

**Solar Water Heater**

Instruction for use

# Haier

QBJ1-130A58E

QBJ1-150A58E

QBJ1-175A58E

QBJ1-200A58E

QBJ1-230A58E

QBJ1-270A58E

- Please read this manual before usage
- Retain it for future reference



# Content

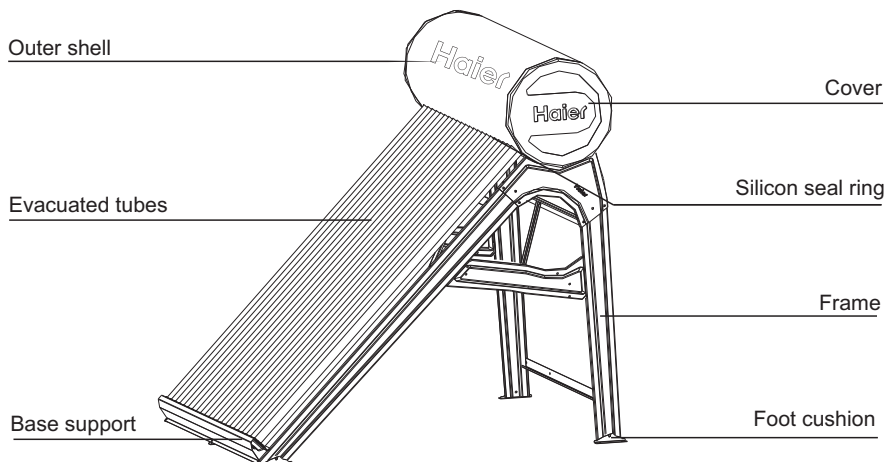
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## Technical data

### Features

1. Inner cylinder: SUS 304 stainless steel, food grade.
2. Insulation: Polyurethane foam, thickness-45 mm, good heat preservation effect.
3. Outer shell: Aluminium / zinc coated steel sheet.
4. Frame: Steady structure, shapely and durable .

### Appearance and parts



### Technical parameter

Models	QBJ1-130A58E	QBJ1-150A58E	QBJ1-175A58E	QBJ1-200A58E	QBJ1-230A58E	QBJ1-270A58E
Specification of tubes	∅ 58mm×1800mm all glass evacuated tubular collector					
Collector frame angle standard fixed	45°					
Number of tubes	14	16	19	22	25	30
Aperture area	1.79m <sup>2</sup>	2.07m <sup>2</sup>	2.48m <sup>2</sup>	2.90m <sup>2</sup>	3.35m <sup>2</sup>	4.03m <sup>2</sup>
Usable water	130L	150L	175L	200L	230L	270L
Total water volume	169L	195L	228L	262L	300L	354L
Electric auxiliary heating	Rated power: 1500W					
Water level sensor	Using the water level sensor with the height of 360 mm					

**Remarks:** 1. The warp of aperture area parameters is  $\leq 3\%$ . the warp of usable water parameters is  $\pm 5\%$ . The permitted error limit of other parameters is  $\pm 10\%$

# Precautions

## ■ Precautions

1. When using the water heater with electric heating, ensure that electric heating and electric tracing belt are closed.
2. Avoiding irradiation without water after installation, it can't be used immediately, it should be sheltered.
3. When supplying water at the first time, it should be operated in the morning or evening or the condition of short of light; avoid supplying water in strong sunshine, in order to prevent vacuum tubes bombing.
4. If the water pressure isn't enough for water supply, please install an pressurize equipment.
5. When the hot water is to be used, don't place the spray head face yourself until the water temperature is suitable.
6. This product can supply the water depend on the fall of the tank and the water exit , an pressurize equipment is recommended while the water couldn't be supplied normally due to the low fall.
7. Do not supply cold water more than once in a low solar irradiance day.
8. The energy is from solar, in the days that lack of solar such as rainy or snowy day, the temperature of the water may can't reach your demand, If there isn't electric heating , it may not be used normally.
9. Make sure the evacuated tubes clean, hose off the dust and dirt on the tubes and the reflector before the winter comes.
10. The evacuated tubes resist as low temperature as  $-70^{\circ}\text{C}$  when tubes is emptied. The tank should remain filled up during continuously cloudy or snowing days in winter, in addition every two days the cold water in the tank should be changed to prevent the water in the tank from freezing which might damage the tubes.

