



MegaLife

Owner's Manual

Original Instructions

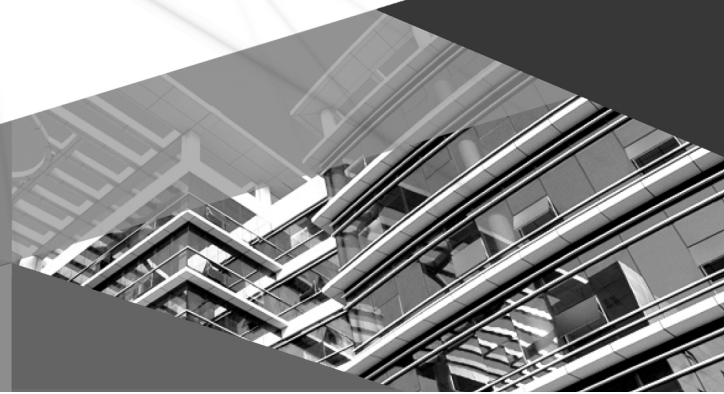
Hydro Box

Model:

T ŠNRQD16G/A-S

Thank you for choosing commercial air conditioners. Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit www.megalife.com



To Users

Thank you for selecting [] product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) 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.
- (2) In order to ensure reliability of product, the product may consume some power under stand-by status for maintaining normal communication of system and preheating refrigerant and lubricant. If the product is not to be used for long, cut off the power supply; please energize and preheat the unit in advance before reusing it.
- (3) Please properly select the model according to actual using environment, otherwise it may impact the using convenience.
- (4) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact with the special maintenance center of our company if necessary.
- (5) When the product is faulted and cannot be operated, please contact with our maintenance center as soon as possible by providing the following information.
 - 1) Contents of nameplate of product (model, cooling/heating capacity, product No., ex-factory date).
 - 2) Malfunction the situations before and after the error occurs).
- (6) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation. We have the right to make necessary revision to the product from time to time due to the reason of sales or production, and reserve the right to revise the contents without further notice.
- (7) The final right to interpret for this instruction manual belongs to T^{^*} aŠã^È

Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:

- (1) Damage the product due to improper use or misuse of the product;
- (2) Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
- (3) After verification, the defect of product is directly caused by corrosive gas;
- (4) After verification, defects are due to improper operation during transportation of product;
- (5) Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
- (6) After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
- (7) The damage is caused by natural calamities, bad using environment or force majeure.

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1 Product Description and Characteristics


1.1 Instructions to Users


- (1) Before carrying out any maintenance or repair of the water heater, please always disconnect the power supply and have the water heater adjusted and repaired by professional technicians.
- (2) Please make sure that the power socket complies with the national standard and it is securely earthed. Never use the water heater which is not securely earthed.
- (3) Before energizing, please ensure that the water heater is filled with water; otherwise it will cause malfunction.
- (4) The hydro box must be installed indoors with ambient temperature from 4°C~35°C. If you put the unit out of use for a long period, please make sure to drain the water thoroughly out of the hydro box and floor heating pipe, in order to prevent the system from freezing.
- (5) Hot water over 50°C will cause scald. Therefore, please make sure to mix the hot water with cold water before shower or washing. When the ambient temperature is lower than 0°C, please make sure to drain the water tank thoroughly if you are to travel out for a long period and the water heater is under de-energized state.
- (6) After the water system is thoroughly drained, please make sure to disconnect the hydro box from the power supply.
- (7) The hot water in the water heater is not drinkable. After a long time of use, scale may deposit in the water tank and cause change to the water quality. After you have washed the edible substances with the water in the container, please make sure to flush with clean tap water again.
- (8) The water heater defaults a water temperature at 50°C. If the water temperature is too high, the unit's coefficient of performance (COP) will decrease.
- (9) The most energy-saving mode is cooling while generating hot water. The unit can make judgment automatically and maximize the effect of heat recycling.
- (10) This unit is provided with the function for quick generation of hot water.
- (11) Please install the hydro box in a place strong enough to bear its weight. Otherwise, it will cause falling down of the unit, which may lead to injury.

1.2 Safety Notices

Before use, please read the manual thoroughly and operate the unit correctly according to the guideline herein.

We require your special attention to the meaning of these two symbols:

 **WARNING!** A symbol indicating that improper operation might cause human death or severe injury.

 **CAUTION!** A symbol indicating that improper operation might cause human injury or damage.

 **WARNING!**

- (1) Do not place the gasoline or other flammable substances close to water heater;

otherwise it may cause fire accident.

- (2) The water temperature displayed on the wired controller of water tank refers to the temperature around the measuring point. Generally, the outlet water temperature is higher than the value displayed on the screen. To avoid scald, please firstly discharge cold water and then adjust to your desired temperature.
- (3) The power switch of water heater shall be located at a dry position out of the water spray. Never operate the power switch with wet hands; otherwise electric shock or injury may be caused.
- (4) This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.

 **CAUTIONS!**

- (1) Before use of the water heater for the first time after installation, it must be filled with water before switching on. If energized when the water in the container is not full, the water heater will occur fault.
- (2) In case of any fault to the water heater, it must be repaired by professional after-sales serviceman. No other person shall dismantle or repair the water heater.
- (3) When the child is taking a shower, they must be under the adult's instructions. Never allow the child to operate the water heater.

1.3 Product Characteristics

(1) Energy Saving and Environment Friendly

The hot water is generated by using the waste heats from the air conditioner and the abundant heat source from atmosphere. Under cooling mode with hot water generation mode, we can optimize the control and realize the heat recycling. The comprehensive energy-efficiency ratio is up to 7.0.

(2) Safe and Reliable

This series of heat pump water heater is designed with a hydro box for transferring the heat from outdoor unit to pressure water tank. The pressure water tank is only used for storing hot water. The hydro box is connected to water tank via insulation pipes, so that the water is visibly separated from the electricity. This has radically eliminated the risk of electric leakage. To ensure safe use, this unit is also provided with multiple protections, e.g. ant freezing protection. Furthermore, there is no risk of carbon monoxide poisoning or other hazards.

(3) Easy Use

The temperature of heated water is adjustable at an interval of 1°C between 35°C~58°C. Meanwhile, the unit can supply water to wash room and kitchen.

(4) Simple Operation

The user may, as needed for use of the hot water, select the standard hot water mode, night mode or preset mode. The user may set the water temperature as desired. The unit may be started or stopped according to the water temperature and the user's needs for water, so as to ensure supply of hot water 24 hours a day. Meanwhile, the unit may be set to work at the valley section of electric price, thus to reduce the power expenses and power shutdown.

(5) Easy Installation

The unit uses pressure water tank and transfers the hot water by using the water pressure in tap water pipe. Therefore, it is not needed to add water pump or other associated accessories. This has simplified the installation procedures and saved the cost.

2 Unit Structure and Performance Parameters

2.1 Internal Structure of Hydro Box

The hydro box consists of water pump, plate heat exchanger, electric heater and electric control. The internal structure is as shown below:

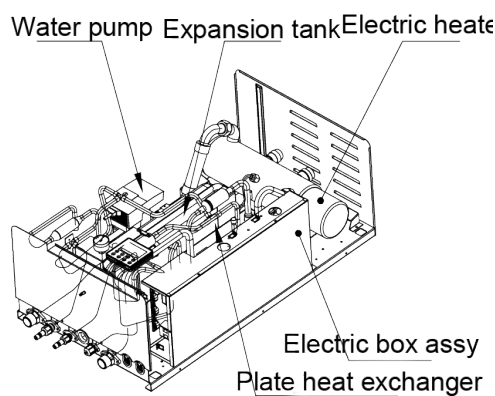


Fig.2.1.1

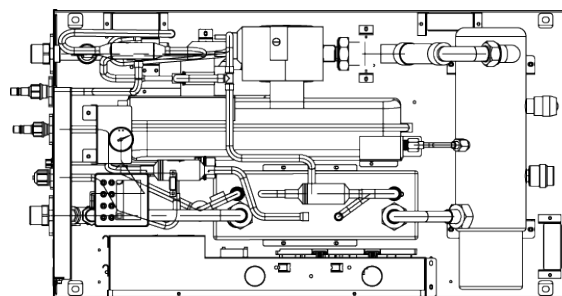


Fig.2.1.2

2.2 External Appearance and Introduction of Hydro Box

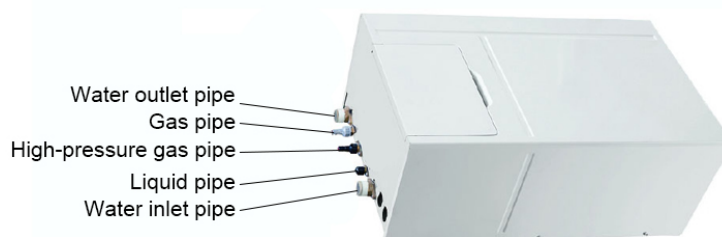


Fig.2.2.1

2.3 Parameters of Hydro Box

Model		T ŠĚNRQD16G/A-S	
Hot water heating capacity	kW	4.5(3.6~16)	
Hot water yield	L/h	105(75~140)	
Max outlet water temperature	°C	55	
Floor heating capacity	kW	16	
Power of electric heater	kW	3	
Power supply	-	220-240V~50Hz/60Hz	
Water pump	Power input	kW	0.08-0.14
	Water flow	m ³ /h	1.7
	Lift(available for external pipeline)	m	6
Type of heat exchanger		-	Plate heat exchanger
Water system connection	Diameter of inlet/outlet water pipe	mm	Φ25
	Thread specification	-	G1
Refrigerant system connection	Gas pipe	mm	Φ15.9
	Liquid pipe	mm	Φ9.52
	High-pressure gas pipe	mm	Φ12.7
Outline dimension(width×depth×height)		mm	500×919×328
Net weight		kg	56

