



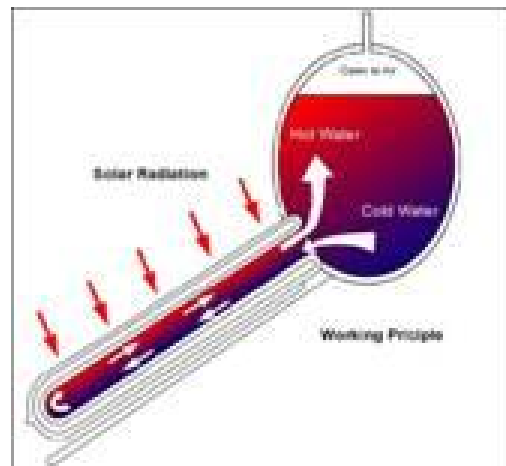
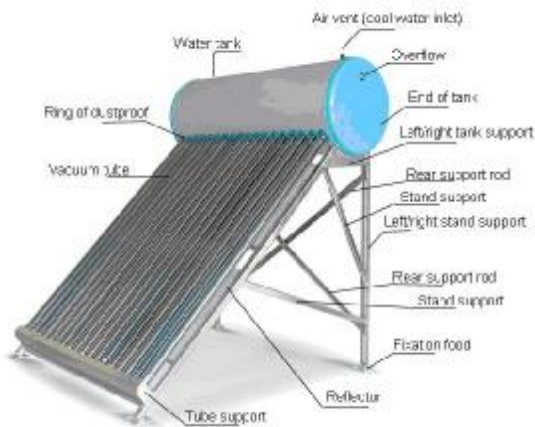
ATEliving Trade and Industries Co., Ltd

Excellent quality with exceptional affordable price, best market ratio



INTEGRATED SOLAR WATER HEATER NON PRESSURE SYSTEM

OPERATIONS MANUAL



BYC47 / BYC58- Series

INTEGRATED TYPE SOLAR WATER HEATER - NON PRESSURE

Thank you for choosing our product! The device type BYC47 / BYC58 is an integrated solar water heater with advanced heating technology.

Please read this instruction manual before using.



PRODUCT INFORMATION



- | | |
|------------------------------------|------------------------|
| 1. Heat preservation layer | 2: Water tank shell |
| 3. Inner tank | 3. Anti-dirt seal |
| 5. Evacuated solar collector tubes | 6. Water tank cover |
| 7. Rubber seal | 8. Water loading works |

Solar Water Heater Type & Specification List

Products Specification:

| Vacuum pipe specification: | Pipe quantity | Total Water Capacity Tank + Tubs (L) | Heat collecting area (M2) | Available for |
|----------------------------|---------------|--------------------------------------|---------------------------|---------------|
| Φ47×1500 | 20 Pieces | 150 | 2.12 | 3-4 people |
| | 30 Pieces | 225 | 3.18 | 5-6 people |
| φ58×1800 | 20 Pieces | 200 | 3.12 | 4-5 people |
| | 30 Pieces | 300 | 4.68 | 6-8 people |

The details recorded above are just for reference only and changes will not be advised



Description:

Integrative solar water heater

Heat-collecting pipe: ϕ 58-1800 and ϕ 47-1500

High, multi-tube technology makes the vacuum heat-collecting pipe able to perform powerful heating & high heating efficiency

Core material: SUS304-2B cartable level stainless steel. Pollution-proof

Shell material: imported 304-BA mirage stainless steel board

Heat-preserving layer: 40-60mm polyester by mechanical press technology

Holder material: 301 square stainless steel round pipes with much better weight and withstanding wind,

Method of Installation

1. Please handle with care during transportation

2. The solar water heater should be installed under the sun with full sunlight and fixed by No.8 steel rod or self-expanding screws or by cement with the roof and the frame should be supported by hard material.

