

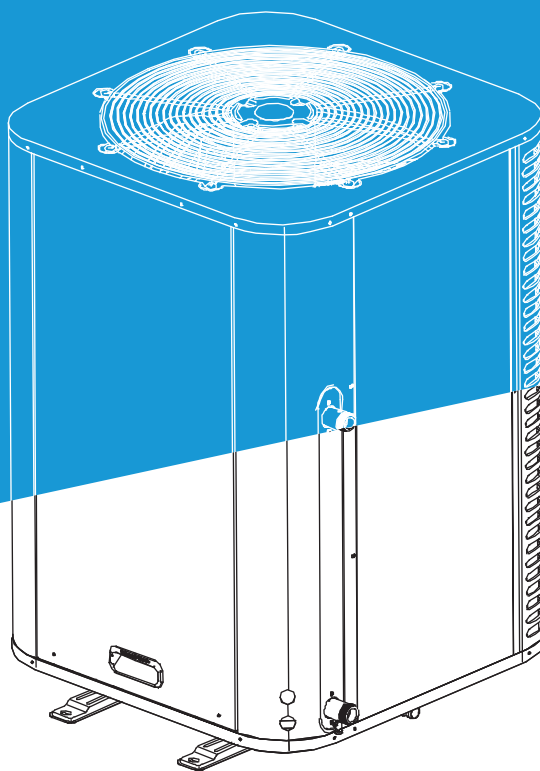


COMMERCIAL HEAT PUMP

INSTALLATION AND OPERATION INSTRUCTIONS

Applicable model

RSJ-120/ZN1-H RSJ-200/SZN1-H



Please read this manual carefully before use and keep it properly.
The cover effect drawing is for reference only, and the specific model is subject to the real object.

CONTENTS

ACCESSORIES	01
1 INTRODUCTION	01
2 SAFETY CONSIDERATION	02
3 SELECTING THE INSTALLATION LOCATION	
• 3.1 Precautions before installation	04
4 IMPORTANT ITEMS FOR INSPECTING INSTALLATION OF THE UNIT	
• 4.1 Installation	04
• 4.2 Electric wiring	04
• 4.3 Installation space	04
• 4.4 Carrying the unit onto the installing site	05
• 4.5 Installing multiple units	05
5 PIPES CONNECTION OF THE UNIT	
• 5.1 Thermal insulation	06
• 5.2 Schematic diagram of single and multiple connected water heater systems	06
• 5.3 Selecting the inlet/outlet pipelines of the RSJ-120/ZN1-540V1 model	07
• 5.4 Selecting the inlet/outlet pipelines of the RSJ-200/SZN1-540V1 model	07
6 INSTALLATION OF FITTINGS	
• 6.1 Installing the water tank	07
• 6.2 Water cycle pump selection	06
• 6.3 E-heater capacity selection	08
• 6.4 Selecting and installing the water pump	08
• 6.5 Installing the auxiliary heater	09
• 6.6 Requirements of making the water tank	09

7 ELECTRIC CONNECTION OF THE UNIT

• 7.1 Electric wiring	09
• 7.2 Specifications of power supply	10
• 7.3 Total horsepower manual switch and fuse capacity	10
• 7.4 Selecting the capacity of the manual switch and fuse of the deconcentrator	10
• 7.5 When 5-cord shield wire in the accessories pack is not long enough, please refer Table 7-3	10
• 7.6 Power cable	10
• 7.7 Setting wire controller	13
• 7.8 The main control board interface diagram (Preference only)	13
• 7.9 Dial code and sensor instructions	14
• 7.10 Error codes table	14
• 7.11 Spot check table	14

8 OPERATION AND PERFORMANCE OF WATER-HEATER

• 8.1 About the 3-minute protection	14
• 8.2 Characteristics of heat water supply operation	15
• 8.3 About heat water supply operation and defrosting function	15
• 8.4 Operating conditions of the water heater	15
• 8.5 About protection device	15
• 8.6 Start the unit after a long period out of service	15
• 8.7 About power failure	15
• 8.8 COP & Cap. and temperature curve	16
• 8.9 About RCCB	19
• 8.10 About shut-off memory	19

9 TRIAL RUN

• 9.1 Confirm the following issue before operation and tick box after confirmation	19
• 9.2 Trial run	20

10 TROUBLESHOOT OF ABNORMAL PHENOMENA

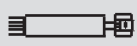
20

11 SPECIFICATIONS & PARAMETERS OF THE UNIT

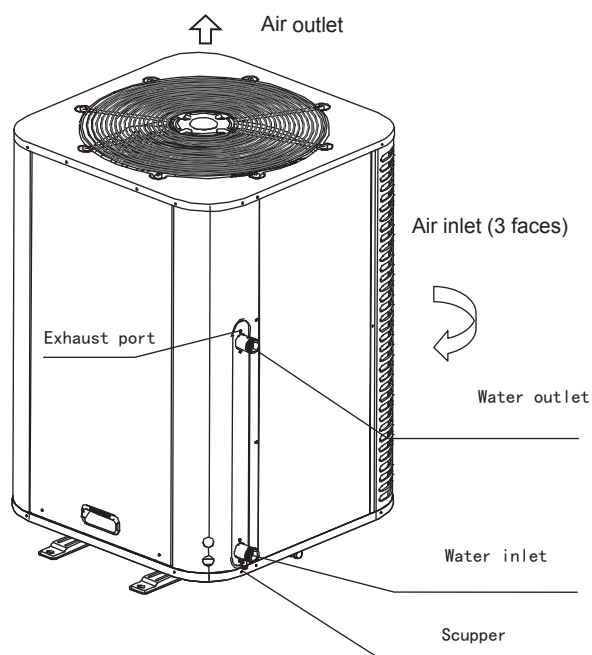
21

ACCESSORIES

Unit	Installation & Operation Manual	Wire control assembly	Water Tank Temperature senso	Y-shaped filter
Quantity	1	1	1	1
Shape				
Purpose	/	Use for installation (only need for setting the main module)		

Unit	wire controller connection line
Quantity	1
Shape	

1. INTRODUCTION



RSJ-120/ZN1-540V1
RSJ-200/SZN1-540V1

NOTE

All the picture in this manual are for explanation purpose only. They may be slightly different from the unit you purchased (depend on model).The actual shaped shall prevail.

2. SAFETY CONSIDERATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.

WARNING

Failure to observe a warning may result in death.

CAUTION

Failure to observe a caution may result in injury to the equipment.

WARNING

- Ask your dealer for installation of the water heater. Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.
- Ask your dealer for improvement, repair, and maintenance. Incomplete improvement, repair, and maintenance may result in water leakage, electric shock, and fire.
- In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.
- Never let the wire control get wet. It may cause electric shock or a fire.
- Never press the button of the wire control with a hard, pointed object. The wire control may be damaged.
- Never replace a fuse with that of wrong rated current or other wires when a fuse blows out. Use of wrong wire or copper wire may cause the unit to break down or cause a fire.
- It is not good for your health to expose your body to the air flow for a long time.
- Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury. Never use a flammable spray such as hair spray, lacquer paint near the unit. It may cause a fire.
- Never touch the air outlet while the swing flap is in operation. Fingers may become caught or the unit may break down.
- Never put any objects into the air inlet or outlet. Objects touching the fan at high speed can be dangerous.
- Never inspect or service the unit by yourself. Ask a qualified service person to perform this work. Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

CAUTION

The instruction shall state the substance of the following:

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance. Do not use the water heater for other purposes. In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.
- Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord. Otherwise, an electric shock and injury may result. In order to avoid electric shock or fire, make sure that an earth leak detector is installed.
- Be sure the water heater is grounded. In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning

CAUTION

- conductor or telephone earth wire.
- In order to avoid injury, do not remove the fan guard of the outdoor unit.
- Do not operate the heater pump with a wet hand. An electric shock may happen.
- Do not touch the heat exchanger fins. These fins are sharp and could result in cutting injuries.
- After a long use, check the unit stand and fitting for damage.
If damaged, the unit may fall and result in injury.
- To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the unit.
- Arrange the drain hose to ensure smooth drainage.
Incomplete drainage may cause wetting of the building, furniture etc.
- Never touch the internal parts of the controller.
Do not remove the front panel. Some parts inside are dangerous to touch, and a machine trouble may happen.
- Never expose little children, plants or animals directly to the air flow.
Adverse influence to little children, animals and plants may result.
- The appliance shall be installed in accordance with national wiring regulations.
- Means for disconnection must be incorporated in the fixed wiring according to the wiring rules.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
- RSJ-120/ZN1-540V1 is suitable for household and similar environment. RSJ-120/ZN1-540V1 is household product.