NOTE:

- ① The unit design executes Standard Q/GD 20.00.007.
- ② The parameters may change due to product improvement; please refer to the parameters on the nameplate.

2.4 Model and Specification of Pressure Water Tank

Water Tank Model	Volume	Outline dimension (external diameter × height)	Power of electric heater	Circulating water pipe	Water pipe on user side
	L	mm	W	mm	mm
T ŠĚSXTVD300LCJ2/A-K	300	Φ620×1725	3000	19.05	19.05

2.5 Configuration of Main Unit, Hydro Box and Water Tank

Outdoor unit model	Hydro box model	Recommended water tank model	Function remark
T ŠĚMV-S120WL/A-S T ŠĚMV-S140WL/A-S T ŠĚMV-S160WL/A-S	T ŠĚNRQD16G/A-S	T ŠĚSXTVD300LCJ2/A-K	Water tank can connect solar heating system
T ŠĚMV-S224W/A-X T ŠĚMV-S280W/A-X		No need	Only connect with floor heater

3 Unit Installation

3.1 Notices

Please read the following notices carefully before installation and debugging!

- (1) The hydro box is only applicable for closed-type water system. Open-type system, such as water tank without coil, cannot use this hydro box. It shall be installed indoors with ambient temperature from 4°C~35°C. Prohibit installing the hydro box outdoors, otherwise malfunction will be caused.
- (2) If you put the unit out of use for a long period, please make sure to drain the water thoroughly out of the hydro box, water tank and floor heating pipe, in order to prevent the system from freezing. During installation, please add water discharge valve at the inlet and outlet water pipe of hydro box in order to drain the water thoroughly and prevent the system from freezing.
- (3) Before energizing, please check if the DIP switch of main board S2 is in accordance with the actual status of connected device. If it is not in accordance, the reliability of unit will be affected and temperature sensor error will be reported.
- (4) When the supplementary water pressure is bigger than 3bar, please add relief valve at the supplementary water port. Make sure the system water pressure is not bigger than 3bar. Otherwise, the relief valve will open and cause water leakage.
- (5) When the device, i.e. floor heating, is connected, if the water system press loss except hydro box exceeds 6m, please add engineering water pump.
- (6) The wired control can control floor heating. Detailed setting and operation please refer to the instruction manuals of hydro box and wired controller.
- (7) When the hydro box is connected with the water tank, please connect the circulating water outlet of hydro box and circulating water inlet of water tank with the circulating water inlet of hydro box and circulating water outlet of water tank. Detailed installation please refer to the instruction manual of hydro box.
- (8) When the hydro box is to be connected with floor heating system or water tank, please install waterway solenoid valve C and solenoid valve D according to the unit installation diagram, for controlling the water tank and floor water way heating. For valve C and valve D, please select straight solenoid water valve with small resistance(valve C and valve D aren't included in T ŠĚNRQD16G/A-S, please purchase in market). Meanwhile, valve C, valve D and floor heating performer shall select closed-type.
- (9) When the system is connected with floor heating, its waterway system and water tank water belong to different waterway system. Therefore, tap water filling port and discharge port shall be set.
- (10) Constructor shall add water return pump according to actual requirements to ensure the water pipe water temperature at user side and avoid waste during use.
- (11) The waterway pipeline can be installed only after fixing the hydro box. Do not let duct and other foreign objects getting into the pipeline system during installing the connection pipe.

- (12) After connection of all water pipes, firstly check them for leakage. If ensuring no leakage, carry out thermal insulation to all pipe systems. Take care on thermal insulation at the connection of valves and pipe fittings. It is recommended to use thermal insulation cotton not less than 15mm thick.
- (13) The thermal insulation pressure water tank is supplied of hot water based on tap water pressure. The user can have hot water only when there is tap water. During use, the cutoff valve at the cold water inlet of water tank shall be kept normally open.
- (14) Cooling mode and floor heating cannot be started simultaneously. If floor heating cannot be started and "Mode limitation" is display, please turn the indoor unit mode to heating or turn off the unit.
- (15) The horizontal distance between hydro box and thermal insulation water tank shall not exceed 5m, and the vertical fall shall not exceed 3m. If exceeds the above limitation, please contact with us. It is recommended to install the water tank at lower and install the hydro box at upper.
- (16) Prepare materials according to connector size and specification above. If the cutoff valve is installed outdoors, it is recommended to use PPR fittings, thus to avoid freezing under low temperature.
- (17) When the system is connected with ground for floor heating, please add the pressure difference by-pass valve between water separator and water collector.
- (18) For the installation instructions of floor heating engineering pump and solar power pump, please refer to the wiring diagram. For floor heating engineering pump, the power of pump shall be within 350W and can be connected with 220-240V power. If exceeds the limitation, please connect the engineering pump through AC contactor. Otherwise, the main board will be damaged. For solar power pump, only provide control signal. Connect the solar power pump through AC contactor and do not connect solar power pump directly.
- (19) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- (20) The appliance shall be installed in accordance with national wiring regulations.
- (21) It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.
- (22) It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- (23) Condensate drain pipe should be connected into special drain system for air conditioner.

3.2 Product Installation

3.2.1 Installation of Hydro Box

Wall-mounted installation hole:

Unit:mm

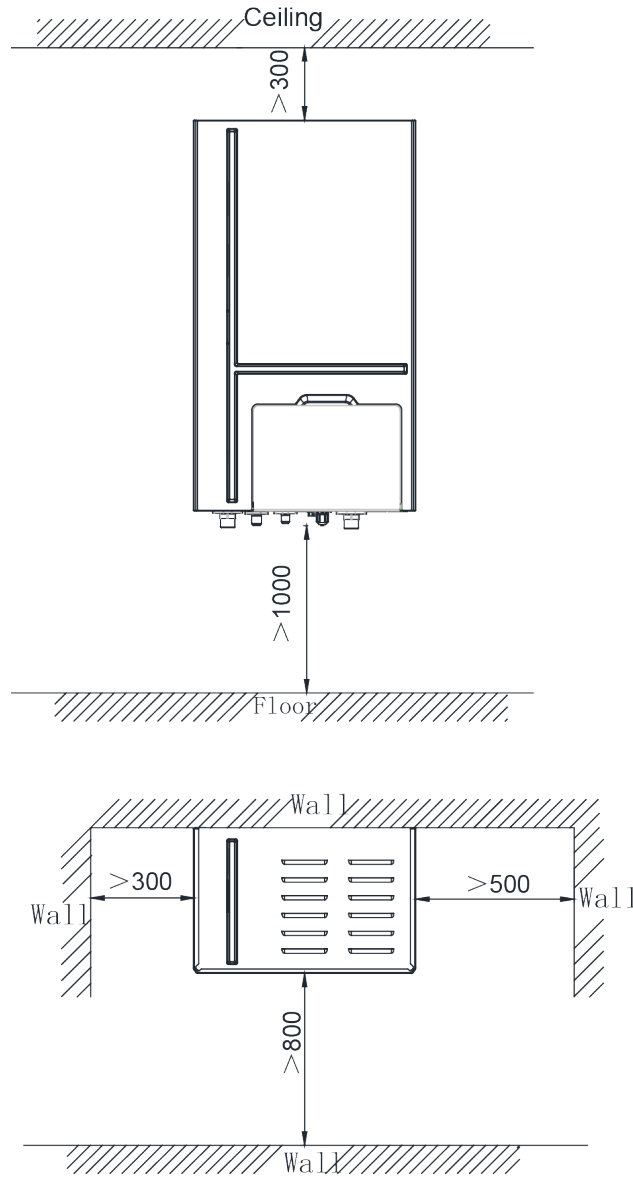


Fig.3.2.1

Installation steps:

Step 1: Open the panel cover; remove the installation support screw of wired controller; take out the wired controller and its support; disconnect the connection wire of wired controller.