3. The air hose should not be stuck in anyway and it should be installed with three pass, the down- are for over drop water and should not connect to any other pipe or the water tank will be damaged because of no exhaust air hose for the pressure

- 4.
- The front and back frame should be connected by use of the strengthening rod before mounting the water tank on the frame.
 - Pay attention to ensure that the water tank evacuated tube hole should be in symmetry with the frame tail hoses.
 - Then put the ABS plastic cover into the tail hole and also put the water tank bolts on to the frame seat for the tank and fix it at the end.
 - Take the evacuated solar collector tube and put the anti-dirt seal on to the tube and put some soap water as lubricating agent to give the possibility to plug into the tank holes with water already loaded into the tubes by rotation action. After fixing the collector tubes into the tank, adjust the tank position and then fix the bolts under the tank.
 - Then take all solar collector tubes to put into the ABS tail support rotating the tubes until they are secured.

5. Connect the down and up loading water pipe. Please select special composed pipe to reduce the heat lose and the pipe should be back up by the warm keeping material, If with electric heater back up system, you can put the cable into the warn keeping material of the pipe. And fix the down and up loading water pipe onto the building and the frame. If the installation is north facing, install a exhaust valve for the down and up loading water pipe to let the pipe empty in order to receive the hot water immediately.



ATEliving Trade and Industries Co., Ltd

Excellent quality with exceptional affordable price, best market ratio

6. Evacuated solar collector tubes can reach up to 270°C after absorb the sunlight with the empty tube. When loading the water the tubes will be crack immediately. Therefore please pay special attention and in order to avoid such problem you can follow the following ways:

A: Load the tube full before plugging into the tank hole and then load the water to the tank fully.

B: Cover the solar tubes after 3 hours or wait until the temperature of the tube drops down before loading the water.

The products can be used in any season and the life expectancy is over 15 year with simple

Method of maintenance

1. Clean the vacuum solar collector tube.

If you are in an area with lots of dust and no rain, the solar tubes and the reflecting plate will get quite dirty and reduce the efficiency of the solar tubes and reflecting rate.

So according to the dirt condition .the solar tubes should be cleaned every 6 or 2 months.

Use soap water to clean the tubes and frame and wash off all excess soap by using clean water.

2. Clean the scale

If the water quality is not good in some area or used the water directly from the ground with lots of impurity and it is easy to deposit scale in the tank and solar tubes and it will affect the efficiency of the solar water heater, it's according the situation. Every one or two year, the tank and the tube should be cleaned by professional workers or by select the anti-dirt magnesium alloy pipe to clean the dirt.

Guarantee conditions

Thank you for selecting our solar water heater. This product is guaranteed in accordance with your consumer rights.

We would be happy to offer a free replacement of any defective part with the following conditions:

Solar vacuum tube has air leakage and becomes white

Water tank leakage

Frame crack naturally

This product has a 5-year after sales warranty, which will not apply in the following situation:

Guarantee period has expired

No guarantee card and valid invoice of the products

Change of ownership

The damage was caused by improper use, improper maintenance or poor transportation

The damage was caused by adverse weather conditions



USER INSTRUCTIONS

1. For the first time water loading, the vacuum tube must keep cool down.
2. When not in use, please shut off the valve for hot & cold water & the exhaust valve. To load water into the storage tank, open the exhaust valve till the water in the storage tank is full. Then you must close the two valves.
3. If in cold winter, you use the bath lights or warm fan machine to keep the room temperature high.
4. Adjust the hot water temperature, in according with the season as the sunlight and water pressure may cause injury.
5. Please empty the tank when not use in winter in order to avoid the pipe cracking
6. After using the hot water in summer, you should load the water immediately or wait to the night. Otherwise the vacuum tube water may dry up any high temperature, At the same time, when you load water, the solar tube will break.
7. 7: In spring, summer, autumn, if need to load the water, Please be careful about the tank to not be dry by these solar tube. Should be at night.
8. Please do not allow the water in the water heater to run dry for a long period of time as it will damage the rubber seal and damage the performance of solar tube.
9. If you decide to use the electric heater, please check the fuse and electrics are in a dry location.
10. During storm and lightening, please don't use solar water heater and keep the tank full.
11. During the snow days, please take of the reflecting plate in order to not let the snow cover the tube.
12. In summer, if the hot water is not used much or temperature too high, please adjust the settings.