3. SELECTING THE INSTALLATION LOCATION

Enough space of installation and maintenance is available.

The air inlet and outlet are free from obstacles and strong wind.

The bearing surface is level and can bear weight of the unit, and is suitable for installing the unit horizontally without increasing noise or vibration.

The operation noise and the expelling of air do not affect neighbours.

No flammable gas is leaked.

It is convenient for piping and wiring.

CAUTION

Installing the equipment in any of the following places may lead to faults of the equipment (if that is inevitable, please consult the dealer):

- The site contains mineral oils such as cutting lubricant.
- Seaside where the air contain much salt.
- Hotspring area where corrosive gases exist, e.g., sulfide gas.
- Factories where the supply voltage fluctuates seriously.
- Inside a car or cabin.
- Place like kitchen where oil permeates.
- Place where strong electromagnetic waves exist.
- Place where flammable gases or materials exist.
- Place where acid or alkali gases evaporate.
- Other special environments.

3.1 Precautions before installation:

Decide the correct way of conveying the equipment.

Try to transport this equipment with the original package.

if the unit needs to be installed on a metal part of the building, electric insulation must be performed, and the installation must meet the relevant technical standards of electric devices.

4. IMPORTANT ITEMS FOR INSPECTING INSTALLATION OF THE UNIT

4.1 Installation

Confirm the model, serial number and name to avoid mistaken installation.

4.2 Electric wiring

Select the power supply capacity and wire size according to the Design Manual. The size of the power cable of the unit should be greater than that of ordinary motors.

Check the subscriber grounding is effective.

4.3 Installation space

Before installing the unit, reserve the space of maintenance

shown in the following figure.

Ensure enough space for installation and maintenance.(unit:mm)

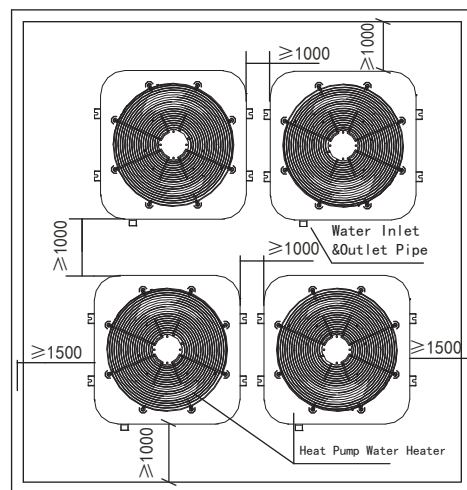
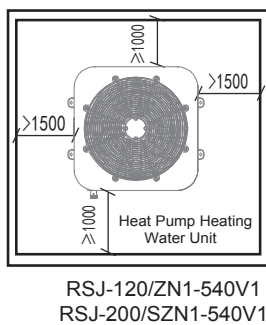
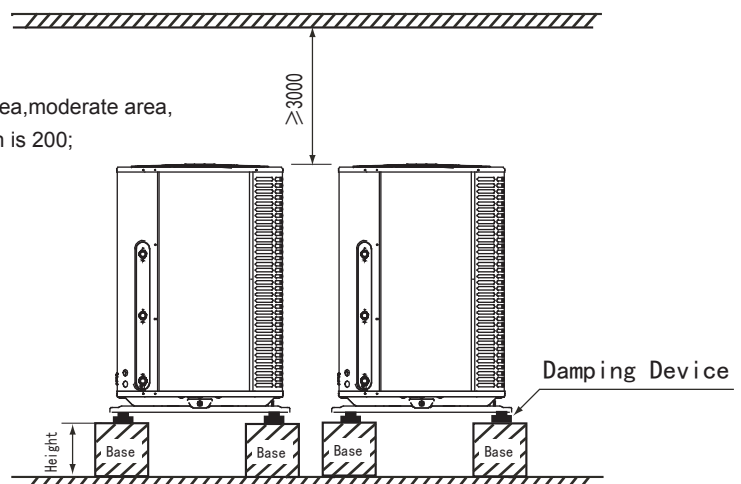


Fig. 4-1

The units are installed in different areas, and the base height should meet the following requirements:

- In cold area, base height should be at least 500mm;
- In hot summer and cold winter area, hot summer and warm winter area, moderate area, base height should be at least 300mm, the recommended base width is 200;
- Note: The drain hole of the unit shall not be blocked by the base during installation. The installation site must have drainage measures. Ensure smooth drainage, no water, ice. If the unit operates in winter, and installation site may have snow or ice, then unit base must be higher than the snow or ice. regular snow removal and deicing should be done.

The distance from the top of the unit to the shelter shed shall be at least 3m.



If the unit installed in a underground chamber, an indoor room or other hermetic place, please pay attention to where surrounding air, as well as which air exhus and air circulating system.

Table 4-1

Model	RSJ-120/ZN1-540V1		RSJ-200/SZN1-540V1	
	High Fan Speed (m³/h)	Low Fan Speed (m³/h)	High Fan Speed (m³/h)	Low Fan Speed (m³/h)
0	6237	4618	6994	5929
10	5479	3591	6485	5156
20	4774	2378	5994	4357
25	4368	1400	5380	3377

4.4 Carrying the unit onto the installing site

Use 4 steel ropes of F6mm or more to hoist the unit and convey it into the room.
 In order to avoid scratch or deform the unit surface, apply guard boards to the contacting surface
 After move onto installing site, please confirm the main unit are placed in horizontal.

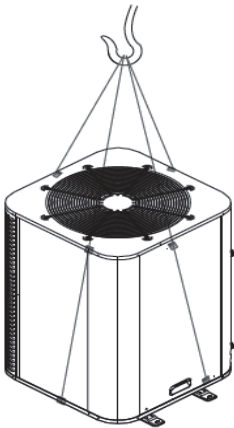
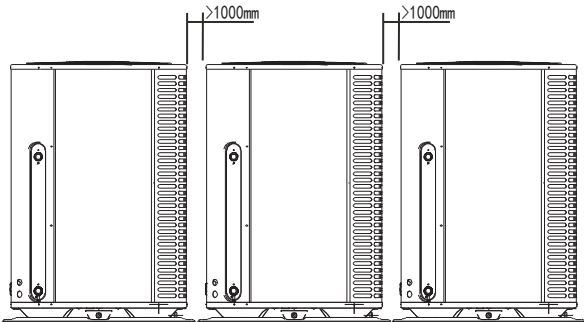


Fig.4-2

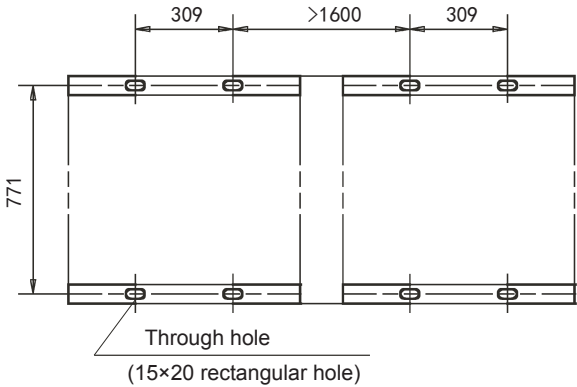
4.5 Installing multiple units

As shown in the figure, leave spacing of at least 1000mm between units.