Remove the screw and disconnect the connection wire of wired controller

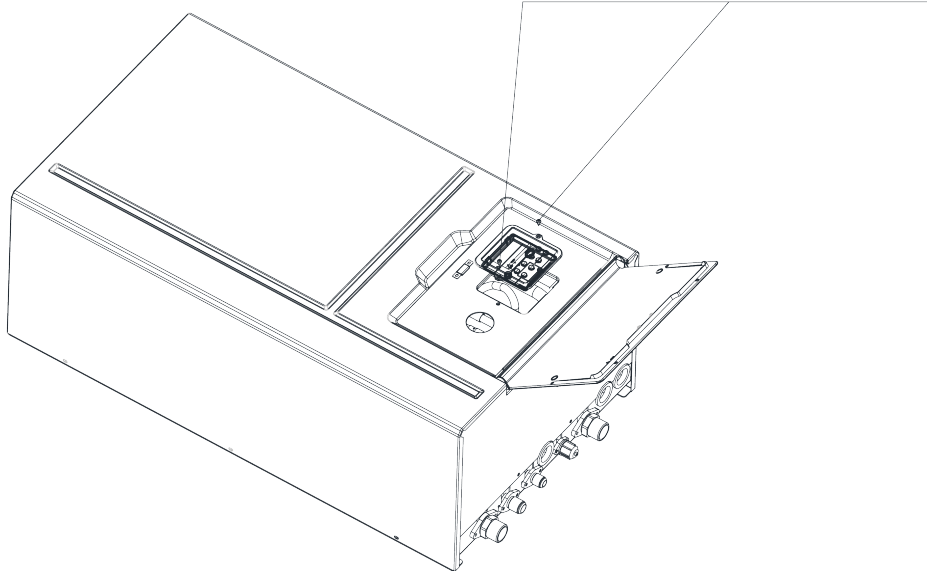


Fig.3.2.2

Step 2: Remove the 8 screws around the panel and then take out the panel.

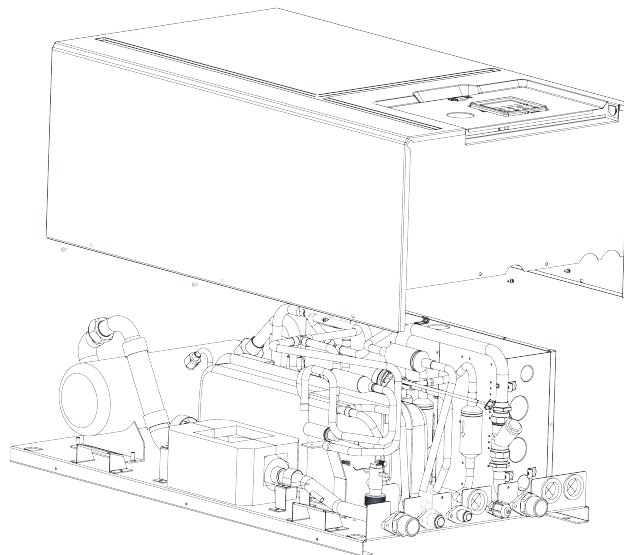


Fig.3.2.3

Step 3: Select the wall for installation; drive 4 expansion screws on the wall according to the installation location of hydro box; hang the hydro box with panel removed on the 4 expansion bolts and then tighten the nut.

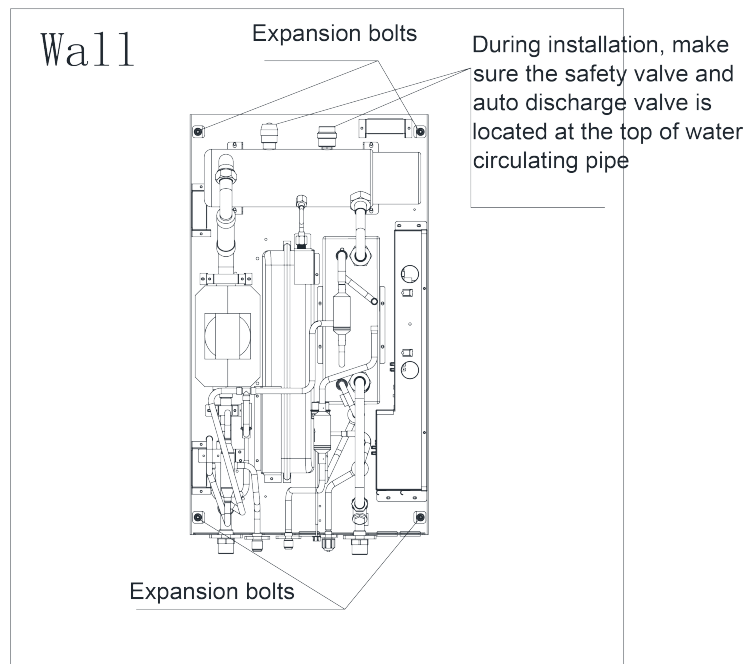


Fig.3.2.4

Step 4: Assemble the panel and tighten the screw; connect the connection wire of wired controller and then install the wired controller back to the panel.

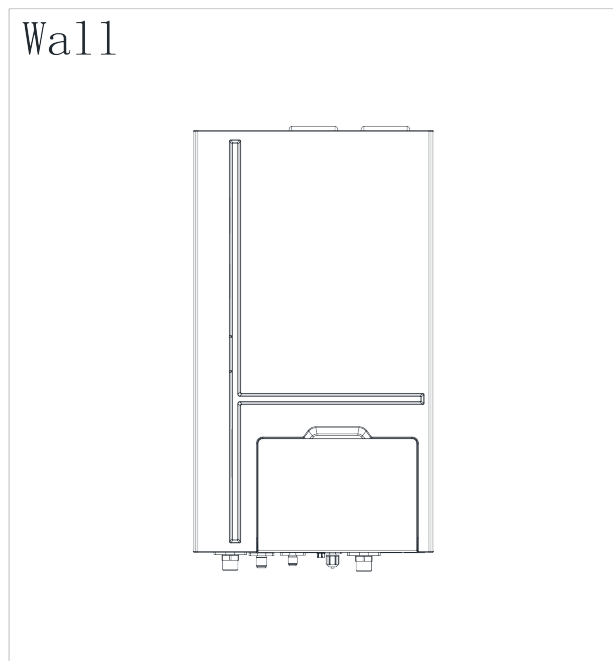


Fig.3.2.5

3.2.2 Requirements for Refrigerant Connection Pipe between Outdoor Unit and Hydro Box

Outdoor unit and hydro box are connected through refrigerant pipe. Please refer to the instruction manual of outdoor unit.

3.2.3 Connection of Hot Water System Pipes

Preparation of pipe: Hot water pipe must be used for circulating water inlet and outlet pipe. The PPR pipe with a nominal outer diameter of DN25 is recommended, while S2.5 series (wall thickness of 4.2mm) shall be used. Hot water pipe must be used for the cold water inlet pipe and hot water outlet pipe on water tank. The PPR pipe with a nominal outer diameter of DN20 is recommended, while S2.5 series (wall thickness of 3.4mm) shall be used. The PPR pipe must comply with the specifications defined under the national standard GB/T18742. If using other similar insulation pipes, please select in reference to the outer diameter and wall thickness above.

Installation of circulating inlet / outlet pipe: The water inlet of the main unit is connected to the circulating outlet from water tank, while the outlet of the main unit is connected to the circulating inlet from water tank. The included manual discharge valve A must be installed beside the water inlet of main unit in a higher position and make sure the exhaust port vertically upward. The included manual discharge valve B must be installed beside the circulating inlet of water tank in the lowest position and make sure the discharge port vertically downward. If possible, the manual discharge valve B must be installed at a position easy for the user to operate.

Installation of water tank inlet / outlet pipe: The inlet pipe must be installed with check valve (Take care on the direction when installing the check valve, with the arrow “→” pointing toward the water tank), filter and cutoff valve, while the installing sequence must be identical to the installation schematics. The outlet pipe must be installed with one cutoff valve at least.

Installation of bottom sewage pipe to water tank: Use PPR pipe to connect the sewage port to the ground drain. One cutoff valve must be installed in the sewage pipe, while it must be installed at a position easy for the user to operate.