SOLAR WATER HEATER TROUBLE SHOOTING

| Trouble | Reason 1 | Solution1 |
|---|--|--|
| Sunny day not hot water | 1:The water heater has some cover or dirt or pollution 2 Up water loading valve not shut fully and the cold water take away the hot water from the tank | 1:take off the cover and install it properly in a good position 2:change the up water loading valve |
| Water tank unable to load full | 1:No pressure from the water supply system 2:Up water loading pipe leaking 3:water tank leaking | 1:Add a new micro pump 2:change the up load pipe 3:change water tank |
| Water tank leakage | 1:Rubber seal break or installed improperly 2:water tank inner pipe crack | 1:chang the rubber seal or install it again to let the tank and solar tube correctly 2:change the water tank |
| When taking bath the water hot and cold from time to time | 1The cold water supply pressure not stable | 1:Add an side storage water tank to store the cold water and make the water supply stable or change an automatic high temperature valve |
| No hot water come down during the winter time | 1:Up and down water loading pipe iced 2:it is too cold 3:The pipe no warm keeping material | 1:Ask the dealer put warm keeping material (charged) 2Evert night after use up the water from the tank and earlier morning load the water to the tank again 3:Use electric heating belt (from the dealer) 4:For the coldest days ,open the hot water valve to let the hot water come down a little bit but continuously |

Attention: How to identify the quality of the solar tubes

Check the colour of the tube to be smooth

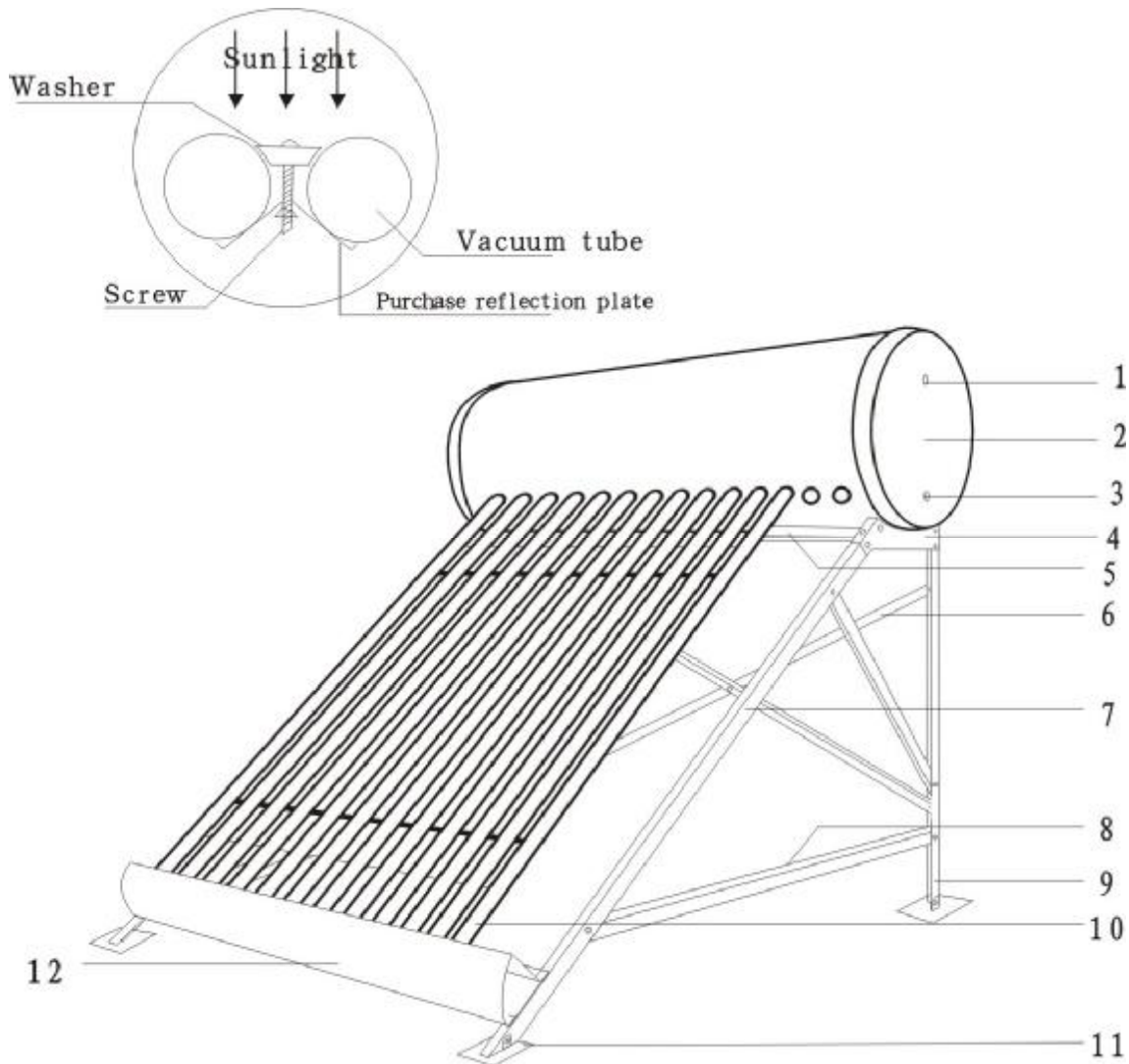
Check the button tip where the tube are vacuumed if it is well