RSJ-120/ZN1-540V1
 RSJ-200/SZN1-540V1

Fig.4-3



RSJ-120/ZN1-540V1
 RSJ-200/SZN1-540V1

Fig.4-4

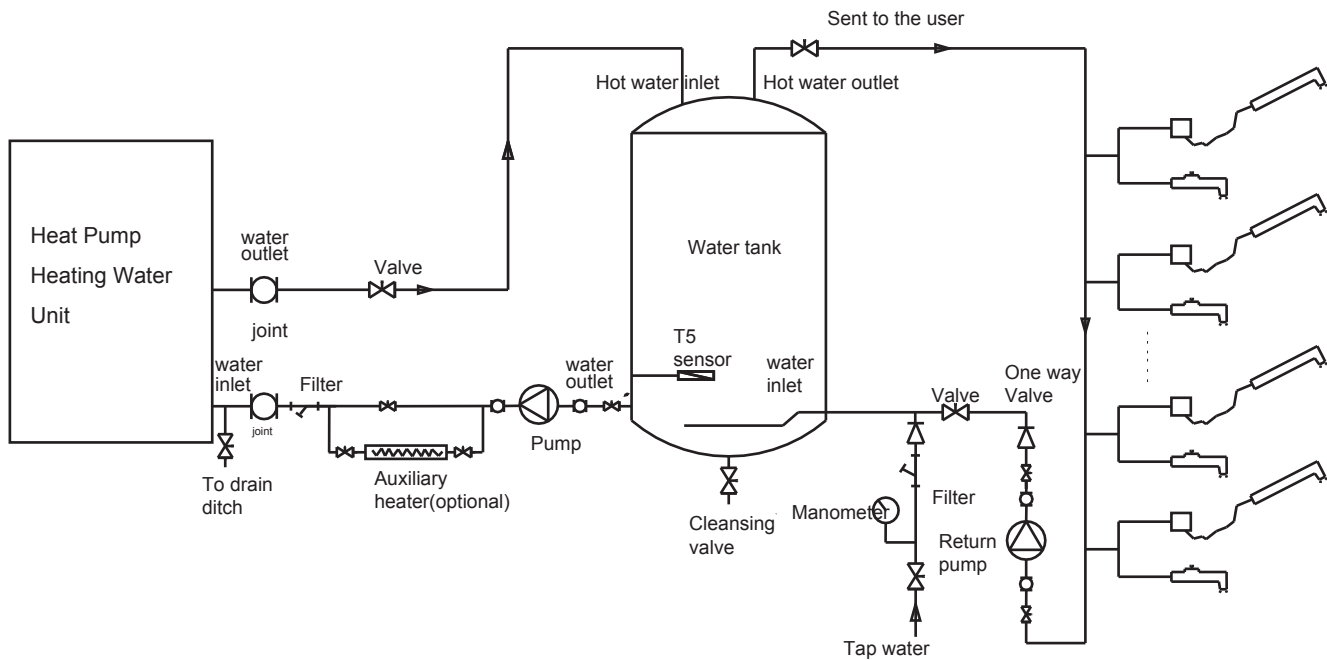
5. PIPES CONNECTION OF THE UNIT

During install connective pipe, you must beware that do not let any dust or other foreign substance intrude into pipe system. Water inlet and outlet pipes could be installed as long as the water-heater have been fixed.

5.1 Thermal insulation

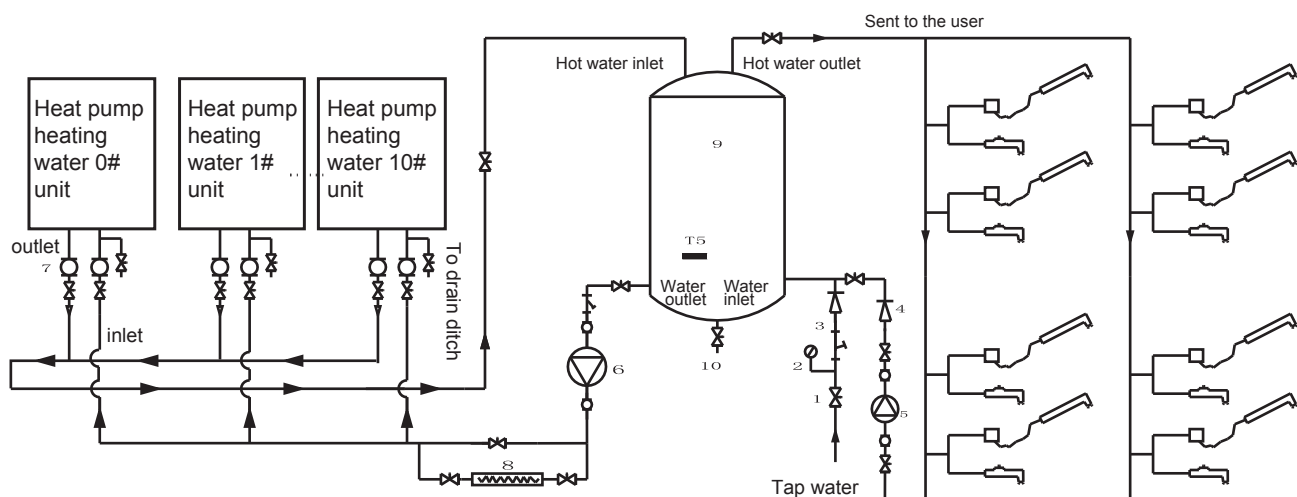
Thermal insulation materials should be employed to seal up water outlet and inlet pipes.

5.2 Schematic diagram of single and multiple connected water heater systems



Single connected for RSJ-120/ZN1-540V1、RSJ-200/SZN1-540V1

Fig.5-1



A maximum of 10 heat pump heating water units can be connected in parallel

Multiple connected for RSJ-120/ZN1-540V1、RSJ-200/SZN1-540V1

Fig.5-2

- | | | | |
|------------|-----------------|--|-------------------------------------|
| 1.Valve | 4.One way valve | 6.Pump | 9.Water Tank |
| 2.Manomete | 5.Return pump | 7.Joint | 10.Cleaning valve of the water tank |
| 3.Filter | T5.Tank sensor | 8.Auxiliary heater(optional to the user) | |

5.3 Selecting the inlet/outlet pipelines of the RSJ-120/ZN1-540V1 model

Table 5-1

Quantity of units connected in parallel	Size of inlet water pipe	Size of outlet water pipe
1~2	DN25	DN25
3~5	DN32	DN32
6~10	DN50	DN50

5.4 Selecting the inlet/outlet pipelines of the RSJ-200/SZN1-540V1 model

Table 5-2

Quantity of units connected in parallel	Size of inlet water pipe	Size of outlet water pipe
1	DN25	DN25
2	DN32	DN32
3~5	DN50	DN50
6~10	DN65	DN65

6. INSTALLATION OF FITTINGS

6.1 Installing the water tank.

The water tank temperature sensor can not be placed in the water directly, the water tank must be installed temperature pipe, and the water tank temperature sensor should be installed in the temperature pipe.

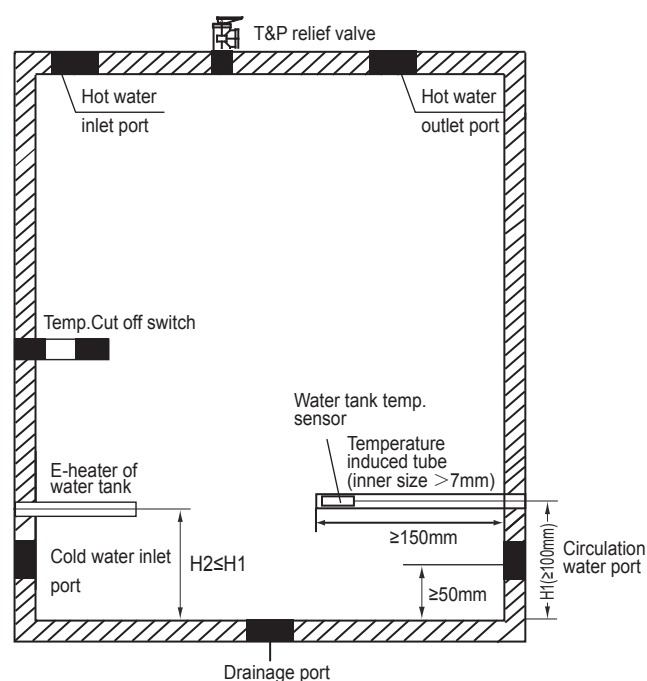


Fig 6-1

6.2 Water cycle pump selection

Rated head of circulative pump: Σ on-way resistance+ Σ local resistance + unit resistance.

Rated flow of circulative pump: Rated flow of a single circulation heating unit $\times$ Circulating unit quantity.