After connection of all water pipes, firstly check them for leakage (For leakage detection, please see the debugging of complete unit). If ensuring no leakage, carry out thermal insulation to all pipe systems. Take care on thermal insulation at the connection of valves and pipe fittings. It is recommended to use thermal insulation cotton not less than 15mm thick. After wrapping the thermal insulation cotton, use the included strap to bundle the water pipe, water temperature sensor and cables properly.

(1) Installation diagram of hydro box connected with water tank:

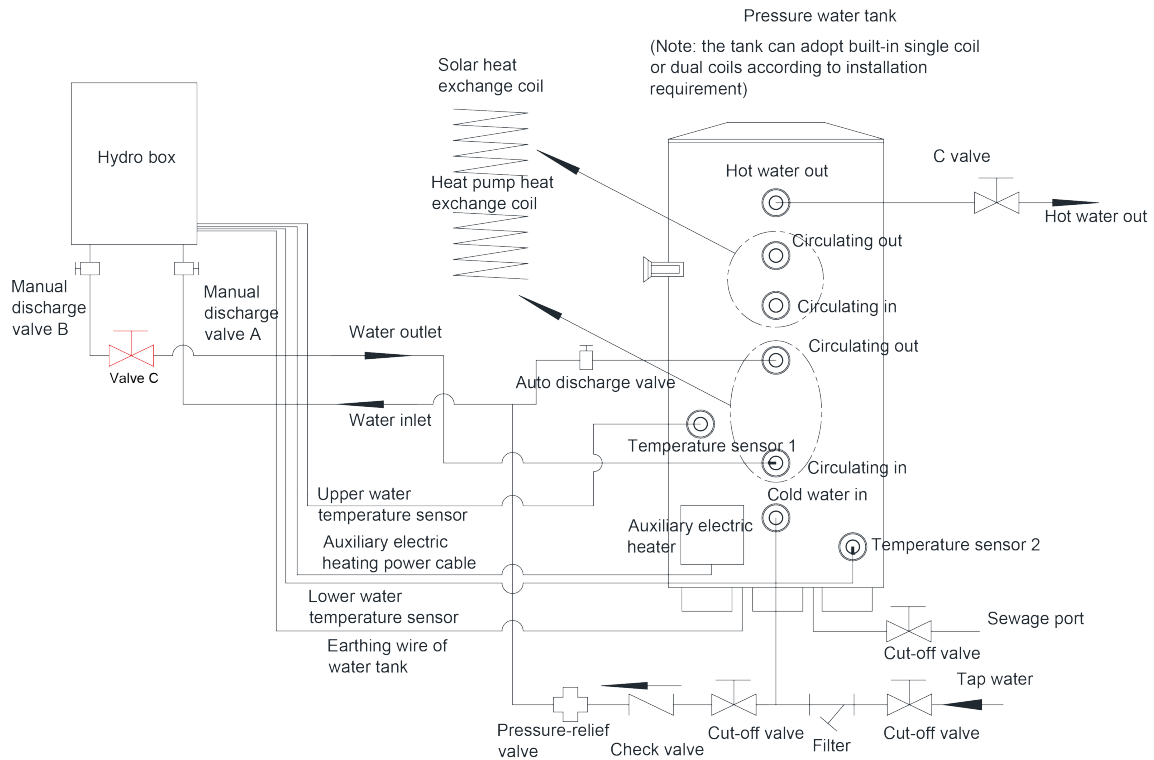


Fig.3.2.6

NOTE:

- ① Hydro box is only equipped with lower temperature sensor and water tank is equipped with upper temperature sensor.
- ② Water temperature sensor is introduced to the hydro box from water tank temperature sensor port 1 to connect with the upper water temperature sensor.
- ③ Lower water temperature sensor connects with the lower water temperature sensor position of water tank from hydro box.
- ④ Upper water temperature sensor adopts air connection to connect with temperature sensor port 1 of water tank.
- ⑤ If adopts the water tank with single temperature sensor, you only need to connect the upper temperature sensor of water tank with the temperature sensor port of water tank.

(2) Installation diagram of hydro box connected with floor heating:

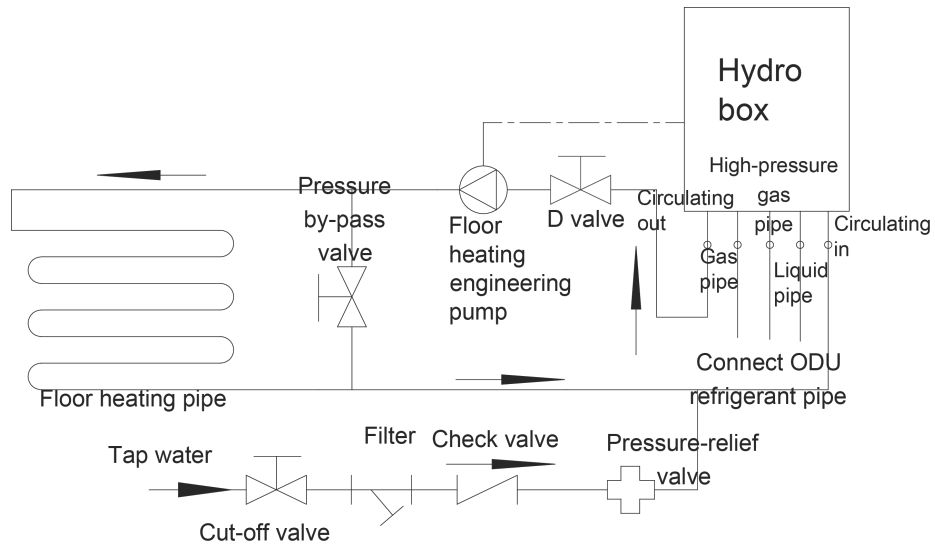


Fig.3.2.7

(3) Installation diagram of solar power water heater connected with the system:

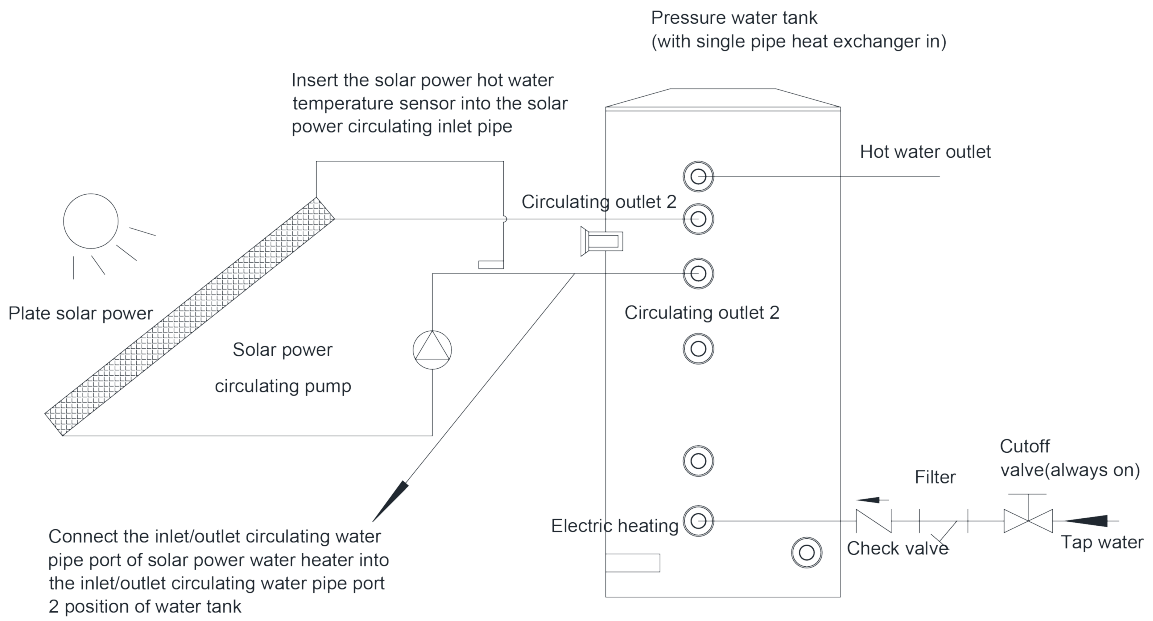


Fig.3.2.8

(4) Installation diagram of connecting hydro box with water tank and floor heating simultaneously:

