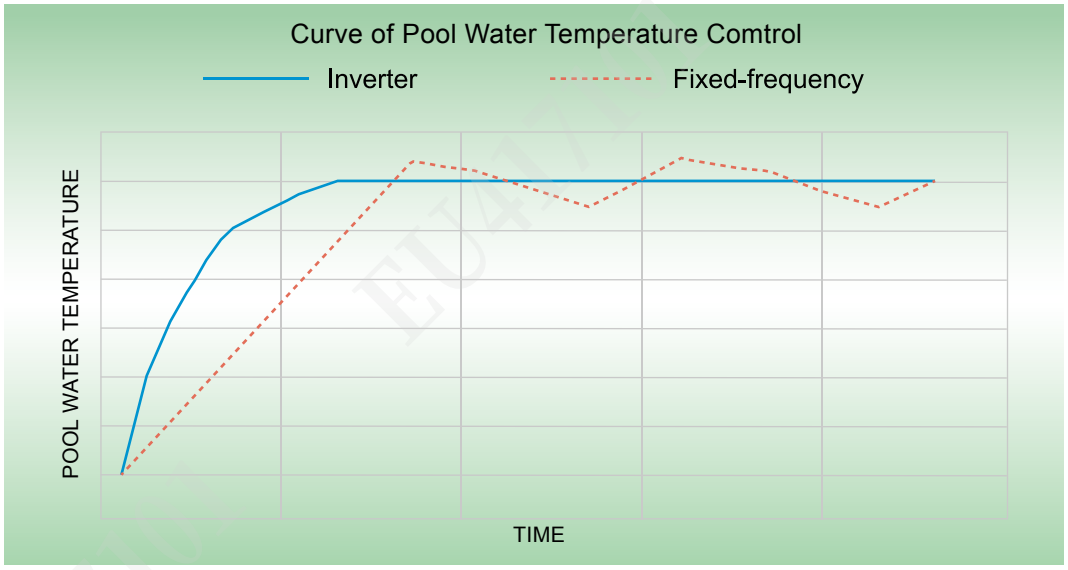
4 FEATURES

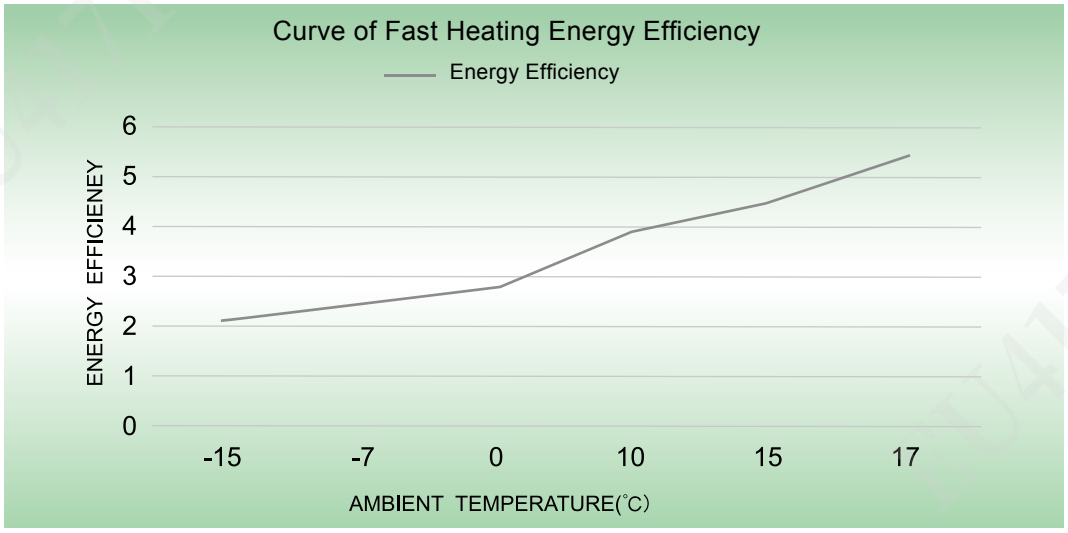
This series of units adopts eco-friendly refrigerant R32, DC inverter compressor, DC fan, electronic expansion valve (EEV), corrosion-resistant titanium tube heat exchanger, high weather-resistant coating shell, gold corrosion-resistant fin, realizing adjustable load during operation, energy saving and efficiency.