## Before use

### ■ Notice

Please take time to read this manual and familiarize yourself with the function of this production.

1. Please checkout the packing list.
- 2.If you fix electric auxiliary heating and controller, please select Haier equipped products.
3. To avoid the scald, please mix the hot and the cold water before use it.
4. In order to protect the tank ,please don't refit or wall up the air supply pipe and the overflow pipe.

# Assembly Instruction

## The location:

1. Please install the solar water heater in the area that avoid the thunder.
2. Solar water heater angle range: east to south for  $10^\circ$  , west to south for  $15^\circ$  .
3. There shouldn't be any hindrance in front of the heater ,or the distance should over

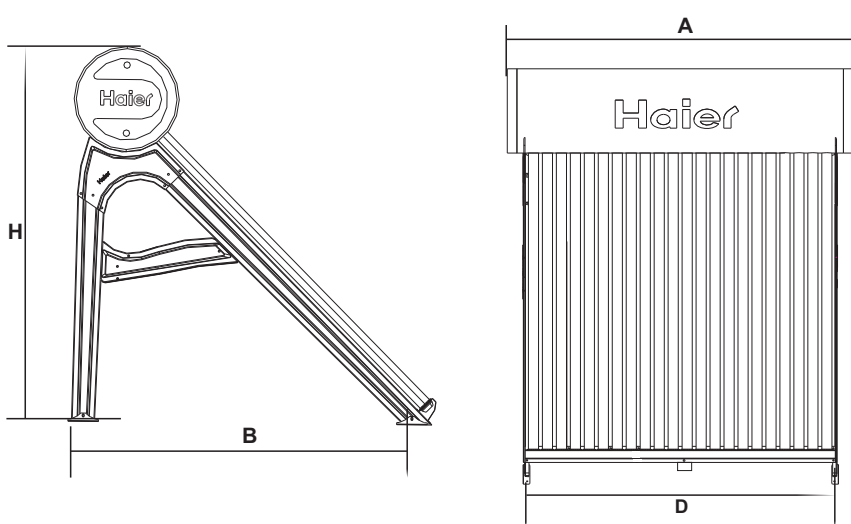
$L, L=H/\text{tg}(66.5-a)$  (H:height of the hindrance;  $a$ : latitude of the area)

Notice: The solar water heater shall be installed by professional.

## Exterior and installation dimension:

Models	Exterior dimension(mm)		Installation dimension(mm)	
	A	H	D	B
QBJ1-130A58E	1325	1720	1137	1460
QBJ1-150A58E	1485		1297	
QBJ1-175A58E	1725		1537	
QBJ1-200A58E	1965		1777	
QBJ1-230A58E	2205		2017	
QBJ1-270A58E	2605		2417	

Remarks: The permitted errorlimit of above parameters is  $\pm 10\%$ .



## Assembly Instruction

### ■ Tank assembly

1. Unpacking the tank, rip off the protection film. Uninstall the nut and cushion.
2. Place tank onto tank bracket cradle, inserting protruding bolts into holes. fasten with nuts.

#### **Notice:**

1. Rip off the protection film after the installation to avoid the destroy of the tank, and please don't use the sharp tool.
2. Leave nuts loose since some adjustment may be necessary after fitting tubes.
3. When assembling the water tank, keep the center line of vacuum tubes' connecting holes parallel with the diagonal pillar of bracket.

### ■ Frame assembly

Please consult the accessional paper for figure of the frame and packing list in the packing of frame.

### ■ Frame fastness

1. Peg the feet of the heater into the earth with prepared iron or into the concrete brick with intumescent bolt.
2. Adjust the height of the frame with the water-proof cushion to keep the tank acclinic and each foot balanceable.