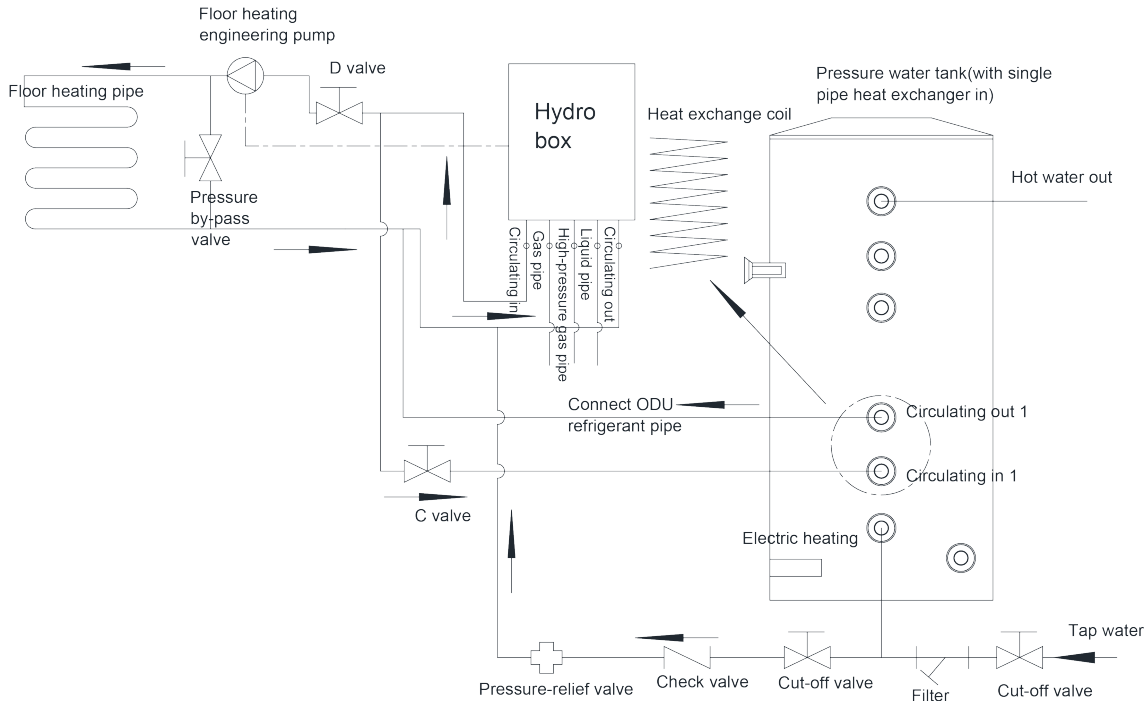
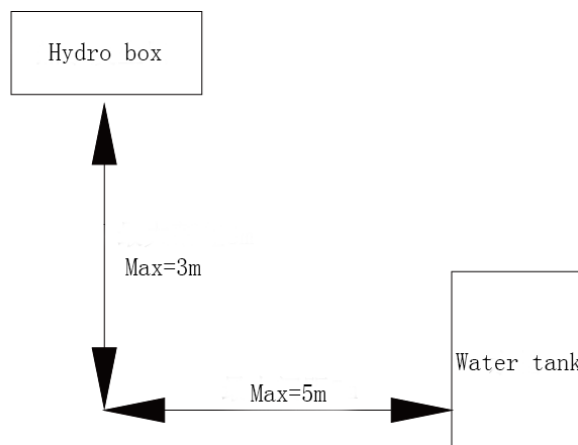


Fig.3.2.9

NOTES!

① The horizontal distance between hydro box and thermal insulation water tank shall not exceed 5m, and the vertical fall shall not exceed 3m. It is recommended to install the water tank at lower and install the hydro box at upper.



② If the total waterpower loss between floor heating pipeline and valves exceeds 6m, please add floor heating engineering pump behind the solenoid valve D. There is control interface reserved in the electric box of hydro box. Please connect wire according to the wiring diagram on the electric box.

③ Prepare materials according to connector size and specification above. If the cutoff valve is installed outdoors, it is recommended to use PPR fittings, thus to avoid freezing under low temperature.

- ④ The hydro box shall be properly fixed before proceeding to installation of water pipes. During installation of the connection pipe, prevent the dust or other foreign articles from entering the pipe system.
- ⑤ The thermal insulation pressure water tank is supplied of hot water based on tap water pressure. The user can have hot water only when there is tap water.
- ⑥ During use, the cutoff valve at the cold water inlet of water tank shall be kept normally open.
- ⑦ If you put the unit out of use for a long period and cut off the power, please make sure to drain the water thoroughly out of the hydro box and floor heating pipe, in order to prevent the system from freezing.

3.2.4 Connector Specification between Hydro Box and Water Tank

The hydro box is connected to water tank via water pipe. Galvanized pipe or seamless steel pipe may be used. Such new pipes, e.g. PVC pipe, PPR pipe or aluminum plastic pipe, may also be used.

Connector Specification	
Name	Connector Thread
Circulating inlet/outlet water port of hydro box	G1A
Cold water inlet port of water tank	3/4" Female BSP
Circulating inlet/outlet water port of water tank	3/4" Female BSP
Hot water outlet of water tank	3/4" Female BSP
Pipe joint	G3/4

NOTES!

- ① The circulating water pipe shall be thermally insulated. To ensure good effect, the thickness of thermal insulation materials shall not be less than 15mm.
- ② Make sure that each seal and connection on the circulating water pipe shall have no leakage.

3.2.5 Requirements for Installation of Water System

- (1) The cold water inlet of pressure water tank shall be connected to tap water pipe, and the hot water outlet shall be connected to the water terminal.
- (2) The tap water inlet shall be connected with one-way valve, filter and relief valve.
- (3) For easy repair, manual cutoff valve shall be installed at water inlet or outlet.
- (4) Exhaust valve shall be installed at the highest position of water pipe.
- (5) To avoid waiting too long when using hot water, please add hot water return line if the water terminals are dispersed and the water tank is far from such terminals.
- (6) If possible, please equip an expansion tank. Generally, the size of expansion tank shall be 5~10% of the size of the whole water system.

3.2.6 Installation of Water Tank and Floor Heating Performer

3.2.6.1 Installation of Water Tank

- (1) The thermal insulation water tank shall be installed within a horizontal distance of 5m and a vertical fall of 3m to the hydro box. It can be installed indoors or outdoors, such as balcony, rooftop or floor.
- (2) The vertical thermal insulation water tank must be placed upright, with the bottom on ground. The installing position must be firm and solid. To avoid shaking, the water tank must be fixed onto the wall with bolts. See below for details. The weight bearing capacity of the installing position must be considered when installing the water tank.

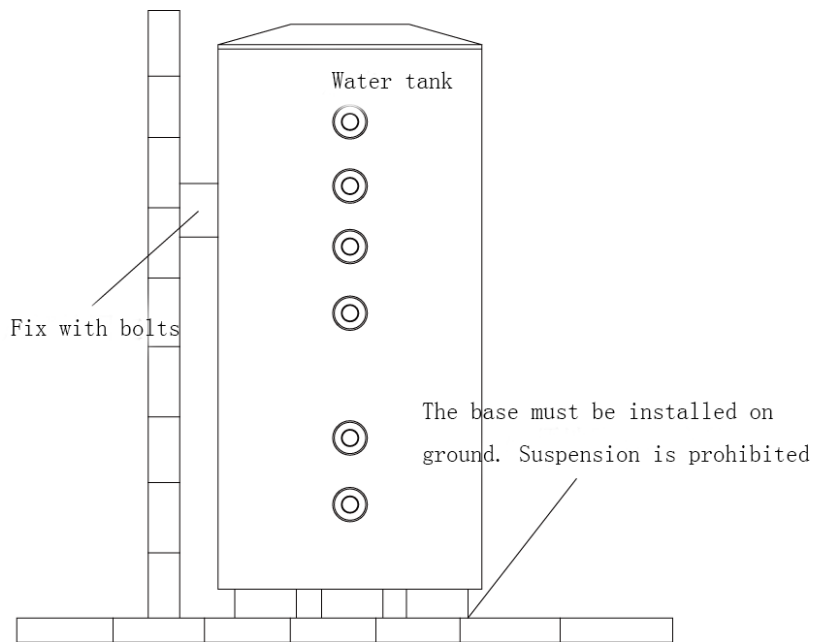


Fig.3.2.10

- (3) For replenishing to water tank, supply of hot water and drainage of water tank, the tap water pipe, hot water connector and ground drain shall be available close to the thermal insulation water tank.