The product has obtained CE 、CB certification and meets Rohs requirements. It has heating, cooling, automatic mode and humanized functions such as fast, intelligent, energy-saving, timing, WiFi for users to choose from.

(1) R32 DC Inverter Technology

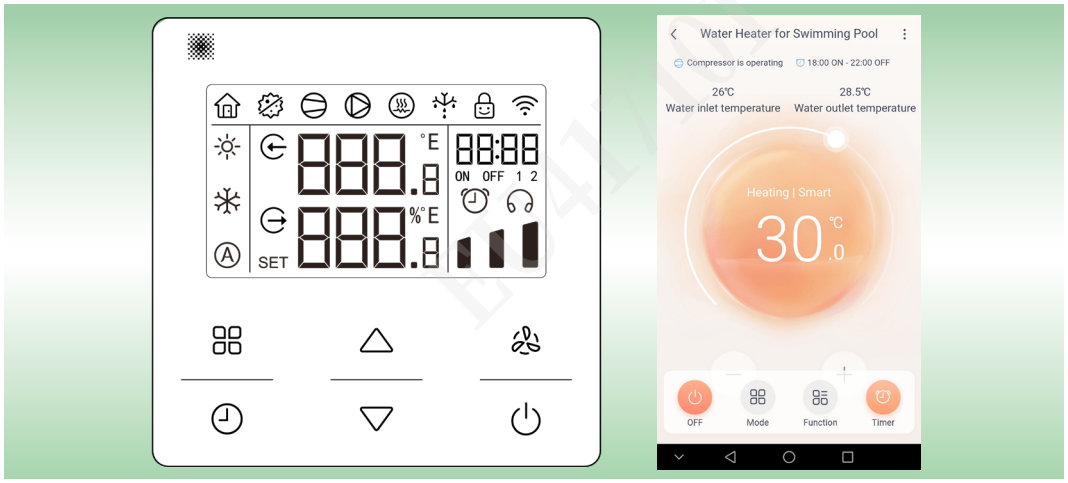
The product adopts eco-friendly refrigerant R32(GWP:675).The adoption of DC inverter fan, compressor and electronic expansion valve contributes to constant temperature control of the swimming pool and high-efficient operation of the system.





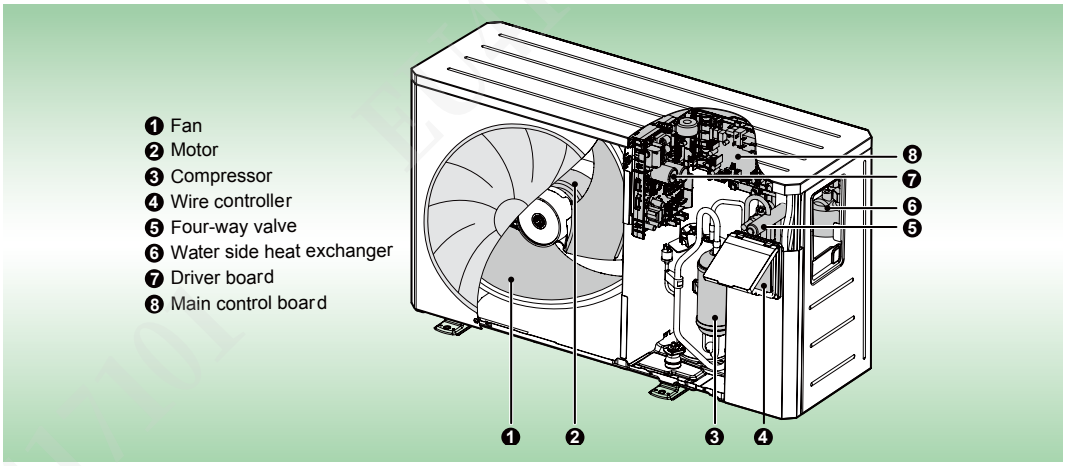
(2) Multi-function Intelligent Control

Controller or WiFi (on Gree+ APP): ON/OFF, cooling, heating, AUTO, timer, energy saving mode, fast heating, etc.