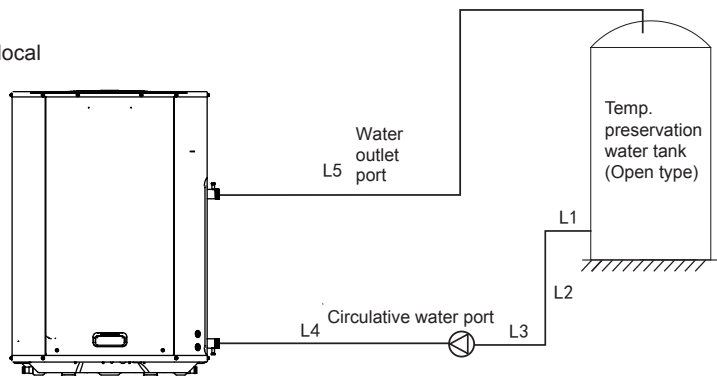


Fig 6-2

Rated flow when the unit is circulative heating

Table 6-1

Model	RSJ-120/ZN1-540V1
Circulative heating rated water flow (m ³ /h)	2.0
Water resistance of circulative rated water flow (kPa)	160



CAUTION

The hot water circulative pump must use hot water pump; the temperature resistance of the circulative water pump can not lower 80 °C.

6.3 Selecting and installing the water pump

Selecting the lift of the pump:

15m + height difference between the water tank and the master unit + sum of local resistances along various pipelines .

Table 6-2

Quantity of units connected in parallel	RSJ-120/ZN1-540V1		RSJ-200/SZN1-540V1	
	Flow rate(m ³ /h)	Lift(m)	Flow rate(m ³ /h)	Lift(m)
1	1.2~1.5	15~18	2~3	15~18
2	2.4~3	15~18	4~6	15~18
3	3.6~4.5	15~18	6~9	15~18
4	4.8~6	15~18	8~12	15~18
5	6~7.5	15~18	10~15	15~18
6	7.2~9	15~18	12~18	15~18
7	8.4~10.5	15~18	14~21	15~18
8	9.6~12	15~18	16~24	15~18
9	10.8~13.5	15~18	18~27	15~18
10	12~15	15~18	20~30	15~18

6.4 E-heater capacity selection

The user can select the auxiliary electric heater, and the master unit provides the passive control signals of the auxiliary heater. The installation location of the auxiliary heater must strictly comply with the installation schematic diagram. Rated heating capacity of main unit $\times$ (10%-30%).



CAUTION

- E-heater can apply the pipe-type E-heater or water tank E-heater. After installation it must through dialing codes to choose the relative E-heating mode, otherwise it will damage the unit or the E-heater.
- The selection of auxiliary heater is only for recommendation, user can select accord to the actual conditions.

6.5 Installing the auxiliary heater

The user can select the auxiliary electric heater, and the master unit provides the control signals of the auxiliary heater (220-240V~ 50Hz). The installation location of the auxiliary heater must strictly comply with the installation schematic diagram.

Table 6-3

Quantity of units connected in parallel	RSJ-120/ZN1-540V1	RSJ-200/SZN1-540V1
	Power(kW)	Power(kW)
1	3~4	5~6
2	6~8	10~12
3	9~12	15~18
4	12~16	20~24
5	15~20	25~30
6	18~24	30~36
7	21~28	35~42
8	24~32	40~48
9	27~36	45~54
10	30~40	50~60

6.6 Requirements of making the water tank

Make sure E-heater is covered with water all the time.

7. ELECTRIC CONNECTION OF THE UNIT

7.1 Electric wiring

CAUTION

- Water heater shall have a specialized power supply, which voltage must in compliance with the rated voltage.
- Power supply circuit of water heater with ground wires that must reliably connected with the external ground wire, which shall effective.
- Wiring must be performed by professional technicians according to the circuit diagram.
- Set the residual current-operated circuit breaker (RCCB) according to the relevant electric technical standards of the State.
- Power cable and signal cable shall be laid out orderly and properly. Distinguish heavy current from weak current.
- Without mutual interference, no contact with connective pipes or valves.
- No power cable is attached to this equipment. User could select power cable by reference to power supply specifications.
Forbidden joint wires together. Shield wire must be employed for signal wire.
- All wiring are finished, before power on the unit, please confirm all connections are correct.
- The power cord type designation is H07RN-F.

7.2 Specifications of power supply (Table 7-1)

Table 7-1

Model	Power
RSJ-120/ZN1-540V1	220-240V~ 50Hz
RSJ-200/SZN1-540V1	380-415V 3N~ 50Hz

7.3 Total horsepower manual switch and fuse capacity (Table 7-2)

Table 7-2

Total horsepower(HP)	Manual switch(A)	Fuse(A)
3	32	32
5	50	30

7.4 Selecting the capacity of the manual switch and fuse of the deconcentrator.

- 1) No power supply device is used, see *Table 6-1* The specifications depend on connected units' actual status.
- 2) Power supply device is used, the specifications can be derived from *Table 7-2* according the total horsepower of the heater pump.

7.5 When 5-cord shield wire in the accessories pack is not long enough, please refer Table 7-3:

Table 7-3

Name	Quantity	Size
Electric auxiliary heater power wire	2 Cords	2.5 mm ² (Length≤50 m)
Circulating water pump power wire	2 Cords	2.5 mm ² (Length≤50 m)
Communication cable (shieled)	5 Cords	1.0 mm ² (Length≤50 m)

CAUTION

- When the power cable is parallel to the control wire, please put these wires into their respective wire tubes, and reserve adequate interval space between them.

7.6 Power cable

The power cable is as follows.

7.6.1 When power delive to a certain wire individually (no power supply device is used)

Table 7-4

Item Model	Power supply	Min. wire size (mm ²) (Metal pipe & synthetic resin pipe wire)		Manual switch(A)		RCCB
		Size (Continuous length: ≤30 m)	Ground wire	Capacity	Fuse	
RSJ-120/ZN1-540V1	220-240V~ 50Hz	6	4	32	32	30 mA Below 0.1 sec
RSJ-200/SZN1-540V1	380-415V 3N~ 50Hz	6	4	50	30	30 mA Below 0.1 sec

NOTE

Wire size and continuous wire length in Table 7-4 only available for the case of the voltage decreasing range not exceeds than 2%.

If the continuous wire length value larger than the one of the table, please choose its size in compliance with the relevant rules.

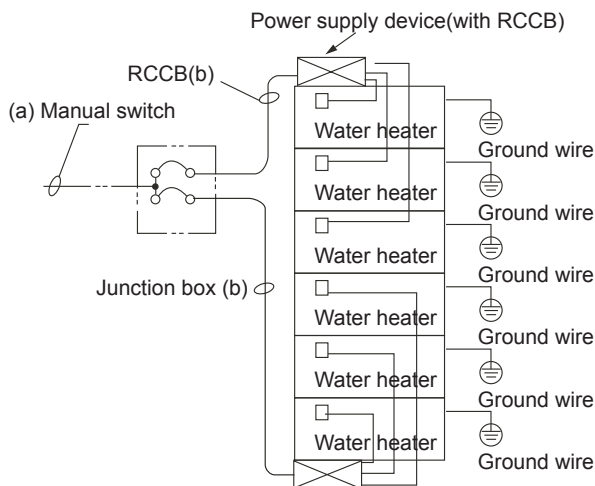
6.6.2 Power supply device application

Fig.7-1

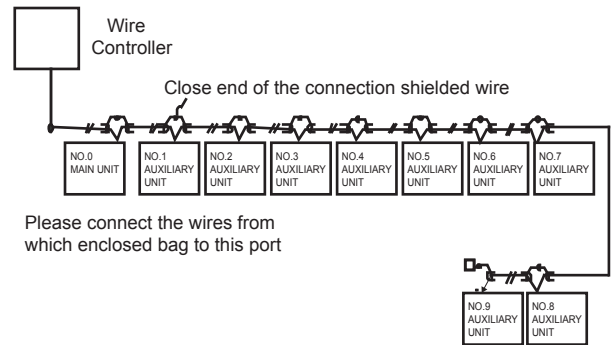
NOTE

Although an RCCB have already built in the unit, to be on safe side, an additional RCCB is necessary to be installed in the external power supply box. Please refer to Fig.7-1 to arrange it.

7.6.3 Selecting the wire size

Power cable refers to the main wire (a) led to the junction box and the wire led from the junction box to the power supply device (b). Select the wire size according to the following method.

- 1) The size of the trunk line (a) is calculated out through Table 1 according to the sum of horsepower of the heating water unit.
- 2) In case there are less than 5 heating water units combined, the size of the wire (b) between the junction box and the power device is the same as the size of the main wire (a). In case there are 6 or more heating water units combined, there are two electric control boxes of the power device, and the size can be derived from the Table 1 according to the horsepower sum of the heating water units connected to each electric control box.

7.6.4 signal wire wiring

Please connect the wires from which enclosed bag to this port

Signal wire is 3-core, polarized wire. Use 3-core shield wire to prevent interference. The grounding method now is grounding the closed end of the shield wire and opening (insulating) at the end. Shield is to be grounded.