Check the bottom shinning part, it can be an mirror, if it is dark, it mean less vacuum degree, if white, no vacuum.

Put the solar tube under the sun after a few hours to feel the outside pipe, if good vacuum solar tube, you will feel cool and if it is hot. The solar tube is bad.



INSTALLATION INSTRUCTIONS



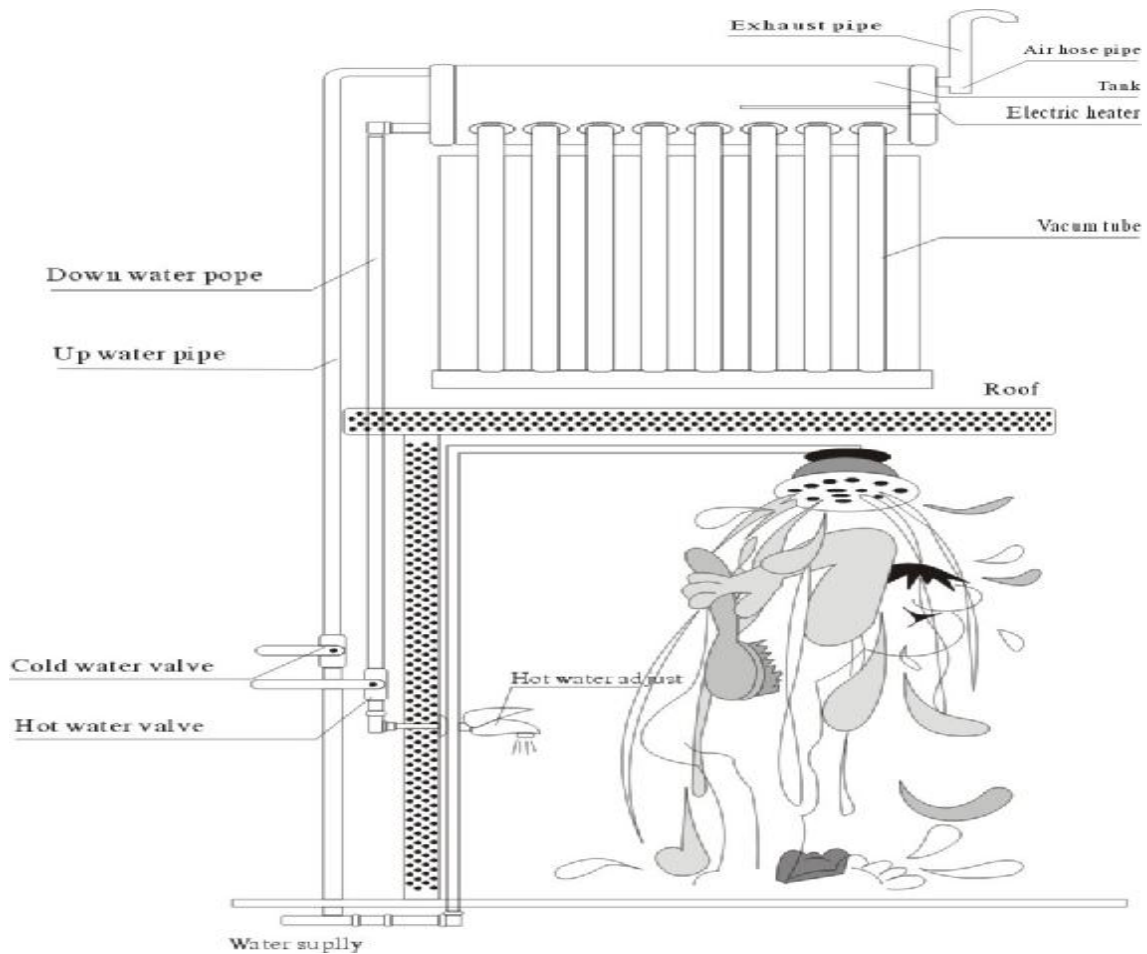
- 1: Exhaust air hose pipe
- 2: Tank
- 3: Up & down water pipe
- 4: Support Tank