(3) Compact Design & Easy Maintenance

Thanks to the dedicated design of fan heat exchange system and electronic control system, as well as the three-dimensional space layout of electronic control system, Gree swimming pool heat pump has concise appearance and compact design, which contributes to easy maintenance.



(4) Anti-corrosion

Due to the adoption of seamless titanium water side heat exchanger with rigid polyvinyl chloride PVC material shell, Gree swimming pool heat pump can achieve high acid resistance, great alkali resistance, excellent corrosion resistance, and low flow resistance, which makes it more suitable for the heat exchange of frequently-disinfected swimming pool water.

(5) Wide applicable range

The product can offer 10~40°C constant temperature water for the swimming pool or spa. It can operate stable under the power voltage of 180~264V. Its power frequency is 50/60Hz, applicable for most countries or regions with T1 working condition.

5 OPERATION RANGE

Use the swimming pool heat pump unit within the following ranges of temperature and water pressure to ensure safe and efficient operation.

-	Heating Mode	Cooling Mode
Outside temperature	-15°C ~ 45°C	16°C ~ 45°C
Water temperature	10°C ~ 40°C	10°C ~ 40°C
Water temperature setting range	15°C ~ 40°C	10°C ~ 40°C
Water pressure	0.1 ~ 0.5MPa	0.1 ~ 0.5MPa

6 PRODUCT DATA

6.1 Product Data

Model			GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S
High-temperature & high-humidity heating: ambient temperature: 27°C/80%, 26°C water inlet	Heating capacity	kW	2.2~11.8	5.5~18.8
	Energy efficiency	—	13.0-5.8	11.0~5.2
Medium-temperature & medium-humidity heating: ambient temperature: 15°C/70%, 26°C water inlet	Heating capacity	kW	2.0~8.8	3.0~15.1
	Energy efficiency	—	6.3~4.5	6.0~4.0
Cooling ambient temperature: 35°C/-, 30°C water inlet	Cooling capacity	kW	4.3	7.8
	Energy efficiency	—	3.2	4.0
Maximum power ①		kW	2.5	4.0
Maximum current ①		A	11	17.5
Nominal Water flow		m^3/h	3.8	6.5
Water resistance		kPa	5	12
Noise ②		dB(A)	52	55
Dimension(W×D×H)		mm	980×376×554	1805×402×657
Weight		kg	43	52.5
Hydraulic connection		mm	PVC 50/50	
Compressor		—	Hermetic Rotary DC Inverter Compressor	
Fan motor		—	DC Fan Motor	
Refrigerant		—	R32	
Refrigerant Charge ③		kg	0.52	0.73
Power supply		—	Single phase 220-240V ~ 50/60Hz	
Protection		—	IPX4	
Max. pool volume ④		m^3	75	95
Mode		—	Heating/Cooling/Automatic	

NOTES:

① The above maximum power or maximum current don't include the power or current of external engineering water pump.

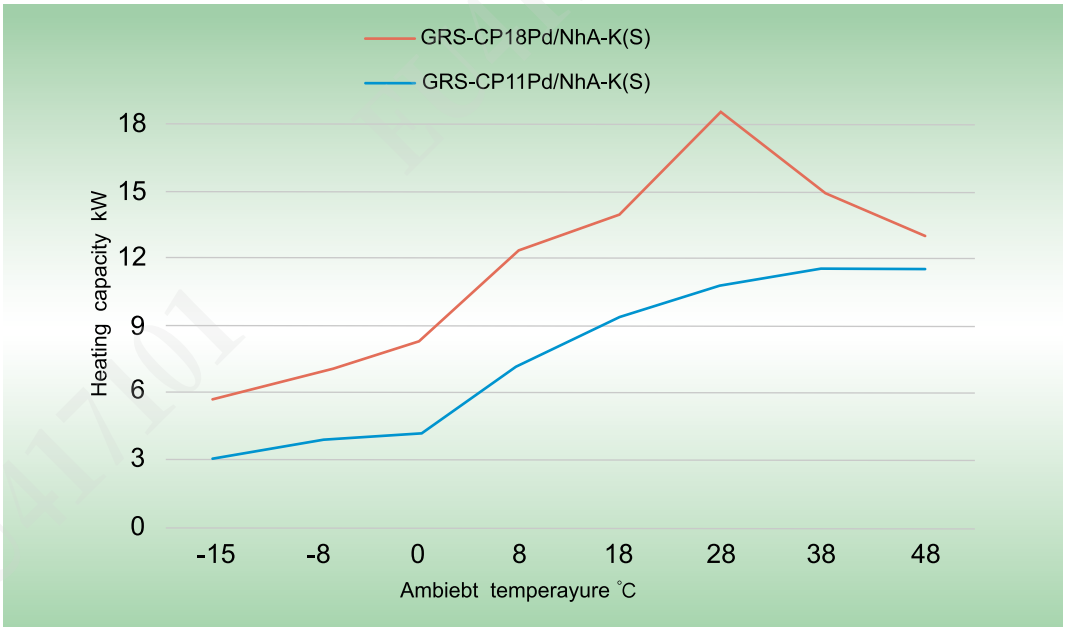
② The noise data is the average sound pressure value measured under high temperature and high humidity heating conditions(Dry air 27°C-Relative humidity 80% - Water inlet temperature 26°C) with a distance of 1m away from the unit.