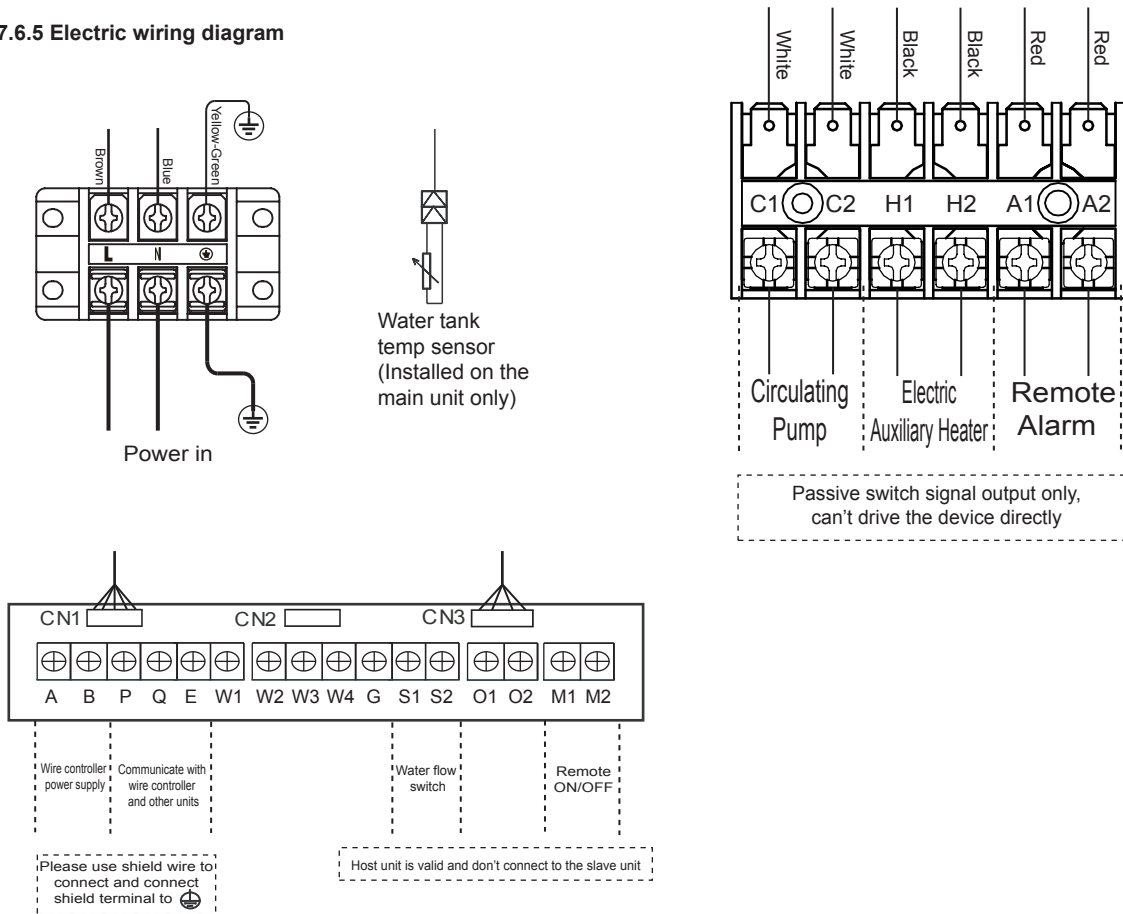
CAUTION

This appliances RSJ-120/ZN1-540V1 can be connected only to a supply with system impedance no more than 0.04Ω. In case necessary, please consult your supply authority for system impedance information.

⚠ CAUTION

- When power cord is parallel with signal wire, please put them into separate wire distribution pipes, and leave a proper distance.
- (Reference distance: It is 300mm when current capacity of power cord is less than 10A, or 500mm when 50A).

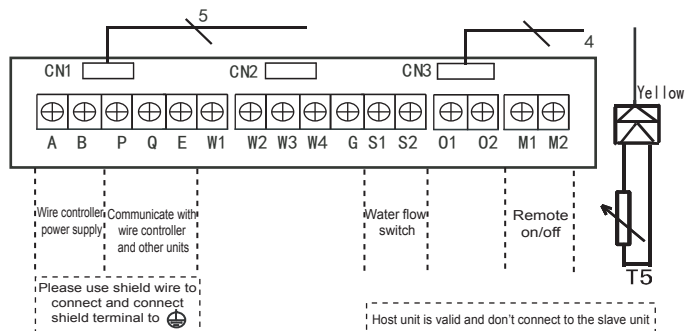
7.6.5 Electric wiring diagram

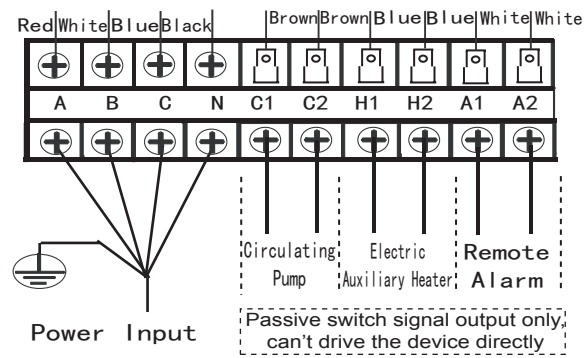


RSJ-120/ZN1-540V1 electric wiring diagram

⚠ CAUTION

- Pay attention to the phase sequence of the power supply. If the phase sequence is inversed, the compressor will not start, and the electric control board nixietube displays the fault code.
- After replacing the phase sequence, power on the unit until the nixietube does not display the fault and





RSJ-200/SZN1-540V1 electric wiring diagram

7.7 Setting wire controller

By means of a detachable service panel, the maintenance personnel can easily access the interior components of the unit.

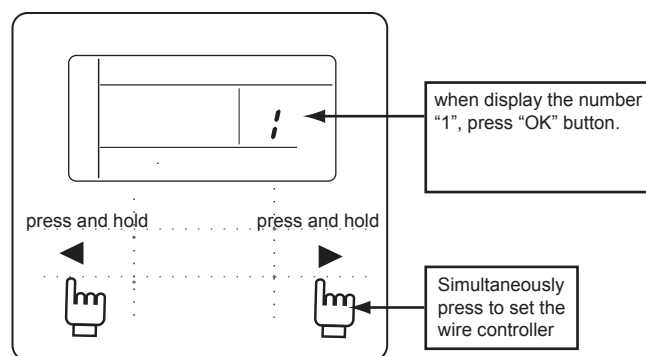
The attached wire controller can be applied to several HPWH models after the controller is properly set.

For this model, the controller need to be set to "1". Since the default setting of the controller is "1", users do not need to set it. The setting method is for reference.

Setting method:

when the controller is "OFF", simultaneously press and hold "◀" "

"▶" two buttons, until the setting number (from 1 to 5) is displayed on the screen. Press "▲" or "▼" button to select the number "1", then press "OK" button to confirm.



7.8. The main control board interface diagram (Preference only)

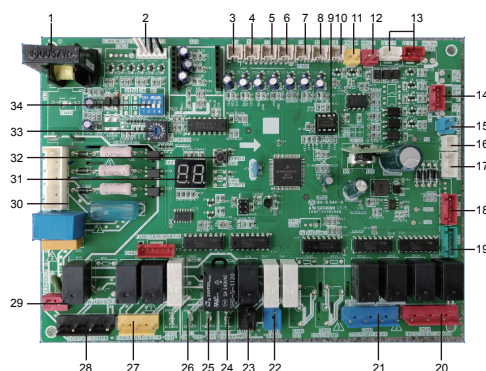
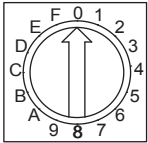
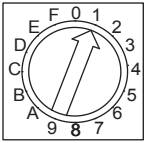


Table 6-5

1	Current detection	13	Communication	25	Electric Ball Valve OFF
2	T4\T3	14	Water flow switch	26	Electric Ball Valve ON
3	Th	15	Remote control	27	Refrigerant E-heating and Fan control
4	Tp	16	Supply of Wire controller		
5	T7	17	Transformer output	28	Compressor control
6	T6	18	Warm water valve cotnrol	29	Transformer input
7	T1	19	EXV cotnrol	30	Power input
8	T5	20	Remote alarm control	31	Digital pipe
9	EEPROM	21	Pump and E-heater control	32	Spot check
10	T6b	22	4-way valve control	33	Address dial code
11	High pressure protection	23	SV1 control	34	Dial code
12	Low pressure protection	24	Crank E-heating		