#### **Notice:**

1. Make sure that the feet are all attach the floor closely, or it will cause the distortion of the frame.
2. Please use the tight wire to fasten the tank and frame in the area that the typhoon occurred frequently.
3. The installation of the solar water heater should be steadily or it will cause the destruction and the accident.



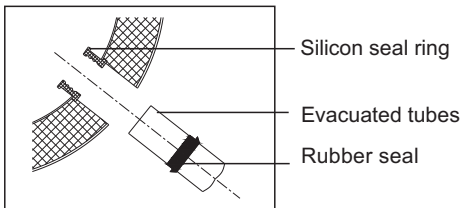
# Assembly Instruction

## Glass tube assembly

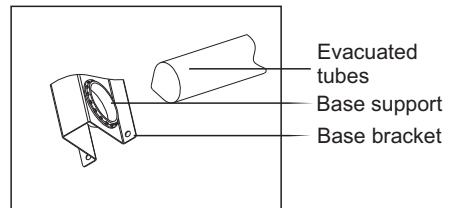
1. Keep tubes out of the irradiation while assembling the unit or a scald may be caused.
2. Place the rounded side of rubber seal downwards on the open end of tubes.(A)
3. Insert the tube into base support of locating hole with gentle pressure and twisting motion.
4. Holding the tube, fix base support into base bracket (B), insert tube into base support (C).
5. Slide the tube down 1 cm, Slide black rubber seal up the tubes until it sits flush with tank(D).
6. Insert one tube on either end of the tank to achieve alignment of unit.

### Notice:

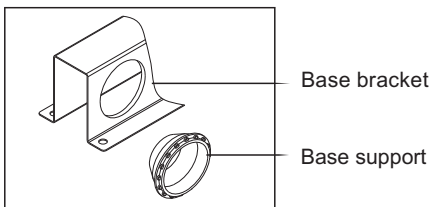
1. Make sure the silicon seal ring are clean and well positioned.
2. Place the rounded side of rubber seal downwards on open end of tube. Slide it down 10 cm. Wet open end of tube to make it easier to insert.



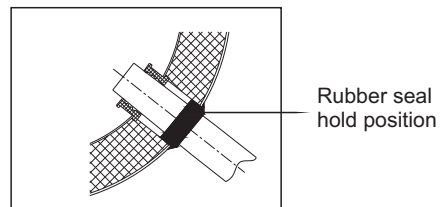
A



C



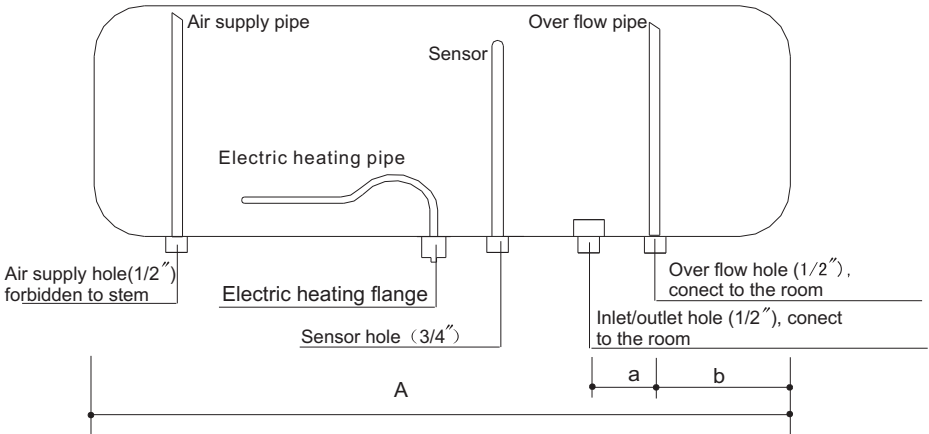
B



D

# Assembly Instruction

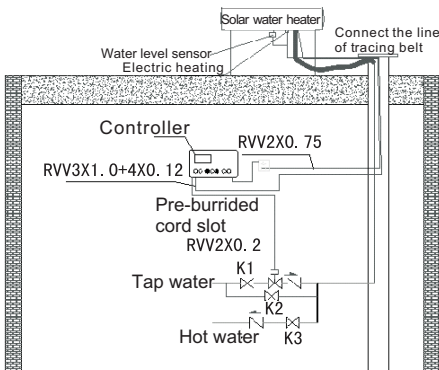
## Extraventricular plumbing instructions