③ This parametric is the maximum refrigerant charge amount of the unit.

④ The recommended maximum pool volume is based on the ideal heating condition that the pool is well shaded; the filtration system runs for 15h per day, water temperature is maintained at 26°C,and ambient temperature ≥28°C.

6.2 Heating Capacity Curve and Model Selection

According to the temperature of swimming pool water of 26~28°C, the corresponding unit output capacity under different ambient temperature is shown in the figure as below. Please refer to below table for the model selection based on the unit capacity output.

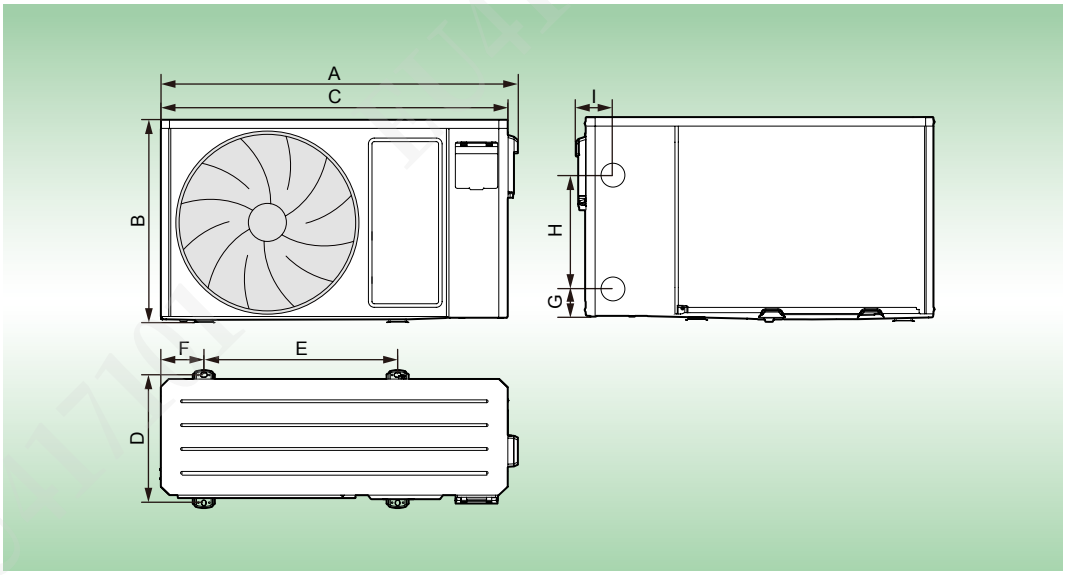


-	Swimming Pool Volume (m³)		
Model	Ambient Temperature ≥25°C	Ambient Temperature 15~24°C	Ambient Temperature -15~15°C
GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	40~75	15~40	＜15
GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S	55~95	20~55	＜20

Remark: The model selection should be comprehensively evaluated according to water refill temperature, wind speed on the surface of the swing pool, ambient temperature, etc. If the ambient temperature is below 15°C, it is suggested to add the secondary heat source for auxiliary heating to improve the comfort.