7.9. Dial code and sensor instructions

Table 7-6

S1		S3			Sensor
Address code dial (Host unit)	Address code dial (Slave unit)	choice of auxiliary heater	choice of defrosting cycle	Remote ON/OFF settings	
 ADDRRSS As a host unit, the pointer is at "0" position	 ADDRRSS As to slave unit 1, 2, 3, the pointer will be at 1, 2, 3 respectively (invalid when exceeding 3)	No E-heater (Default)  Water tank E-heater  No E-heater  Pipe E-heater 	32(MIN)  28(MIN) 	Inactivated (default)  Activated 	T3、T4、Th-B value: 4100K 25°C/10K T1、T5、T7-B value: 3970K 50°C/17.6K Tp、T6 value: 3950K 90°C/5K

7.10. Error codes table

Table 7-7

No	Error code	Reason	No	Error code	Reason	No	Error code	Reason
1	E1	Power phase sequence error	9	E9	Error of suction temp. sensor (Th)	17	P4	Protection for discharge over-temperature
2	E2	Communication error of main unit and wire controller	10	EA	Error of discharge temp. sensor (Tp)	18	P7	unmatched between mainboard and wire controller
3	E3	Error of water outlet temp. sensor (T1)	11	Ed	Error of water inlet temp. sensor (T7)	19	P8	Water outlet over-temperature operation
4	E4	Error of water temp. sensor in the water tank(T5)	12	EE	Error of EEPROM	20	db	Anti-freezing protection
5	E5	Error of evaporator pipe temp. sensor (T3)	13	EL	Error of communication between electronic lock and mainboard	21	d8	ON/OFF signal is ON close status
6	E6	Error of outdoor ambient temp. sensor (T4)	14	P0	System low pressure protection	22	C1	Compressor current is less than 2A when operation
7	E7	Error of refrigerant heating pipe temp. sensor (T6, T6b)	15	P1	System high pressure protection	23	Hb	Address conflict error
8	E8	Error of circulating waterflow detection	16	P2	Compressor current protection of system is over load	24	PF	Electronic lock is locked

7.11. Spot check table

Table 7-8

No	Display	No	Display	No	Display
1	Water outlet temp(T1).	10	Water outlet setting temp(Ts).	18	Fan speed
2	Evaporator pipe temp(T3).	11	Operating temp. of circulating heating water(Tr)	19	Model code
3	Ambient temp(T4).	12	Compressor A current	20	Protection counter
4	Water tank temp(T5).	13	Compressor B current	21	Protection, Error(the last third)
5	Refrigerant heating pipe temp(T6).	14	EXV opening	22	Protection, Error(the last second)
6	Refrigerant heating pipe temp(T6b).	15	Warm water valve opening	23	Protection, Error(the last)
7	Water inlet temp(T7).	16	Water level height	24	The number of slave units
8	Discharge temp(TP).	17	Operating mode	25	Program version
9	Suction temp(Th).			26	nd

8. OPERATION AND PERFORMANCE OF WATER-HEATER

8.1 About the 3-minute protection

Restart or open the manual switch at once after the unit shut down.

Unit will not start immediately until 3 minutes later, because of the self-protect function of the compressor.

8.2 Characteristics of heat water supply operation

During operation, if outdoor temperature is high degree, the air supply motor will run at low air volume.

8.3 About heat water supply operation and defrosting function

In case of the unit appears frost during water supply, prevent the heating efficiency from decreasing, de-frosting operation will turn on automatically (approx. 2~7 minutes).

In the process of defrosting operation, the unit air supply motor will stop running.

8.4 Operating conditions of the water heater

In order to use the heater pump correctly, please ensure that operate it at -15°C~43°C outdoor ambient temperature when you use the water heater unit.

8.5 About protection device

When protection device is in operation, though the unit stops, the operating indicator of wire control still is blinking.

When protection device is in operation, nixie indicator will display malfunction code (units).

Protection device will act when the following circumstances occur:

Air inlet or outlet are blocked.

Air in water or refrigerant system exhaust incompletely.

Voltage is a little higher or lower compared to the voltage range (Exceeding the range of 230V(400V) $\pm 10\%$).

CAUTION

- Please cut off the manual switch power when protection device is on service.
- Do not restart until problems are solved.

8.6 Start the unit after a long period out of service

Start-up the unit after out of service for a long period (includes drive up a unit at the first time), you would see rust mix up water in red, flow out from tap. Such that is a normal circumstance, please be calmly and keep draining, after for a while rust will disappear.

8.7 About power failure

In case power failure during the unit is performing, please stop all operating actions.

At the next startup after power failure, the RUN indicator of wire controller will blink slowly for several seconds, that is user noted signal.

Wire control possesses power-fail memory function.

Misoperation occurs during operating:

In case misoperation caused by lighting or vehicular radio, cut off the manual power switch, and turn it on again, afterward press RUN/STOP key.

It is forbidden to switch the power off if ambient temperature is below 0°C. In case of power failure or power need be cut because of maintenance, please open the drainage valves at the joints of water inlet and outlet pipes as soon as possible to drain out all water. Otherwise, components inside of the units may be damaged by freeze. Upon drain water, please close the water drainage valves.