- (4) Connection of inlet / outlet pipe: The included safety check valve (Take care that the “→” direction shall point toward the thermal insulation tank) shall be connected to the inlet of water tank by using PPR pipe and be sealed with adhesive tape, as shown below. Another end of the check valve shall be connected to the tap water. The hot water pipe shall be connected to the outlet of water tank by using PPR pipe.

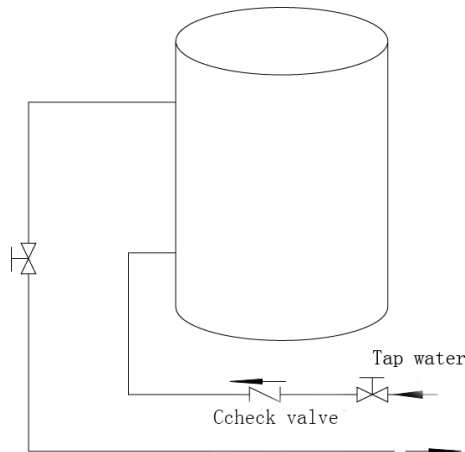


Fig.3.2.11

!NOTE!

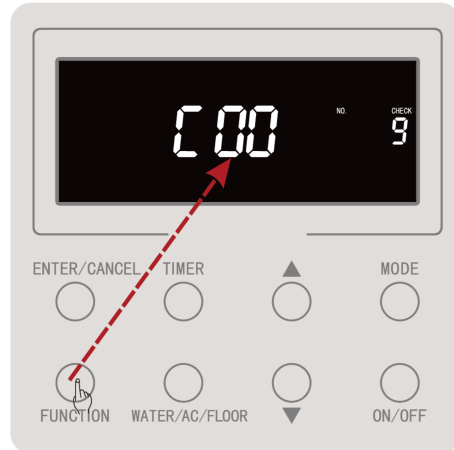
To ensure safety during use of water, the inlet and outlet of water tank must be connected with a specific length of PPR pipe. The length “L” is calculated as below: $L \geq 70 \times R^2$, in which “L” refers to pipe length (unit: cm) and R refers to the inner radius of the pipe (unit: cm). Thermal insulation shall be done and metal pipe shall not be used. For the first time of use, make sure that the water tank is filled with water before connecting to the power. The water tank shall not run without water.

3.2.6.2 Setting of Water Tank Capacity

The ex-factory defaulted water tank capacity is 300L. If the actual installed water tank capacity is smaller than 300L, setting is not needed. If the actual installed water tank capacity is bigger than 300L, please arrange setting as below.



Step 1: Under water heating and floor heating off status (unit on status is ok)
Note: LCD is under awoken status;



Step 2: Hold on pressing "FUNCTION" button for 5s and then C00 will be displayed;



Step 4: Hold on pressing "FUNCTION" button for 5s and then P00 will be displayed;



Step 3: Press "MODE" button for 3 times within one second;
Note: During operation, "Invalid" icon blinks twice and the buzzer gives out two short sounds and one long sound;



Step 5: Press "▲" or "▼" button to enter P60;



Step 6: Press "MODE" button to enter hydro box selection setting;
Note: When only one hydro box is under control, it will enter Step 9 directly;



Step 8: Press “MODE” button to enter water tank capacity setting;



Step 7: Press “▲” or “▼” button to select the sequence(1~3) of hydro box for setting;
Note: If selection is not needed, next step can be entered;



Step 9: Press “▲” or “▼” button to set water tank capacity;

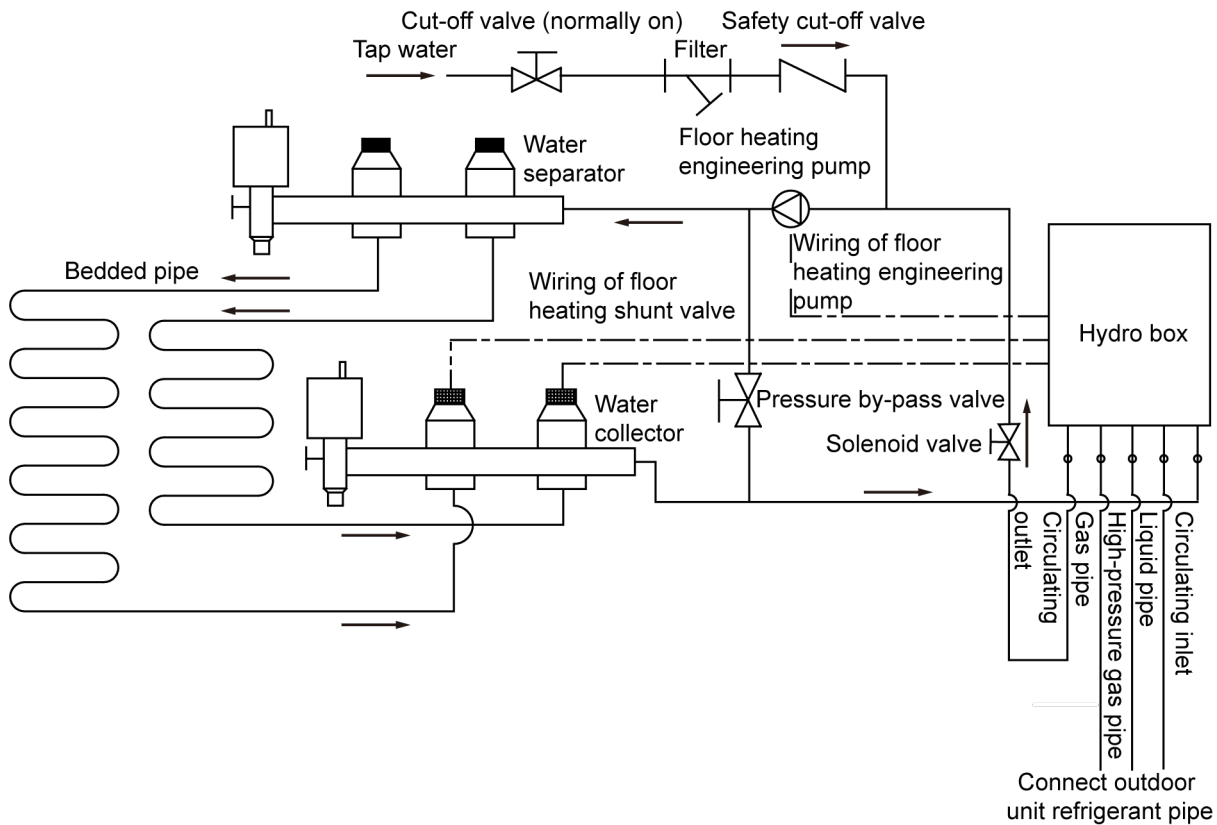


Step 10: Press “ENTER/CANCEL” button to confirm the water tank capacity setting of current hydro box;
Note: 1. If you need to set the water tank capacity of other hydro box, please repeat step 6 to step 10 (for one wired controller controlling several units or several wired controllers controlling several units);
2. When all setting operation has been done, press “ON/OFF” button to exit parameter setting directly or press “ENTER/CANCEL” button to return P60;

3.2.6.3 Installation of Floor Heating Performer

When connecting floor heating, it is recommended to install the floor heating performer in order to achieve control for different rooms and save energy. This hydro box is equipped with floor heating performer interface(single phase 220-240V), which can be connected with the floor heating performer in engineering installation. Through the linkage between IDU wired controller and floor heating performer, IDU wired controller for controlling the floor heating performance in the room can be achieved. IDU wired controller can set the ambient temperature of corresponding room and control the on/off of floor heating in the room according to the detected room temperature.

- (1) Before installation, please make sure the performer is normally closed type.
- (2) The wiring of floor heating shunt valve on the performer shall be done according to the wiring diagram.
- (3) Please add a pressure by-pass valve between performers.
- (4) The circulating outlet of hydro box is connected with floor heating water separator. The circulating inlet of hydro box is connected with floor heating water collector.



- (5) The corresponding relationship setting steps between floor heating shunt valve and indoor unit are as below:

NOTES!

- ① The corresponding relationship setting must be done in unit off status.
- ② Only the IDU connected with wired controller and floor heating can be set for corresponding relationship (linkage). The IDU connected with light board or controlled by wireless remote controller cannot be set!