7 DIMENSIONAL DATA and UNIT INSTALLATION SPACE REQUIREMENTS

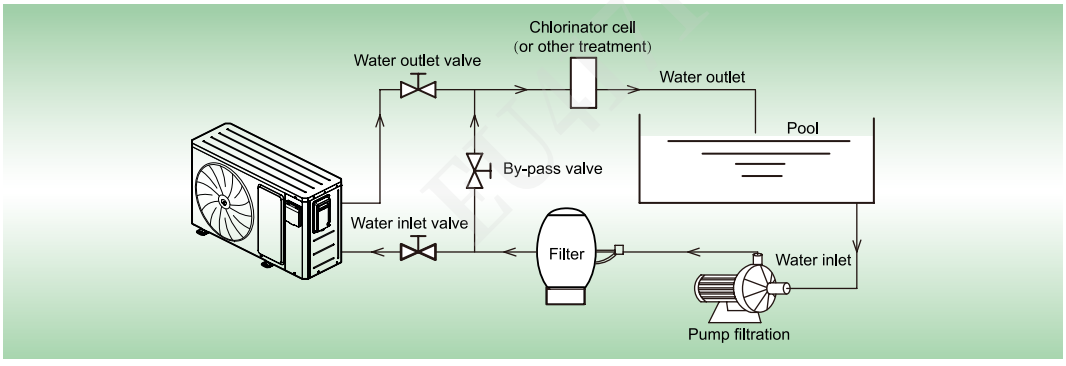
7.1 Dimensional Data



Unit: mm

Model	GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S
A	980	1085
B	554	657
C	945	1060
D	346	371
E	528	570
F	117	160
G	72	82
H	310	340
I	74	87

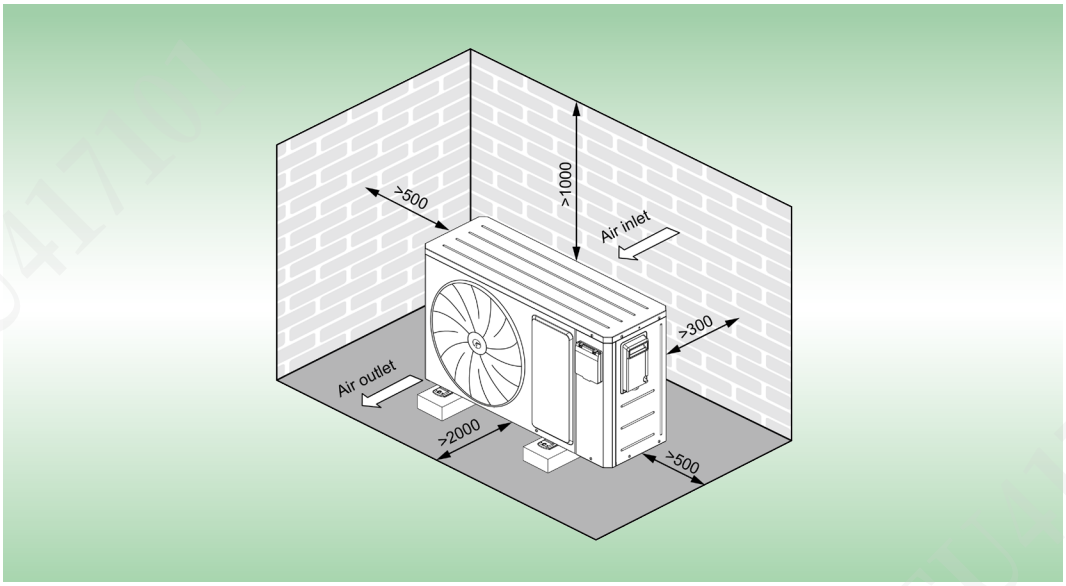
7.2 Unit Installation Diagram



7.3 Installation space requirements

(1) The dimensional requirements of installation space of the unit are shown in the figure below.
(2) The installation distance of the unit from the swimming pool shall not exceed 15m.
(3) The heat pump must be installed at a minimum distance from the pool in compliance with NFC15-100 (3.5m from the water for France) or in compliance with installation standards applicable in other countries.
(4) Drainage ditch should be reserved next to the unit for condensate discharging as well as evacuating water for disuse in winter.
(5) We recommend sheltering the unit to avoid the possibility that snow accumulates and damages the evaporator.