8.8 COP & Cap. and temperature curve

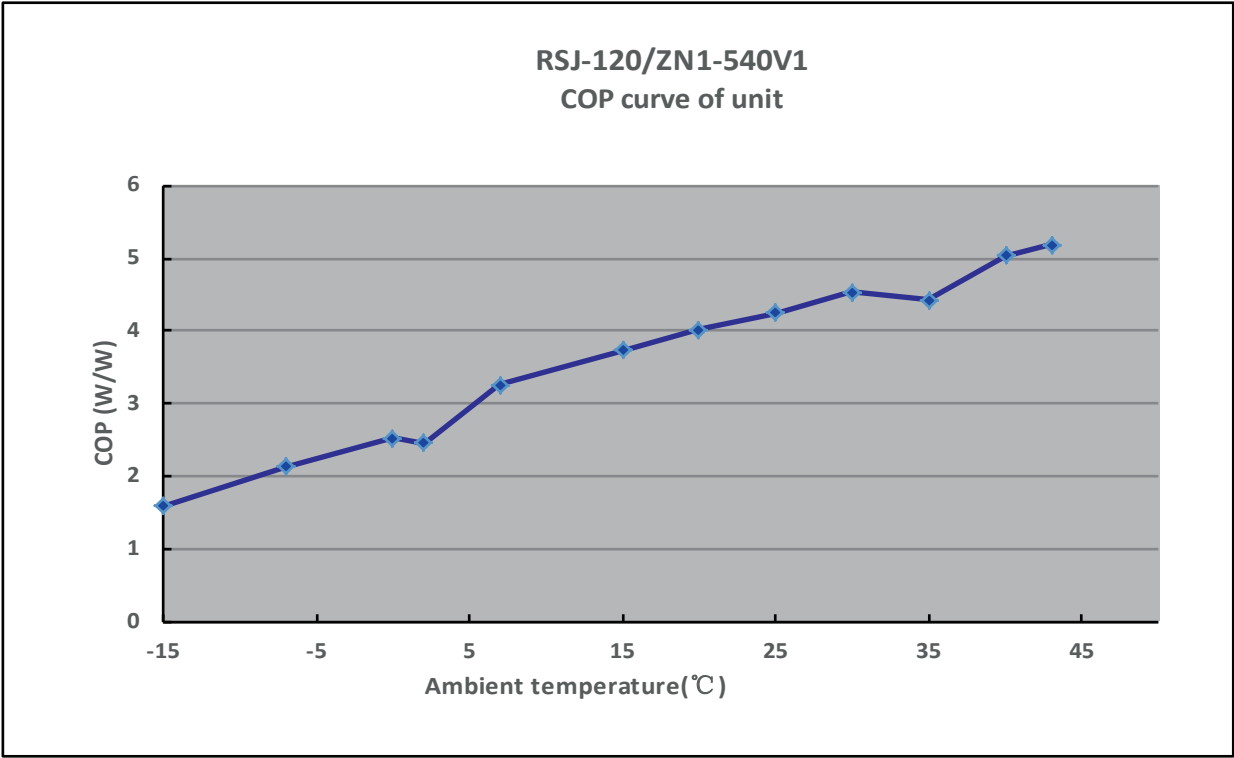


Fig.8-1

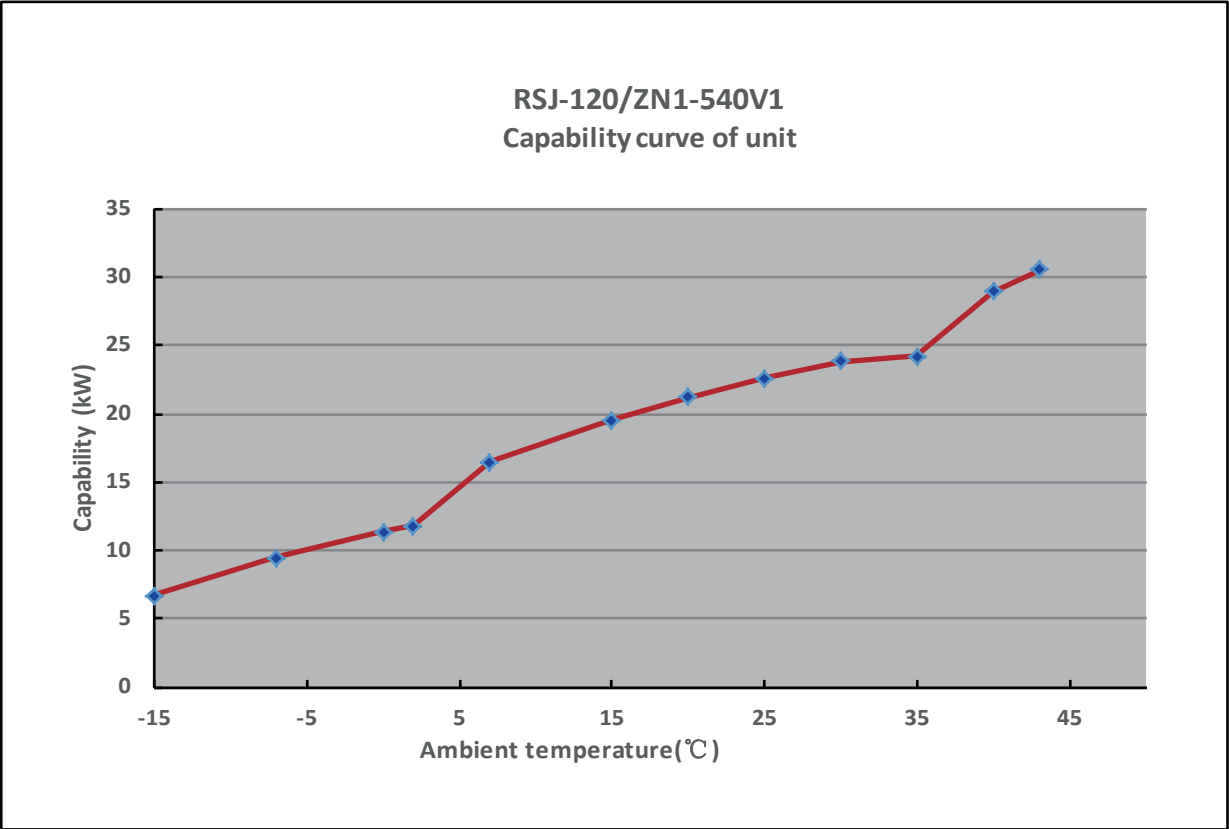


Fig.8-2

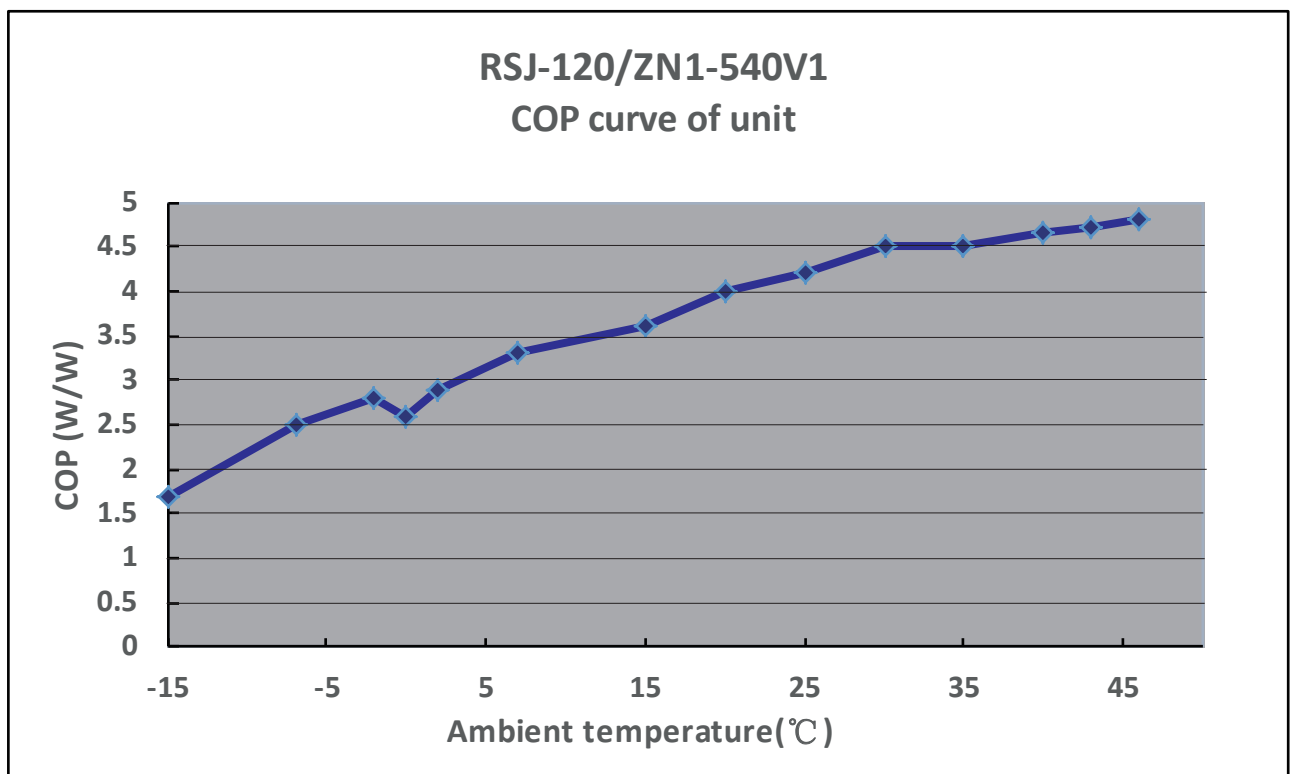


Fig.8-3

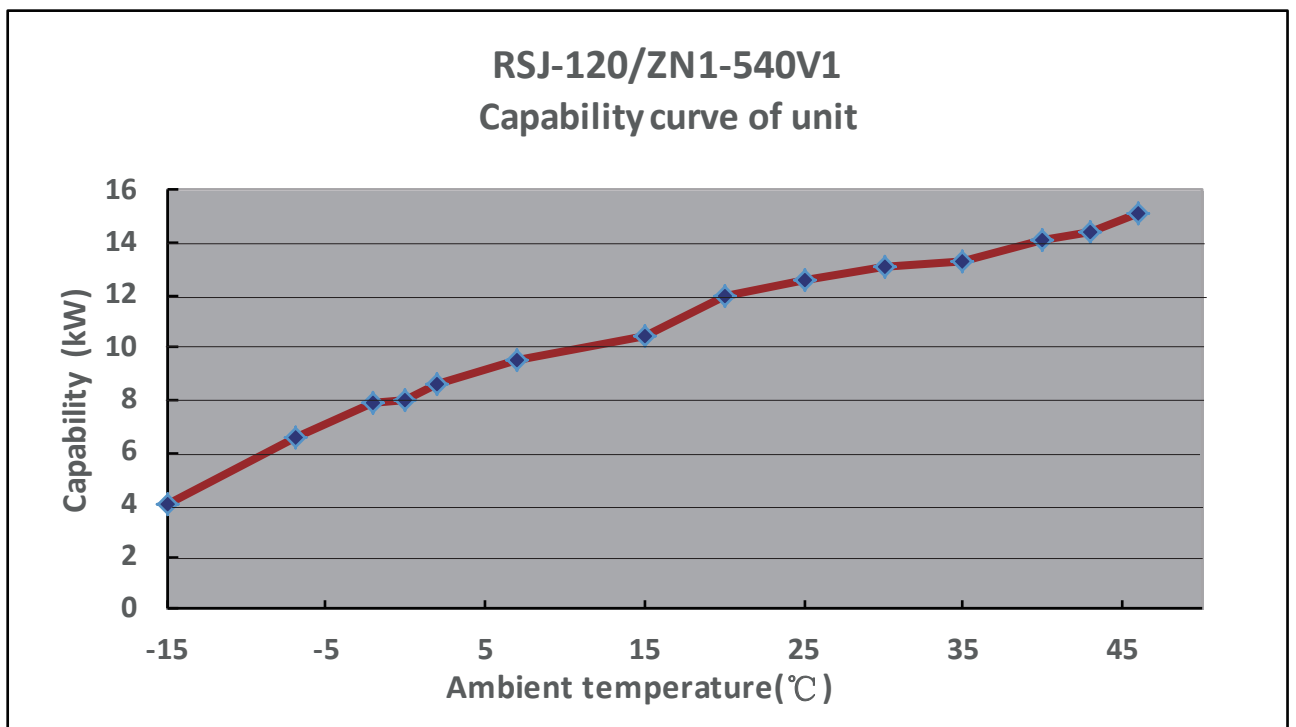


Fig.8-4

Specific data are shown in the following table:

Table 8-1

Model	Ambient temperature(℃)	Inlet water temperature(℃)	Outlet water temperature(℃)	Capability(kW)	COP(W/W)
RSJ-120/ZN1-540V1	-15	9	55	4	1.7
	-7	9	55	6.6	2.5
	-2	9	55	7.9	2.8
	0	9	55	8	2.6
	2	9	55	8.6	2.9
	7	9	55	9.56	3.3
	15	9	55	10.4	3.6
	20	15	55	12	4
	25	15	55	12.6	4.2
	30	15	55	13.1	4.5
	35	29	55	13.3	4.52
	40	29	55	14.1	4.65
	43	29	55	14.4	4.72
	46	29	55	15.1	4.81
RSJ-200/ZN1-540V1	-15	9	50	6.7	1.59
	-7	9	50	9.5	2.13
	0	9	50	11.4	2.52
	2	9	55	11.8	2.45
	7	9	55	16.5	3.26
	15	9	55	19.5	3.73
	20	15	55	21.2	4.02
	25	15	55	22.6	4.25
	30	15	55	23.8	4.53
	35	29	55	24.2	4.42
	40	29	55	28.9	5.03
	43	29	55	30.5	5.19

8.9 About RCCB

However this unit with a built-in RCCB, to be on the safe side, please install an additional RCCB between in user power supply and the unit. In case the unit cannot act but not attribute to power failure, please check these two RCCB switches at first. Before operate the RCCB inside of units, please ensure that the user installing switch is break off.

After the RCCB has serviced for a period of time (Generally once a month), it is necessary to press the test button at close circuit to check whether the performance of RCCB is work normally (Every time you press this button, RCCB would break-off once at a time). In case malfunction occurs, but no causes were found, it is permit to delivering power to RCCB to detect failure. If RCCB did not work when being power, you must check out the cause by feature test if necessary. If which detected and confirmed as its self-malfunction, please consigning a professional personnel to replace a new one or repair it immediately.

8.10 About shut-off memory

Every time when power shut off, wire control will saves the current operate status automatically. Untill power come to the next time, wire control would deliver ON/OFF signal to the unit according to its memory before power failure. This function keep unit always work on the mode which be set in the last time before power failure.

NOTE

Wire control can memories the operation status before power failure, and records the Time Switch-ON signals. Other information are return to default values after power be supplied again. Due to the signal of Time Switch-ON takes wire control clock's signal as reference, so the clock signal is needed to be reset after every time power-failure or reset that for ensure this function will keep on work in normal.

9. TRIAL RUN

CAUTION

- Trial run the unit after being powered on it over 12 hours.
- Check that all valves are opened before trial run.
- Check the electric safety before trial run.
- Do not perform compulsory operation.
(It is very dangerous if the protection device is not active.)

Trial run is perform only after all installations are finished.

9.1 Confirm the following issue before operation and tick box after confirmation

The water heater is installed correctly.

The piping and wiring are correct.

The accessories are installed correctly.

The drain is smooth.

The heat insulation is perfect.

The ground wire is connected correctly.

The supply voltage is consistent with the rated voltage of the unit.

The air inlet and outlet of the unit is free from obstacles.

The RCCB is active.