- 5: Up rod
- 6: Down rod
- 7: Frame
- 8: Bottom rod

- 9: Support leg
- 10: Vacuum tube
- 11: Anti-wind leg
- 12: Bottom support



INSTALLATION DRAWING



Please test the water heat with your hand before bathing in order to avoid any injury to your skin.

NOTICE

For instructions on filling the water tank, please refer to the above illustration.

Open the cold water valve and the hot water valve and the water will flow immediately.

- Open the cold-water valve,
- 1, to close the hot water valve.
- 2, the hot water will be adjusted.

Please see the microcomputer automatic up water use manual.



ATEliving Trade and Industries Co., Ltd

Excellent quality with exceptional affordable price, best market ratio

All glass evacuated solar collector tube performance and specification

| | | |
|-----------------------------------|---|--|
| Structure | All glass concentric dual tube structure | |
| Glass material | Borosilicate glass | |
| Out tube diameter and thickness | $\phi = 47 \pm 0.7 \text{mm}$ $\phi = 58 \pm 0.7 \text{mm}$ | |
| Inner tube diameter and thickness | 1500mm($\pm 5 \text{mm}$) 1800mm($\pm 5 \text{mm}$) | |
| Length of tube | 1500mm(5mm) 1800mm(5mm) | |
| Absorbing coating Performance | Construction | Graded AL-N/Al Solar selective absorbing coating |
| | Method of deposition | DC reactive sputtering |
| | Absorbing rate | >93% |
| | Emission percentage: | < 8%(80°C) |
| Vacuum degree | $P < 8 \times 10^{-3} \text{ Pa}$ | |
| Stagnation data | $\geq 230^\circ \text{C/kw}$ | |
| Solar radiance exposure | $\leq 2.5 \text{MJ/M}^2$ | |
| Average heat loss coefficient | $\leq 0.8 \text{W/M}^\circ \text{C}$ | |
| Life time | Over 15 year | |

Explanation

- 1: The data of the above column for reference only
- 2: The tank size can be selected according to the area sunlight condition the products can be made to fit for flat and slope roof installation mode