Unit: mm



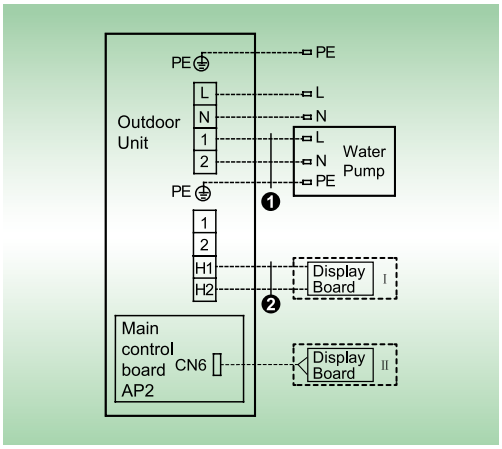
8 ELECTRICAL INSTALLATION

8.1 Power cord diameter and circuit breaker

Model	Power Supply	Minimum Diameter of Power Cord(mm²)	Circuit Breaker Capacity (A)
GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	220-240V ~ 50/60Hz	2.5	20
GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S	220-240V ~ 50/60Hz	2.5	25

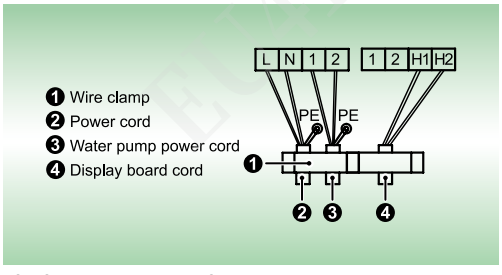
8.2 Wiring diagram

The external wiring diagram of the unit is as follows. For the internal wiring diagram, please refer to the circuit diagram attached on the machine.
The following two installation methods can be used for the display board(wire controller).
If the display board needs to be installed in an indoor area other than the unit's panel, its wiring method should be in accordance with method I in the figure.
If the display board needs to be installed on the unit's panel, its wiring method should be in accordance with method II in the figure.
(Note: Connect according to either method I or method II)



GRS-CP11Pd/NhA-K GRS-CP18Pd/NhA-K GRS-CP11Pd/NhA-S GRS-CP18Pd/NhA-S
① Water pump power cord: 3×1.0 mm² ② Display board cord: 2×0.75 mm²