9.2 Trial run

Check whether the switch of the wire control is normal.

Check whether the functional keys of the wire control are normal.

Check whether the indicators illuminate normally.

Check whether the manual operation buttons are normal.

Check whether the drain function is normal.

Check whether the water heating operation is normal.

Check whether the outlet water temperature is normal.

Check whether shake and make abnormal noise during operation.

Check whether the output air, noise and condensate water disturb your neighbor.

Check whether refrigerant leakage.

10. TROUBLESHOOT OF ABNORMAL PHENOMENA

Before asking for serving or repairing, check the following points:

Table 10-1

	PHENOMENA	CAUSE
Not distribute to malfunction	White aerosol or globule is give out. Make sound of "hiss" every now and then.	Air supply motor stop automatically to defrost. At the beginning and the end of the defrost process, sound is give out in motor valve occur. During the process or just after have stoped, sound like water flow occur, which will be amplified at the first 2~3 minutes, this is caused by process of refrigerant current or water discharge at dehumidifying operation. Slight "hiss" is caused by heat exchanger as temperature changes. The sound give out because of heat expands and cold contracts of heat exchanger. During the beginning or just after have stopped, sound like clock occur, which is caused by electric expanding valve operation.
Please check that again	Stop operation or drive up automatically	Detect the timer whether be given wrong operation. Detect antifreezing mode is opened.
	No operate	Whether the power is cut. Whether the manual power supply switch is off. Whether fuse is broken. Whether the protection device works.(Operation lamp is lightened.) Whether it is the time set.(Operation lamp is lightened.)
	Inefficient heating	Whether the inlet and outlet of boiler units is blocked.

In case of following malfunctions, please cut off the manual power switch and contact with local dealer or aftersale service centre:

- 1) ON/OFF operation is ineffective.
- 2) Fuse or RCCB is frequently broken.

11. SPECIFICATIONS & PARAMETERS OF THE UNIT

Table 11-1

Model		RSJ-120/ZN1-540V1	RSJ-200/SZN1-540V1
Heat-water heating volume (kW)		11.8	20.4
Consumed power/ current		2.95kW / 13A	5.23kW / 9.0 A
Heat water output value (m ³ /h)		0.25	0.45
Rated input power (kW)		3.7	7.8
Rated input current (A)		18.0	13.0
Power supply		220-240V~ 50 Hz	380-415V 3N~ 50 Hz
Operation control		auto start, fauilure alarm ect.	
Working substance (Charged volume)		R410A (1550 g)	R410A (2900 g)
Water circulate param.	Water outlet temp.	Factory settingtemperature 56 °C(Adjustable range:48~60°C)	
	Diam. of water inlet pipe	DN25	DN25
	Diam. of water outlet pipe	DN25	DN25
	Max./Min. resisting pressure	1.0 MPa/0.2MPa	1.0 MPa/0.12MPa
Air side heat exchanger	Mode	Internal thread hydrophilic aluminium foil	
	Motor power (W)	230	360
	Air outflow mode	Air flow from topway	
Outline dime.	L (mm)	810	810
	W (mm)	790	790
	H (mm)	1100	1100
N.W (kg)		125	157
Noise dB (A)		59	63
Note: Testing conditions: Outdoor ambient temperature is DB/WB 20 C/WB 15°C, inlet water temperature of the units is 15°C , outlet water temperature is 55°C.			

NOTE

[illegible]

16125300001979 VB

此页不做菲林，仅核对使用

此页不做菲林，仅核对使用。

印刷说明：（仅做说明用，不做菲林）

材质：封面、封底铜板纸105g

内页双胶纸黑白印

长： 297 毫米

宽： 210 毫米

克重： 80g

纸张颜色： 本色

正大度： 大度

版本由A升级为B：增加技术要求、版式升级为最新版式、认证所需信息补充等。

2021.1.21

更改材质内页为双胶纸80g，内容不变，故不升级版本