Performance feature

Main performance feature

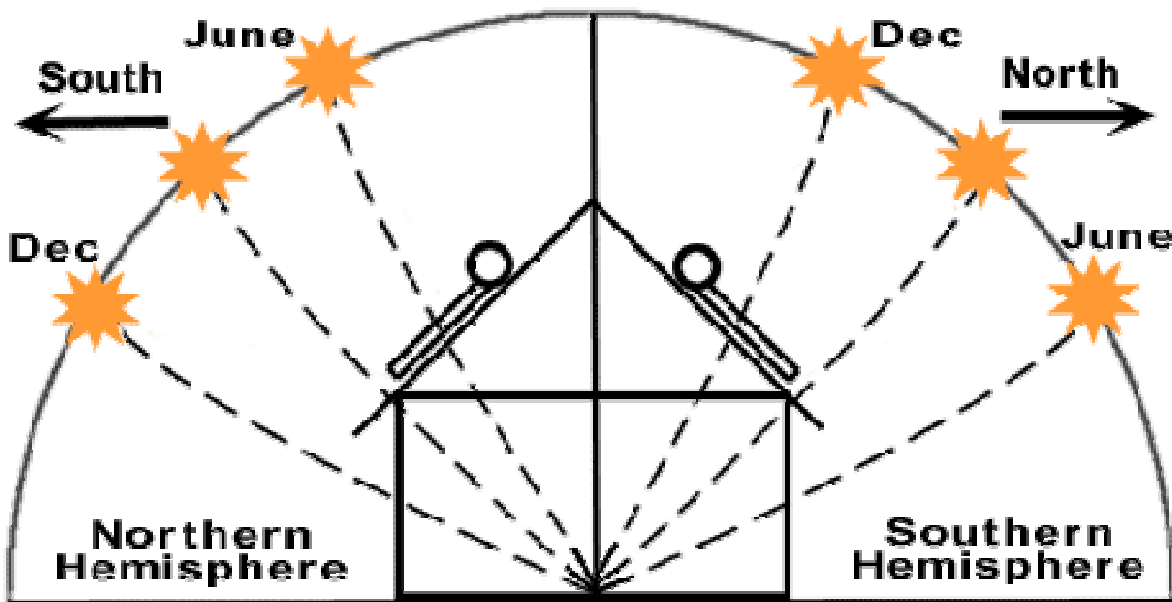
- A: Using the electric heater backup this product is fully guaranteed to run all year regardless of the season or weather.
- B: High resistance for wind, hail stones and severe temperature.
- C: High efficiency heat absorbing evacuated solar collector tube with reflecting plates to increase the absorbing capabilities from the sunlight as much as possible.
- D: High temperatures are achieved by using a thicker quality of polythene injection insulation. This eliminates heat loss and allows the temperature to be maintained for over 48 hours. Even after 100 hours, the water in the tank will still be warm.
- E: High quality stainless steel is used for the tank and whole body, eliminating the possibility for any rust.
- F: Silicon rubber seal: No poison and no smell encountered unlike cheaper and inferior models. The water is keep clean at all times. This product has a long life expectancy and capable of resisting any high temperature.
- G: Full and easy to use microcomputer managing system.
- H: Provides mineral quality water by its unique anode dirt cleaning system.

Installation Explanation

- 1: Please pay attention to all safety matters before installing in any high location.
- 2: Please read this manual carefully before carrying out any installation. For any queries or technical advice, please consult your supplier or an experienced installer.
- 3: Prior to installation, please ensure that the water tank is cleaned.
- 4: The unit have to be installed facing to sunshine, and no obstacles must obstruct the unit
- 5: The unit must be fixed with the roof or other platform firmly;
- 6: Try to minimize the route of water supply;
- 7: The entire water supply route outside room should be protected against freezing in winter;
- 8: Please take great care when installing the vacuum pipes, in order to keep the washer protected. If the vacuum pipe end is damaged it will ultimately affect the heat preservation.
- 9: Installation of the solar water-heater needs a lot of patience and discipline. Please take care. If in doubt, please consult an expert.

The angle and the direction of the installation is very important, because it will influence the efficacy of the heat collecting vacuum pipes. If you are in the northern hemisphere, the heat collector should face to south, if you are in the southern hemisphere, the heat collector should face to north.

Please refer to the following sketch:



The angle of the installation depends on the latitude, for example:

---Melbourne, Australian, 37° South lat, so the heat collector should be installed face to 37° North lat.

---London, UK, 51° North lat, so the heat collector should be installed face to the 51° South lat.