8.3 Electrical wiring and connection requirements

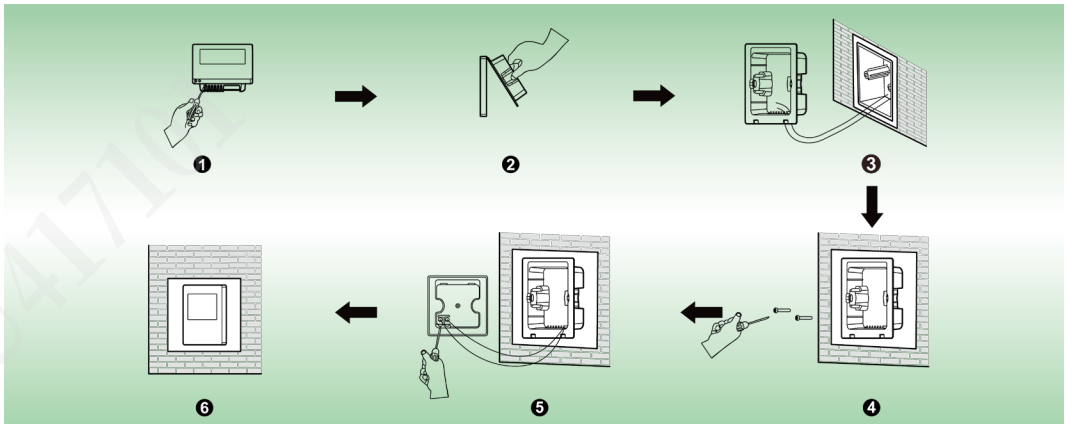


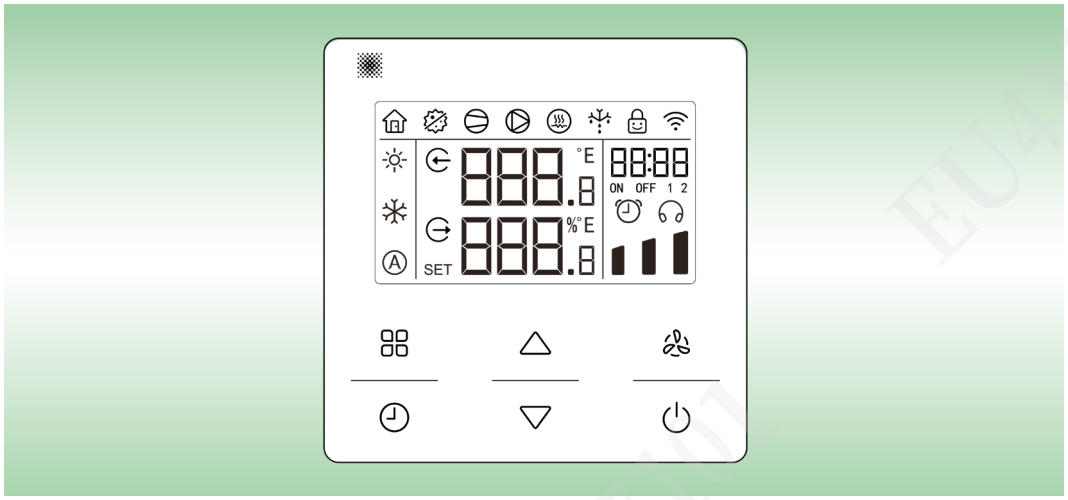
After the wiring is completed, the power cord, water pump power cord and display board cord must be secured with wire clamps, which should be fastened on the outer sheath of the wire.

When wiring outside the unit, the display board (wire controller) cord should be separated from the power cord and the water pump power cord. The minimum distance between parallel wires should be greater than 20cm; otherwise, the unit communication may be abnormal. Strong and weak cords should be sheathed separately.

8.4 Installation space requirements

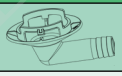
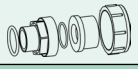
The wire controller is installed on the front panel of the unit by default. When it needs to be adjusted to other places outside the unit, to be in compliance EN 55014, the length of the communication cable between the wired controller and the unit can't be more than 8m.





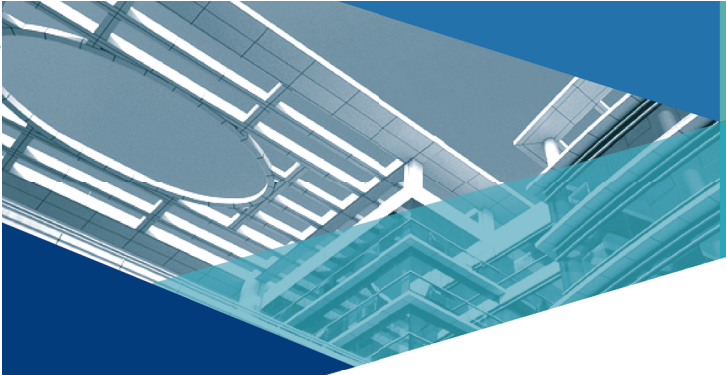
9 ACCESSORIES

The standard accessories are as follows. In the installation diagram, the engineering loads or consumables such as valves and pipes shall be purchased separately according to the actual use needs.

Name	Specification or Diagram	Number	
		GRS-CP11Pd/NhA-K GRS-CP11Pd/NhA-S	GRS-CP18Pd/NhA-K GRS-CP18Pd/NhA-S
Drainage pipe connection		1	1
Drainage pipe	2(m)	1	1
Tapping Screw	ST2.9(mm)×6.5(mm)	1	1
Magnetic ring	M93RS 26×14.9×29(mm)	1	2
High temperature wire tie	200(mm)	2	4
Quick connector assembly		2	2
Chassis rubber plug		2	0
Chassis rubber plug		0	4

10 SALES AREAS

No.	Product Series	Suitable for European Market	Other T1 Areas(Except North American)
1	Heat pump water heater	GRS-CP11Pd/NhA-K GRS-CP18Pd/NhA-K	GRS-CP11Pd/NhA-S GRS-CP18Pd/NhA-S



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