Step 1: Confirm the IDU project no. which is in the same room with floor heating and the corresponding floor heating shunt valve no.:

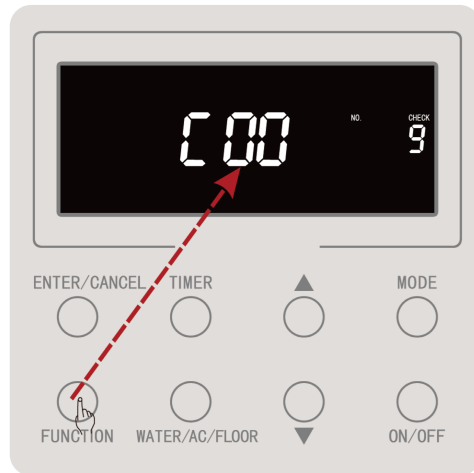
- 1) Check the IDU project no. in its wired controller. For example: The IDU project no. in this room is "9".
- 2) Check the floor heating shunt valve no. connected with the floor heating in the electric box of hydro box. For example: The floor heating shunt valve no. is "floor heating shunt valve 3".

Make sure the IDU is in accordance with the floor heating shunt valve. As the examples above, floor heating shunt valve 3 is in accordance with IDU project no. 9.

Step 2: Setting of corresponding relationship (linkage) is shown as below:



Step 1: Under water heating and floor heating off status (unit on status is ok)
Note: LCD is under awoken status;



Step 2: Hold on pressing “FUNCTION” button for 5s and then C00 will be displayed;



Step 3: Press “MODE” button for 3 times within one second;
Note: During operation, “INVALID” icon blinks twice and the buzzer gives out two short sounds and one long sound;

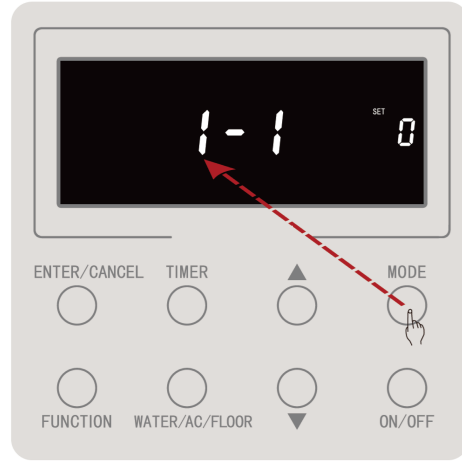


Step 4: Hold on pressing “FUNCTION” button for 5s and then P00 will be displayed;





Step 5: Press “▲” or “▼” button to enter P79;

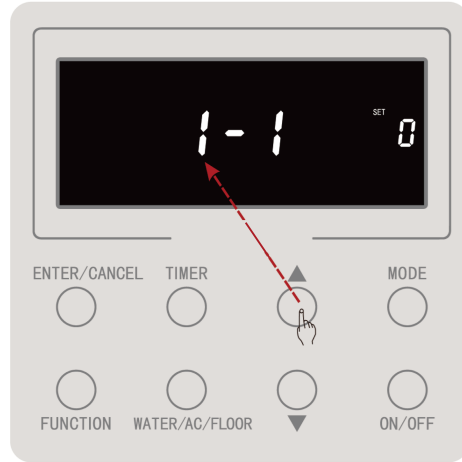


Step 6: Press “MODE” button to enter hydro box selection setting;

Note: When only one hydro box is under control, it will enter Step 8 directly;



Step 8: Press “MODE” button to enter shunt valve selection setting;



Step 7: Press “▲” or “▼” button to select the sequence (1~3) of hydro box for setting;
Note: If selection is not needed, next step can be entered;



Step 9: Press “▲” or “▼” button to select the sequence (1~6) of shunt valve for setting;
Note: If selection is not needed, next step can be entered;



Step 10: Press “MODE” button to enter indoor unit selection setting

3.2.7 Requirements for Electrical Wiring

3.2.7.1 Cable Layout

- (1) The hydro box belongs to Category I Electric Appliance. Therefore, be sure to take reliable earthen measures. The earthen wire shall be connected to the special earthen device on the construction. The installation must be done by specialist technicians.
- (2) The fixed circuit must be provided with leakage protection switch and air switch that have enough capacity.
- (3) The power supply must comply with the ratings on nameplate, while the special circuit for air conditioner must be used.
- (4) The diameter of power cables shall be big enough. Please select the power cables in reference to the specifications below.
- (5) Carry out installation according to national wiring rules.
- (6) Do not pull the power cables with force.

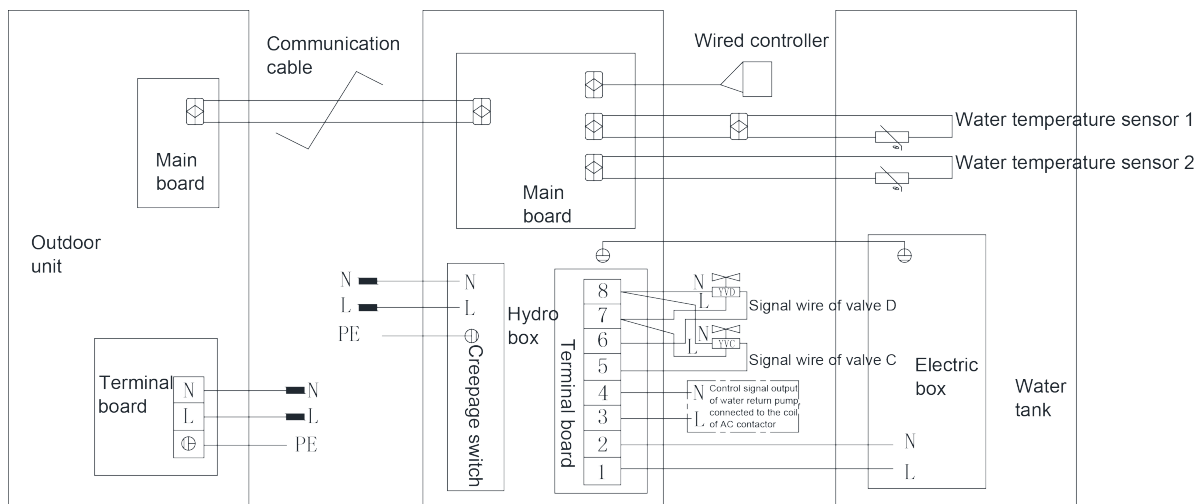
Model	Type of power supply	Min. sectional area of power cable(mm ²)			
		Live wire	Neutral wire	Earthing wire	Air switch capacity(A)
TSEN RQD16G/A-S	220-240V~50Hz/ 60Hz	6	6	6	32

NOTES!

- ① The power cable must be copper-core cable, and its working temperature shall not be higher than the specified value.
- ② If the power cable is longer than 15m, please increase its sectional area appropriately, thus to avoid overloading.
- ③ The power cable specification refers to the specification of BV single-cord cable (2~4 cords) laid when inserting the plastic pipe and selected the working environment temperature is 40°C. The air switch is used for a temperature of 40°C and it shall be “D” type.
- ④ All electrical installation must be performed by qualified technicians in accordance with local laws, regulations and the corresponding instruction manual.
- ⑤ In case of any change to the site installation conditions, please appropriately reduce the capacity according to the power cables and air switch specifications provided by the manufacturer.

3.2.7.2 Electrical Wiring and Connection

- (1) Loosen the screws fixing the electric box cover on the hydro box. Open the electric box cover.
- (2) Connect one end of the electric heating power cable included on the water tank to the terminal board of the main unit. The specific wiring terminal please refer to the wiring diagram.
- (3) Apply heat conductive silicone gel onto the water temperature sensor which leads out from the hydro box, and then insert it into the lower water temperature sensor port at the lower part of water tank. Connect the upper water temperature sensor included on water tank (i.e. upper temperature sensor port in the middle of water tank) to the red connector leading out from the terminal box on hydro box. Then, put it into electric box.
- (4) Tighten the strong current cables with cable clamp and cover up the electric box.
- (5) The wired controller shall be fixed properly. The communication wires from wired controller and hydro box shall be correctly connected.
- (6) Take care to route the strong current cables separately from the light current cables.



Note: The wiring diagram above is only for reference. Please refer to the one stuck inside the electric box.

3.3 Confirm DIP Switch of Main board

Confirm the S₁ and S₂ DIP switch on the main board of hydro box. S₁ DIP means capacity DIP switch. S₂ DIP means function DIP.

3.3.1 Capacity DIP(S₁) of Hydro Box

Capacity DIP switch S₁ is 5 bit. Please do not change it.

Capacity of hydro box	Capacity DIP switch				Model DIP switch
	1	2	3	4	5
16	ON	OFF	OFF	ON	OFF

NOTES:

- ① DIP switch shall be set correctly and cannot be set in the middle position. When the switch is set to “ON”, it means “0”; when the switch is set to the opposite direction of “ON”, it means “1”.

Example: S₁ is as shown in the following figure:



- ② The black part is the bar for setting DIP.