	QBJ1-130A58E	QBJ1-150A58E	QBJ1-175A58E	QBJ1-200A58E	QBJ1-230A58E	QBJ1-270A58E
A	1325mm	1485mm	1725mm	1965mm	2205mm	2605mm
b	300mm					
a	70mm					

**Remarks:** The permitted error limit of above parameters is  $\pm 10\%$ .

## Indoor plumbing instructions



# Assembly Instruction

## Installation notice

1. Any alteration to the structure of the solar water heater may cause the trouble while using it.
2. There are 5 connection methods of the water pipe into the room, they are smoke way, vent-pipe, hole on the wall, appropriate solar well, prepared cannula, and the first three kinds are common. Before the installation, our professional will consult the room's situation and choose the suitable location to bring you convenience. A upend slope is necessary, and should be wind-tight to prevent the rainy water or smell's entrance.
3. Keep the placket of the overflow pipe downwards and fasten it so that the liquid can be lead to the cloaca directly, and please notice that the distance of the overflow pipe and the cloaca should less than 15cm. Don't placed the pipe optionally, so can avoid the water spatter.
4. Don't install the valve in the pipeline to insure that the signal which shows the water is overflow will be worked normally.
5. To avoid the water in the tank flow inverted, an unilateralism valve should be installed at the joint of the water pipe and the tap water.
6. The installation project should be confirmed by our professional service personnel when install several sets of these series.

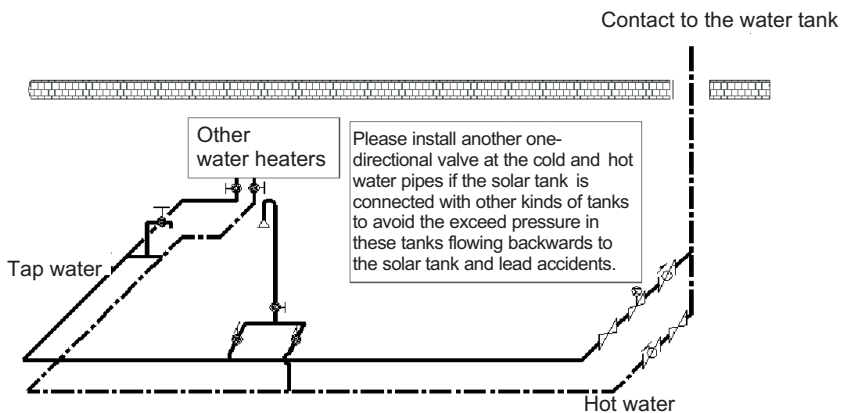


Illustration of connect the solar tank with other tanks

## Assembly Instruction

### ■ Pipelines thermal insulation notice

- 1.Outdoor pipelines should be thermal insulated according to local climate, bad thermal insulation may lead to heat loss.
- 2.The outlet used by electric tracing belt must ground reliably. The rated current of outlet is less than 10A, ensure is connected to plug reliably.
- 3.Fixing electric tracing belt on cold and hot water pipes, in order to touch well, it should be fixed with insulating tape per 500 mm.
- 4.Waterproof should be tied up on thermal insulating pipes, for example aluminum foil cloth, glass fibre cloth, ethylene polyester waterproof film etc.

Note: in cold area, electric tracing belt should be fixed on outdoor pipelines. Otherwise when the environmental temperature is lower than  $-5^{\circ}\text{C}$ , any innocent thermal insulation will lead to the pipelines frozen, resulting in the pipelines damage.

### ■ The product with controller installation and using notice

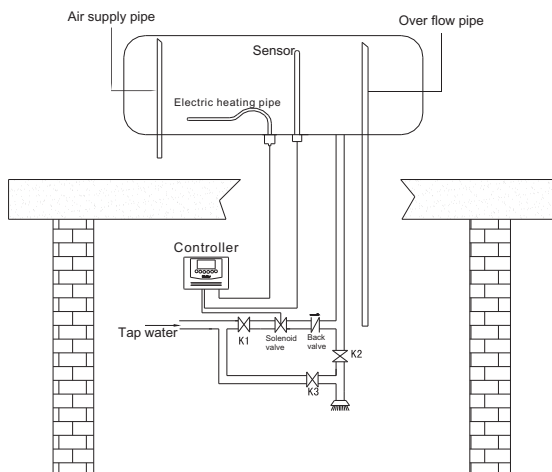
- 1.If you fix controller, please select Haier products, otherwise our company won't be responsible for personal injure and damage of water heater.
- 2.Haier has the controller used in domestic water heater, which has cord and plug, and they are connected well. Please select the electrical outlet of good quality, its rated current is not less than 16 A, and must ground reliably.
- 3.The cord of controller mustn't belayed in thermal insulating layer of pipelines, should be layed out of thermal insulating layer along the thermal insulating layer of pipelines.
- 4.The location used to hang up controller should be reserved, suggesting height is 1.4 m~1.6m from ground.
- 5.According to the controlling function you choose, supply and signal cords should be reserved between roofing and controller. Electric tracing belt needs RVV2 $\times$ 0.75 protective cord, electric needs RVV3 $\times$ 1 protective cord, water level display needs RVV3 $\times$ 0.12 protective cord, if electromagnetic valve is fixed on roofing, it needs RVV2 $\times$ 0.2 protective cord.
- 6.If the controller you choose has water level display function, the water level sensor whose height is 360mm should be chosen.

## Assembly Instruction • Using Instruction

- 7.If the controller you choose has automatic water supply function, electromagnetic valve must be fixed in room horizontally; the direction of arrowhead labled on valve is the direction of water running out. Suggest fixing manual water supply side line, ensure that users can use water heater normally when the electromagnetic valve is damaged.
- 8.If the supply cord is damaged, in order to avoid danger, it must be replaced by factory or maintenance department or professional staff.
- 9.Other requirements refer to controller introduction.

### ■ The operation method

- 1.K1 valve is open before using water, K2, K3 valves are closed
- 2.The controller is set in the status of automatical water supply, the electromagnetic valve won't close until arriving at the set water level, and water supply is over
- 3.Open K2 when you want to use the water, open K3 to adjust the temperature if it is too high.
- 4.Close K2 and K3 when finish using the water.



## Using Instruction

### Troubles treatment

Phenomenon	Possible reason	Treatment
No water supply	The tank is empty	Supply water according to the manual
	The pipeline or the connection is impeded	Maintain the pipeline or clean the connection
The controller can't reach the programmed level or there is no water	The evacuated tubes have damaged	Replacing the tubes
	The water supply is paused or low water pressure	Waiting for the supplying again
	The pipeline or the connection is Damaged	Maintain the pipeline and the connection
The temperature isn't high enough	Valve for water supply is unstuck or already damaged	Screw down the valve or replacing it
	The evacuated tube can't work effectively for there are hindrance in front of it	Change the location or move the hindranc
	Too much ash on the tube	Tidy the tube

### Packing list

Main parts		Quantity					
		130L	150L	175L	200L	230L	270L
Storage tank box	Storage tank	1	1	1	1	1	1
	Manual	1	1	1	1	1	1
Tank bracket box	Left bracket support	1	1	1	1	2	2
	Right bracket support	1	1	1	1	1	1
Evacuated tubes		14	16	19	22	25	30
Frame box		1	1	1	1	1	1
Controller box		1	1	1	1	1	1





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