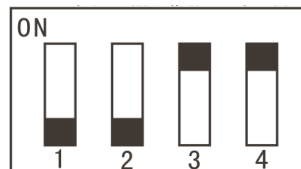
3.3.2 Function DIP(S₂) of Hydro Box

! NOTE! Please set the DIP according to the actual status of project.

Function DIP switch S₂ is 4 bit. “1”, “2”, “3” and “4” stand for “T[^] as[^] water tank”, “Floor heating”, “Solar power” and “Home-made water tank” respectively. Each function DIP is as below: Setting to “number” means this function is connected; setting to “ON” means this function is not connected. “1” and “2” must be set according to the actual status of project. “3” and “4” cannot be changed. Otherwise, the unit may occur temperature sensor malfunction or cannot operate.

DIP sequence	Meaning	DIP		Ex-factory setting
		Not connected	Connected	
1	T [^] as [^] water tank	ON	OFF	OFF
2	Floor heating	ON	OFF	OFF
3	Solar power	ON	OFF	ON
4	Home-made water tank	ON	OFF	ON

Example: S₂ is as shown in the following figure:



NOTE: The black part is the bar for setting DIP.

3.4 Test Run

3.4.1 Preparations for Test Run

- (1) Check if the unit is installed correctly.
- (2) Check if water system pipes and electric system wires are reasonable.
- (3) Check if the circulating water pipe is thermally insulated.
- (4) Check if the earthen wires are connected.
- (5) Check if the supply voltage complies with the rated voltage of unit.
- (6) Check if the check valve and relief valve at the water inlet are installed correctly.
- (7) Check if the air in the water system pipes are thoroughly discharged, and if the vent valve and sewage valve are closed.
- (8) The pressure of inlet water shall be not less than 0.15MPa.

3.4.2 Water Pipeline Debugging (leakage detection, air discharge)

3.4.2.1 Leakage Detection

After connecting all waterway pipeline, please arrange leakage detection firstly and then arrange insulation to waterway system after making sure there is no water leakage. Please pay special attention to the thermal insulation at the joints of valves and pipe joints. The insulation cotton with thickness not less than 15mm is recommended.

3.4.2.2 Filling Water for Exhausting Air between Hydro Box with Water Tank and Floor Heating Pipe

- (1) Ensure that each water pipe is correctly connected, the exhaust valve on the user side is closed and the sewage port is sealed;
- (2) Open the water filling valve to fill water. Open the exhaust valve;
- (3) When there is water flown out from the exhaust valve, please open the manual exhaust valve A;
- (4) When it is completely water flowing out of the vent valve "A", energize the hydro box and enter cleaning mode to start exhausting. The operation method is that when the hydro box is off, hold on pressing "Hot water/air conditioning/floor heating" button for 5s and then "Cleaning" icon will be on.



- (5) After operating for 15~20min, if the water flow discharged by exhaust valve of hydro box outlet pipe is stable and there is no airflow, it means exhausting is done. In this case, you can close the manual exhaust valve A and stop the operation of hydro box. Operation method: Hold on pressing “Hot water/air conditioning/floor heating” button for 5s and then cleaning operation will stop and “Cleaning” icon will be off.



3.4.2.3 Air Exhausting of Water Tank and Pipeline at User Side

- (1) Make sure each pipe port of water tank is connected and make sure the sewage port of water tank is sealed;
- (2) Open the water filling valve of water tank and open the valve at user side to fill water into water tank until there is water flowed out from the valve at user side and there is no air bubble continuously, which means water filling and air exhausting of water tank have been done. Then you can close the valve at user side and enter operation debugging of the whole unit.

3.4.2.4 Second Time of Air Exhausting


After all connection wires of IDU, ODU and hydro box are connected and the debugging of refrigerant system is done, please arrange air exhausting again. Detailed steps are as below:

- (1) Open the hot water faucet to discharge water and open the water filling valve of water tank to fill water into water tank until the water temperature reaches 20°C~30°C;
- (2) Start hot water generation mode and open the manual exhaust valve A at the same time;

After operating for 15~20min, if the difference between inlet water temperature and outlet water temperature of hydro box is smaller than 10°C, it means air exhausting is done. In this case, you can close the manual exhaust valve A and stop the operation of hydro box. Air exhausting operation of water system is done.

- (3) The steps mentioned above shall be done when water temperature in water tank is below 45°C. When the temperature reaches 45°C, if the difference between inlet water temperature and outlet water temperature of hydro box doesn't meet the requirement, please turn off the unit. Open the faucet to discharge hot water and tap water will enter water tank from the water filling valve of water tank, until water temperature in water tank reaches 20°C~30°C again. Then start hot water generation mode again and open the manual exhaust valve A at the same time to exhaust air.



WARNING! The ex-factory setting of pump is . Please do not change it. Otherwise, it will cause damage of the pump and operation malfunction of the unit.

3.4.3 Corresponding Relationship Setting between Floor Heating Performer and Indoor Unit

Please refer to 3.2.6.3.

3.4.4 Capacity Setting of Water Tank

Please refer to 3.2.6.2.

3.4.5 Test Operation

Arrange test operation of hydro box and outdoor unit simultaneously. Please refer to the test operation instruction in the instruction manual of outdoor unit.

4 Electrical Control

Refer to the wiring diagram attached on the unit.

5 Common Malfunction and Troubleshooting

5.1 Error Code of Hydro Box

Error code	Content	Error code	Content
L4	Power supply overcurrent protection	JC	Water flow switch protection
L5	Antifreezing protection	dd	Malfunction of solar power temperature sensor
LJ	Function DIP switch setting error	dH	PCB board of wired controller is abnormal
L8	Insufficient power supply	dF	Malfunction of upper water temperature sensor inside the water tank
LL	Waterflow switch error	dJ	Malfunction of backwater temperature sensor
LE	EC DC pump rotation speed error	dP	Malfunction of hydro box water inlet pipe temperature sensor
LF	Shunt valve setting error	dU	Malfunction of hydro box water outlet pipe temperature sensor
d2	Water tank lower water temperature sensor error	dC	Setting of capacity DIP switch is abnormal

NOTE!

When the outdoor unit is incurred to fault, the wired controller of hydro box will not display the fault. When hydro box is incurred to fault, the wired controller of multi-split indoor unit will not display the fault. When the outdoor unit is incurred to fault, you may run the hot water generation temporarily (Ensure that the hot water generation is started when there is water inside the water tank).

5.2 Troubleshooting

Malfunction phenomenon	Possible causes	Solution
No effluent water	The water is stopped or the water pressure is too low	Check
	The water pipe is blocked	
	The valve of water inlet pipe is not open	
The outlet is cold water, or the water is not hot enough	The water temperature setting is too low	Reset
	The wired controller is failed	Contact with the local maintenance center
	The heating time is too short	Continue to heat
The outlet water volume changes	The tap water pressure is unstable	Check
Antifreeze	Risk of freezing, as the water temperature is too low	Maintain the energized or heating state for 30 minutes or longer to eliminate the freezing

5.3 After-sales Services

If there is quality problem or other problems for the product you purchased, please contact with the local after-sales service center.

Warranty must comply with the following conditions:

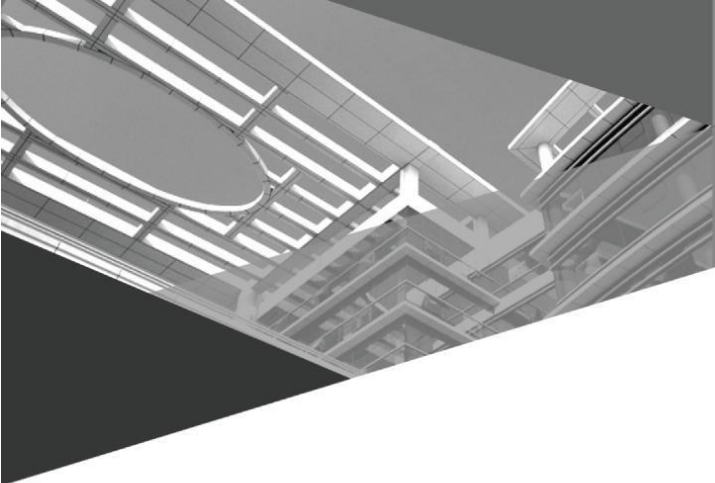
The first start-up of unit must be taken by the professionals of our after-sales service center or appointed company.

Only the spare parts provided by T[^]* a^š^ can be used.

The unit operation and maintenance items specified in the manual shall be followed strictly.

If any of the conditions above is infringed, the warranty will become invalid automatically.

NOTE: For detailed malfunction and maintenance, please refer to the service manual.



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